

# TRANSFERRING KNOWLEDGE FROM GENERATION TO GENERATION: *Teaching Masoretic Te'amim in the Yemenite Cheder*

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## *Abstract*

For nearly two years, almost forty years ago, I attended a Yemenite cheder in Jerusalem (1977-1978). My classmates were children between the ages of 5-11. On a few occasions I taped these sessions. This lecture is based on those recordings, as well as personal recollections, impressions, insights, and observations into the traditional process of teaching Masoretic Te'amim in the Yemenite cheder.

## *Introduction*

The study and transfer of sacred knowledge is considered a supreme religious duty in Judaism; so much so that the sages of the ancient Israel commented, *the world endures only for the sake of the breath of school children*. This thought was framed into *Halacha* (Jewish law) as follows: *School children may not be made to neglect their studies even for the building of the Temple* (Tractate Sabbath 119b).

Throughout the ages, educational activities - whether for children or adults - occupied a central position in Jewish religious and community life<sup>1</sup>. Education and Tradition are the means by which mortality is overcome: One generation passeth away and another cometh (Eccl.1:4).

Through what means, though, is this to be actualized? The solution, established in ancient times, was the creation of an elementary school for the instruction of children. This institution, known as the *cheder* or *talmud torah* still survives, and even flourishes, in the Jewish world as a means of passing on sacred, historical and traditional knowledge - despite contemporary trends, public school curricula and mass education.

In the world of the Jew who lives by tradition, literacy begins with the reading of the Five Books of Moses, the *Pentateuch* or Torah. This foundation text is reviewed week after week, chanted in the synagogue on weekday morning (Monday and Thursday) and on the Sabbath. Participating in this experience, whether as reader or listener, fulfills one's commitment as a member of the community. Orthodox children learn to read its letters and words from the tender pre-school age of 3 years old, absorbing, by-the-way, the traditional chant that accompanies them. My search into its mysteries began four decades ago and led to a Yemenite cheder in Jerusalem. Here, I learned to decode both the letters comprising its sacred *Words* and fathom its literal sense. It was only much later, however, that I came to the realization that the Eternal, indwelling *Voice*, speaks as much through its vowels, accents, and *Masoretic te'amim* as it does through letters and words.

## *Historical Background*

Biblical legend traces the origin of the Jewish community in Yemen to merchants in gold and silver, and traders in spices who settled in south-west Arabia, following the visit of the Queen of Sheba to King Solomon (1Kgs 10:1-16). Yemenite Jews, whom I met, who had immigrated to Israel from Sana'a in the early 1050s, told me their ancestors came to Yemen before the destruction of the First Temple. In any case their pronunciation and traditions of Torah cantillation are considered by most scholars as historically authentic, archetypes of practices lost to other Jewish communities, considering that they lived in relative isolation from the Sephardic communities of the Levant, North Africa, Iberian Peninsula, and Ashkenazi communities of Western and Eastern Europe for over a millennia<sup>2</sup>.

*A Yemenite Cheder in Jerusalem – I meet the Mori*

It was in the quiet and unobtrusive Katamon neighborhood of Jerusalem, in the fall of 1976, that I was introduced to the *mori* - the authoritative figure charged with the task, and responsibility, of imparting the ancient traditional knowledge of reading and chanting the Old Testament in the Yemenite cheder. He was a short bearded man in his late 40s or early 50s named Rav Shimon Kalazan, the *melamed* or instructor who supervised the basic education of a group of boys (no girls) at the local synagogue *talmud torah*. Quick in his movements, clipped in his speech, Rav Shimon eyed me, this American newcomer, suspiciously. Nonetheless, he told me to come back the next day.

I returned the next afternoon, meeting him at his home not far from the Tiferet Israel synagogue on Kaneh HaGalil Street in Katamon, where he taught. He said, “Bo” (come)! And with a cup of coffee in hand, brought me along with his three little sons: Yoni, Azriel and Uzi to the study hall or *beit midrash*. It was my introduction to the Yemenite cheder. The other learners were children ranging in age from 4 or 5 to 11 or 12 years old, about 10 to 15 in all; they came each day after school. To them I seemed a strange animal, because I, already a mature adult, could hardly read Hebrew, let alone chant the Torah. At first the kids thought I was a joke. But later, they got used to it, and I think, eventually came to like it. In the end, though I had never learned to master Torah reading well enough to participate in the synagogue service, I managed, eventually, to hold my own around the Kalazan kitchen table, where Torah reading regularly followed Sabbath evening and morning *seudot* (meals).

*Method of Instruction*

How did we learn to read to chant the Torah in the Yemenite cheder? The answer, in a word: *rote*. Shimon would read a verse and then the boys would repeat it; repetitive rote learning pure and simple – no explanations, no analysis, no philosophy - just parroting the teacher. But apparently, they had had some previous initiation into the mystery of the signs, and for sure, there was a methodology to this kind of instruction:

Each boy took turns reading a *pasuk* (verse)

separately (which served a kind of model for the others), then all would repeat after him. If the boy, who read the verse alone, made a mistake, the *mori* would correct him, and then would join in with all the children on the repetition of the verse. Whenever the group chanted, it was always done completely from start to finish, without stopping at all. Generally, the *mori* supported us, often joining in the heterophonic unison repetition that followed each participant's rendition.

After each *pasuk* was read twice in this fashion (single reader followed by group repetition), another boy (not the same one who had read the previous Hebrew verse), would read its Aramaic translation or *Targum*. The *Targum* was sung always in the same sing-song style as the Torah but a little simpler and with a little faster paced rhythm than the parallel biblical verse in Hebrew<sup>3</sup>. The *Targum* was never repeated, but it was read punctuated and alternated with the more serious business of chanting of the Hebrew text from the Torah. This process had its own momentum. There was no stopping or explaining in-between. It just seemed to roll along, continuing in an endless circle around the table: verse (solo) / verse (all) / Aramaic translation (solo) - until we finished each day the weekly periscope of the Torah (the portion read the following Sabbath in the synagogue. Sometimes we got through it all, sometimes not. Every day it was more or less the same, again and again all week.

