A Window to the Soul: Approaches to Text Setting in Steve Reich's Tehillim

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I certify that all material in this thesis which is not my own work has been identified and that no material is included for which a degree has previously been conferred upon me.

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ABSTRACT

This thesis investigates Steve Reich's 1981 composition *Tehillim*, the composer's first mature setting of a text to music. The title is drawn from Reich's citation (in his *Writings 1965-2000*) of Janáček's aphorism that 'speech melodies are windows into people's souls' since *Tehillim* itself may be seen as a window to Reich's own soul (musical and spiritual) at this point. Reich's study of Biblical Hebrew in the 1970s led to a rediscovery of his Jewish heritage and he has often repeated the claim that the compositional style in *Tehillim* grows directly from the innate rhythms of the Hebrew text. This thesis considers the extent to which these claims may be justified.

Chapter one presents an overview of Reich's views on language and its significance in his output prior to *Tehillim*. This focuses particularly on the use of speech extracts in his phase pieces *Come Out* and *It's Gonna Rain* together with a wider discussion of speech, language and emotion and takes account of the author's interview with the composer (contained in Appendix 1).

Chapters two, three, four and five present in turn an analysis of the four movements of *Tehillim*. Each chapter includes a comparison between Reich's use of the Hebrew texts and the rhythms that emerge from readings of these texts by contemporary Jewish readers. This informs the analysis of the musical elements of *Tehillim* that Reich identifies as being associated with earlier Western musical practice: extended melodies, imitative counterpoint, functional harmony and orchestration.

In chapter six, the findings of this analysis are presented. The results of the analysis show that rhythmic considerations are at the heart of *Tehillim* and that Reich uses the rhythms of the Hebrew text in a creative, rather than a literalistic, manner. These findings support Reich's perception of his compositional approach in *Tehillim*.

There are two appendices. Appendix 1 contains a transcript of an interview between the author and Steve Reich. Appendix 2 contains Reich's liner notes from the 1982 Recording of *Tehillim* (ECM New Series 1215 827 411-2).

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MUSICAL EXAMPLES

(Unless otherwise indicated, examples are taken from *Tehillim*)

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Finally, I wish to express my immense gratitude to Elizabeth Rogers for her time and good humour in transcribing my handwritten musical examples to the *Sibelius* software in such a professional manner.

This thesis is dedicated to my wife Sarah, who encouraged me and supported me faithfully through the many vacations on which it accompanied us.

Chapter 1 The place of *Tehillim* within Reich's output

1.1 Speech melodies

A statement of Steve Reich's mature views on music and language may be found in his 1996 interview with Barbara Basting[1] in which he outlines four essential aspects of speech melody. Central to this is his identification with Janáček's assertion that 'speech melodies are windows into people's souls',[2] the belief that there is an inseparable link between the music innate in a person's speech and the fundamental nature of the person speaking. On this view, the speech melody created by each person forms a kind of musical portrait of that individual and there is therefore a link between speech-musicality and personal identity.

Reich points to three essential features of this 'music' that occurs naturally in an individual's speech patterns. Firstly, he argues that speech melody is created unconsciously, regardless of how pronounced or otherwise the extremes of articulation. In so doing, he highlights the differences between children's speech melody which is 'quite pronounced' and other instances where speech melody is 'almost nonexistent (as in the case of those speaking in a monotone)'.[3] This is nothing to do with a person's appearance since there may be an obvious discrepancy between physical size and vocal expression or power. The insight afforded by speech melody is on this account purely metaphysical, a subconscious glimpse into the essential personality and characteristics of individual speakers, a clear 'window to the soul' which reveals the essence of who they are.

Secondly, and more contentiously, Reich takes an extreme linguistic standpoint that neither accent nor nationality play any part in the composition of this aural DNA. He claims that the English language acts as an 'equaliser' since all speakers of English aspire ultimately to a similar speech melody. The composer offers no evidence to substantiate such a major claim although, reflecting on his research for the 1993 video opera *The Cave*, he notes his perception that 'there was no characteristic Israeli or Palestinian speech-melody distinct from that of Americans'.[4] This contrasts with Reich's frequently made assertion that a distinctive type of American English pronunciation was a major factor in drawing him to the work of American poets.

Reich does, however, give examples of how natural 'speech melodies' vary in different languages and cites an example of how Janáček set a particular word – the name of a railway station – in its Czech and German forms. This recognises that, whilst speech melodies might allow insight into the soul of an individual, the development of speech by human beings does not take place in a vacuum. Since human experience is shaped by family, society and, to a lesser extent nationhood, the identity revealed through speech melody cannot be an entirely individual product. This is recognised in a rather more complex image that Reich quotes from Janáček: 'if speech melody is the flower of a water lily, it nevertheless buds and blossoms and drinks from the roots, which wander in the waters of the mind'.[5] Elsewhere, Reich makes reference to his studies in ethnomusicology and discusses the ways in which speech patterns are different in a tonal language, noticing in passing that the Ewe tribe (with whom he studied drumming in 1970) spoke such a language. The ethnomusicologist A M Jones, whose work inspired Reich from his

student days, had invented a 'tonometer' to measure the correlation between speech melody and song melody in the Ewe tribe, concluding unsurprisingly that there was, indeed, a strong correlation.

This cultural dimension is highlighted, thirdly, in Reich's discussion of the importance of the art music of a nation or culture in reflecting its folk music. When this connection breaks down, he argues, there is a fragmentation between society and art. This is particularly evident, in Reich's opinion, in the musical situation in 1950s and 1960s America when art music 'lost all connections to American folk music (read jazz and rock and roll) and instead self-consciously modelled itself on European serial models instead'.[6] For Reich, music must reflect the society in which it was produced. In his earlier assertion that 'all music turns out to be ethnic music'[7] he identifies a definite link between musical composition and the culture in which it was written. As he asserts:

> I believe music is always ethnic music. I believe that Arnold Schoenberg can tell you a lot about the Vienna or Berlin of the turn of the [twentieth] century in the same way as Alban Berg or Anton Webern can. I believe Boulez, Stockhausen and Berio could tell you a lot about how people felt as Europeans after the Second World War. I believe that Americans who imitated them in the America of the fifties and sixties while they were surrounded by tail fins, Chuck Berry, Rock'n'Roll, Fats Domino, were quite simply liars[8].

Whilst Reich clearly respected the work of a number of contemporary European composers, he became deeply convinced that for him to adopt European approaches could never demonstrate authenticity or truth. He clearly saw his own music as a corrective (and no doubt a challenge) to the prevailing culture in American University Music Departments and Conservatoires. In this, he saw for

himself a role similar to that which Janáček and Bartók had played in reconnecting their respective nations to their musical roots.

For Reich, this was not simply the folk art of jazz and rock and roll but the rhythms and cadences of American speech, particularly the flexible American-derived speech rhythms of the poetry of William Carlos Williams (1883-1963). Williams' work held a special significance for Reich since he saw it as authentically American in, for example, its grouping of vowels and linguistic gestures. This contrasted for Reich with the way he believed that T. S. Eliot had denied his birthright in deciding to leave America and write his poetry within an English metrical framework.[9] There is an implicit inconsistency between this assertion and the view already referred to, that all speakers of English aspire to the same forms of expression. This view of universal similarity in approaching the English language is not emphasised across the canon of Reich's writings, however.

From the above discussion, Reich identifies two ways of working with language. The first of these is where speech is itself used *as* music; the second is where text is set *to* music. In the first of these, speech is selected as musical source material and may be used on its own or combined with instruments or other singers. In the second – and more traditional – method, a text is set to music with the intention of being sung by singers, possibly accompanied by other singers or instruments. This second approach would also encompass singers singing vocalise or imitating instruments as in *Drumming, Music for Mallet Instruments, Voices and Organ* or *Music for 18 Musicians.*

There are clearly significant differences between these two approaches and these distinctions emerge when considering, firstly, the relationship between melody and speech and, secondly, the role attached to the meaning of the words. In the case of melody, the use of speech as compositional material carries with it innate musical properties in a way that may not be the case when a composer approaches a text from the page. In terms of the significance attached to the semantic aspects of the text, these may be expanded or minimised in either approach. Reich has noted his reluctance to assign greater significance to the melodic aspects than the structural, syntactic features of language since 'once the speech melody has caught my ear, the meaning of the words can never be overlooked'.[10]

1.2 Meaning and emotion

This notion of 'catching the ear' indicates the importance that Reich attaches to emotional engagement within music, but one which is less evident in his 1968 'minimalist manifesto' *Music as a Gradual Process.*[11] In reflecting on his phase pieces, the composer outlines an approach to musical composition that appears highly mechanistic: the parameters within which the musical system will operate are set; the limits within which the music will run its course are fully delineated. Yet in spite of this level of systematisation, the listener may nevertheless perceive sonic patterns emerging within the texture. These may include 'submelodies heard within repeated melodic patterns, stereophonic effects due to listener location, slight irregularities in performance, harmonics, different tones and so on',[12] phenomena referred to collectively by Reich as the 'mysteries' of the phase. As an undergraduate at Cornell, Reich had been attracted by the work of Ludwig Wittgenstein, eventually making Wittgenstein's linguistic philosophy the subject of

his dissertation.[13] This belief in the mysteries of the phase is reminiscent of Wittgenstein's theory of 'seeing as', a particular and distinct type of perception where an individual might, for example, associate random patterns in the clouds with objects and shapes in the material world.

Emotion is not deemed by Reich to play a part in an individual's perception of these mysteries. He maintains that 'these mysteries are the impersonal, unintended, psychoacoustic by-products of the intended process'[14] and that listening should be an 'impersonal kind of ritual' that shifts attention away from the individual and towards the music, a considerably more extreme standpoint than Stravinsky's assertion that 'expression has never been an inherent property of music'.[15] It can therefore be no coincidence that the majority of commentators on the minimalist music of the 1960s point to an aesthetic detached from human emotion.

Michael Craig-Martin's assertion (albeit in reference to Minimalist art) that 'there is no reference to another previous experience (no representation), no implication of a higher level of experience (no metaphysics), no promise of a deeper intellectual experience (no metaphor)'[16] offers a précis of this emotional detachment. Similarly, Baker views minimalist music as 'a self-sufficient entity, not a vehicle for conveying some meaning about itself'.[17] This is reinforced by Wim Mertens who insists that minimalist music is 'non-representational and is no longer a medium for the expression of subjective feelings'[18] and cites Stiebler's assertion that 'it is a characteristic of repetitive music that nothing is being expressed; it stands only for itself'.[19] In contrast, other commentators have found emotional appeal in the Minimalism of the 1960s when it is compared with

European music of the period immediately before. *Time* magazine referred in 1982 to minimalist music as being 'directly emotional in its appeal, a deliberate rebuke to three decades of arid, overly intellectualized music produced by the postwar avant-garde'.[20]

Such diverse opinions about the perceived emotional temperature of Reich's early music are reflected in the composer's own views. In his 1976 interview with Michael Nyman, he attempts to contextualise his earlier austere comments by pointing out that, at the time of writing *Music as a Gradual Process*, 'the stress in music was on individual expression and free improvisation and I was trying to divorce myself from that and work in a more impersonal way'.[21] His 1969 programme notes for the Whitney Museum of American Art (now contained with the essay 'Music and Performance') – written barely a year after *Music as a Gradual Process* – appear to elevate the emotional properties of music by declaring that 'obviously music should put all within listening range into a state of ecstasy',[22] a claim that echoes Ollhof's linkage of the 'trance' associations of 1960s minimalism with the drug culture of that time.[23]

Reich has made a significant number of statements about the importance of emotional engagement in music which fall between these two extremes. In essence, Reich expresses a preference for music that has 'a certain emotional reticence',[24] in particular, music whose emotion is not dependent upon gestural performance or upon the role of an orchestral conductor. As Reich has said, 'music is dead without strong emotional content but delivery is not done with a Bernstein rounding of the theme'.[25] Whilst acknowledging that music can never be devoid of

emotion, his sympathies ultimately lie with the Stravinskian view that our purpose is misplaced in searching for it. For Reich, the emotional nature of the music does not depend on a Romantic treatment for its emphasis; it is an emotion held in check. This is reinforced by Reich's comparison of his approach with that of Stravinsky:

> What I meant when I was talking about musical reticence was to compare myself to other composers whose emotions are not considered Romantic, Stravinsky in particular. Stravinsky to me is an enormously emotional composer; there's something in Stravinsky like a wall as it were holding the emotions in check and what's killing you is this feeling that you are the wall – you feel this force and I love that and that's a different kind of emotion.[26]

1.3 Speech manipulation and Reich's phase pieces

Reich's comments on the nature of emotion within music point to his dislike of the gestural, his revulsion for any attempt to squeeze emotion out of music. Yet it might be argued that Reich himself attempted just such a distortion in his manipulation of speech material in his tape pieces of the 1960s.

