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Steve Reich and Hebrew Cantillation

Antonella Puca

Among the composers of the American avant-garde, Steve Reich is one of the most strongly aware of his cultural and ethnic roots. His interest in Hebrew cantillation dates from the mid-1970s and is accompanied by the rediscovery of his own Jewish background, by the study of the Hebrew language and of the Hebrew Bible, and by extended periods of residence in Israel. My paper considers the influence of Hebrew cantillation on Reich's compositional techniques and on his approach to the relation between words and music in his works from the 1980s and early 1990s.

In his early tape pieces from the 1960s, Reich uses speech samples in such a way that they lose their original linguistic connotation. I argue that in the works that Reich composed after his studies of Hebrew cantillation, the preservation of the semantic meaning of the words becomes for him a central concern, and that sound aspects of spoken language, such as intonation, timber, melodic cadences, and metric accentuation become the defining elements of musical structure.[1]

During the 1960s, Reich explored the relation of words and music in a series of works for magnetic tape that make use of recorded speech. By using recorded speech as a source of electronic tape music, he intended to present speech-melody as it naturally occurs, keeping the original emotional power that speech has while intensifying its inherent musical properties through repetition and rhythm.[2] *It's Gonna Rain,* composed in San Francisco in 1965, gives an example of Reich's early approach to speech in music. This piece is based on a speech sample that Reich recorded using the voice of a black Pentecostal preacher, along with the sound of pigeons and traffic. The piece is in two parts, which are based on the manipulation of two different speech fragments. Both parts start with the speech sample presented in its entirety on two channels, as originally recorded. In the course of the composition, Reich isolates individual speech fragments, which are repeated, juxtaposed, and combined in various ways. In the first part, the two channels start in unison, go gradually out of phase with each other, and then slowly move back to unison. In part two, Reich combines the technique of "phase shifting" with that of the canon. This section starts with two voices (one per channel) that go

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gradually out of phase and then proceed in canon. The two-voice canon is transferred to channel one, while channel two introduces a duplicate of it. The process of phase shifting is repeated, and eventually the piece develops into an eight-voice canon at the unison. *Come Out* (1966) is composed on the basis of a similar procedure, with a single loop recorded on two channels. The piece starts with the repetition of the loop, in unison with itself. As it begins to go out of phase, a slowly increasing reverberation is heard. The speech fragment gradually develops into a canon for two, then four, and finally eight voices. In these electronic manipulations, the speech sample loses its original linguistic connotation and is treated as purely acoustic material.[3]

Reich's study of Hebrew cantillation and the rediscovery of his Jewish background in the mid-1970s oriented his approach to the musical setting of words and speech in a new direction, one that aims at preserving the integrity of speech in terms both of its acoustic quality and of its semantic meaning. Reich grew up within the tradition of Reform Judaism, with scant exposure to the Hebrew language and to the Hebrew Bible.[4] Reich's father came from a family of Jewish immigrants from eastern Europe (Krakow and Budapest) who had tried their best to become American. Reich's mother, whose family was originally from Austria (Vienna) and Germany (Koblenz), had roots in the United States that dated back three generations.[5] After a bar mitzvah where he pointed at words that he could not read "but said from memory of a transliteration into the English alphabet," Steve Reich lost interest in Judaism "with the exception of reading Martin Buber" in his teens.

Through the 1960s and 1970s, Reich's interest in religion and ethnic cultures led him to practice Buddhist meditation, read about Mexican mysticism, and study African and Balinese music. In 1974 he felt the desire to learn more about his own ethnic and religious background, a desire he shared with Beryl Korot, whom he met the same year. In 1975 Reich decided to attend the adult education program at Lincoln Square synagogue in New York City, taking courses in Hebrew and in the reading of the Torah. In 1976 and 1977, the cantor Edward Berman, of the Jewish Theological Seminary, introduced him to the study of biblical cantillation. Reich worked for some time with Johanna Spector of the Jewish Theological Seminary and with Israel Adler and Avigdor Herzog of the Hebrew University of Jerusalem. In the summer of 1977, Reich made his first trip to Israel with Korot, with the intention of visiting the National Archives of Recorded Sound in Jerusalem.[6] While in Jerusalem, he pursued fieldwork research in the area of biblical cantillation, recording the first five verses of Bereshit (Genesis) chanted by

older Jewish men from Baghdad, Yemen, Kurdistan, and India. His research confirmed him in the view that, beyond regional differences, "the structure of the chant is always the same."[7] By 1978, the most intense period of his Jewish studies was over, and he felt that, indeed, he had "found his spot."[8]