*Personal Reflection*

Our lessons started each weekday (Sunday to Thursday) around 3:30 or 4:00. Often I fatigued and dozed off. I remember finding this repetitive process of learning in the cheder a strain; it was like being born again, learning a new world of thinking and feeling from scratch. All was intuitive; he explained nothing to me. It took a long time to get wind of what was going on and I was supposed to do.

When my turn came, I just sat there; and Shimon would recite a phrase for me, word by word, which I would repeat like a *tukki* (parrot). This continued until I had gotten through each phrase and finished the verse, whereupon, all the children joined in for the repetition. Gradually, I got to a point where I

could handle a whole verse by myself (with a little help). The reading continued for about an hour or until the adult men of the congregation began arriving at the synagogue, each afternoon, for the *Mincha* prayer. There were no cheder lessons on Friday. It was *Erev Shabbat*; all the community: men, women and children were busy preparing for the Holy Day of rest. Gradually, over time, I observed, for whatever reason, that most of the boys were familiar - whether from home, synagogue, or community, from older brothers, neighbors and friends - with the cheder tune (for cantillation of the Torah). It was inculcated into, like mother's milk, a passed on tradition from father to son, coached by elders or grandfathers, fathers or uncles at home, as Rav Kalazan did his sons. In a sense, then, these daily lessons in the synagogue after school, with texts changing each week, were more drill than study. Nonetheless, the whole complex from which it sprung indicates the seriousness and importance the community gave to this activity, supplementary to regular public school attendance.

#### *Traditional Discipline in the Cheder: For and Against*

The cheder I attended at the Yemenite synagogue was hardly the picture of a *squalid one-room hovel*, as drawn from late 19<sup>th</sup> century Yiddish literature. Nor was the *Rebbe* or *Mori*, 'a *sadistic Dickens's-like brute*' as characterized by early progressive-Zionist leaders' recollections of childhood growing up in the *shtetls* (small towns) of Eastern Europe. Rather, the old time-honored pattern of learning was carried on in a large airy room; and Shimon – for all his insistence on *concentration* from his little charges - was a talented and sophisticated person who spent his mornings working as head of a department at the Jerusalem Rabbinate. All this being said, tradition is tradition; Dr. Spock's permissive ideas, regarding early childhood care and liberal education, applicable to post-WWII America are not universal truths.

If Yemenite Jews learn to chant their sacred texts by rote, they follow *Mishnaic* prescription: *At five years the age is reached for the study of Scripture, at ten years for the study of the Mishna* (Avoth 5:24). Today as in yesteryear, from early childhood until bar mitzvah, they learn to chant

the Torah<sup>4</sup>. The sequence of their 'curriculum' and pattern of study, too, is prescribed, derived from Talmudic sources: *Rav Huna bar Yehuda says in the name of Rav Ammi 'one should always complete the reading of one's weekly Torah portion with the congregation, twice from the mikra (i.e. Torah) and once from the Targum'* (Talmud Berachot 8a).

Generally speaking, by the time the children realize they are alive they are familiar with the Torah cantillation tune. Accustomed to hearing it chanted at home and in synagogue, they assimilate it naturally - intuitively - something that "everyone knows and doesn't need to be inducted into." Ha, ha!

#### *The Power of Oral Tradition*

Many of the older men who grew up in Yemen, and learned in this way, are able to chant the entire Five Books of Moses from memory. Rav Shimon, who came to Israel as a teenager, didn't need the book; he knew it all by heart.

To illustrate this point, I remember, one afternoon, looking for a prayer book in their synagogue but being unable to locate one. I asked one of the older men, "Where are the prayer books?" He answered, "We don't need any; we know them from memory." Such is the power of Oral Tradition. Another said that in Yemen there were few books and that they would learn in cheder standing around a single book. Thus, they were able to read a book from every angle: from the top, from the bottom, and from the sides. One elderly man used to read holding his book upside down. When I asked him, "Why do you read with the book upside down?" he responded "That was the place I stood in the cheder when I was a child."

#### *Pedagogy - How the Teacher Teaches*

Part of Rav Kalazan's method of instruction was to keep in motion, pacing up, down and around the children, all of whom who were seated on benches (not chairs) around two long tables. This was his way of "keeping an eye on them" while he recited Scriptural verses, or "keeping them attentive" while correcting their behavior. When children were talkative or inattentive, fooled

around (as children are wont to do), or even spoke to one another during the lesson - instead of concentrating on their studies - the *mori* would twist a nose, slap a face, pinch an ear or squeeze a finger - and continue his walk around the little group seated about the tables. A day didn't pass by when someone, at least once, didn't cry from this kind of *discipline*. Sometimes everyone got spanked. While moving about, he would slap one after another, back and forth between pairs of boys, through a whole row - like Donald Duck in a Walt Disney animated cartoon, giving it to Huey, Dewey and Louie!

Later, Aaron Levi occasionally replaced Shimon as *mori*. Born and raised in Yemen, Aaron Levi was a generation older than Shimon. He had come to Israel as a mature adult, not in youth as Shimon had. The *Levite* - dressed in a traditional *kaftan* (a long flowing shirt-like robe or *jellabiya*) and a traditional wrap around head dress or *massar* (neither hat nor beanie) - was strictly traditional in his approach, not the sophisticated educator Shimon was, and he did not spare the rod. His educational philosophy was of the old school: *spare the rod spoil the child* (Prov. 13:24). It was clearly the way he had been brought-up as a child in Yemen. With relation to our inquiry - the transfer of Traditional knowledge from generation to generation - Aaron Levi felt obliged to follow Scripture strictly: *And I will cause you to pass under the rod, and I will bring you into the bond of the covenant* (Ezekiel 20:37). It was not a question of anger or temperament; it was a matter of technical procedure: a pedagogical method in which, not only is information is passed and skills honed, but values are instilled. Has the world outgrown this rough, pre-rational approach?