Reich was not the first composer to work with speech material or with tape loops. Peter Dickinson points to the significance of the work of Gertrude Stein (1874 – 1946) as

> an early 20th Century pioneer in the use of repetition as a kind of verbal ostinato, an anticipation of tape loops with no technology. She can be regarded as a source for minimalism ... in her use of the fewest materials needed to create an effect and the building of a continuity by means either of literal repetition or slightly varied treatments.[27]

It was, however, the work of Luciano Berio that provided a more direct inspiration for Reich's approach to the use of language. Reich studied with Berio at Mills College, California between 1961 and 1963 although prior to this, he had been

impressed by Berio's *Circles* (1960) in which the poetry of e e cummings was treated syllable by syllable. Subsequently, at Mills College, Berio introduced Reich to his tape piece *Omaggio a Joyce* in which words from *Finnegan's Wake* are broken down into their component syllables. Reich acknowledges the influence of these works on his tape pieces of 1965-1966. He particularly emphasises the primary importance of the speech material above the tape techniques and, in particular, the way that he found working with speech 'more interesting ... by far than tape pieces made with electronically generated tones'.[28] In this, Reich recognises a tension between music and technology which emerges at other points in his *Writings*.

Reich's use of speech extracts as a compositional device is present in his earliest works. His love of the poetry of William Carlos Williams, already referred to, had opened his ears to the way in which the rhythms and cadences of American English possessed a musical life of their own and Reich was initially eager to set Williams' verse to music. He quickly decided against this, however, believing that setting Williams' poetry to music would take its life from it and 'freeze it or kill it, the way you set an insect in amber and therefore kill its movements'.[29]

Keith Potter identifies the point of breakthrough for Reich as being the realisation that, rather than working at one remove, he must make speech the basis of his style in the same way that the poet had done.

> As a practising doctor in New Jersey, Williams had observed the speech and other sounds around him and had made these the basis of his style. As a composer working in an urban environment with the new tape technology, Reich felt that the poet was looking over your shoulder and

> saying, "Go record the street! Go listen to your countrymen and get your music from the way they speak".[30]

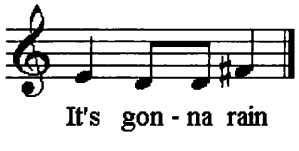
It was therefore the desire to work directly with American speech rather than avant-garde structures that became Reich's prime motivation to experiment with tape. Furthermore, his interest was always in the voices of others rather than his own and this contrasts, for example, with Alvin Lucier's decision to use his own voice as a compositional tool in *I am Sitting in a Room* (1970).[31]

His work with the founder of the San Francisco Mime Troup, R.G. Davis, led to Reich's creation of a sound collage for Robert Nelson's 1964 film *The Plastic Haircut*. Here, the voices of several American athletes were overlaid and looped and Reich experimented particularly with the effect of making shorter and shorter tape loops so that the speech extracts became less and less audible, in time completely losing their individuality. This was followed later the same year by the now discarded *Livelihood*, in which Reich worked with a variety of sounds, most of them speech extracts, recorded secretly whilst working as a taxi cab driver in San Francisco. This three-minute collage was a distillation of some ten hours of tape material to produce what has been described as 'a witty evocation of a taxi driver's daily life, carefully constructed to evoke all the basic stages of a taxi ride: from stating the destination to casual conversation in the cab, ending with saying "Thank you" and "Goodnight"'.[32]

It was in the tape pieces of 1964 and 1965, *It's Gonna Rain* and *Come Out*, that Reich demonstrated a mature handling of the recorded speech patterns of two African Americans: Brother Walter and Daniel Hamm respectively.[33] In both

pieces, Reich's approach mirrored that of Gertrude Stein in 'severing the speech extracts from their semantic context'[34] as he worked through the phasing process with his recorded material. The means whereby both tape pieces were created is well documented in Reich's *Writings* and elsewhere[35] but it should be noted that the composer did not record the speech extracts for *It's Gonna Rain* and *Come Out* with the primary intention of creating tape loops. Whilst a considerable amount has been written about the significance of Reich's adoption of phasing as a compositional technique, his primary motivation was the sound of human speech as a means of creating composition.

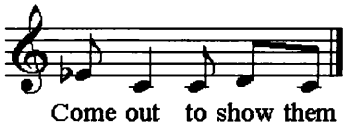
Reich claims to have chosen the speech extracts precisely for their melodic potential and his decision to use them as repeated musical patterns rather than meaningful utterances is immediately obvious in these pieces. It was the repetition of melodic patterns as a means of establishing these fragments in the listener's ear that took precedence. The inherent musicality of Brother Walter's Pentecostal preaching was so close to singing that Reich initially considered simply transcribing the pitches: Keith Potter's transcription of the actual pitches from the tapes clearly demonstrates this musicality.



Example 1: Subject from It's Gonna Rain

In *Come Out,* the apparent syncopation in the motif depends entirely on the stress of the spoken words, just as the declamatory nature of Brother Walter's delivery emphasises the word 'rain' in *It's Gonna Rain.* The character of the melody is also

inherent within the speech melody. Whilst Brother Walter virtually sings the word 'rain' with a rising major third on the word 'rain', Daniel Hamm's minor 'tonality' stems from the less expansive range of his speaking voice. Yet these intervals clearly exist within the speech melodies of their respective speakers.



Example 2: Subject from Come Out

Reich claims that there is no element of manipulation of the tape in these tape pieces[36] and argues that the compositional process is based entirely on 'phasing' the material as it stands. He emphasises this by, in both cases, allowing a statement of the speech extract to be heard before the phasing process begins.

Whitall feels that the use of speech samples in these pieces 'serves to link music with location and situation'[37] and Reich has also pointed to a documentary aspect of these pieces. Given his belief that once a speech melody has made its impact, the meaning of the words can never be overlooked, Reich articulates a socio-political framework for his pieces. Brother Walter's text from the Flood story in Genesis is given an apocalyptic significance through both the manner in which it is preached and its political context in 1960s Cold War America in the wake of the Cuban Missile Crisis. Reich goes as far to refer to the piece as a 'setting of a text about the end of the world .... though not a setting in any conventional way'.[38] The composer's reflections on *Come Out* reveal a similar concern with social issues. The work was composed for a benefit concert to raise funds for a retrial of six boys arrested for murder during the 1964 Harlem riots and its performance

context was therefore more closely associated with its subject matter than was the case with *It's Gonna Rain*. Reich had a large number of tapes from which to choose and his final choice of extract is taken from Daniel Hamm's discussion of a police beating he received.

The listener's awareness of the situation of either piece may be quickly lost once the phasing process is under way. Within the compositional system, the use of human speech is clearly intended to link the piece to its historical setting in a manner that does not require continuous semantic association of individual words. Indeed, the conscious and continuous understanding of the meaning of each word or phrase is not a significant aspect of Reich's approach to speech in these pieces as evidenced by his assertion that it is the melodic rather than the semantic aspects of speech which the tape loops intensify. According to Reich, *It's Gonna Rain* and *Come Out* are

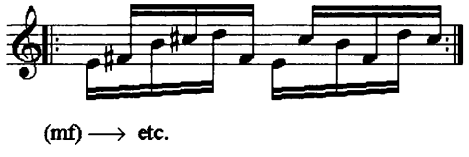
> an example of finding something in natural American black speech ... and by repetition, because of the tape loops, intensifying it so that you begin to hear the melody almost to the exclusion of the meaning of the words.[39]

Therefore, whilst the significance of the tape pieces could be seen as establishing phasing as a compositional technique (subsequently formalised in *Music as a Gradual Process*), Reich's later commentary directs attention away from the mechanics of the process towards the social, sonic and semantic associations of the speech fragments.

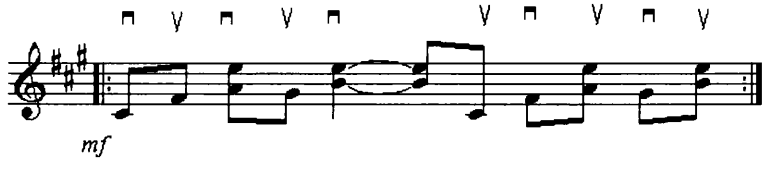
The tendency of musicologists to highlight the significance of the development of the phasing process has meant that the significance of Reich's use of speech has received relatively little attention. This is unfortunate since it is this engagement

with speech that locates Reich in the tradition of Gertrude Stein or Luciano Berio, since the phasing process is not a technique utilised by either of them. It is the breaking down of words into their constituent components that lays a musical foundation for Reich to build upon. This is borne out by the clear indication that, at the time of making the recordings for *It's Gonna* Rain, Reich had no clear idea of how he might utilise them.[40] The emotional life-blood of the speech-music lies in its emotional and referential aspects of American speech since these provided the stimulus from which, through phasing, specific musical parameters such as rhythmic structure, tonal centre and contrapuntal texture could grow naturally.

In view of this, however, it is difficult to explain Reich's apparent desertion of speech or text for almost fifteen years following the completion of the tape pieces. Whilst *Piano Phase* and *Violin Phase* use the same principle of a repeated motif, overlaid and phased against itself, the motif itself is a purely musical construct rather than a derivation of a speech pattern. Indeed, Reich appears to move away from the more restrictive tessitura of speech melodies as he broadens the pitch range in both of these pieces, in *Piano Phase* to a minor seventh and in *Violin Phase* to a minor tenth.



Example 3: Subject from Piano Phase



Example 4: Subject from Violin Phase

Reich's works of the 1970s, despite their use of voices within the musical texture, do not engage directly with words. *Drumming*, *Music for Mallet Instruments, Organ and Voices* and *Music for 18 Musicians* all include parts for singers, yet the main function of these parts, as Reich later acknowledged, is to mimic the sound of instruments.[41] Reich's intention in these works was to develop a texture that blends voices and instruments so that neither remains distinct. In *Music for Mallet Instruments, Organ and Voices*, for example, women's voices are used to imitate exactly the sound of the marimba players (a process Reich had previously used in *Drumming*) and at other points to double the electric organ lines. In both *Music for 18 Musicians* and *Music for a Large Ensemble* women's voices also double acoustic instruments but in both of these pieces the vocalise has no linguistic dimension.

1.4 Emotional reconnection with Judaism

Despite this apparent rejection of speech and language, it was, however, the relationship between sacred text and music that caused Reich to consider working with words again, an interest rekindled through the composer's rediscovery of his Jewish faith in the mid-1970s. Reich had grown up within the Reform tradition of Judaism and both of his parents were of European Jewish provenance, his father's family having emigrated from Eastern Europe, his mother being a third generation American of Austro-German descent.

Reich's childhood had been completely divorced from the musical and linguistic traditions of Judaism. For example, at Bar Mitzvah, the key rite of passage for a Jewish male, Reich was able to read only English transliterations of the relevant

texts. It is no surprise, therefore, that Reich's spiritual journeying in the 1960s and early 1970s took him farther and farther away from his Jewish roots into a variety of Eastern disciplines: hatha yoga, breathing exercises, Buddhist meditation, yogic meditation and even transcendental meditation. This was a voyage of discovery also undertaken by other members of Reich's generation of composers, Philip Glass, Terry Riley and LaMonte Young. Reich was clearly restless with this experimentation, however, and has since commented that for him 'it just didn't quite fill the gap'.[42]

The composer's re-engagement with Judaism in 1974 coincided with the start of his relationship with video artist Beryl Korot who, Reich discovered, was on a similar spiritual journey; the couple's marriage two years later was therefore a time of joint re-affirmation of their Jewish faith and heritage. Their initial introduction to Jewish practice was through a disciplined study of the Scriptures as they learned Biblical Hebrew during 1975 at Lincoln Square synagogue in New York City. Significantly, it was the lack of such disciplined study in his youth that Reich blames for his displacement from his family's Jewish roots: 'because of my lack of education in Torah, I had more or less no interest in things Jewish for the first 35 years of my life'.[43] By the age of 39, however, Reich had developed an insatiable thirst for studying Hebrew and responded well to the discipline of linguistic study, so much so that at the time of composing *Tehillim* (some five years later) he was able to undertake his own translation of the Hebrew texts.