Reich's interest in the Jewish musical tradition is centered on the Bible and on biblical cantillation: "For many people, Jewish music means 'Fiddler on the Roof' or Hasidic folk songs. . . . I would go back to the homeland, to the origin, and see what is particular about my tradition, independently of how it was influenced, in the Askenazic experience, in Germany, France and England, or, in the Sephardic experience, in Spain. . . . The center of the tradition is the chanting of the Scriptures."[9]

The written text of the Hebrew Bible as transmitted since medieval times comprises three main components: the consonantal letters, the vowel symbols, and the accentuation signs for cantillation, called *te'amim*.[10] The consonantal text of the Torah constitutes the core of the biblical canon. For the faithful, this text represents the original gift of God to the Jewish people, which Moses received on Mount Sinai together with a body of orally transmitted rules for its interpretation. According to modern Bible historians, the consonantal text of the Torah represents the crystallization of a critical process that took place with the contribution of many generations of scholars and scribes.[11] This process predates by several centuries the codification of the Masorah, which led to the inclusion in the Bible of written signs for the vowels and for the cantillation accents, which had been transmitted orally for generations.[12]

The Hebrew alphabet is composed exclusively of consonantal letters. Hebrew words typically have a root of three consonants, which assume different meanings in spoken language according to the way in which they are pronounced. The same root of three consonants generates a variety of words in speech, according to the vowel sounds that are added and to the eventual insertion of prefixes, suffixes and ending desinences. For instance, the three-letter root Samex-Pey-Resh (ספר) might be pronounced *sefer*, which means "book," or *sipur*, which means "story." With the addition of the prefix Mem (מ), it can be pronounced *mesaper*, which indicates the present tense of the verb "to narrate," or *mispar*, which means "number." The addition of the vowels is necessary to identify a single meaning and to exclude other possible interpretations of the same root. In the context of larger syntactical units, the meaning of every sequence of words depends upon the correct grouping

of the words, the interrelation of clauses and subclauses within the verse, and upon "musical" parameters, such as the relative emphasis placed in individual words in speech, the intonation, and so on.[13]

In the ritual practice of the synagogue, the text of the Bible is delivered in a form of heightened reading that stands between reading proper and singing and is known as cantillation. The Hebrew Bible uses two sets of cantillation accents, one for the twenty-one so-called prose books of the Hebrew canon and one for the three poetical books (Job, Proverbs, and Psalms).

In his article on Hebrew cantillation, Steve Reich explains that the te'amim or "accents" have three functions in the Hebrew biblical text.[14] First, they indicate the syllable on which the phonetic accent falls. In Hebrew, most words have the accent on the last syllable (*milrà,* "from below"), as in the first word of the Bible, *Bereshìt,* and some have it on the penultimate syllable (*mil'el,* "from above"). The te'amim also act as a punctuation system, marking the syntactical structure of the text, the ending of a complete verse and of its parts, and the distribution of pauses for oral delivery. Reich distinguishes nineteen "disjunctive" te'amin, marking separations of varying degrees between parts of a sentence, and eight "conjunctives."[15] The accents are classified hierarchically according to their degree of dependence upon or independence from each other and according to their relative weakness or strength. Finally, the te'amim represent the musical notation for the cantillation. Each sign or group of signs represents a musical motive with a distinct rhythmic and/or melodic profile. The signs work as reference aids to the evocation of the motive, which varies in its individual profile according to the tradition of the individual Jewish community in which the cantillation is practiced.[16]

Reich studied cantillation with the cantor of the Jewish Theological Seminary, Edward Berman, who in turn had learned the Lithuanian tradition of cantillation from Solomon Rosowsky. Rosowsky spent the last years of his life in New York City, where he died in 1962. While in the United States, he published his major studies of the cantillation and taught at the Jewish Theological Seminary. His activity in New York City was oriented toward the training of cantors and the establishment of the principles for a musical and syntactical analysis of the te'amim. His teaching method fostered the use of transcriptions into Western notation, along with oral transmission, making the cantillation conform to the Western metric and tonal system. In *The Cantillation of the Bible,* Rosowsky classifies the Lithuanian tradition as the "principal type in the large Ashkenazic family of cantillations. . . . It is by no means confined to the territorial limits of Lithuania. It is adhered to by Jews in Poland,