#### *A Visitor's Reaction*

Once, I had occasion to welcome my composition teacher from the Eastman School of Music, American-Jewish composer, Samuel Adler, who was visiting Israel at the time. During this period of discovery and in my youthful enthusiasm, I intended to share something unique about my experiences in Israel with him. I invited Professor Adler to join me one afternoon at the Yemenite cheder, as an observer; I met him and brought him to a lesson. I thought it would be an especially

unusual experience for him. It was; but I goofed! He was shocked by the *violence*, as he put it; he got up and left the synagogue in the middle of the lesson. In disgust, he remarked, "This is what is bad about Orthodoxy," and then added, "My children are Reform Jews and they love Judaism." I never forgot this incident. It remains a scar of miscalculation and regret. Surely, his point was not unwarranted.

#### *The Price of Tradition*

However well or ill intentioned, it raises a significant question about how traditional knowledge is learned and transferred: What is the meaning of disciple? What are the emotional and human factors involved in maintaining it? Where is the border between the rational education and the irrational inculcation? Is abstract logic the only educational value? Is the scientific method enough to hold and bind a society together for generations? Is there a meaning to Tradition, beyond Tradition? How does a community insure that its Traditions are passed on from generation to generation? How important is it to them? How significant is it for the next generation, the children? At what price? What is the price of Tradition?

Now, nearly forty years have passed since this incident occurred, and reflecting back I see things from another perspective, differently perhaps, from my professor of composition. During this extended time period a new generation has reached maturity. I have, on numerous occasions - at religious events, at communal functions and family affairs - had opportunity, now and again, to run into these little urchins as grown-ups with children of their own. Today those former children in the cheder are adults - community leaders, administrators, rabbis, teachers, businessmen and scholars. We embrace when we meet and recall those days in the cheder fondly. Can as much be said of the results of our "enlightened" liberal education? I wonder. We repeat the question: Why does traditional society invest so much effort into learning to chant the Torah? Where does Tradition originate? What is important about it? What is its justification?

Perhaps, one can summarize the experience, thus: If the community, the teacher and the children are convinced that the purpose for which they are

studying is to engage in and articulate the *Word* of the Eternal Creator – then, as an axiom, it *must* be sung and spoken accurately and correctly, as was done in all earlier and previous generations - an inheritance from Sinai until now. This approach draws upon a whole world of assumptions and values. Studying the sacred *Word* is a value in itself that the entire community has a stake in preserving. Consequently, if the teacher is truly sincere, lives by this *Word*, and believes - with all his mind, heart, and soul - that imparting it is his mission, purpose and reason for being; and if parents, too, and children as well, also believe and accept this basic premise as an inalienable value - a condition of the Faith, – then, the slap on the face, or the pinch of the ear, or the squeeze of the finger by the teacher neither hurts nor causes lasting pain or permanent damage. Rather, this archaic, perhaps primitive form of discipline is accepted without resentment. It is felt as something sweet, like a kiss bestowed in love and not anger.

#### *The Rationale of Masoretic Te'amim*

Many books have been written, mostly from the Ashkenazi-European perspective, about *how* to chant *Masoretic* accents or *ta'amey hamikra*. Some give reasons: religious law, aesthetics, communication with the Divine, amplification and dramatization of text, aid to memory, or distinguishing between sacred and profane reading<sup>5</sup>. None, however, cite the following, which touches the essence of the whole process: *And when the voice of the horn waxed louder and louder, Moses spoke, and God answered him by a voice* (Exodus 19:19). Medieval Rabbi Judah Hahassid (1150-1217), commenting on this verse in his authoritative book, *Sefer Hasidim*, writes: *And in the same voice [tone, way, emphasis, melody, flowing sound] as he [Moses] heard the voice [of God, thus] he spoke to Israel. How does one capture this same voice... he spoke to Israel?* In the final analysis, there is no logical reason to explain what obsessed generations of scribes – fixing, in some written form, Scriptural text and its vocal-tonal articulation - other than the fact that it emanated from a Divine source; and that it was conveyed by Moses to the children of Israel in some specific way.

In seeking a system to notate this *Voice* – via letters, vowels, and *te'amey hamika* - ancient scribes throughout the generations were not solely seeking grammatical expedients or technical tools aids to the coherent reading and rational interpretation of an ancient text; rather they were searching to record, in as tangible a form as possible, the crystallization of revealed wisdom emanating from the Divine.

For the *Mori*, passing on this cantillation tradition to children is not only a job, but a deep and existential responsibility - involving identity, purpose, and ultimate destiny. It is in this light and perspective that communities of faith – traditional Yemenite Jews - view the reading of the Old Testament. In the cheder, both teacher and student engage in a timeless historical process which is beyond even the learning itself. They are identifying with an experience, a clairvoyant revelation. Participating in that chain of adherents to the faith, who, from time immemorial, held onto that *Voice-once-heard* and sought to relive it again and again in the act of reading, chanting and study, is their way of touching the hem of Eternity. Cantillation resuscitates a kind of cosmic energy. Involvement becomes an instrument in its propagation - exceeding content - *beyond any blessing, song, praise and consolation uttered in the world (Kaddish)*. It is the tone, the rhythm, the flow that binds the group together and creates a community of faithful learners and believers. It is the crux the Yemenite cheder experience.

*Verse from Scripture: A Fractal Analysis*

In the same way that the essence of the ocean may be deduced from a single drop of water, or a living organism construed from the DNA found in a single plant or animal cell, so, the essence of *Masoretic te'amim* may be grasped from the perspective of a single verse of Scripture. We select for our analyses chapter 13, line 36 from the Book of Leviticus. It deals with instructions to the priest in the examination and diagnosis of the disease of leprosy.

י וְרָאִהוּ הַכֹּהֵן וְהִנֵּה פִשָּׁה הַנֶּחֱמָק  
בְּעוֹר לְאִי־בִקֵּר הַכֹּהֵן שֶׁשֶּׁר  
הַצֹּהֵב טָמֵא הוּא׃

Then the priest shall look on him;  
and, behold, if the scall be spread in the skin,  
the priest shall not seek for the yellow hair: he is unclean.  
(Lev. 13:36).