1.5 Cantillation

Reich's interest in the study of Hebrew quickly developed beyond the letters and words of the text into their related musical symbols and he was soon engaged in a related study of biblical cantillation.

> When I was studying Hebrew, I noticed that in the printed text of the Bible there are three markings: the consonants, the vowels, and another set of squiggles. I asked the Hebrew teacher what these were and he said "These are the *ta'amim*; they're not only the accent marks but the musical notation.[44]

Reich quickly recognised the three functions of the *ta'amim*: they show the accented syllable of a word, they provide punctuation marks for the text and they provide pitch for chanting. He includes two pages of these short melodic fragments in *Writings about Music,*[45] the principle of cantillation being that when fragments of melody are pieced together, a melodic line of some length and complexity emerges. The music for the weekly liturgical readings from the Torah is therefore produced by piecing together pre-existing melodic motifs. The discovery that the chants accompanying Torah were composed of a number of traditional melodic fragments (each identified in the Hebrew text by a specific marking) provided Reich with a potentially new approach to composition.

This approach is quite distinct from that of the early tape pieces. In those pieces, the composer's ear had been 'caught' by the speech melody and this had led him to consider the meaning of the words. Now it was engagement with the Hebrew text that opened his ears to its musical potential. Despite Reich's systematic study of cantillation, however, his interest was less with its sound than with the structural potential it offered as a compositional device and here a clear parallel emerges with his compositional techniques of the 1970s. Just as his study of West African

drumming techniques with the Ewe tribe in Ghana had influenced the structural techniques rather than the sound of *Drumming*, so now, Reich had no interest in merely recreating the sound of Jewish cantillation. It was, instead, the creative reworking of the structure of the cantillation that seemed to Reich to afford the most potential.

> 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... [By] imitating it one could easily end up with merely a "Jewish sounding piece" much as one could end up with African or Balinese sounding pieces. These are merely up-dated versions of Chinoiserie – the wearing of colourful 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 to 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.[46]

In the summer of 1977, their shared interest in cantillation took Reich and Korot to Jerusalem. In Jerusalem, Reich began to make speech recordings, just as he had done with Brother Walter in Union Square, San Francisco. In particular, he analysed recordings he had made of older Jewish men reading the first five verses of Genesis. His use of this recorded speech material, however, led him along a very different path from before. The only piece that the composer identifies as having been influenced by his study of cantillation is *Octet* (1979) and this makes no use of voices whatsoever. Whilst Reich had no reservations about using recorded sound in his tape pieces (and would return to this compositional device in *Different Trains, The Cave* and *Three Tales*) his cantillation-inspired piece *Octet* – later retitled as *Eight Lines* – is written for live string quartet, two pianos, flute and piccolo. Furthermore, the use of such techniques is not applied to all of the parts. Reich stresses that the cantillation techniques are used almost exclusively in the construction of the flute and piccolo parts and their relation to the piano parts.

It is important, therefore, to set the use of cantillation in context in the light of Reich's apparent minimising of its importance. With *Octet*, Reich comments that 'it is a small influence but a real one, and interesting in that it lends itself to further and unforeseen developments in the future'.[47]

1.6 Tehillim – the commission

One development that would have been difficult to foresee was Reich's acceptance of a joint commission from the South German Radio, Stuttgart (SDR); the West German Radio, Cologne (WDR); and The Rothko Chapel, Houston to compose a very different type of work to anything he had produced before. Additional support for the composition of *Tehillim* was received from Betty Freeman, the Rockefeller Foundation and The Memorial Foundation for Jewish Culture.

The composer ultimately produced two versions of *Tehillim*. The chamber version (referred to in the score as the 'ensemble version') was first performed in Cologne in September 1981 by Steve Reich and Musicians, conducted by George Manahan. The version for orchestra (referred to by Reich as 'chamber orchestra') was performed in New York the following September, 1982, by the New York Philharmonic under the direction of Zubin Mehta. The differences between the two versions are relatively minor. In the orchestral version only the voices are amplified; in the chamber version all the parts are amplified except the piccolo, percussion and two electric organs. The orchestral version calls for twenty-one string players; the chamber version requires only five.

1.7 Reich's choice of psalm texts

Reference has already been made to Reich's visit to Israel in 1977 and the recordings he made whilst there of Jewish men reading the Scriptures. Despite his subsequent decision not to make use of these recordings, there was clearly an emotional investment in the musical qualities of Hebrew text which remained with him for some years. The acceptance of the commission for *Tehillim* may therefore be seen as a desire by the composer to draw together three strands: to express specifically Jewish subject matter, to utilise his musicological awareness of cantillation techniques and to return to the use of words in composition.

The study of cantillation confirmed Reich in his belief that the centre of the Jewish musical tradition was 'the chanting of the Scriptures'[48] and that his inspiration must be the Hebrew text and its meaning for worshipping Jews. Despite his earlier recordings of extracts from Genesis, Reich's initial inclination in approaching the piece was to transcribe the Book of Jonah

> ...not for performance by another male voice – I think that would probably be a poorer version of what's done in the synagogue – but for female voice and/or solo instruments: clarinet, violin and voice... Perhaps settings of some of the Psalms in the original Hebrew would be easier since the oral tradition for singing Psalms has been lost in the Western Jewish tradition and would leave me free to compose the melody.[49]

Jonah was, however, quickly dismissed and Reich's second idea, to set extracts from the Psalms, took its place. This was confirmed by the composer's discovery that there was no extant tradition of psalm chanting in the West. His choice of texts was, therefore, neither based on anything he had recorded during his trip to

Jerusalem nor on subsequent aural engagement through hearing the words chanted in worship.

Reich selected four short extracts from the Psalms as the basis for the composition. The title *Tehillim* translates literally as 'Praises' and is the Hebrew title for the collection of psalms. Reich claims that his choice of texts was instinctive, an essentially emotional response that followed a similar process to his selection of the speech extracts for his tape pieces.

> I took the psalms in Hebrew and in English and picked the ones I felt I could set, and it was as if the words reached out and grabbed me by the scruff of the neck and said 'Listen: we need a melody. Handel gave us one, Stravinsky gave us one. What have *you* got in mind?[50]

Whilst identifying potential emotional engagement as a major factor in selecting texts, Reich indicates that his choice of texts was based on seeing them in both Hebrew and English. Schwarz, however, offers an alternative view in suggesting that Reich deliberately 'chose words from which he felt a linguistic as well as a historical distance'.[51] This account of Reich's decision to set Hebrew rather than English texts does not fully acknowledge that by 1980 the composer was advanced in his knowledge of Hebrew and little evidence to suggest that he felt distanced by the language.

Strickland points to parallels between Reich's setting of Hebrew and Glass's setting of Sanskrit in his opera *Satyagraha.*[52] Callaghan goes further in suggesting that Reich 'uses a dead language in the same way that Glass used ancient tongues in *Akhnaten*: to force the listener's lack of understanding of the meaning of the words into focusing on the emotional content underlying the sound itself'.[53] The

notion of a 'dead language' does not recognise, however, that the appeal to Reich of setting Hebrew texts derived from the energising experience that the composer had received through study of the ancient texts. Whilst the meaning of the words is no more accessible to most contemporary Western listeners than the speech samples of the tape pieces, the translation provided by the composer at the front of the score indicates that he did not intend this meaning to be kept hidden. Within the Orthodox community of Judaism the texts clearly have immediate resonance. Whilst the emotions expressed may be universal, however, the semantic content is clearly 'first for the Jew, then for the Gentile'.[54]

Although the range of psalms texts selected by Reich is grouped under the generic heading of *Tehillim* ('Praises'), the content of the psalm extracts covers a whole range of human emotions from despair to triumph, from anger to praise. Praise is indeed at the heart of the word *Tehillim* which, as Reich points out, 'derives from the three letter Hebrew root *hey*, *lamed*, *lamed* (*hll*) which is also the root of hallelujah', a key word in the final text of the piece.[55] Reich has indicated that in choosing the specific texts and in arranging them in order, he looked for an inclusivity that would appeal to both Jew and non-Jew[56] since his aim was to write a concert piece rather than a setting for worship. In conversation with Paul Hillier, Reich makes reference to a performance in a synagogue in Hungary, commenting 'I'm delighted it was, but that's not what it's about. It will live or die as a concert piece'.[57] *Tehillim* therefore follows in the 'concert' tradition of Stravinsky's *Symphonies of Psalms* and Bernstein's *Chichester Psalms*.

The texts chosen by Reich are as diverse as the Psalms themselves: Part I and Part IV are essentially outbursts of praise; Parts II and III are more reflective texts. His choice of the fourth text so that the piece ends with the widely-understood word 'Hallelujah' indicates his concern for some degree of universal understanding by an audience.

'Modern' biblical scholarship at the beginning of the twentieth century sought to classify the Psalms according to their supposed usage in Jewish worship. In 1933, Gunkel and Begrich published a pioneering classification of psalms texts according to each psalm's supposed *Sitz im Leben*, the manner in which the psalm's content might also indicate its provenance in Jewish worship.[58] The five principal categories identified by Gunkel and Begrich were Hymns, Community Laments, Royal Psalms, Individual Laments and Individual Thanksgivings. Whilst there is no evidence that Reich selected his texts on the basis of this taxonomy, it is significant that the opening and closing texts in *Tehillim*, Psalms 19 and 150, are classified by Gunkel and Begrich as hymns and this confirms their appropriateness as communal outbursts of praise. In contrast, Psalm 34 is classified as an individual thanksgiving and the extract chosen by Reich focuses entirely on the individual. The classification of Psalm 18 as a Royal Psalm, relating to one or more outstanding events in the lives of a reigning Hebrew king, is of less relevance here since the extract selected by Reich appears more reflective when taken out of the context of the psalm as a whole.

1.8 Reich's view of Tehillim

The publication of Reich's *Writings about Music* in 2002 brought together for the first time a comprehensive selection of articles and papers that reveal the composer's views of his entire oeuvre, all of which are open to scrutiny in the light of musical analysis. In the case of *Tehillim,* the *Writings* reprint the liner notes from the 1982 ECM recording of the work which sum up Reich's views about the piece. They are reproduced in full in Appendix 2.

Reich's discussion of *Tehillim* falls into four generic areas, each of which will be considered during the analysis of the piece in this thesis.

a) Use of musicological material

Whatever emotional response the texts elicited from Reich, it was clearly the belief that he was free to compose original melodies without reference to an existing tradition that drew him towards the Psalms rather than any other texts from the Hebrew Bible.

> No Jewish themes were used for any of the melodic material. 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 singing Psalms has been lost. (It has been maintained by Yemenite Jews.) That means that, as opposed to the cantillation of the Torah and Prophets, which is a living 2500 year old oral tradition throughout the Synagogues of the world, the oral tradition for Psalm singing in the Western Synagogues has been lost. This meant that I was free to *compose* the melodies for *Tehillim* without a living oral tradition to either imitate or ignore.[59]

Reich was clearly aware that no new settings were sought and that his work would be received only as a concert piece rather than an addition to the liturgical repertoire for synagogue worship.

> Within traditional Judaism there has been a musical man – and a *man* only – just *one* – handing down the Hebrew text by generation orally. Therefore,

> there's no place in musical composition [for new settings]. When Jews were liberated in Germany, and left the ghetto, there was no need for them to become composers of a liturgical sort unless they became baptised Christians (which many of them did and began writing, like Mendelssohn, pieces for the church). The church has maintained a tradition of accepting, and desiring, new compositions.[60]

Reich has reacted angrily to those who claim that his choice of Hebrew texts must mean that Jewish elements are present in the music, particularly the melodies. Despite his assertion that *Tehillim* is 'based on melody in the basic sense of that word'[61] he is adamant about the futility of searching for overt 'Jewishness' in the melodic lines.

> People have listened to *Tehillim* and said, 'It's a Jewish-sounding melody'. And I say horseshit, it's a Steve Reich-sounding melody, and if I'm Jewish then *it* is. But it doesn't have anything to do with Hasidic melodies or Jewish folktunes. The longer melodies are the result of two forces at work: the long cycles of *gamelan gambang* and my study of cantillation. Together they might have played some role in my wanting to do a more traditional piece.[62]

b) Relationship between the rhythm of the music and the rhythm of the text

Reich's decision to set text to music marked a clear departure from his approach between 1964 and 1980 and was a direct result of the rediscovery of his Jewish faith; this may account for his choice of Hebrew, rather than English, texts. Reich was well aware of the various conventions of setting texts dating back through the Camerata of sixteenth-century Florence to ancient Greece and embraced the principle that music should complement the natural stresses of the words. He is confident in asserting that the psalm texts themselves dictated the character of their own melodies.