Russia, . . . various European countries, North and South America, South Africa, and by a number of Ashkenazic communities in Israel."[17] Within the Lithuanian tradition, there are different melodic patterns chanted for the te'amim for use with the reading of the Prophets as opposed to the Torah. There are also particular te'amim for the five Megillot or Scrolls (Song of Songs, Ruth, Lamentations, Kohelet or Ecclesiastes, and Esther). In the system that Reich learned from Berman, one of the main differences in the reading of the various books of the Bible consists in what he defines as the "modality" of the cantillation. Reich explains that "while the melodic structure of the *Torah* is basically in major, the Prophets are basically in minor. In the case of the Song of Songs, some accents are in major, others in minor and some in the Phrigian mode."[18] Example 1 presents a table comparing four of the most common groupings of accents studied by Reich. The table shows the difference in "modality" between chanting the Torah, the Prophets, and the Song of Songs within the Lithuanian tradition. In actual performance, an accent can seldom be regarded as a detached, self-contained unit. The accent groups tend to be matched by motivic groups or melodic phrases. The study of the motivic interrelations in larger musical and textual units is an area of research that has attracted considerable attention in recent years.[19]

   The divisions marked by the te'amim might follow musical and poetic criteria that are in contrast with those regulating the logical and grammatical division of the text. The relation of the musical syntax of the te'amim to the syntax of the Hebrew language has been a matter of controversy in biblical scholarship.[20] Especially in the so-called poetical books, the placement of the te'amim might lead to an irregular division of the text to establish, for instance, parallels among subsections, or to place emphasis on a particular word.[21] Reich's writings attest to his awareness of the discussion concerning the te'amim both in the musicological literature and in the grammatical studies of the biblical text.[22] Reich's interest was directed primarily to the *structure* of the cantillation, rather than to the sound, which varies according to the different Jewish communities in which the cantillation is practiced:

   Just as I found it inappropriate to imitate the sound of African or Balinese music, I found it similarly inappropriate to imitate the sound of Hebrew cantillation. It is true that I am Jewish, but I did not grow up with the sound of cantillation and really discovered it in my late 30s. Even more important, though, is that the sound of Hebrew cantillation is not perhaps the most fruitful form of influence, and that by imitating it one could easily end up with merely a "Jewish sounding piece," much as one could end up with
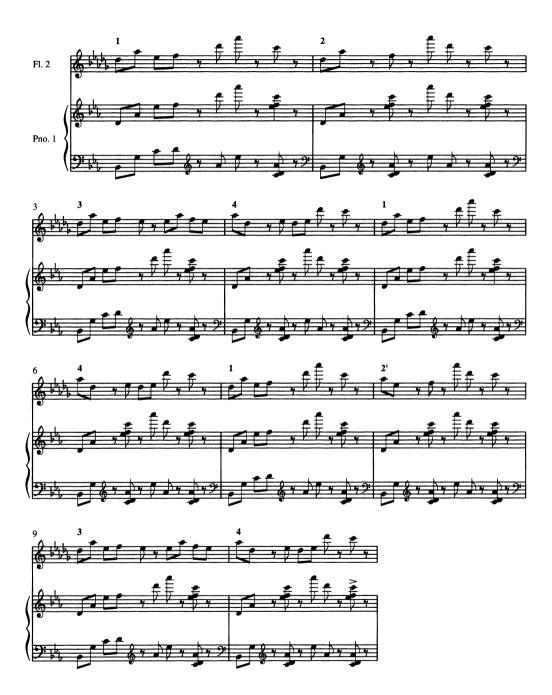
Example 1.   Comparative table of te'amim for the Torah, the Prophets, and the Song of Songs in the Lithuanian tradition. Steve Reich, "La cantillazione ebraica e il suo influsso sulla composizione," *Reich*, 225. © Copyright 1994 by E.D.T Edizioni di Torino. Reprinted by permission.

African or Balinese sounding pieces. These are merely up-dated versions of
Chinoiserie—the wearing of colorful clothes on the surface of a piece of
music to make it sound like something exotic. In contrast to this, it seems to
me far more fruitful and certainly more substantial to try and understand the
structure of Hebrew cantillation and apply that to the pitches and timbres
one has grown up with so as to hopefully create something new.[23]

In Reich's view, the Western tradition of cantillation is based on a
musical system that shares the fundamental premises of the European
tonal system. This system excludes the use of microtonality, which Reich
associates with the cantillation of the Jewish communities of the Middle
East: "In Western Hebrew cantillation, you don't find any microtonality
whatsoever. . . . I don't think that it is important in Jewish music, except
as you would find it . . . in the Middle Eastern communities. . . . As a
musical device in the West, I have always thought it reminded me of a
man who's painting a room and forgets to leave a place for himself to
leave. And he's stuck in the corner with the wet paint."[24]

In the late 1970s, Reich's attention was directed to the motivic
structure of the cantillation, along the lines of Abraham Idelsohn's stud-
ies, and particularly to the way in which long melodic phrases are built
on the addition of motives with a distinctive melodic and rhythmic pro-
file, each associated with an individual ta'am: "Basically, what goes on in
Hebrew chant is that each word in the *Torah* has a mark, and the mark
indicates a traditional melodic fragment, and by piecing these fragments
together you chant the weekly reading. The technique therefore consists
of taking pre-existent melodic patterns and stringing them together to
form a longer melody in the service of a holy text. If you take away the
text, you're left with the idea of putting together small motives to make
longer melodies—a technique I had not encountered before."[25]

