RECONSTRUCTING THE MASORETIC PSALMODY OF THE THREE BIBLICAL POETIC BOOKS: METHODOLOGY AND RESULTS

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It is well known that the conventional term "Poetic Books" used to characterize the three biblical books, endowed by the Masorah with a special accentuation system, is inappropriate. Besides those three—Job, Proverbs and Psalms, in short *Emet*—one finds other poetic biblical texts, such as the Song of the Sea, or Lamentations, which are accentuated with the more common system of *ta'amei hamikra*, that of the 21 Books, which are referred to, here, for short, as "prose."

It has been stated that *ta'amei Emet* correspond to shorter verses. But, this again is correct only to a limited extent. One may observe a number of differences between the graphemes of *Emet* accentuation and those of prose, but in fact remarkably very few[1]. Therefore, the most basic difference between the two systems is to be found elsewhere: they definitely have different rules of occurrence, different grammars. Two different *dikdukei ha-te'amim* are presented, in the systematic and highly precise grammatical expositions by W. Wickes, Y. Yeivin, M. Breuer, A. Dotan and others. Although here also, care is taken to highlight a common core. Just as in prose, the system of *Emet* is independent of the verses' semantic content. Just as in prose, it is in great part deterministic, with two main parameters: the logico-syntactic structure of the sentence, and the morphological structure of the word. The main grammatical difference is that of a higher degree of complexity in *Emet*: more alternative series for the same syntactic structure, more exceptions in the finer rules, themselves regulated by rules, and so on.

In the preceding World Congress of Jewish Studies, I presented a generative model for the reconstitution of the lost musical rendition of the prose system. Since then, I have

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[1] The graphemes of *'etnaḥ, sof pasuq, munaḥ, merka', tippeḥa', revi'a*, among others, are common in both.

developed a similar model for *Emet*[2]. I shall attempt to present here the core of the obtained *Emet* musical system in a nut-shell, and by contrast to the that of the prose.

The methodology for confirming the reconstruction

First a few words about the methodology, not that of how I obtained the model, which in itself was a confusing, even unscientific process, but the methodology for confirming the model, once it has been reached. This is summarized in the following scheme:
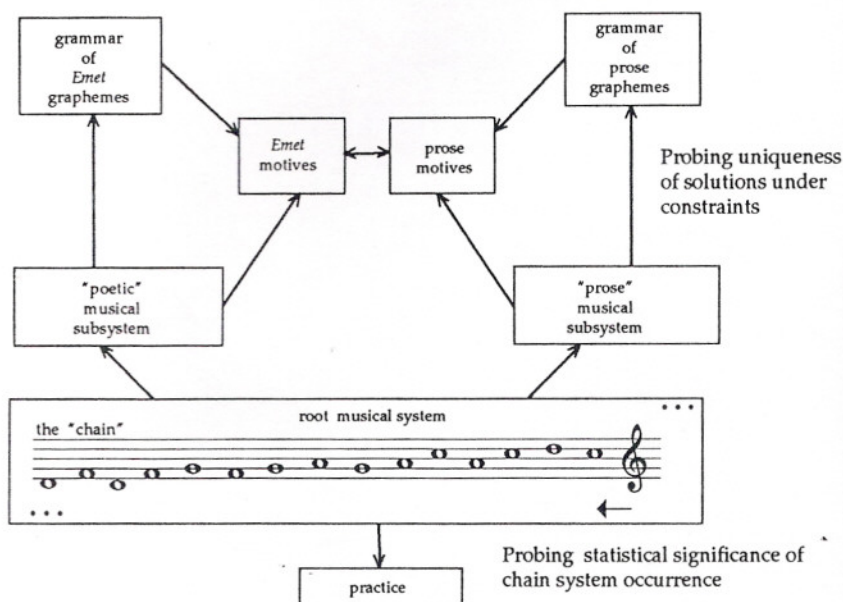
One is given a root musical system as a generative system, with the "chain" as the basic melodic material, and with rules of progression along the chain. The chain is a descending zigzag melodic line, open-ended and pentatonic. It is shown that this root musical system, the chain-system, is capable of modelling, through musical subsystems, the respective

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grammars of the corresponding graphemes, that of *Emet* and of prose. The musical subsystems model directly the rules in the grammar which can be given a structuralist form, i.e. that is expressible in terms of properties of relations among all *te'amim*[3].