**Masoretic Te'amim from the Yemenite Cheder**

The cantillation of the Torah in the Yemenite cheder represents, most likely, the simplest essential interpretation of *Masoretic te'amim* (more so, even, than the way Yemenite adult men interpret and ornament them in the synagogue). It reduces the 26 or so symbols and their diverse elaborations to five basic intonation-gestures. Words float on and around a central recitation tone or tenor (which functions also as closing *finalis*). In addition, these *Te'amim* clarify the poetic diction of all biblical verse parallelism (*parallelismus membrorum*): 1. opening, 2. continuation, 3. articulation by way of separations and pauses, 4. medio-verse divider, and 5. close.

As noted above, these principles are taught and imbued in the cheder by rote repetition: imitating of father, teacher, older child, etc. from an early age. This learning is reinforced through group participation. Assumed, implied in the background but never verbalized is Oral Tradition: an intrinsically shared impulse, dictating how fast words are to be pronounced and connected into standardized utterances and verses: rhythmic frames.

Example 1 – Leviticus 13:36 chanted by Rav Shimon Kalazan in a Yemenite Cheder, Tiferet Israel Synagogue, Katamon, Jerusalem on April 19, 1977; transcribed by Max Stern.

The above (Example 1) is a transcription of this verse as taught to me in the Yemenite cheder by Rav Shimon Kalazan. On the recorded example (YouTube - <https://youtu.be/w3G4IVC-9g4>) we hear him chanting each phrase separately, followed by my response – attempting to imitate the various *Te'amim* and articulations as demonstrated. Each of the seven lines in the transcription represents a phrase - authentic, authoritative, and unrehearsed versions of the *Masoretic Te'amim* - as parsed, accented, and melodized in the Yemenite cheder by a master. The transcription is based on a field recording I made at the Yemenite synagogue, Tiferet Israel on Rehov Kaneh HaGalil in Katamon, Jerusalem on April 19, 1977.

*Observations and Comments*

Cantillation of Masoretic *Te'amim* in the Yemenite cheder reduces the many traditional accentual vocalizations of the Tiberian system and their diverse interpretations to bare essentials – statement, continuity, pausing, and closing: 1. Opening, 2. Continuation, 3. Articulation, 4. Major division, 5. and Final.

1. Words float upon a central recitation tone (B). This tenor alternates with a lower neighboring note (A). These two tones form the nucleus of the cantillation.

2. The principal alternating tone (A) functions in four ways: 1. as a resting note; 2. a lower neighboring note; 3. a tone leading into the final, and as a passing note to the fourth below (F#). The central note (B) serves as both tenor (*per* Gregorian terminology) and final.

The zigzag motion of the various chant modules comprising this nucleus (B-A and A-B) is intriguing, revealing four distinct recitation patterns: *upward*, *downward*, *down-up-down* and *up-down-up* - and calling to mind Greek and Latin ecphonic accents or diacritical marks, later adapted by Church singers in neume notation. They indicate direction: *acutus-upwards* (/), *gravis-downwards* (\), *circumflexus-down-up-down* (^), and *anti-circumflexus-up-down-up* (\/).

In the directness and simplicity of the chant of the Yemenite cheder, we bear witness to archeological truths and historical roots of Western notational systems still relevant as a living oral tradition.

3. A third note - secondary affix is the small-minor-third (D') above. This secondary affix has a grammatically *continuing*, rhythmically *forward moving*, as well as *emphatic* dynamic function.

The central (B) is, thus, enframed by the (A) added below and the (D) affixed above. All of these intervals are volatile and supple, certainly not regulated by equal temperament as the note names, we use to define them, might imply.

4. The fourth tone, the note (F#), a perfect fourth below the recitation- final tone or *finalis* is the only other remaining note used in the cantillation. It is prominent as the essential divider tone within the verse (*ethnachta*), articulating and marking the middle-pausing point or medio of the verse by falling motion (B A F# or D' B D F#).

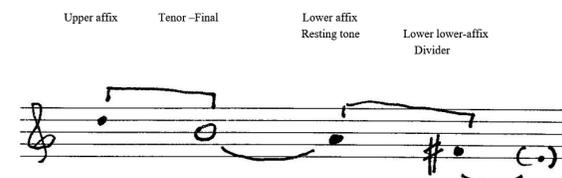
### Summary of Observations

This centric melody knows five limited kinds of motion:

1. It floats (or inflects) around the recitation tone (B).
2. It rises with an expulsion of breath to a small-minor-third above (D).
3. It falls to rest a whole-tone below (B A).
4. It rolls down a fourth to a medio (inner-cadence) caesura (B A F#).

5. And, it closes with an upward thrust from lower affix to final (end cadence) (A B). In all we have 4-notes – a tetra-tonic mode (D' B A F#).

If we rationalize the tonality as sol-fa syllables we get: do-**la**-sol-mi. The idea of a fixed mode, however, is a little pre-mature in this centrist vocal-based configuration. I would rather rationalize the tones thus: D is an upper affix to B; A is a lower neighbor to B; F# is a lower affix to A. I would speculate that once this tonal pattern became set in a rigid tetra-tonic formula - fixed or laid out in separate tones on an instrument (i.e. harp strings), we might theoretically add an affix (E) below the lower divider (F#) or above the upper affix (D-E). This we make a complete pentatonic scale!



But there is a difference between an instrument and a voice. An instrument has the possibility to set in tactile form all the notes used here in a way that the voice does not. The fingers that manipulate the instrument are not flexible vocal chords - tied as they are to inner tensions and registers. Our tonal system, today, is based on the rational layout of the notes as equals on the keyboard. This mechanistic way of dealing with sound and system is alien to the human vocal organism which clings to a tone, a different kind of “central tonic” from modern tonality.