The influence of the studies of Hebrew cantillation on Reich's music
can be noticed in *Eight Lines,* which Reich completed in 1979. This piece
presents long melodic lines, constructed according to a procedure of
"motivic addition" similar to that of Hebrew cantillation as described by
Idelsohn.[26] In Example 2, the part of the flute is constructed by joining
motivic fragments from the part of the first piano. Measures 1 and 2 of the
flute double the notes of the right hand in the piano, with a few octave
transpositions. Measures 3 and 4 in the flute part start with the first four
notes in the first piano part, but then the flute diverges for the rest of the
third measure and for the fourth measure. The fifth measure is a repetition
of the first, while the sixth repeats the fourth; the seventh measure repeats
the first, and the eighth measure is a variation of m. 2. The ninth and
tenth measures are repeats of mm. 3 and 4. The resulting melodic pattern

Example 2.   Steve Reich, *Eight Lines*, last ten bars, flute and piano 1. © Copyright 1979 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

for the flute part is 1, 2, 3, 4, 1, 4, 1, 2', 3, 4. As Reich notes, "the sound of this music is not at all similar to that of the cantillation, but the structure resembles the motivic construction of the cantillation."[27]

In *Tehillim*, composed in 1981, Reich turns to the Hebrew Scriptures as the poetic source for his musical settings. Originally, Reich had thought of starting out by transcribing the Book of Jonah exactly as it is chanted in Western synagogues on Yom Kippur and of having the transcription performed not by another male voice ("I think that would be a poorer version of what's done in the synagogue"), but, rather, by a female voice.[28] Soon, however, he felt that "to compose a setting for this text seemed problematic—perhaps similar to the difficulty I felt in using an African bell in my own music. Another factor for me was the fact that the tradition of the synagogue had been *to preserve* the original cantillation. In short, there is *no need* of new musical compositions in the traditional synagogue."[29] Eventually, his interest turned to the Book of Psalms, with a selection of excerpts that includes Psalms 19:2–5, 34:13–15, 18:26–27, and 150:4–6: "One of the reasons I chose to set Psalms as opposed to parts of the *Torah* or Prophets is that the oral tradition among Jews in the West for the singing of the Psalms has been lost. (It has been maintained by Yemenite Jews.) This means that I was free to compose the melodies for *Tehillim* without a living oral tradition either to imitate or to ignore."[30] Reich's main concern in this work was to formulate the relation between text and music in a way that would preserve the meaning of the words: "Up to that moment, I had limited myself to set in music individual words independently, in a way, of their meaning, but now I had to confront myself with texts in which meaning was fundamental, and for this kind of operation I did not have any method. . . . For the first time, the music had to serve the purpose of the meaning of the words."[31]

The first idea was that of inserting in the rhythm of the vocal parts the rhythm which was immanent in the structure of the words. In reading the Hebrew text of the Psalms, Reich could perceive a metric succession of units of two and three beats. This series of twos and threes become the basis for the rhythmic structure of his vocal lines, so as to form constantly changing meters (see Example 3).

Reich pays attention also to the syntactical structure of the Hebrew text. In his settings, the division of the musical phrases in the vocal lines tends to follow the division marked by the te'amim in the Hebrew text. The Biblical text of the Psalms is typically organized in verses, which are divided by an ending sign called *Sof Pasuq*, consisting of two vertical dots (:). Each verse, in turn, is divided by a caesura in two or occasionally three parts. The length of the parts and the placement of the caesura

Example 3.   Steve Reich, *Tehillim*, part 4, voices 2 and 3, mm. 1–7. © Copyright 1981 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

vary among verses. In the Book of Psalms, the main caesura is indicated by one of three accents: *Silluq* (﹘), *Atnach* (⊼), and *Oleh-ve-yored* (⌐⌐). *Silluq* is the strongest accent. It typically precedes *Sof Pasuq* at the end of the verse, but it might also be placed within the verse to emphasize an individual word and/or to mark the main internal division in longer, tri-partite verses. *Atnach* is the most common main divisional accent within the verse. In longer verses, *Oleh-ve-yored* is also found.