One then turns to the remaining rules of the grammar, models them within the framework of the chain-system into differentiated motives, and probes the uniqueness of the solutions under the constraints.

Finally, one turns to practice, searches for traces of the root musical system, the chain-system in the cantillation and psalmody of Jewish communities, and probes the statistical significance of the chain-system occurrence.[4]

Now to some results.

Of course, one central and untrivial claim is that there *does* exist a common root musical system, although such a possibility certainly befits the general affinity of the grammars. Thus, the prose and *Emet* accentuation systems are, in the model, two musical subsystems, of the *same* generative chain system. We shall emphasize here some *distinguishing features* between these two musical subsystems.

The cadence at the ʿetnaḥ

A first central difference is rooted in the modelling of the primary structural laws of the grammar. On the basis of these, the syntax is described as a hierarchy of long-range pairs: pairs, pairs of pairs, etc.

The musical model for the hierarchy of pairs is achieved by associating with each *ta'am* a structural tone. This structural tone forms a pair with the next lower one in the scale of reference, and the latter structural tone represents the pair in more encompassing pairs, through a phenomenon of structural hearing, whose basic form is well-known to first-year Music Academy students practicing neo-Shenkerian analysis.

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[3] For instance, the grammatical structural relation of "forming an immediate syntactic pair" has for counterpart in the model the musical structural relation of "progressing forward along the chain."

[4] This last part is also included in the aforementionned publication.

In both prose and *Emet* systems, the hierarchy is built independantly within the two clauses of the verse, the opening clause, which terminates at the *etnaḥ*, and the concluding clause, which terminates at the *sof pasuq*.

However, one finds a basic difference schematized as follows :
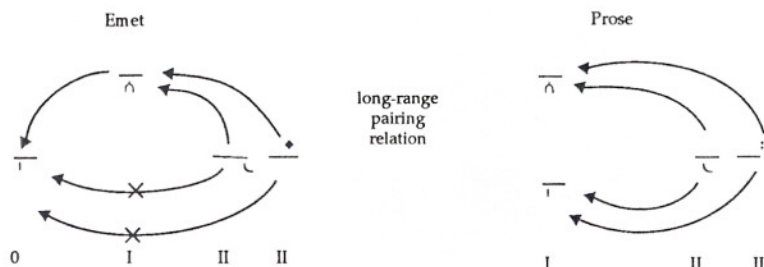
In the prose system, one finds accents which form long-range pairs with *etnaḥ* as well as with *sof pasuq*, as is the case of *zaqef*. In other words, a pair member of the *etnaḥ* may also pair with *sof pasuq*.

Since pairing is realized, as we explained, through next lower structural tone in the scale of reference, this property implies that *sof pasuq* has same structural tone as *etnaḥ*.

In the *Emet* grammar, by contrast, one does not find any accent which may form a pair with *etnaḥ* as well as with *sof pasuq*. Instead, one finds that an accent which forms a pair with the *etnaḥ*, may form a pair with *a pair-member* of *sof pasuq*[5]. Since pairing, we recall, is achieved through next lower structural tone, this implies that *sof pasuq* has a structural tone which is *lower by one*, with respect to that of *etnaḥ*.

Thus, whereas the two clauses in a prose verse, the opening and concluding ones, have nearly the same type of independence as two consecutive verses (since they both terminate on the *Finalis* structural tone), in *Emet*, the first clause terminates as a *cadence*, at the *etnaḥ* (the equivalent of a dominant chord, in tonal music), which is "resolved" only at the Finalis of the *sof pasuq*.

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[5]   For instance, *revi'a gedolah* may pair with *revi'a*, which is itself   pair member of *sof pasuq*.