### Basic Structural Considerations

The following cantillation signs are used in this verse:

#### **Mafsiq (dividers) or disjunctives**

Level 1. sof pasuk ( | ) (full verse) / ethnachta ( ʌ ) (half verse)

Level 2. zakef katon ( : ) / tipcha ( ʌ )

#### **Ma'amid (pausing)**

pashta ( ʌ ) / tevira ( ʌ )

#### **Molikh (moving) or conjunctives**

mercha ( J ) / darga ( ʌ )

Example 2 – Masoretic Te'amim as syntactical connector and dividers of the verse

Scribes placed *Te'amim* for specific reasons, in order to highlight the meaning of the words. *Masoretic Te'amim* punctuates Scriptural verses by indicating: short pauses and longer caesuras, dynamic stresses, and various melodic innuendos. These features function simultaneously and hierarchically: The symbol *ethnachta*, for instance, functions as a kind of fulcrum - balancing parallel sides of the verse - inconspicuously, but intentionally, evaluating ideas. Sometimes one or two portent words can balance six descriptive ones.

1. Symbols for the closure of a verse (*sof pasuk*) and its principle division or caesura (*ethnachta*) are the most important dividers or *mafsiqim*. These are not necessarily symmetrical!

In our example and many others the proportions are asymmetrical. As seen below, the proportions of the lines in the verse are roughly 4:3. If we regard the impulses as a measure we get 5:3 – roughly similar to the *Golden mean* (2:3).

The placement of dividers conveys the meaning of the words, their relative importance, and cumulative effect: textual message. They invest independent words with significance and distinction; meaning (projecting an idea or concept) determines tonal-important.

Ancient scribes placed *Te'amim* to highlight these distinctions: sometimes one or two portent words can balance six descriptive ones. In this sense, the symbol *ethnachta* is a fulcrum, balancing parallel sides of the verse and revealing its center of gravity or Scriptural essence. It is analogous to the way a heavy object on the short side of a fulcrum balances a lighter object on its opposite, but longer side. Wewerecall Archimedes' famous principle, *Give me a fulcrum and I shall move the world*.

2. Secondary disjunctive levels indicate inner-phrase articulation (*zakef katon* and *tipcha*).

3. A third level or *ma'amidim* - don't so much punctuate phrases as stretch words, introduce space or breathe between them (*tevir* and *tipcha*).

4. Other signs (*mercha* and *darga*), *molikhim* or conjunctives, connect words by suggesting increased momentum or dynamic emphasis.

### Tonal Analysis of Masoretic Accents in Leviticus 13:36

While nearly all books on biblical cantillation are based upon the 26 *Masoretic* accents of the Tiberian system, with musical coding following Lithuanian-Ashkenazi models: assigning a different intonation to each sign; Oriental Sephardic, Persian, Iraq, North African, Yemen and others closer to Near Eastern oral traditions often reduce their number, based perhaps, after earlier and less defined Babylonian notation.

#### Pashta



In line 1, the opening *pashta* (pausing motif) is placed in two places above the word (*ve-roo hu* or shall look on). Its upward-reaching shape is mirrored in ascending melodic gesture (B - D').

#### Tipcha



The *dagesh chazak*, an inner dot that doubles the Hebrew letter *peh*, accounts for the explosive (D) opens the line.

Curiously (line 3), the melodic gesture (B - D' above) at the end of the line is connected to the symbol *tipcha*, placed below the word *hannetek* or scall, a secondary divider, where we expected to find resting note (A).



In line 6 however, *tipcha* is interpreted differently, as a lower-neighbor-tone (B-A-B on the word *hatsohov* or yellow). In both instances (lines 3 and 6) *tipcha* appears in the *mercha-tipcha* formula. Why the ambiguity and deviation in intonation between lines 3 and 6?

#### Mercha

In line 6 *mercha* is a conjunctive. It functions to continue the phrase, floating on the recitation tone (B). But in line 7, *mercha* appears alone on

the word - *tamey* or unclean. It is interpreted melodically as a lower-neighbor tone leading into the *finalis* (A-B). Why the double discrepancy of *mercha*: first as a simple conjunctive, and then, as an emphatic leading tone?

*Zakef Katon – Tevir*

The remaining symbols *zakef katon* (a secondary divider) and *tevir* (a pause) (lines 1, 2, and 5), though they look different, are sung alike. Both are chanted in descending step-wise motion (B to A). Both indicate inner-verse sub-divisions. Both rest on A. Is there a difference between them? What is it? Why does the scribe choose two different symbols to indicate separation in line 1 and line 2?

The difference between them is quality - the quality of articulation and pause. Resembling an upside-down fermata, *tevir* in line 2 stretches the word *ve-hinney* (and-behold); but on the word *ha-koheyn* (the-priest) in line 1 it is a simple pause; while in line 5 it cuts off the motion abruptly. Why? We will see below that in this last instance, *tevir* serves a structural function: spatially off-setting the closing formula of line 7.

*Darga*

Finally there is *darga* (line 5), a sign which has dynamic value, but no special tonal manifestation. By emphasis alone it serves to highlight a syllable, floating along on the central recitation tone that might otherwise pass unnoticed.

Almost unnoticed, also, is the *meteg*, another stress sign placed under the word *lo* – but here stress of *meteg* gets tonal expression.

*Tonal Disruptions and the Concept of the Penultimate*

Apparently, the Masoretic symbols (*mercha* and *tipcha*) above have composite functions. They do not behave solely as stereotypes, denoting musical formulas. But, rather, their melodic intonation is connected, in some way with the connotation and meaning within the verse. Musical gesture is inevitably dependent upon formal *context and structural function*. But what is it? Where is the contextual secret found?

The answer is found in their position on *penultimate* words. This is the reason for the deviations in otherwise standardized melodic intonations: *tipcha* (line 3), *mercha* (line 7), and *mercha-tipcha* (line 6).

*Hanetek-boohr* (scall in the skin) – occurs before the medio-divider *ethnachta*; and *tomey-hu* (unclean is he) – occurs before the closing *sof pasuk*.