Example 4 shows the vocal line of the soprano in the opening mea-sures of *Tehillim* with the text of Psalm 19:2–4. The placement of rests and accents in the music conforms to the disposition of the cantillation accents in the biblical text (see Tables 1 and 2). Reich places a long rest to correspond to each verse ending, marked in the Bible by the *Silluq* + *Sof Pasuq* combination. Verses 2 and 3 are bipartite. The internal divi-sions are marked by *Atnach*, which corresponds to a note of longer dura-tion in Reich's music on the accented word (m. 4: *Kàil*; m. 11: *Omer*). Verse 4 is also divided into two main sections marked respectively by *Atnach* (with a note of longer duration and a descending melodic line leading to a low E on the last tonic syllable of *devahrìm*) and *Silluq-Sof Pasuq* (a longer note on the last tonic syllable, *làhm*, followed by a rest).

Tehillim also presents some examples of word painting. In the set-ting of Psalm 34, the words *Sur may-rah va-ah-say-tov* are set with a descending melodic line on *Sur may-rah* ("Turn from evil"), and a strongly rising line for *va-ah-say-tov* ("and do good"), ending on an A-flat-major triad on the word *tov* ("good"), while the third of the chord is voiced as a high C in the high soprano voice (see Example 5).

The principles of word painting apply not only to individual phrases but are extended to affect the large-scale structure of the composition as a whole. The setting of Psalm 19:4 in the first movement has a central struc-tural role in *Tehillim*. The words *Ain-oh-mer va-ain de-vah-rim, Beh-li nish-mah ko-lam* ("Without speech, and without words, nevertheless their voice is heard.") are set on a melody of four tones: G, A, D, E (see Example 6). Reich explains that

Example 4. Steve Reich, *Tehillim*, part 1, voice 2, mm. 1–32. © Copyright 1981 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

> although the original key signature is one flat and seems to be D minor, these four tones alone can be interpreted (especially when they are repeated over and over again in the four-part canon) as either in D minor, C major, G major or D major (among others), depending on their rhythm and the chords harmonizing them. They are interpreted, at least in the first movement, as in D minor and then in G major, but their basic ambiguity suggests that when we hear a voice without speech and words we are not only hearing music, but music of the most open sort, which is consonant with many harmonic interpretations.[32]

This four-note scale, according to Reich, "was suggested by the text." It returns on the ending Halleluja and supplies one of the basic means of harmonic change in the piece.

Table 1.   Psalm 19:2–4, Hebrew transliteration and English text

Psalm 19:2–4 (transliteration and phonetic accents by Steve Reich)

Ha-sha-mý-im meh-sa-peh-rím ka-vóhd Káil, [*Atnach*]
U-mah-ah-sáy ya-díve mah-ghid ha-ra-kí-ah. [*Silluq-Sof Pasuq*]

Yóm-le-yóm ya-bée-ah óh-mer, [*Atnach*]
Va-lý-la le-lý-la ya-chah-véy dá-aht. [*Silluq-Sof Pasuq*]

Ain-óh-mer, va-áin deh-va-rim, [*Atnach*]
Beh-lí nish-máh ko-láhm. [*Silluq-Sof Pasuq*]

Psalm 19:2–4 (English translation by Steve Reich)
The heavens declare the glory of G-d
the sky tells of His handiwork.
Day to day pours forth speech
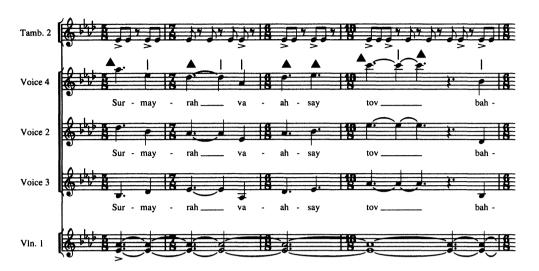night to night reveals knowledge.
Without speech, and without words
Nevertheless their voice is heard.

From *Tehillim*, © Copyright 1981 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

Table 2.   Psalm 19:1–4, Hebrew text with Masoretic accents

יִטָ (א) לַמְנַצֵּחַ מִזְמוֹר לְדָוִד׃ (ב) הַשָּׁמַיִם מְסַפְּרִים
כְּבוֹד אֵל וּמַעֲשֵׂה יָדָיו מַגִּיד הָרָקִיעַ׃
(ג) יוֹם לְיוֹם יַבִּיעַ אֹמֶר וְלַיְלָה לְּלַיְלָה יְחַוֶּה דָּעַת׃
(ד) אֵין אֹמֶר וְאֵין דְּבָרִים בְּלִי נִשְׁמָע קוֹלָם׃

Example 5. Steve Reich, *Tehillim*, part 2, tambourine 2, voices 2–4. © Copyright 1981 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

Example 6. Steve Reich, *Tehillim*, part 1, voice 2, mm. 16–24. © Copyright 1981 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