> ...the music of *Tehillim* was forced on me by the words. When I was first working on it ... I found myself just going over the language and a melody would pop into my head, just the way it has been going with composers for thousands of years. So the melodies came out of the words.[63]

Whilst acknowledging that the canonic treatment of the texts in the first and last movements may be seen as reminiscent of the early tape pieces, Reich points to a fundamental rhythmic difference. Whilst the recorded vocal extracts of *Come Out* and *It's Gonna Rain* serve to establish a fixed pulse (a musical feature identified by Reich as common to all of his early musical influences), in *Tehillim* there is no fixed metre. In the composer's notes to the score of *Tehillim*, Reich states that the link between words and music is purely rhythmic and this assertion assumes a particular significance. In stating that the rhythm of the music grows directly from the rhythm of the words, Reich recognises a compositional challenge since the demands of the text require fluid and flexible rhythms.

> The Psalm texts set here not only determine the rhythm of the music (which is basically combinations of two or three beats throughout the piece combined so as to form constantly changing meters), but also demand appropriate setting of the meaning of the words. In this respect I have tried to be as faithful to the Hebrew text as possible...[64]

Reich's more recent approach to connecting instrumental lines with recorded dialogue is a further development of linking words with music. In *Different Trains* and *The Cave* the spoken word on tape or video footage is emphasised by the use of parallel instrumental lines to establish speech motifs. As in *It's Gonna Rain* and *Come Out,* there is no manipulation of the recorded voices since Reich still felt it to be inappropriate to electronically manipulate the speakers' voices.[65] These speech fragments are not treated to the phasing process in the way of the earlier works but are integrated into the musical texture. They are therefore not 'settings' of words as such. Most recently, in *Three Tales*, Reich has begun to manipulate the speed and pitch of voices to fit his musical decisions.[66]

c) Use of repetitive patterns

In his commentary on *Tehillim*, Reich is eager to point out the reasons why choosing to set texts has produced a piece with significant stylistic differences to his earlier works.

> A further question may arise for some listeners familiar with any earlier music: why is there no repetition of short patterns in *Tehillim*? The basic reason for avoiding repetition in *Tehillim* was the need to set the text in accordance with its rhythm and meaning.[67]

Reich therefore locates rhythm and meaning at the centre of *Tehillim*. Whilst his claim that the melodies of each section simply suggested themselves to him is not open to analysis, the relationship between the rhythmic properties of his chosen texts and their related music is capable of investigation. In assimilating the rhythms of the texts, Reich was dependent on his knowledge of Hebrew through his study of Torah with Cantor Edward Berman and Dr Johanna Spector of the Jewish Theological Seminary. The current study examines the relationship between transcriptions of readings of the texts of *Tehillim* and compares Reich's approach to text setting with the natural stresses of the words.

> There is no fixed meter or metric pattern in *Tehillim* as there is in my earlier music. The rhythm of the music here comes directly from the rhythm of the Hebrew text and is consequently in flexible changing meters.[68]

d) The musical language and performance style looks back to pre-Classical models

It is not simply the absence of short repeating patterns that differentiates *Tehillim* from earlier pieces. Whilst Potter suggests that Reich 'is scarcely ever content to use the same approach, material and structure in a subsequent piece without stylistic or technical modification'[69] he identifies 1976 as a watershed since it marks a point where Reich began to develop harmonic structures. The influence of

Jazz harmony is easily seen in Reich's 1964 piece *Music for Two or More Pianos or Piano & Tape*. The work is structured around nine chords, played in order with all performers moving from one chord to another as nearly as possible. Nevertheless, this approach to sequential harmony is not developed in Reich's compositional style until 1976 thus elevating the significance of the harmonic framework of *Music for 18 Musicians*. The opening section announces the eleven chords on which the piece is based and these represent a greater degree of harmonic movement than in any of Reich's previous pieces.[70]

Reich claims that his musical language in *Tehillim* is a rediscovery of a musical tradition that had been long since considered dead by contemporary composers. In this sense *Tehillim* could be seen as Reich rediscovering not one but two supposedly 'dead' languages, the ancient Hebrew of the Bible and a musical language based on 'extended melodies, imitative counterpoint, functional harmony and full orchestration'.[71] The relationship between the two will be investigated through analysis of the piece to examine whether these two 'languages' in *Tehillim* can be seen as a window to Reich's musical soul.

1.9 Methodology

The manner in which Reich establishes his musical language in *Tehillim* will be analysed in detail and each movement discussed in turn. A number of readings of the text in the original language will also be compared with the rhythms that Reich composes and chapters Two, Three, Four and Five consider systematically each of the four movements of *Tehillim*. Chapter Six presents a systematic overview of the results of this analysis, sets these findings in the context of the development of

Reich's musical language and informs a consideration of the composer's claims about the pre-eminence of the rhythm of the Hebrew words.

Three readings were recorded of each of the texts set by Reich in *Tehillim* and these were conducted entirely separately during June 2001. The readers were not shown the Hebrew texts in advance but were allowed a short time to read through them before the recordings took place. The only information given to the readers as to why they were reading the texts was that it contributed to research into a piece of music by a contemporary Jewish composer. None of the readers had heard *Tehillim* prior to reading the texts and the readings were conducted independently so that they did not meet each other.

The transcriptions of the readings were made subsequently. Since Reich's setting takes the quaver as the basic rhythmic unit, the transcription sought to align each of the readings to their nearest quaver beat. Virtually all of the readings fitted easily into this framework and the resultant transcriptions, therefore, facilitate easy comparison with Reich's choice of rhythm as they are set out line by line.

The score of *Tehillim* is published by Hendon Music, Boosey and Hawkes (HPS 1189) and is the same for both versions of the work. All subsequent references in this thesis are to page numbers in the published score, expressed as page/system/bar number. This thesis takes into account the corrections published in the Errata for the first edition of the score (16 June 1994). Additionally, there are minor discrepancies between the text printed at the front of the score and the text underlying the music. These are intentional, their purpose being to clarify for

the singers the lengthened *ee* sound in the pronunciation of the Hebrew text. Thus the syllables *rím* (Part I, lines 1 and 5), *gíd* (Part I, line 2), *lí* (Part I, line 6), *ísh, yím* (Part II, line 1) and *mím* (Part II, line 2 and Part III, line 2) appear in the score respectively as *reem*, *geed*, *lee*, *eesh*, *yeem* and *meem* as an indication of the required pronunciation. Reich's use of accent markings in his transliteration of these words is related to stress rather than pronunciation, however, which is borne out by the way in which the non-accented syllable *me* (Part I, line 8), is lengthened to *mee*. In this thesis, the text at the beginning of each section is reproduced from Reich's transliteration at the beginning of the score; the text in the musical examples is from the score itself.

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Chapter 2: Analysis of Part I of *Tehillim*

2.1 The text of Part I

Ha-sha-mý-im meh-sa-peh-rím ka-vóhd Káil,
U-mah-ah-sáy ya-díve mah-gíd ha-ra-kí-ah.
Yóm-le-yóm ya-bée-ah óh-mer,
Va-lý-la le-lý-la ya-chah-véy dá-aht.
Ain-óh-mer va-áin deh-va-rím,
Beh-lí nish-máh ko-láhm.
Beh-kawl-ha-áh-retz ya-tzáh ka-váhm,
U-vik-tzáy tay-váil me-lay-hém.

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.
Their sound goes out through all the earth,
and their words to the ends of the world.

This first text in *Tehillim* is taken from Psalm 19, verses 2 – 5. The choice of this text reflects Reich's desire to appeal to Jew and non-Jew alike as the psalmist points to the whole creation praising its Creator, unfettered by the limitations of mere human words. This extract of Psalm 19 is familiar to English audiences in the translation in the 1611 King James (Authorised) Version of the Bible (and similarly in later English versions). The setting of this text (rendered as *The Heavens are Telling the Glory of God*) in Haydn's *Creation* is an excellent example of how an English translation can receive a regular quasi-metrical setting. The tradition of producing English metrical versions of the psalms, so beloved of the seventeenth-century Puritans, attempted to smooth out all irregularities of metre in order to facilitate congregational singing. Reich's translation is in a similar style to that in modern English translations of the Bible and makes no

attempt to even out the length or metre of the words. In keeping with Jewish convention, Reich's translation omits the vowels when making reference to the Deity. His use of G-d reflects the Jewish tradition of not including vowels in the divine name YHWH (commonly known as the Tetragrammaton) although Christian translations into English generally render this as Yahweh or Jehovah.

English translations of this psalm capture little of the energy and dynamic of the Hebrew text which pulsates irregularly, its unbalanced lines and metres being its essential strengths. In their original Hebrew, the words are strongly rhythmic and have a vital, urgent quality that presses forward towards the end of each line. This is primarily a result of the nature of the Hebrew text, consisting as it does almost entirely of two-, three- and four- syllable words with a near complete absence of single syllable words. The English version, by contrast, is predominantly monosyllabic. This is an important feature of the text which can be seen to have influenced Reich's musical approach.

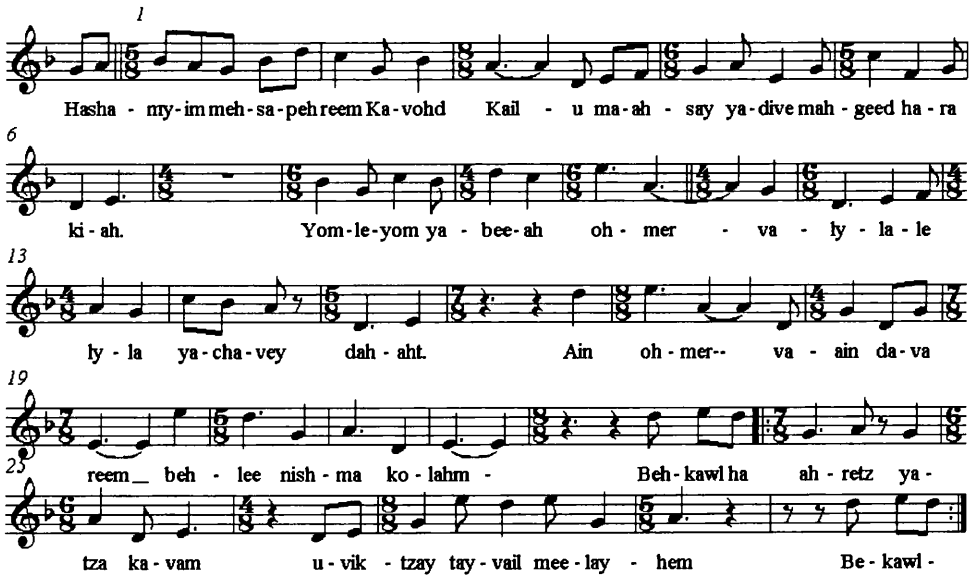
2.2 Rhythmic properties of the text

Reviewing a 1996 performance of *Tehillim*, Tom Callaghan asserts that 'at its best, Reich's music blurs the boundaries between melody and rhythm'[1] since the two are so closely interwoven. This is borne out by Reich's indication that, despite the central role of melody in the piece, his improvisations for *Tehillim* were initially with a small drum. The melody suggested itself to the composer as he said the words and played the drum.[2] Such rhythmic physicality was not new for Reich: in the earlier *Phase*

Patterns (1972) the performance calls for the player to physically hit the piano keyboard as though it were a percussion instrument.

Reich asserts that 'the rhythm of the music [in *Tehillim*] comes directly from the rhythm of the Hebrew text and is consequently in flexible changing meters'.[3] The melody to which the words of Part I are set bears out this assertion. Reich's setting of the text is syllabic and is based on a constant quaver pulse. Although the quaver pulse is constant, however, the metre is not and, following the initial 5/8 bar, there are twenty-seven changes of time signature (including repeats).