The mode

There are many indications that the structural tone of the *'etnah* in *Emet* is to be identified with that of the *Finalis* in prose, so that the *sof pasuq* in *Emet* is one degree lower in the scale of reference. This implies that there is a *difference of mode* between the two systems, although they share the same type of pentatonism.

In prose, on the basis of many grammatical laws, one can show that the large skip is between the third and fourth degree above the Finalis. In *Emet*, by contrast, the large interval is immediately above the *Finalis*.[6] In prose, many grammatical transformations can be attributed to a certain uneasiness with the large interval: to smooth it out through pien-tone, bypass, and other means. In *Emet*, as we said, the large interval appears structurally at the end of every conclusive clause, which renders it quite conspicuous, and yields an intrinsic factor of complexity.

The freedom in chain-segment representation

Let's now turn to an additional distinguishing feature. It is rooted, this time, in secondary structural laws, dealing with immediate pairing. In the prose system, some accents (like *tippeha'*) can form an immediate pair, as first pair-member— they are called "leaders"; some cannot (like *zaqef*)—they are called "suspenses." It is a basic structural property that an accent which can form an immediate pair with an accent which cannot, never forms an immediate pair with an accent which can form an immediate pair, or in short, a leader to suspense is never leader to a leader.

In the modelling, the division between leader and suspense, corresponds to the two basic possible forms of embodiment of the structural tone offered by the specific shape of the chain, either from above or from below. The property that a leader to suspense can never be a leader to leader, is found linked to the basic law of progression that a forward skip along the chain is forbidden. Thus, in prose, each *ta'am* is either a leader or a suspense, with a fixed genuine position along the chain.

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[6] As an example of corroboration, the disjunctives preceding *sof pasuq* in *Emet*, namely *legarmeh*, *revi'a mugraš*, *šalšelet gedolah*, involve graphemes which in prose are found at the large interval.

In *Emet*, a new situation arises. Although there remains some grammatical distinction between leader and suspense, it becomes blurred, one manifestation of which, is the behavior of the servants *munaḥ* and *merḵa*. This is schematicized in the following diagram:


In prose, *munaḥ* serves suspenses, whereas *merḵa'* serves leaders. *Munaḥ* cannot therefore serve the same accent as *merḵa'*, as a result of the aforementioned rule that a leader to suspense cannot be a leader to leader. Thus, *munaḥ* which serves *'etnaḥ* does not serve *sof pasuq*, and *merḵa'*, which serves *sof pasuq*, does not serve *munaḥ*. In *Emet*, by contrast, one finds that both *munaḥ* and *merḵa'* serve *'etnaḥ*, and that both *munaḥ* and *merḵa'* serve *sof pasuq*.

This implies, in the modelling, that some rigidness of the prose system has been sacrificed. Whereas, in prose, each accent has a unique embodiment in the chain as a particular chain-segment, in *Emet*, this embodiment is subject to change, in different situations, keeping with the same structural tone. In particular, *'etnaḥ* corresponds to a different chain-segment depending on whether it is served by *munaḥ* or *merḵa'*. In prose, this would have suppressed the melodic distinction between *'etnaḥ* and *sof pasuq*. Not so in *Emet*, because, as we have seen before, *'etnaḥ* and *sof pasuq* have different structural tones. As a result, *'etnaḥ* conserves its identity, independent to whether this structural tone is prepared from below or above. [7]

This new flexibility, in *Emet*, is even more conspicuous, if one examines the models obtained for the different series of *te'amim* allowed by the grammar, say, in two-word

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[7]   Many variants found among different manuscripts, for instance of the so-called "extended" Tiberian type, recently published by Yeivin (in *Rabbi M. Breuer's Jubilee Book*, Jerusalem, 1992), can be reduced to this option opened by the system itself : which chain-segment should support the structural tone.