In *Different Trains* for string quartet and tape, composed in 1988, Reich reintroduces electronic instrumentation and goes back to the idea of using speech recordings to generate the musical material for musical instruments.[33] Unlike in his early taped-speech pieces, Reich is careful to preserve the semantic content of the words in his musical manipulation of the recorded material. *Different Trains* recalls Reich's travels by train between New York and Los Angeles during the years of the Second World War and those of the Holocaust survivors in Europe. In Reich's description, "the piece mixes the sound of the string instruments with a selection of speech samples and recorded American and European train

sounds of the 1930s and 1940s to present both a documentary and a musi-cal reality."[34] In order to combine the taped speech with the string instru-ments, Reich selected small speech samples that had a marked melodic contour and then wrote them down as accurately as possible in musical notation, as in a melodic dictation. The speech fragments, together with the train sounds and other special sound effects (including sirens), are stored in digital format on a sampling keyboard. The strings then literally imitate the speech melody, taking into account its pitch profile, its tim-bre, and its inherent rhythm (see Example 7). Tonality is established without any semblance of functional harmonic progressions, the new key simply being juxtaposed alongside the previous one. The intonation and the pitch level of the original speech fragments determine the harmonic framework of the composition. The introduction of a new speech frag-ment is accompanied by a tonal shift to a different harmonic plane.

In Reich's video opera *The Cave*, completed in 1993, we can find examples of most of the techniques of word setting and speech manipu-lation discussed so far. *The Cave* is the result of the collaboration of Steve Reich with the video artist Beryl Korot. Both were interested in making a new kind of musical theater based on videotaped documentary sources, in which one could see and hear people as they spoke on the videotape and, simultaneously, see and hear onstage musicians doubling them—actually playing their speech melodies as they spoke.[35]

The work takes as a point of departure the story of Abraham in Genesis. In the Bible, Abraham buys a cave as a burial place for his wife Sarah. The cave of the Patriarchs, as it has come to be known, became the final resting place for Abraham, Sarah, and their descendants. The Cave of Machpelah is located in the largely Arab town of Hebron, in the West Bank. It has been traditionally a place of war between Jews and Muslims, but is also the only place where they both pray.

The Cave is in three acts. Reich and Korot started out with quota-tions from the Bible and the Koran. Then they began asking questions about the ancient biblical and Koranic characters associated with the site for Israeli Jews, Palestinians, and Americans. In setting the text of Genesis, Reich refers to the procedure of melodic construction that he had already adopted in *Tehillim*. The vocal lines follow closely the accentuation of the English text, with free metric accents. In the inter-view sections, Reich had to deal with a series of speech samples as in *Different Trains*, accompanied by the video image of the talking heads on a multiple-channel installation on stage. The speech melody of each person becomes a kind of musical portrait of the person and works as a guide to the character's personality. Reich notes that when the ear con-centrates on the music inherent to the words, one might become aware

from   Chi-ca - go   to New Yo - rk

Example 7. Steve Reich, *Different Trains.* © Copyright 1989 by Hendon Music, Inc., a Boosey & Hawkes company. Reprinted by permission.

of an additional layer of meaning, one that reflects the inner voice of the person speaking. For Reich, the composer can bring the speech melody to the fore and make the "other" subconscious meaning surface.[36]

In transcribing the melodies from everyday speech onto a staff, the composer is forced to operate a stylization, eliminating microtonal inflections, microintervals, glissandi, and so on. In this operation, he might lose precisely those nuances of meaning that he is trying to convey. In Reich's view, this problem can be solved by preserving the relation of the music to the person speaking. In *The Cave*, "the music and the person talking are together. When you see *The Cave*, you see the people, you hear the people, and you hear the music. And the music is stylizing, stressing the tonal part. But you get the whole story. . . . You must hear to understand. You get the music and you also get the way the people look; their facial expression; the way they look at you, the way they turn their eyes down. All this is part of the music, and part of the theater, and part of the meaning of what they say."[37]

As in biblical cantillation, the text reveals its depth in performance, in its physical reality in sound and in the living voice of the person speaking as a representative of his or her own community. The speech melody becomes a window into a person's soul.

Reich's works composed after his studies of Hebrew cantillation testify to his attempt to preserve the semantic integrity of the text in his musical setting and to model the structure of the music on that of the text. In *The Cave*, the speech samples of the interview become the basis for the composition of music that reflects their main features in terms of melodic and rhythmic profile. This approach marks a departure from the techniques of speech manipulation that Reich had used in his early tape pieces and is a significant break from a tradition that, in the work of Cage and of other composers, had considered speech in purely acoustic terms, depriving the words of their semantic content. The search for techniques of text-setting that restore the union between the "sound"

aspect of speech and the semantic meaning of the words seems to me the most fruitful influence of Hebrew cantillation in Reich's music and points toward avenues of approach that might inspire other composers in the future.