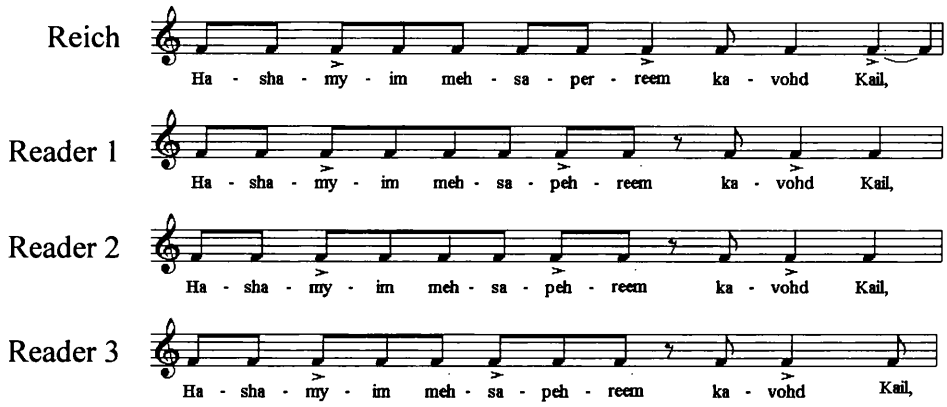
The melody is announced initially by voice 2 (lyric soprano):



Example 5: Part I melody, Section A

As indicated earlier, the rhythmic structures adopted by Reich will now be compared with three readings of the text of Part I of *Tehillim*. They are set out line by line so that Reich's version can be seen in comparison with all three readers. For the purpose of codification the examples are always shown with the rhythmic skeleton of Reich's version first and the three readers underneath. Readers 1, 2 and 3 retain the same order in all examples throughout the whole of the following analysis. In setting out Reich's own rhythms, accents are used to indicate the positioning of bar lines. It should be noted, however, that bar lines in *Tehillim* do not always completely reflect the stresses identified in the composer's transliteration (reproduced at the opening of this chapter).

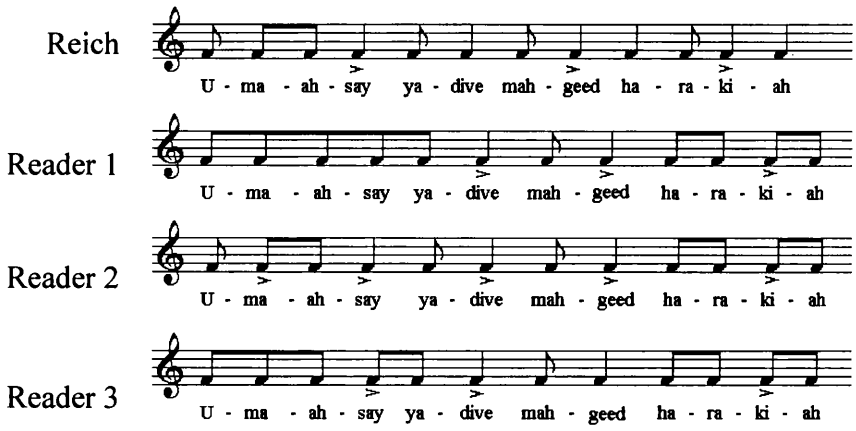
The purpose of codifying the readings below is twofold: to discover, firstly, whether any consensus emerges as to the natural stresses and rhythms of the words and, secondly, whether any natural stresses are reflected in Reich's treatment of these texts. No bar lines are used in setting out the comparative rhythms. In setting out Reich's rhythms, the beaming of the quavers follows the pattern in the score and is a method through which Reich identifies stresses in the text; this principle also dictates the notation pattern of the three readers. The comparative discussion will be undertaken line by line for each of the eight lines in Part I.



Example 6: Comparison of rhythmic stresses in Part 1, line 1

The line falls into two clear parts, the first consisting entirely of running quavers on *Ha-sha-my-im meh-sa-peh-reem* and the second a syncopated motif on *ka-vohd Kail.* In addition to the consensus concerning the succession of quavers in the first part of the line, there is complete agreement that the stress falls on the third syllable (*my*). This unanimity is continued as all three readers agree with Reich in stressing the second syllable (*vohd*) in the second part of the line. Relatively little significance is given to the relative length of the final notes since Reich's need to produce musical balance demands a greater space than would be required if reading the words as poetry. Here, as in each of the following examples, the transcription of each reading concludes with a quaver unless the reader deliberately lengthened the final syllable.

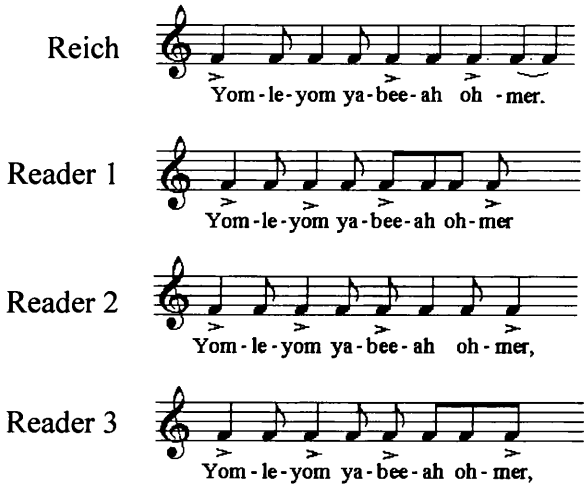
There is less definition within the line structure of the second line of text and no natural subdivision of *U-mah-ah-say ya-dive mah-geed ha-ra-ki-ah* emerges, either through Reich's approach or that of the readers.



Example 7: Comparison of rhythmic stresses in Part 1, line 2

As with his treatment of line one, Reich makes use of an anacrusis at the beginning of line two to locate the first stress on the fourth syllable (*say*). Readers 2 and 3 also stress this syllable although Reader 1 runs the line towards the sixth syllable (*dive*). Whilst there is no agreement as to whether the fourth syllable (*say*) is long or short, all readers concur with Reich that the sixth syllable (*dive*) is stressed. The difference of stress in the fourth syllable makes a slight difference to the rhythm of the music if Readers 1 and 3 are preferred to Reader 2. The final word in the line, *ha-ra-ki-ah*, is treated by all readers as having the third syllable (*ki*) accented. Reich's setting also achieves this but in a syncopated manner. As in line one, the readers do not elongate the final syllable (*ah*).

Line three, *Yom-le-yom ya-bee-ah oh-mer,* is shorter than the preceding two lines and is treated as a continuous rhythmic unit by Reich and all three readers. Reich's treatment of the line, however, gives a greater total length than that of the readers.

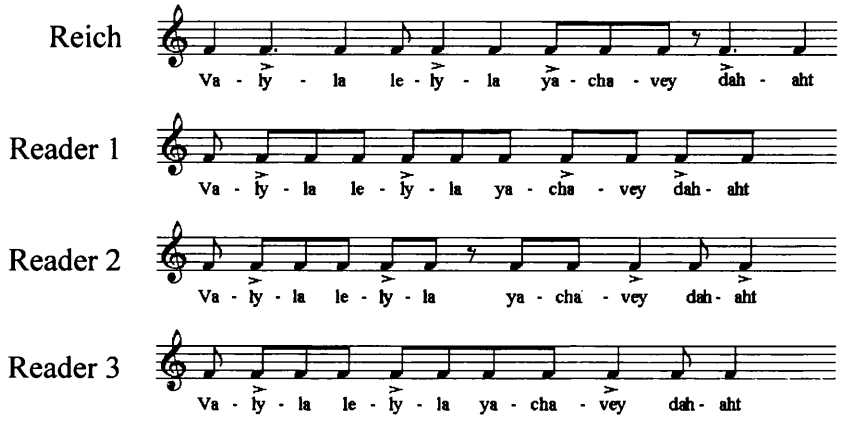


Example 8: Comparison of rhythmic stresses in Part 1, line 3

The syncopated nature of the opening five syllables (*Yom-le-yom ya-bee*) emerges as a natural rhythmic feature of the text and is present in all three readers and also in Reich's setting. Similarly, all agree that the fifth syllable (*bee*) is stressed. There is less agreement over the ending of the line, however. Reich lengthens the last three syllables (*ah oh-mer*) which could be seen as an attempt to elevate in his setting the significance of the reference to spoken language (*'pours forth speech'*) since Readers 1 and 3 attach no such rhythmic significance to these three syllables. Reader 2 stresses the final syllable, thus continuing the syncopated opening of the line.

Line four consists of the alliterative text *Va-ly-la le-ly-la ya-chah-vey da-aht* which is broadened by Reich into a phrase which has less emphasis on the quaver pulse than in previous lines. Readers 1, 2 and 3 agree that the stresses in the first part of the line fall on the second syllable (*ly*) and the fifth syllable (*ly*) thereby creating a symmetry about the rhythmic pattern. Reich does not make use of this symmetry although the placing

of bar lines immediately before the second and fifth syllables ensures that the natural stresses of the words are preserved in spite of their augmentation.



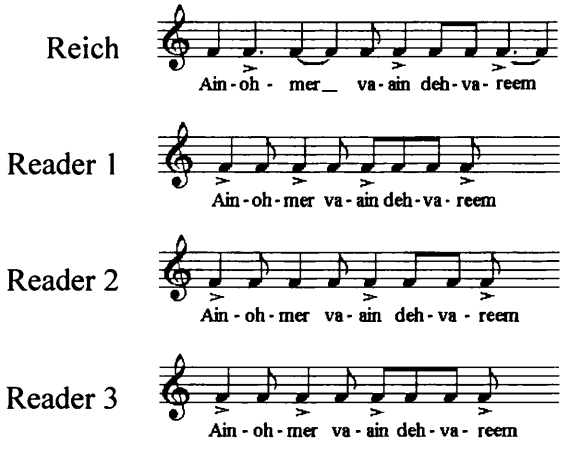
Example 9: Comparison of rhythmic stresses in Part 1, line 4

There is less agreement between the readers and Reich in the handling of the second part of the line since his positioning of a bar line immediately before the seventh syllable (*ya*) locates a stress at a point identified in none of the readings. The transliteration at the front of the score identifies a stress on the ninth syllable (*vey*) and this is replicated by Readers 2 and 3. Reich's bar line immediately before the penultimate syllable (*dah*) incorporates the emphasis, if not the rhythm, of Reader 1 who locates the stress on the eighth syllable (*chah*).

Line five is similar to line three in consisting of eight syllables: *Ain-oh-mer va-ain deh-va-reem*. This similarity is perceived by the readers and each of them gives the first five syllables (*Ain-oh-mer va-ain*) the same crotchet-quaver rhythmic treatment as in the opening of the earlier line. Reich's setting, however, takes up the approach established in line 3 and seeks to heighten the significance of repeated words in the

text. He therefore elongates the rhythm on the first three syllables (*Ain-oh-mer*) to create musical balance with his setting of the last three syllables of line three (*ah oh-mer*). Both contain references to speech and words and Reich treats these in a way that goes beyond the innate rhythms of the words. Whether or not the 'rhythm painting' of these words is intentional, it has the effect of elevating their significance above any other words in Part 1. This significance is further heightened by the shape of the melodic line.

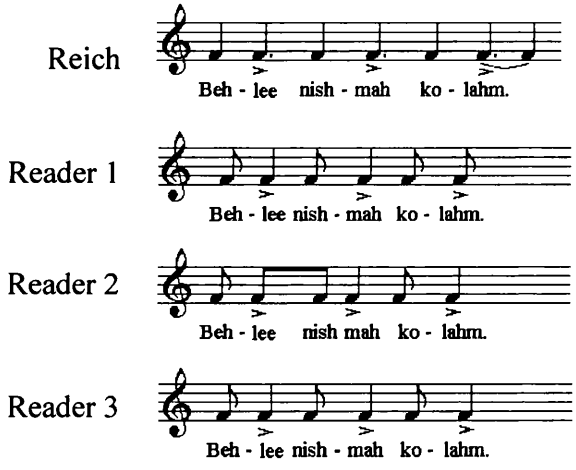
Readers 1, 2 and 3 give prominence to the fifth syllable (*ain*) and this is mirrored in Reich's setting. Similarly, the final three syllables (*deh-va-reem*) receive a similar rhythm in Reich's setting to that identified by the readers, Reich's elongation of the final syllable (*reem*) being intended to achieve closure at the end of the line.