The idea of a *penultimate* word as a preparatory gesture to these major dividers is a mystery of sorts, because it cannot be designated with a specific symbol *per se*, but, depends solely upon its syntactical position within the verse. Musically, we understand *penultimate-word-te'amim* as “leading into” or a “heralding” intonation – a *te'amim* intuitively adjusted for aesthetic lucidity.

“The Jews of Yemen call this movement *kasra*, an Arabic word, whose meaning is *breaking*, as if the course of the melody is *broken*.” It is a kind of subtle, nuanced artistic forethought that might otherwise be ignored, but adds certain culture elegance to the *pasuk*.

*The Rhythm of Cantillation - The Ideal of Flow and Pulse*

Though *Masoretic Te'amim* may join, emphasize, and divide words - they do not create rhythm. Rather they are a consequence; it would appear, of an elemental organic pulse or flow that envelops content, idea, concept, and meaning. This primal *entelecheia* is the rhythm of cantillation. It involves a common, concerted speed at which words articulate and a mutual, composite sense for the length of phrase.

It is a characteristic of the Hebrew language that images and ideas are frequently circumscribed in one, two, or three-word phrases. When chanted these terse grammatical-units become vibrant, dynamic pulses that expand and contract according to the number of words, syllables, and the accents in each phrase-utterance. Surrounding the intricacy of *Masoretic* notation lurks an unarticulated feeling for its tonal projection through time. This proto-rhythm derives from living oral tradition. More than anything else, it confirms the crystallized ideation of *Revelation* as literacy.

If in translation the Old Testament is literature; in its original Hebrew it becomes a living malleable organism. Each word is an emanation from *above*; each emission cries out to be expressed in some way and every nuance takes on significance. Thus each sign is crucial. The unique presence of *Masoretic te'amim* on each word corroborates this exacting demand. The purpose of accents is to fix into writing something of historic revelation, memory, emphasis and understanding that is Oral Tradition. It is an adjunct to *Midrash*, an addition to that vast well of rabbinic literature - interpreting words in every which way: grammatically, alphabetically, numerically, and associatively in lore, legend and law. Such is the magic of the *Word* - of literacy fixing into visual form the *Voice* once heard.

*Tactus: The Measure of Pulse*

In Oral Tradition, from which the cheder experience imbibes, inculcates and perpetuates: thoughts, words, syllables and accents coalesce into primary tempo – a sense of rhythmic effusion - passed from generation to generation. This undulation-of-phrase is crucial to group recitation. It draws individual readers together into a collective

- a congregation. To the extent of involvement in this experience, being part of a whole - content is of secondary consideration. It is this shared throbbing that has existential value.

Western rationality tends to ignore this musical aspect of Scripture - associating morphology and syntax with the logic of grammar, rather than the ontological effusion of visceral vocalization. It places a premium upon the spoken word, not the chanted one. Quintilian (ca.35-100), the Roman rhetorician, illuminated this view centuries ago noting, “The practice of chanting instead of speaking is the worst feature of our modern oratory<sup>7</sup>.” Yet, the full impact of *Masoretic te'amim* on Hebrew text bespeaks synchronously: parsing of phrase, syllabic emphasis, sonorous intonation, word speed and rhythmic-gestural flow. In the cheder these one, two, and three word phrases are not matters for cogitation, but generate tempo and fill-in a time-frame. Thoughts sing in palpitations. They coalesce around what Renaissance theoreticians termed, *tactus* - a flexible, but common prolongation *into which phrases flow*.

Though this concept appears nowhere in notation, nor is acknowledged in treatises on cantillation, it becomes apparent in listening to Oral Traditions - that shaped the written systems of scribes. This *entelecheia* stretches and shrinks, expands and contracts: in accord with the quantity of words and syllables therein. It bespeaks a preliterate world and a communal pulse that hovers between 56 and 72 MM. It calls to mind an ancient Greek concept of *chronos protos*, put forward by Aristonexus (ca. 335 BCE) in his writings on metrics and rhythmic<sup>8</sup>. This *chant-undulation* the Yemenite child absorbs in cheder remains his Scriptural habitat in old age.

*Primary Pulse Units Identified and Meaning Deduced*

The diagram below reconstructs the above transcription (Example 1) in terms of pitch, accent and pulse. It highlights the seven-fold phrase structure of Leviticus 13:36, while identifying eight primary pulse-*phonemes* (notated as circles).

The linguistic term *phoneme* reminds me of the scientific term *photon*, borrowed from the world of physics and quantum mechanics, which refers to the structure and behavior of the atom and subatomic particles. It embraces the view that *all energy* comes in tiny, indivisible bundles.<sup>9</sup> I envision these *Masoretic phoneme-photons* as *tiny, indivisible bundles of energy* - revelatory insights from the world of Spirit.

Perhaps there is a connection between the natural and the spiritual, an interface between organic measure and verbal syntax, divine revelation as vocal palpitation and quantum physics as visible light? Is this what the biblical phrase: *And the Lord said unto Moses* – a tiny bundle of cosmic energy drawn from the well of Eternity - alludes to? *Masoretic Te'amim* strives towards a crystallization of that spiritual light transformed into concrete grammatical symbols and diacritical marks.

Part I of verse 36                      part II of verse 36

Example 3 – Structure in terms of melodic gesture, primary pulse and accentual direction

In the above table: rhythmic-pulse units appear encircled. Black notes indicate both shorter half-syllables and longer full-syllables. Slurred black and white note-heads indicate extended or elongated syllables. Vertical lines connecting pulses 3 and 4 (*mercha-tipcha, ethnachta*); 5 and 6 (*darga-tevir, mercha-tipcha*); and, 6 and 7 (*mercha-tipcha, mercha-sof pasuk*) indicate a more complex level of interconnectedness, generating extended structural entities.