Notes

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1. My discussion draws extensively from Reich's own writings, including his article "Hebrew cantillation and its influence on composition" of April 1982, and from the tapes of Reich's interview with the Italian musicologist Enzo Restagno (New York City, Jan. 1994). The text of the interview with Restagno has been published in Steve Reich, "La Vita," in *Reich*, ed. Enzo Restagno (Torino: EDT, 1994), 55–111. Reich's article on Hebrew cantillation has been published in Italian as "La cantillazione ebraica e il suo influsso sulla composizione," trans. Antonella Puca, in *Reich*, 219–31.

2. Steve Reich, liner notes, *Steve Reich: Early Works* (Elektra/Nonesuch 9 79169-2).

3. K. Robert Schwartz, "Steve Reich: Music as a Gradual Process," *Perspectives of New Music* 19 (1980–81): 374–92; 20 (1981–82): 225–87. On *It's Gonna Rain* and *Come Out*, see also Steve Reich, *Writings about Music* (New York: New York University Press, 1974), 49–52.

4. Reich, "La cantillazione ebraica," 221.

5. Interview, Steve Reich with Cole Gagne, *Soundpieces: Interviews with American Composers*, ed. Cole Gagne and Tracy Caras (Metuchen, N.J.: Scarecrow Press, 1982), 305–18.

6. K. Robert Schwartz, *Minimalists* (London: Phaidon Press, 1996), 83.

7. Interview, Reich with Cole Gagne, 314.

8. Interview, Reich with Enzo Restagno, 84.

9. Interview, Reich with Enzo Restagno, tape.

10. For an introduction to the biblical Masorah, see Israel Yeven, *Introduction to the Tiberian Masorah*, trans. and ed. E. J. Revell, vol. 5 of *Masoretic Studies*, ed. Society of Biblical Literature (Missoula, Mont.: Scholars Press, 1980); For an introduction to the Masoretic accents for cantillation, see Avigdor Herzog, "Masoretic Accents (Musical Rendition)," in *Encyclopedia Judaica* (Jerusalem: Keter, 1971) 11:1098–1111; and William Wickes, *Two Treatises on the Accentuation of the Old Testament* (New York: KTAV, 1970).

11. Herzog, "Masoretic Accents."

12. For a discussion of the marks included in the Masoretic text of the Bible, see James D. Price, *The Syntax of Masoretic Accents in the Hebrew Bible: Studies in the Bible and Early Christianity*, vol. 27 (Lewiston: The Edwin Mellen Press, 1990). Besides the vowel points and the cantillation accents, Price lists as part of the Masoretic text of the Bible (1) marks

called *niqqudim* or *puncta extraordinaria* consisting of prominent dots placed above (or sometimes below) the characters of the word or words in question, presumably to register textual or doctrinal reservations on the part of the scribes; (2) marks referring to marginal notes to the text, including a small circle to indicate that what is written in the Masoretic text (*ketib*, "it is written") is not what should be read (*qere*, "it is read"), a situation that typically occurs for the pronunciation of the divine name (*Yud-Hey-Vav-Hey*), which should not be read as it is written, but rather "Adonai"; and (3) hyphens (*maqquep*) used to join words that are closely related syntactically and that should be considered, for accentuation purposes, as a single word.

13.   In "Musical Accents," Herzog mentions five verses in the Torah whose construction is uncertain, including Genesis 4:7 and 49:7, Exodus 25:34 and 17:9, and Deuteronomy 31:16.

14.   Reich, "La cantillazione ebraica," 221.

15.   Reich, "La cantillazione ebraica," 221.

16.   In his classic study *Jewish Music in its Historical Development* (New York: Schocken Books, 1956), Abraham Idelsohn focuses his attention on the motivic structure of the cantillation and on the relation between motives from different traditions. He emphasizes that the structure of the cantillation remains the same among various communities, while the musical rendition of the te'amim changes.