Example 10: Comparison of rhythmic stresses in Part 1, line 5

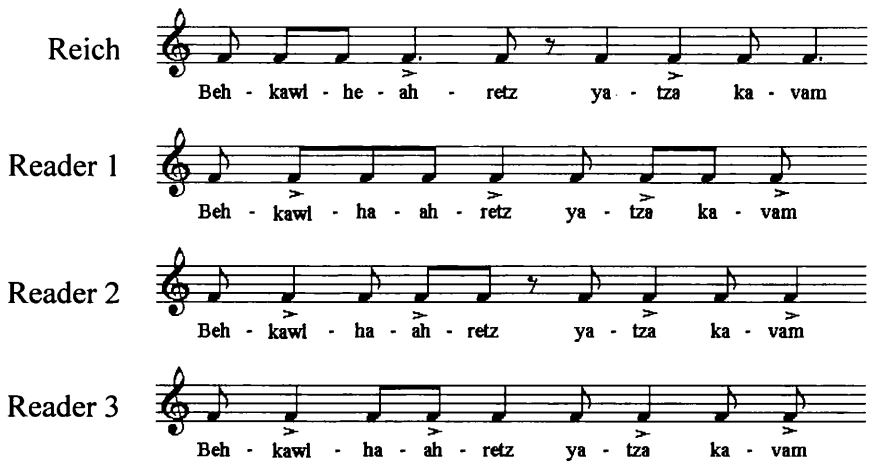
The sixth line in Part I - *Beh-lee nish-mah ko-lahm* – has only six syllables, thus making it the shortest line in the extract. Readers 1, 2 and 3, whether influenced or not by the rhythm they gave to the fifth line, all adopt a similar crotchet-quaver approach

to the sixth line. In contrast to this, Reich augments the rhythm of the line to add stress to each of the syllables, this being the first line in which he uses no quaver movement at all. However, despite the dissimilarities between the rhythmic organisation of the spoken texts by the readers and that of Reich's setting, there is complete agreement as to where the stresses of the syllables should be located. These are on the second syllable (*lee*), the fourth syllable (*mah*) and the sixth syllable (*lahm*). As in other lines, the final syllable is elongated in Reich's setting to create musical balance.



Example 11: Comparison of rhythmic stresses in Part 1, line 6

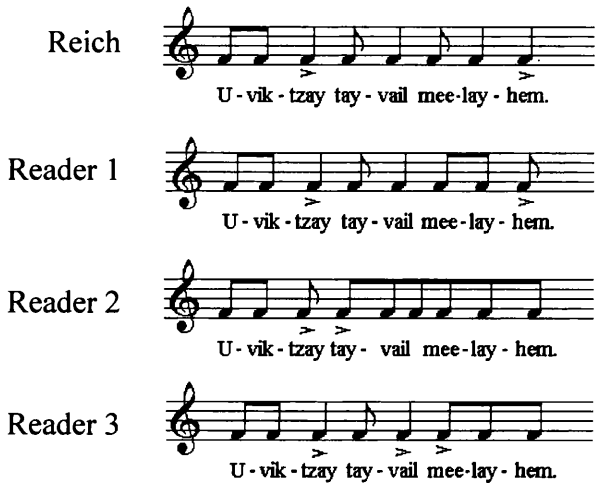
The seventh and eighth lines of the extract are repeated in Reich's setting and serve to emphasise the conclusion of the melody and provide closure. In the seventh line - *Beh-kawl-he-ah-retz ya-tza ka-vahm* – Reich introduces more quaver movement to provide a contrast to the augmentation of the previous two lines. The line divides into two parts with the first five syllables (*Beh-kawl-ha-ah-retz*) forming the first part of the line with the second part consisting of a further four syllables (*ya-tzah ka-vahm*).



Example 12: Comparison of rhythmic stresses in Part 1, line 7

In the first part of the line, Readers 1, 2 and 3 agree in emphasising the second syllable (*kawl*) although there is no agreement about the location of any other stresses. Reader 3 accents the fourth syllable (*ah*) which Reich also does by means of a bar line. There is closer correlation between Reich's setting and the readings in the second part of the line where all agree that the second of these four syllables (*tza*) should be accented.

The eighth and final line of the extract is the same length as the third and fifth lines and consists of eight syllables, *U-vik-tzay tay-vail mee-lay-hem.* The readings locate the first stress on the third syllable (*tzay*) and have the same rhythm used by Reich. Reich adopts a 3+3+2 approach for the third to seventh syllables of the line and there is a broad indication of this in Readers 1 and 3. The crotchet-quaver construction used here is reminiscent of the rhythm of Reich's setting of the third line on *Yom-le-yom ya-bee* and this may indicate Reich's conscious use of an earlier rhythmic motif to create shape within the setting.



Example 13: Comparison of rhythmic stresses in Part 1, line 8

In Part I, Readers 1, 2 and 3 demonstrate considerable unanimity in their approach to the reading of the text although there are some variants within the readings as well. The extent of the agreement that emerges within these readings is a strong indication of a consensus as to where the 'natural' stresses of the words are located. Reich's setting of the text in the melody of Part I makes considerable use of both the stresses and rhythms of the words. However, Reich takes a more rigorous approach in locating the natural stresses of the words than he does in composing rhythms that reflect the overall rhythms of the lines. Whilst there is a strong link between the rhythmic shapes of the readings and Reich's setting, the composer makes three creative decisions that appear to develop beyond simple linkage of text and music.

Firstly, there is an element of rhythmic augmentation that does not grow directly from the natural rhythm of the words. This is particularly evident in the setting in the third and fifth lines where the references to speech are highlighted and this appears almost as a form of 'rhythm painting', a way of the composer linking the setting back to his early tape works. Whilst those pieces depended on the spoken word as their source material, the music in *Tehillim* is 'without speech'. Secondly, this augmentation is taken as the basis for the rhythm of the fifth and sixth lines in order to give the music shape and contrast. Thirdly, in the final line of the extract, Reich makes use of a rhythm from line three which seems to indicate further a structural use of rhythm.

2.3 Rhythmic organisation

Reich's setting makes no attempt to fashion the text into a metrical straightjacket although it clearly evens out the most significant differences between lines. A comparison between syllables per line in the Hebrew text and quaver beats per line in the musical setting makes this immediately apparent and may be seen in Table A below.

Line	Syllables per line	Beats per line	Phrase	Syllables per phrase	Beats per phrase
1	11	17	AI	23	36
2	12	19			
Four beats rest					
3	8	18	AII	19	39
4	11	21			
Five beats rest					
5	8	19	AIII	14	36
6	6	17			
Five beats rest					
7	9	16	AIV	17	31
8	8	(15) 2+13			
Four beats rest					
7 repeated	9	16	AIV repeated	17	31
8 repeated	8	(15) 2+13			
Five beats rest					

Table A: Rhythmic structure of Part I melody

A convention of Hebrew poetry is that the second line of a pair often elaborates on the content of the first line. For example, the affirmation in the first line that 'The heavens declare the glory of G-d' is repeated and elaborated in line two in 'the sky tells of his handiwork'; this pattern is replicated in lines 3-4 and 7-8. Lines 5-6 are an exception to this as here the second line of the couplet serves to complete the statement begun in the first. Reich's melody reflects this couplet structure and he sets the text as five sets of paired lines (the final couplet being repeated in the setting) rather than eight individual lines. This has the effect of making each of the four couplets broadly similar in length. Whilst the individual lines vary in length considerably (between 6

and 12 syllables per line) the variation between couplets is less marked with the shortest being 14 syllables, the longest, 23 syllables.

Each of these couplets generates a musical phrase - AI, AII, AIII and AIV – and Reich uses this approach to create phrases of broadly equal length. Whilst adopting an entirely syllabic approach, the total number of beats allocated to each of the five couplets is 36 – 39 –36 –31 –31 respectively. This broad consistency is emphasised by the regular distance, four or five beats, between each musical phrase. Four beats separate the first and second couplets and the fourth and fifth couplets. The other couplets are separated by five beats, the same distance allowed at the end of the first statement of the melody (3/II/1-3/II/2).

Within this melody, and throughout *Tehillim* afterwards, Reich uses rhythmic constructions based upon sub-groupings of twos and threes. In an interview with Paul Hillier, Reich reiterated his belief that 'not only did the words come out with a melody, but the 12-123-12-123 rhythmic groups of two and three' were inherent in the Hebrew text.[4] This is reinforced by Antonella Puca's earlier claim that

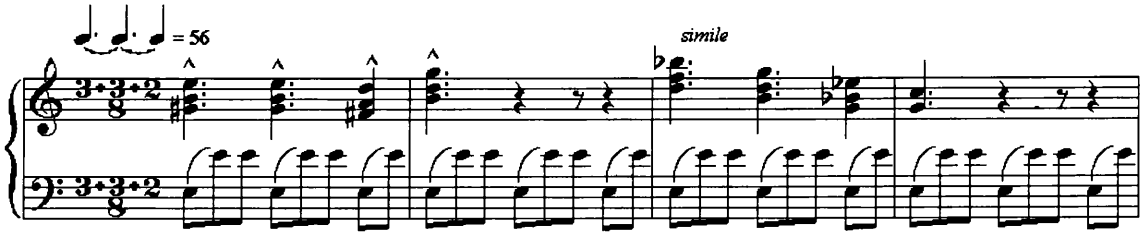
> in reading the Hebrew text of the Psalms, Reich could perceive a metric succession of units of two and three beats. This series of twos and threes become the basis for the rhythmic structure of his vocal lines, so as to form constantly changing metres.[5]

This claim is based on Reich's perception of the text and will be investigated through analysis of the score. In conversation with Henning Lohner, Reich has explored the nature of this perception further in the context of his later composition of *The Desert*

Music. As he read William Carlos Williams' poetry he again heard the same sub-groups of twos and threes even though Williams' poetry was clearly in English rather than Hebrew. As a result, Reich suggests the possibility that he hears all language in that way since

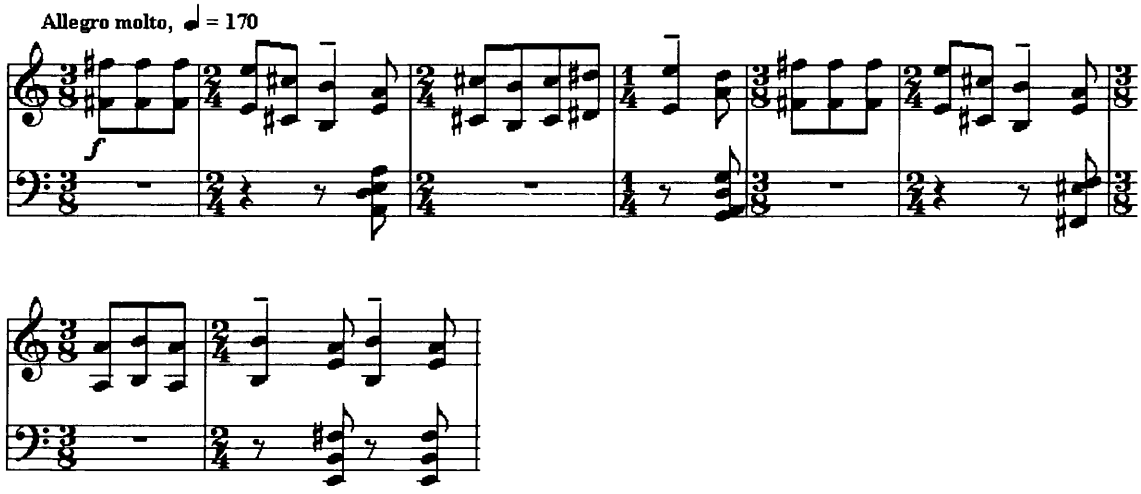
> the two's and three's are based on how I hear the weight of those syllables. And since I'm a native American English speaker, those two's and three's are really coming from my ear as I hear how we Americans accent our speech. I wouldn't say that's what Williams had in mind...[6]

In composing *Tehillim*, Reich clearly believed that, as well as the rhythm of individual words influencing the rhythm of the music, there was an innate structure of twos and threes and this became an important rhythmic device for the composer. These small rhythmic cells combine within constantly changing time signatures to produce music that is highly irregular and which Reich claims is well able to reflect the precise rhythmic constituents of the text. Musically, the concept of varying metre between bars had recent antecedents in the work of Bartók and Stravinsky. Reich's study with Hall Overton introduced him to Bartók's *Mikrokosmos* with its use of percussive rhythms couched within flexible metres. In Volume VI, number 6, Bartók divides the eight quavers of each bar of 8/8 into sub-groupings of 3+3+2. This pattern is repeated for all 97 bars of this short piece and has the effect of moving the music forward by its incessant repetition.