clauses. They are summarized as follows:
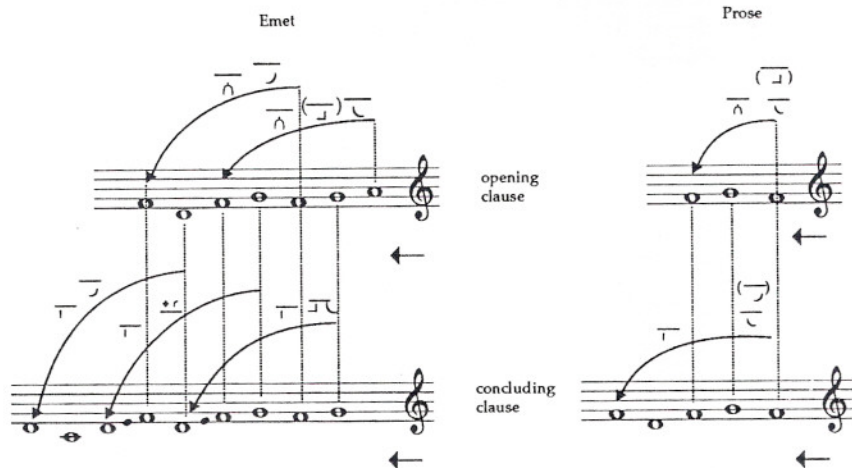
1. One finds that each series corresponds to a descent along the chain, which ends on the same structural tone, but at *different* locations in the chain. The opening clause in *Emet*, terminates in different verses, at variable places along the chain, and similarly for the concluding clause. Thus, the possibilities offered by the generative system, i.e. the occurrence of same structural tones at different places in the chain, is systematically exploited to introduce a variety of progressions in expressing the *same* syntactic structures.

2. One finds, that by comparison with the prose-system, a larger portion of the chain is used for the same function. Together with the previous property, this fits of course with the formal difference that prose and *Emet* systems must generally handle verses of different maximal lengths. In contrast to prose, *Emet* cannot rely on occasional large verses to reach a large ambitus, and cannot rely just on intrinsic variety of syntactic structures, to reach melodic variety.

Autonomy of the concluding clause

3. One finds that the concluding clause in *Emet* presents definite distinctive features, with respect to the opening one. There is a clear trend for *autonomy*, not found in prose, which is already hinted in the grammatical laws, and is revealed among other musical features, by some threshold of minimal complexity in the realizing of the chain-segments, in terms of "corners" in the zigzag progression. Also, there are many indications that the large descending interval in the concluding clause of *Emet* is nearly always filled in by means of a Pien-tone, by contrast to the opening clause.[8]

To conclude, the difference of complexity between prose and *Emet* grammars, turns out, in terms of the model, to be already present at the organizational roots of the performance, namely at the respective musical subsystems. Although both are two offshoots of the same chain generative system, there is a definite difference of complexity, according to the intrinsic criteria of the system themselves: flexibility in the placement along the chain of the half-cadence and the final one, autonomy of the second clause with respect to the first, more conspicuous occurrence of the large structural interval, and of the melodic Pien-tones. As we mentioned, some of these aspects can be viewed as mechanisms of self-regulation, to compensate for shorter lengths of verses, but, overall, they point to something else: to some definite change of *style*. Let's be more specific. This change of style is not achieved in an arbitrary way, but precisely through a stretching and systematic use of rules which, in the prose musical subsystem, were allowed but only as exceptions: large interval, pien-tones, chain-bypass, etc. This matches precisely the relation between a prose and poetic verbal system. From this *structuralist* point of view, the *Emet* musical subsystem does deserve therefore the name of *poetic* system, in the precise sense that it extends beyond a system of rules, that of the "prose," to more daring organizational forms without departing from the root generative system.

A specially intriguing feature is the autonomous trend of the conclusive clause. This suggests an autonomous mode of realization, as well, i.e. through *antiphony*. Antiphony is natural in our context, since we have early Talmudic and Midrashic evidence of antiphonal rendition of the Psalms. What is less trivial, is this specific form of antiphony, which is divided at the *'etnaḥ*, and also the fact that the grammatical system itself, emerges in the model, as having such a musical antiphonal performance built-in. This might provide some clue as to the historical origins of the *Emet te'amim* system. But this is a subject of its own.

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[8]   This befits, for instance, the difference of servants between *revi'a* and *revi'a mugraš*.