17.   Solomon Rosowsky, *The Cantillation of the Bible* (New York: Reconstruction Press, 1957), 1–2.

18.   Reich, "La cantillazione ebraica," 225.

19.   See the recent studies of Uri Sharvit and Daniel Meir Weil. In "The Musical Realization of Biblical Cantillation Symbols (*te'amim*) in the Jewish Yemenite Tradition," *Yuval* 4 (1982): 179–210, Uri Sharvit presents a research carried out in seven Yemenite congregations in Israel, who all claim they have preserved the same tradition of the region of San'a, the capital of Yemen. He notes that "One of the traditional features common to the Pentateuch tunes of many Jewish communities is that every *ta'am* has a fixed musical motive. The Yemenites, however, deviate from this norm in that they have fixed motives not to a single *ta'am*, but rather to a syntactical function which may be indicated by several *te'amim*. Thus, different *te'amim* may be chanted according to the same motive, when they indicate the same syntactical function" (186). In *The Masoretic Chant of the Bible* (Jerusalem: Rubin Mass, 1995), Daniel Meir Weil bases his analysis of the cantillation on the principle that there is a "conspicuously high" degree of uniformity between the Masoretic accents as they appear in modern editions of the Hebrew Bible and their most ancient known forms "in the manuscripts of the so-called conventional Tiberian school, produced a millennium ago." This uniformity concerns both the signs themselves and their actual occurrence in the biblical text. Meir argues that the te'amim are essentially signs of "descriptive" notation, which codify a preexistent oral tradition of reading. He suggests that the grammar of the biblical accents follows its own laws, independent of that of the Hebrew language. The musical motives associated with each individual ta'am vary according to the specific Jewish tradition one is dealing with, but the laws regulating the occurrence of the accents do not change. The laws of the system explain the syntax of the te'amim as notated in the Bible and their relation to the syntax of the Hebrew consonantal text. They also account for the presence of a common musical structure that underlies

the different renditions of the te'amim among the various Jewish communities. Weil maintains that the variations between the musical rendition of the te'amim can be reconciled with reference to a common pitch-centered "chain system," defined as "a symmetric extension of a strictly descending series of tones that we call row."

20.   William Wickes, *A Treatise on the Accentuation of the So-Called Poetical Books . . . Psalms, Proverbs, and Job* (New York: KTAV, 1970), 4: "We find, when we come to examine the text for ourselves, words united, which ought from the sense or construction, to be separated, and separated, where we should have expected them to be united. . . . These instances are of very frequent occurrence." According to Wickes, most of these irregularities can be explained by situations when a "purely musical character will make itself felt," the rhetorical character of the declamation ("a good public reader may hurry over some words to come to . . . the part which appears to him most weighty and important"), and the peculiar form of the composition. The other irregularities might be accounted for by clerical errors or accentual licenses of the scribe.

21.   A typical example of word emphasis occurs in Genesis 1:1: "In the beginning God created / the heavens and the earth." A disjunctive ta'am separates "God created" from the rest of the verse.

22.   In his article on cantillation, Reich explicitly mentions and quotes from Avigdor Herzog, "Psalms: Musical Rendition in the Jewish Tradition," in *Encyclopedia Judaica* (Jerusalem: Keter, 1971) 13:1329–34; Herzog, "Masoretic Accents"; Abraham Idelsohn, *Jewish Music* (New York: Schocken Books, 1967); Rosowsky, *Cantillation*; Johanna Spector, "Jewish Songs from Cochin, India," Fifth World Congress of Jewish Studies, 4 (Jerusalem: 1973); Wickes, *Treatise on the Accentuation of the Three So-called Poetical Books*; and Eric Werner, *The Sacred Bridge* (New York: Columbia University Press, 1959). The editions are those indicated by Reich.

23.   Reich, "La cantillazione ebraica," 227.

24.   Interview, Reich with Enzo Restagno, tape; see also Restagno, *Reich*, 85.

25.   Schwartz, *Minimalists*, 84–85.

26.   Reich introduces longer melodic lines already in *Music for a Large Ensemble*, completed in December 1978. The piece is composed of four movements. The central part of each section presents long melodic lines constructed with the technique of "motivic addition." In *Eight Lines* the use of motivic addition is much more pervasive.

27.   Reich, "La cantillazione ebraica," 228.

28.   Interview, Reich with Cole Gagne, 313–14.

29.   Reich, "La cantillazione ebraica," 228.

30.   Reich, "La cantillazione ebraica," 228.

31.   Steve Reich, liner notes, *Steve Reich: Tehillim* (ECM 82744).

32.   Reich, liner notes, *Steve Reich: Tehillim*.

33.   Steve Reich, liner notes, *Different Trains* (Elektra/Nonesuch 9 79176-2).

34.   Reich, liner notes, *Different Trains*.

35. Steve Reich and Beryl Korot, "Thoughts about the Madness in Abraham's Cave," *New York Times*, 13 Mar. 1994; interview, Steve Reich and Beryl Korot with Jonathan Cott, "Jonathan Cott interviews Beryl Korot and Steve Reich on *The Cave*," in *The Cave* (New York: Boosey and Hawkes, 1993), 10–15.

36. Interview, Reich with Enzo Restagno, tape; see also Restagno, *Reich*, 111.

37. Interview, Reich with Enzo Restagno, tape; see also Restagno, *Reich*, 111.