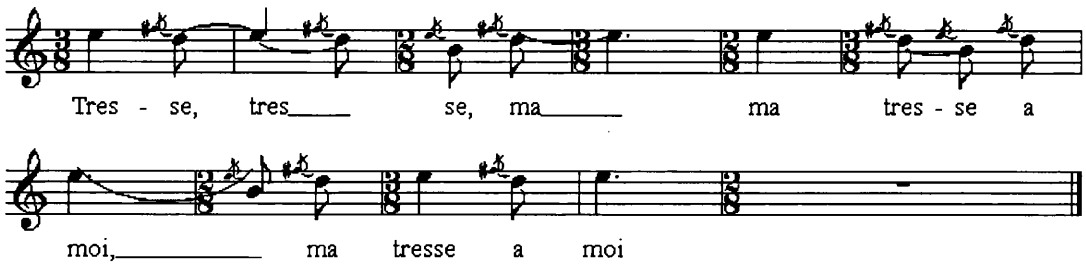
Example 14: Bartók: Mikrokosmos Volume VI, Number 6, bars 1 – 4

Whilst this example demonstrates the breaking down of a bar into constituent components, Bartók does not vary the metre between bars in the manner that he adopted in his piano works of 1926, particularly *Out of Doors* and the *Sonata for Piano*. The last movement of the *Sonata* is a rondo based on a melody composed of irregular rhythms and frequently changing metres.



Example 15: Bartók: Sonata for Piano (1926) Third Movement

In *Les Noces*, Stravinsky adopts a similarly flexible approach to rhythm in his setting of words to music. The first part of the ballet opens with a tableau based entirely on changing metrical patterns of twos and threes which attempts to capture the irregularities of the words. Initially, these groupings occupy the whole of each bar as Stravinsky uses predominantly 2/8 and 3/8 time signatures; later, however, he introduces irregular time signatures. Unlike Reich, Stravinsky does not identify groupings of twos and threes apart from in the time signatures and there is no indication that larger units of, for example, 5/8 or 6/8 should be subdivided into such groupings.



Example 16: Stravinsky: Les Noces (Opening Tableau)

Both varying metre and sub-groupings of twos and threes are central features of *Tehillim.* From the score, it is immediately apparent that the whole of the work can be broken down into sub-groupings of twos and threes and Reich indicates these throughout, providing essential time-beating directions for the conductor for each bar. Two markings are used: Δ for a group of three, I for a group of two. These sub-groupings only coincide with Reich's grouping of notes (as indicated through beaming) in the initial statements of the melody in sections A and B of Part I since the subsequent canons produce a constantly shifting rhythmic emphasis.

Since these sub-groupings are the rhythmic life-blood of *Tehillim* and lend an innate physicality to the music, there is no room for the conductor's interpretation. This reflects Reich's rejection of gestural conducting (which seeks to exploit the potential emotion of the audience) in favour of what he has termed 'musical reticence'.[7] On this view the music must speak for itself without dynamics or expression being summoned at the behest of the conductor. Reich's notion of the conductor is more akin to the Baroque role of the director, that of keeping the ensemble together in performance. Yet, ironically, a criticism of the first performance of the orchestral version of *Tehillim*

was that – despite being conducted – there was apparent rhythmic insecurity which left an impression (with at least some members of the audience) that the work's inherent vitality had been lost.[8]

The rhythmic vitality of the music is not simply a product of the widespread presence of sub-groups of twos and threes, but the manner in which these rhythmic units are organised as a means of moving the music forward. Table B indicates how these units are organised in the four phrases of the melody of Part I, based on the varying combinations of two and threes as indicated in Reich's directions to the conductor.

The importance of the 3+2 units is clearly evident here. In each phrase there is a predominance of 3+2 units or 3+3/2+2 units and these provide a powerful rhythmic impetus. The three-beat stresses may be seen to add emphasis simply because they last longer yet the bar line in the final three units in phrase AI precedes the shorter two-beat stress. Phrases AI, AIII and AIV comprise a majority of single 3+2 units, whilst melody AII, the longest of the melodies, broadens the 3+2 pattern into three double units (3+3/2+2). AII is also the only phrase that has no anacrusis.

Section	Rhythmic Structure of phrase	Length in beats*
Phrase AI	(2)+5+5+8+6+5+5+4 Reduction of AI based on indicated components of 3& 2 (2)/3+2/3+2/3+3+2/3+3/2+3/2+3/2+2	40 (including anacrusis)
Phrase AII	6+4+6+4+6+4+4+5+7 Reduction of AII 3+3/2+2/3+3/2+2/3+3/2+2/2+2/3+2/3+2(+2)	44 (excluding final two beats which form an anacrusis for AIII)
Phrase AIII	(2)+8+4+7+5+5+5+8 Reduction of AIII (2)/3+2+3/2+2/3+2+2/3+2/3+2/3+2/3+3 (+2) (3 note anacrusis)	41 (excluding final three beats which form an anacrusis for AIV)
Phrase AIV	(3)+7+6+4+8+5+5 Reduction of AIV (3)/3+2+2/3+3/2+2/3+3+2/3+2/3 (+2) (3 note anacrusis)	35 (excluding final three beats which form an anacrusis for AIV repeated)
Phrase AIV repeated	(3)+7+6+4+8+6+4 Reduction of AIV repeated (3)/3+2+2/3+3/2+2/3+3+2/3+3/2 (+2) (2 note anacrusis at end of phrase)	36 (excluding last two beats which form an anacrusis for next iteration of melody)
Total		**196**

Table B: Rhythmic organisation of phrases in Part I melody

*[*The number of beats counted in each phrase includes rests and anacruses as appropriate. Beats at the end of a phrase that form an anacrusis to the next phrase are included in the count for that following phrase.]*

Whilst the groupings of twos and threes are indicated throughout the score, less evidence of their significance emerges in the transcriptions of the readings. The readers each point to a correlation between the stresses of many words in Part I and their musical treatment by Reich but his claim to hear constant sub-groupings of twos and threes does not emerge precisely. It is possible, however, to identify points at which such sub-groupings exist and where these have clearly inspired Reich's setting of those words. Of equal interest, however, are the occasional points where these sub-

groupings emerge in the readings but are not subsequently incorporated into the rhythmic structure of the setting.

For example, in line two (Example 7) there is broad agreement that *dive mah-gid* forms a 3+2 unit and this appears in Reich's setting of the line. Similarly, in line 3 (Example 8), *Yom-le-yom ya* produces a 3+2/3+2 unit and this is reflected in the musical treatment of those words. However, this same rhythmic unit appears again in the readings in lines 4 and 5 (Examples 9 and 10) but is not directly incorporated into Reich's setting. In line 4, the natural 3+3 unit identified by the readers on *ly-la le-ly-la ya* is ignored by Reich and in the following line, an identical 3+3 unit emerges on *Ain-oh-mer va* but does not feature in the musical setting of the text. Readers 1 and 3 identify the same 3+3 motif in line 6 (Example 11) on *lee nish-mah ko* but, again, this does not appear exactly in Reich's setting. However, in line 8 (Example 13) Reader 1 (supported largely by Reader 3) identifies the 3+3 rhythm on *tzay tay-vail me* which is incorporated into Reich's setting.

2.4 Melodic structure

The setting of the text is entirely syllabic with the shape of the melodic line reinforcing the rhythmic skeleton discussed above. The eight lines of the extract are grouped into four phrases, as follows, each consisting of two lines to reflect the nature of Hebrew poetry.

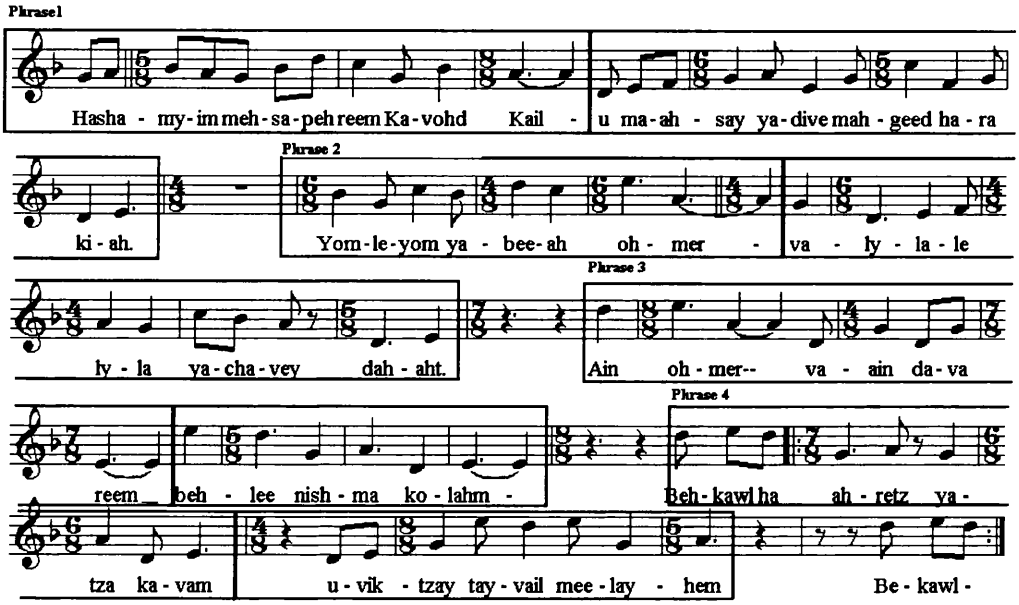
Ha-sha-my-im meh-sa-peh-reem ka-vohd Kail,
U-mah-ah-say ya-dive mah-geed ha-ra-ki-ah.

Yom-le-yom ya-bee-ah oh-mer,
Va-ly-la le-ly-la ya-chah-vey da-aht.

Ain-oh-mer va-ain deh-va-reem,
Beh-lee nish-mah ko-lahm.

Beh-kawl-ha-ah-retz ya-tzah ka-vam,
U-vik-tzay tay-vail mee-lay-hem.

The mid-point of these pairs of lines is emphasised by a five-beat note or note and rest. In phrases 1, 2 and 3 there is a five-beat note on *Kail*, *mer* and *reem* respectively; in phrase 4 the five-beat link is split between three beats on *vam* and two beats' rest.



Example 17: Part I melody with phrases (and mid-points) indicated

In Part I, Reich specifies that the tuned tambourines should be pitched on A, G, E and D and these four pitches assume some significance within the melodic line. The setting of *Beh-lee nish-mah ko-lam* ('nevertheless their voice is heard') in the third phrase is of particular significance in bringing together the four central pitches: G, A,

D, E. Reich identifies this phrase as an example of word painting and this can also be seen as a subliminal comment on the way in which the tonality of the melody is established 'without words' whilst Reich believes that the rhythm grows from them. In differing combinations, these four notes define the melody's shape and tonality.

Reich has been more specific in identifying D as the tonal centre of the work[9], and does not appear troubled by potential tonal and/or harmonic ambiguity. There are a number of ways of viewing the tonal structure of this melody and Schwarz has rightly referred to the 'tonal ambiguity' of the piece.[10] Reich claims that this ambiguity was suggested by the text and locates this ambiguity in the allocation of these four central pitches to the words *Beh-lee nish-mah ko-lam.* The composer appears at ease with such ambiguity. Just as the voice of the heavens and the firmament is 'without speech and without words', so definite statements concerning tonality are unhelpful and he sees a creative tension at the heart of the work's tonality.

> 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 canons) as either in D minor, C major, G major or D major (among others) depending on their rhythm and the chords harmonising 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 without words we are not only hearing music, but music of the most open sort which is consonant with many harmonic interpretations. This four-note scale ... supplies one of the basic means of harmonic change in the piece and was suggested by the text.[11]

Puca argues that 'the setting of Psalm 19:4 [the verse cited above] in the first movement has a central structural role within *Tehillim*'[12] and this is evidenced by the use of a similar phrase in phrase AIII of the fourth movement. Morris compares

Reich's style with that of Debussy and suggests that both adopt the 'practice of repeating a strongly characterised idea or fragment twice, at most three times, and then passing on to a new section in which another fragment receives the same treatment'.[13] This is true here in that, rather than abandoning this pitch motif, it becomes a structural feature to which Reich returns in the final movement.