Example 4 - Structure in terms of Masoretic Te'amim (from left to right)

Read from left to right we see the te'amim as a musical sentence abstracted into multiple, interdependent phrases; sometimes simple (2 and 5), sometimes complex (1, 3-4, 5, 6-7).

Connections between thought and symbol become more pronounced when we metamorphose the above musical notations into literal English translation. Suddenly people, things, and ideas surface in a new light - revealing a complex interconnecting network. Each of the seven phrases strikes us as a flash in the night.

1a. And shall **look** on him                      1b. the priest,

2. and behold,

3. if spread - the scall                      4. in the skin;

5. shall **not seek** - the priest,                      6. for the yellow hair:

7. unclean - is he.

Example 5 - Structure in terms of text

If we examine the sense of this verse we get closer to understanding why the grammarian-scribe chose the different *te'amim*: he was trying to reveal nuances of continuity, emphasis and separation - meanings either overlooked, dismissed or non-existent in English:

1a: The *kadma* (a sign of continuity) stresses examination - “**he shall look.**” 1b: While the normal pause after “priest” - *zakef katon* - is equivalent to a comma (,) and identifies “who makes the examination.”

2: The comma-function of *tevir* expresses a not only articulation, but adds an expletive quality of suspense – ‘pay attention’ - following “behold,” a sense that comma is incapable of communicating.

3 and 4: The formula *mecha-tipcha* sets off “spreading scall” as a separate consideration. Whereas its English equivalent is unpunctuated; it just keeps going, recognizing only the major divider *ethnachta* = semicolon (;).

If we analyze what comes before and what come after this *semicolon* we suddenly become aware that until this point the verse focuses on *priestly examination* – what the priest must look for and identify; while the parallel second half of the verse will focus on his *diagnosis* of the symptoms he observed in the first half of the verse. *Distinguishing* between these two *medical features* - scrutiny and pronouncement - is the function of these major dividers. It is crucial to understanding the Biblical view of the Book of Leviticus as a Priestly Code. A whole conceptual world lurks behind this placement of the *ethnachta*. It is at odds with English language translations below.

5 and 6: *Darga* emphasizes the “seeking” dimension of the phrase, while a pause after “the priest” on *tevir* as comma, suggests not so much rest as separation, a the quality of discernment, as if to say: “do not seek any further, for no addition symptom is necessary in order to determine the illness.” Nonetheless, “the yellow hair” is set-off as *mercha-tipcha* indicated in English by a colon, to show that what follows is an elaboration.

7: It is the priest’s medical diagnosis; and it concludes on *sof pasuk* or period. The *mercha* which precedes it emphasizes ethical judgment, in addition to clinical diagnosis “unclean...is he.”

#### *Two World Views Expressed Through Punctuation (Lev. 13:36).*

The Book of Leviticus as a manual for Levites and the Priests becomes apparent from the placement of the semi-colon (i.e. *ethnachta*) in this verse. When we compare punctuation in King James Version (KJV) and Jewish Publication Society (JPS) with our own original Masoretic punctuation of this verse, we are stuck by how the original idea behind the text may become transformed simply by the placement of a grammatical sign. It bespeaks much about the difference between biblical perspective and the logic of the Western mind.

1. Then the priest shall look on him; and, behold, if the scall be spread in the skin, the priest shall not seek for the yellow hair; he is unclean. (KJV)

2. Then the priest shall look on him; and, behold, if the scall be spread in the skin, the priest shall not seek for the yellow hair: he is unclean. (JPS)

3. Then the priest shall look on him; and, behold, if the scall be spread in the skin; the priest shall not seek for the yellow hair: he is unclean. (Masoretic)

Example 6 – Placement of the semi-colon (*ethnachta*) compared

Our analysis focuses on the placement of the semi-colon. In Example 1 (KJV) and Example 2 (JPS) the emphasis is on the disease. The difference is that the JPS’s weight is on the priest’s investigation “looking.” While the KJV emphasizes the *ethical diagnosis*: “the patient is unclean.” Their concern is the illness: either examining it or clinically identifying it.

The *Masoretic* version centers on the man: the priest. Is seeks to *instruct* him on the *essentials he needs to know* in order to identify the disease. It demonstrates clearly that the Book of Leviticus indeed is a document for priestly instruction – a Priestly Code.

The KJV and JPS are more concerned with *what* than with *how and who*: situation, circumstance and ethical pronouncements over-ride the personal instructional element. Because *Masoretic te'amim* draw from such a deep well of understanding, association, and nuance the medieval poet and biblical commentator, Abraham Ibn Ezra (1093-1167) concluded that “any interpretation of a verse that doesn’t agree with the *Te'amim* should not be listened to.”

#### *Conclusions*

There is no single, absolute, and precise prescription for reading *Masoretic te'amim*. Their interpretation varies from ethnic community to ethnic community, congregation to congregation, and individual to individual. However vague, they constitute sign posts which, to a greater or lesser extent, bring each Oral Tradition together under one roof. The cantillation of the Torah in the Yemenite cheder represents one such version, probably, the simplest and most essential interpretation of *Masoretic te'amim*.

A second impression is that in the cheder, and in general, sympathetic enunciation of the Word and its flowing rhythmic placement counts for

more than correct melodic intonation. The act of chanting counts for more than the content read. This feeling for tonal utterance beyond the specific meanings of words is the heartbeat, the breath, the soul of cantillation - something words are subservient to. It is a unique experience to witness groups of Yemenites reciting sacred texts together for hours on end, binding father to son, youth to aged, uniting neighbors of all ages and generations. But what is the price of Tradition: in terms of time spent, effort expended, and discipline required? Perhaps, one can summarize the traditional Yemenite cheder experience, thus: If community, teacher and children are convinced that the purpose for which they are studying is to engage in and articulate the *Word* of the Eternal-Creator – then, as an axiom, it must be pronounced and chanted correctly. This assumption draws upon a whole world of intuited inner forces (entelechy) as well as articulated values. The Talmud provides insight:

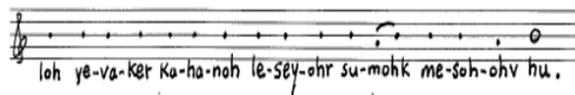
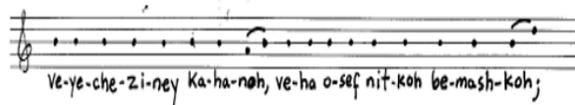
*These are the things whose fruits we eat in this world but whose full reward awaits us in the World to Come: honoring parents, acts of kindness, arriving early at the house of study morning and evening, hospitality to strangers, visiting the sick, helping the needy bride, attending to the dead, devotion in prayer and bringing peace between people – **but the study of Torah is equal to them all** (Sabbath 127a).*

## Notes

1 Baron, Salo. *A Social and Religious History of the Jews*, 3 Vols, (New York: Columbia University Press, 1937).

2 Personal recollections and writings of my teacher, world renowned ethnomusicologist, Johanna Spector (1915-2000) and conversations with expert, Professor Uri Sharvit; and A. Z. Idelsohn. *Jewish Music in its Historical Development* (New York: Schocken, 1967) 23.

3 There is a method to reading the Aramaic Targum of each verse, which is read at a faster pace and less differentiated grammatically than the original Hebrew. On the final syllable of the inner phrases the recitation tone is marked by a slurred circumflex movement (A B). At the medio point, the recitation tone it reaches up a minor third (B D). While the final is indicated by the same circumflex movement, but is *specifically not slurred*, but placed separately on the *last two syllables* (A B) with a sustained final tone on the last syllable, as follows:



4 In strictly orthodox families, as those of the Kalazan children, they learn Scripture until the age of 10, at which time when they begin the study of the Mishna. This Shimon used to do by taking his older boys to another synagogue.

5 Joshua Jacobson. *Chanting the Hebrew Bible* (Philadelphia, Jewish Publication Society, 2002) 6-11.

6 Yehiel Adaqi /Uri Sharvit. *A Treasury of Jewish Yemenite Chants* (Jerusalem, Israel Institute of Sacred Music, 1989) xvii-xxix.

7 Max Stern. *Bible and Music: Influences of the Old Testament on Western Music* (New Jersey: Ktav Publications, 2011) 20.

8 Curt Sachs. *Rhythm and Tempo: A Study in Music History* (New York, W.W. Norton, 1943) 68-146.

9 Patricia Barnes-Svarney, editorial director. *The New York Public Library Science Desk Reference* (New York: Simon & Schuster MacMillan, 1995) 300.

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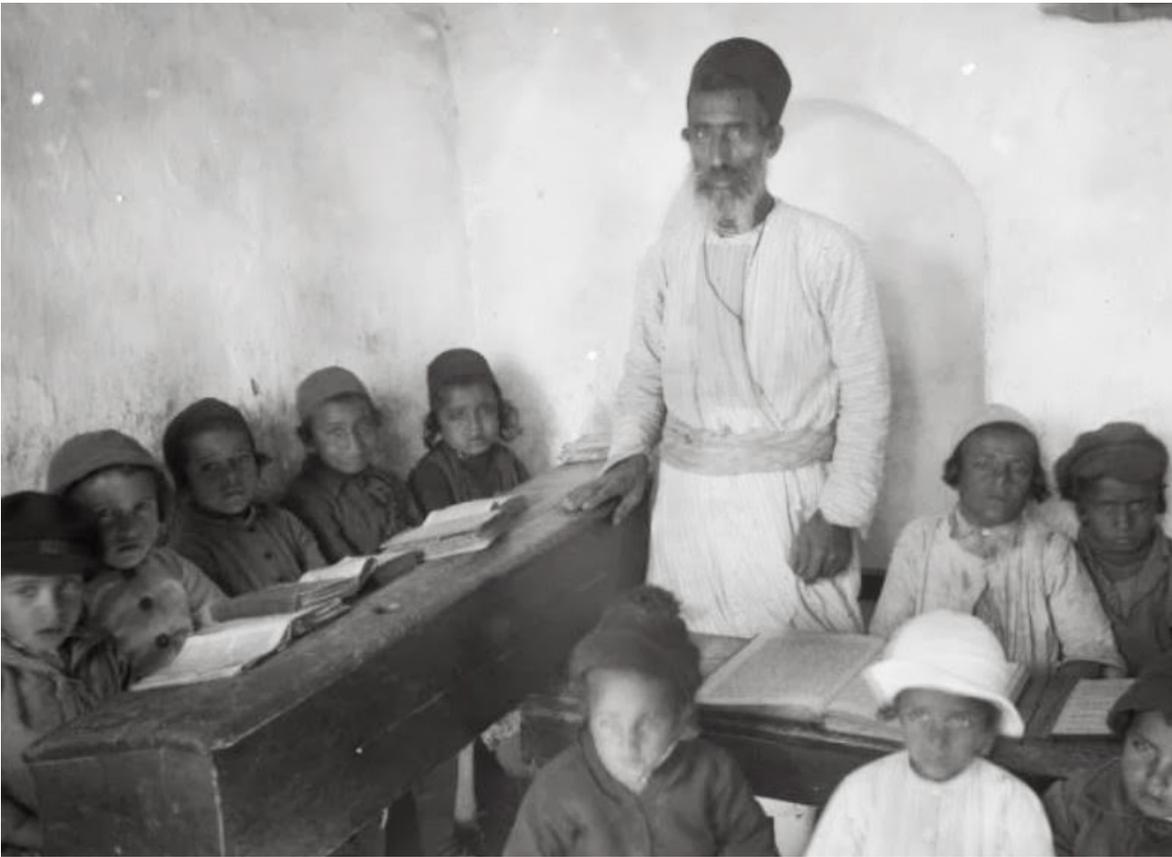
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**YouTubeLink:** Teaching Masoretic *Te'amim* in the Yemenite Cheder (Lv13:34-37)  
<https://youtu.be/w3G4lVC-9g4>

MAX STERN



Yemenite Cheder, c. 1910