In considering the tonal structure of the melody, a number of possible interpretations arise. Reich suggests that the G, A, D, E pitches should be interpreted as D minor and later G major in the first movement yet neither of these descriptions fits very satisfactorily. Whilst the key signature of one flat implies D minor, the melody does not make extensive use of D as a centre and there is no raised seventh. The melody appears to be conceived modally rather than tonally and there are three modal ways of viewing it: the Dorian mode transposed up a fourth, the Aeolian mode transposed up a fourth (effectively a 'natural minor' on D) or the Phrygian mode transposed up a fourth. Ruth Crawford Seeger suggests that two overarching criteria need to be considered when analysing melodies within a mode: the 'computation and analysis of scalar material and the functional relationship of the various elements in the tonal aggregate in respect to each other and to the whole of which they are parts'.[14]

Reich's affinity with the Dorian mode has already been noted[15] and it would be possible to see the melody of Part I as being conceived within the Dorian mode (transposed up a fourth) as offering some link with Reich's assertion of D minor. This gives a reference point – a 'final' in modal terms – of G and accounts for the opening

notes of G, B^b and D in each of the four phrases (including anacruses, where applicable) and effectively produces a triad of G, B^b, D.

Whilst this makes good visual sense, however, it is less obvious aurally. It does not account for the resulting tonal obfuscation at the end of each phrase since the first three phrases end on E (effectively the sub-mediant of Dorian G) with the fourth phrase ending on A (effectively the supertonic). Within Part I, these two pitches assume a cadential importance. In the first and second phrases, the halfway point falls on A with the final note being E. In the third phrase, both points occur on E; in the final phrase the halfway point is on E with the melody finishing on A.

The same problems emerge with the view of the melody as being in the Aeolian mode transposed up a fourth. The computation of the scalar material works visually but the cadence points do not produce an aural impression of D Aeolian. Andrew Porter offers a variant reading of the melody and suggests that the melody is Locrian 'B-B on the white notes, but here up a fourth with a B^b in the key signature'.[16] This also works visually and could account for the use of E as a cadential reference point although the melody is far more stable aurally than Porter's suggestion would imply.

Two motifs recur at the cadence points in this melody: G-A and D-E. D-E has the greater structural significance since it is used to conclude three of the four phrases, although G-A is used to conclude the melody itself. This rising second motif at the end of each phrase may give a better clue to the modal nature of the melody. The

cadential function of the D is always to move the melody away from itself and on to the E; the same principle is true of the move from G to A in the final phrase. The transitional nature of first the D and then the G is confirmed by the extent to which the melody as a whole depends on motifs of a rising or falling second.

Whilst acknowledging Reich's tonal ambiguity, a further possibility would be to view the melody as being in the Phrygian mode transposed up a fourth. This produces a scale comprising the notes A, $B^{\flat}$, C, D, E, F, G, the same as each of the other possibilities already considered but within a different aural framework. This account reflects the overall shape and direction of the individual phrases and the overall melody. Most importantly, it reflects the emphasis of the central importance of the notes D and E at the ends of phrases.

In phrase AI, the melody rests prominently on A in bar 3 before falling in the answering phrase to end on E (bar 6). This pattern is reinforced in phrase AII where the lengthened A at bar 10 is reinforced by a short A (emphasised by a rest of equivalent length) in bar 14 before falling to E in bar 15. Phrase AIII emphasises the same tonal reference points twice. In bar 17, a falling fifth figure rests on A before moving to a cadential moment on E in bar 19; a similar figure follows at bar 22. The shape of this phrase prefigures the treatment of phrase AIV. This phrase – repeated for effect – gravitates initially around A in bars 24/25, reaching E at bar 25, the phrase clearly ending on A in both statements. This account is viewed by the author as offering the most cogent and coherent explanation of the construction of the melody.

2.5 Analytical Commentary on Part I

Part I is monothematic with the melody discussed above forming the basis of the entire movement. The overall formal structure of Part I is essentially ternary, the three sections being indicated below. All references to the score are given in the form: page/system/bar number.

Exposition	Page/system/ bar number	Rehearsal letter
Statement of melody	1/I/1	A
Second statement of melody	3/III/1	B
Third statement of melody	7/I/1	C
Fourth statement of melody	11/I/1	D
Fifth statement of melody	19/I/1	E
Canonic development		
first phrase of melody (ten statements of phrase)	27/I/1	F
second phrase of melody (ten statements of phrase)	36/I/2	K
third phrase of melody (ten statements of phrase)	46/I/2	P
fourth phrase of melody (ten statements of phrase)	55/I/2	V
Recapitulation		
Statement of melody	63/I/1	BB
Second statement of melody	65/II/1	CC
Third statement of melody	73/I/1	DD
Fourth statement of melody	81/I/2	EE

Table C: Structural layout of Part I (excluding anacrusis)

The first statement of the melody (1/I/1 – 3/II/4) is by voice 2 (lyric soprano) and this – marked *non vibrato sempre* – immediately establishes the vocal style which is maintained throughout *Tehillim*. Reich's initial marking of *mezzo forte* is a feature of many of his scores and he has joked that this simply stands for 'matter-of-fact'.[17]

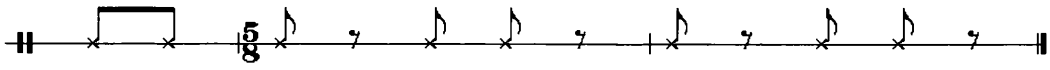
There is a constant quaver pulse running through the movement (and, indeed, the work

as a whole) with each of the frequently changing time signatures being expressed in quavers. This juxtaposes simple time signatures of 3/8 and 4/8, irregular time signatures of 5/8 or 7/8 and an asymmetrical usage of 6/8 and 8/8. Groupings within 6/8 time are occasionally expressed as 3/4 (e.g. 20/I/1, Voice 1).

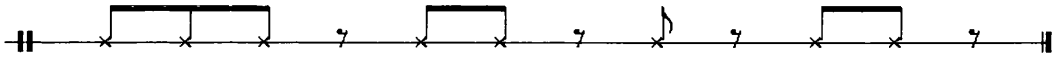
Despite the prevalence of the quaver pulse, the tempo indication at the outset is given as a crotchet pulse of ca.144, the tempo indication for each subsequent movement also being given in crotchets. This is a practical solution to the problem of notating beats of either dotted crotchet or crotchet alongside quavers. For the purpose of the current analysis the quaver is taken to be the basic unit of rhythmic measurement.

The melody is accompanied for its entirety by a solo clapping rhythm in Clap 1 doubled by a tuned tambourine on A, reinforcing the importance of the rhythmic and melodic structure of the melody. This use of hand claps with psalm-melody may have been unconsciously inspired by a reference to such a combination in Psalm 47 ('O clap your hands all ye people: O sing unto God with the voice of melody'). Paul Driver comments on the connection between the orchestrated hand claps of *Tehillim* and *Clapping Music* and suggests that 'the punctuation afforded by tambourines without jingles and orchestrated handclaps apparently has biblical origins (which throws Jewish light on the elementary process-form of *Clapping Music*)'.[18] Whilst relevant to *Tehillim*, such a view of *Clapping Music* cannot be sustained since its composition in 1972 predated Reich's rediscovery of Judaism by some years.

There are, however, some rhythmic connections between *Tehillim* and *Clapping Music*. The opening rhythm of *Tehillim* is identical to the main subject of *Clapping Music* although the rhythmic stresses are different and the crotchet tempo is 160-184 in comparison to *Tehillim's* ca.144. However, without bar lines the similarities may be clearly seen in Examples 18 and 19.

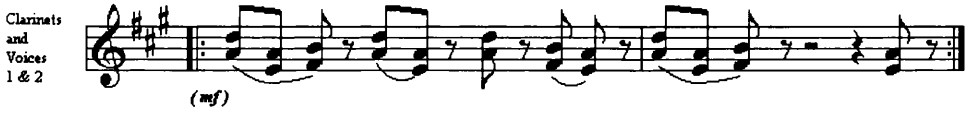


Example 18: Clap 1 rhythm from opening of Part I



Example 19: Basic Unit from Clapping Music

Keith Potter has pointed to the use of the same rhythmic construction in *Music for 18 Musicians* (1976). In this piece, the unit (which Potter calls the Basic Unit of *Clapping Music*) is given a melodic shape and used extensively throughout, as in this short extract for clarinets and voices 1 and 2.



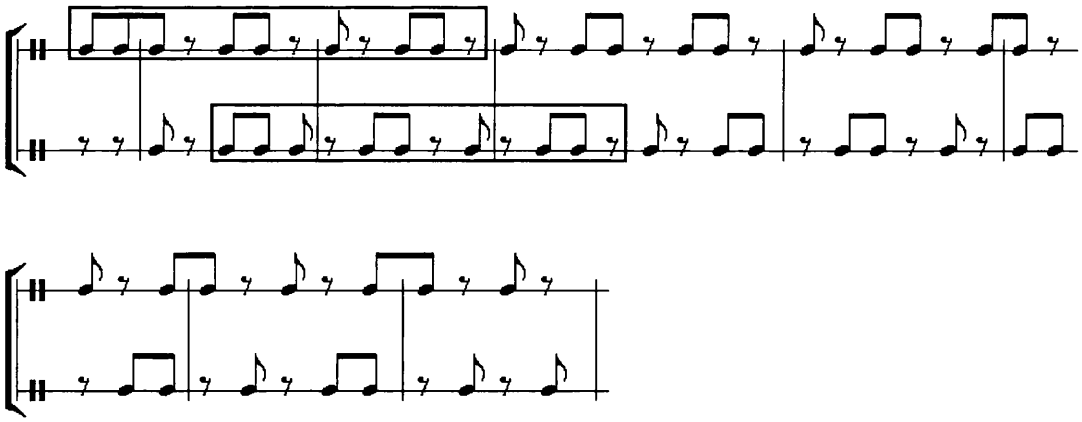
Example 20: Music for 18 Musicians, figures 103-104

In Part I of *Tehillim*, the clapping rhythm reinforces the rhythm of the melody throughout its first statement and is doubled by the first of the four tuned tambourines, significantly pitched on A. Apart from the vocal melody, this is the only pitched note

in the section and reinforces the importance of the note A in the melody, particularly when the melody settles finally on A (p.3 system 2 1st and 2nd time bar).

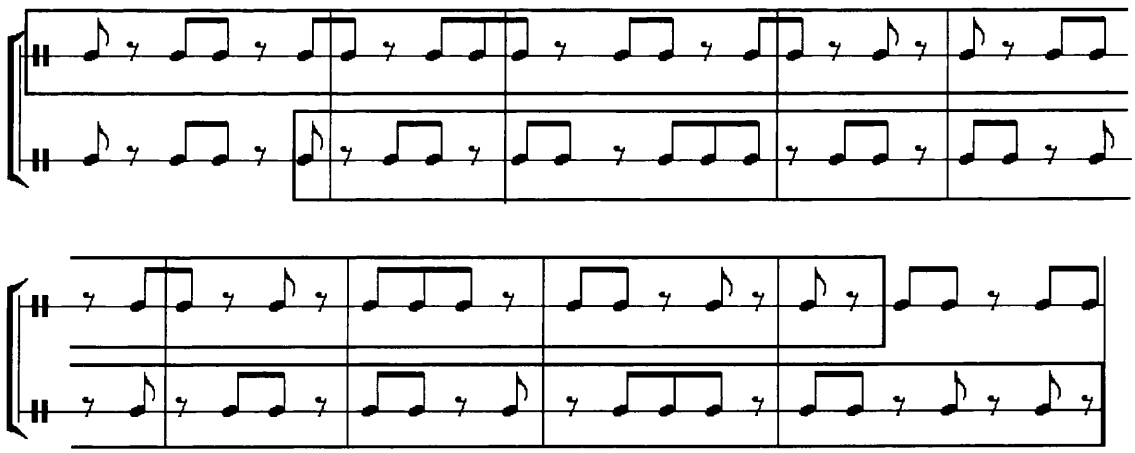
The second statement of the melody – Section B – begins at 3/III/1 with an anacrusis on the last two notes of the previous bar. The melody remains with Voice 2 (lyric soprano) and is now doubled by Clarinet 1 as a reinforcement to change the texture. The rhythmic structure of this statement is made more complex by the introduction of a second clapping rhythm in Clap 2. Clap 1 is imitated by Clap 2 in a manner reminiscent of *Clapping Music*. In that piece, for two performers, Clap 1 has the same Basic Unit (Example 18) throughout the entire piece. In the first section of *Clapping Music* both performers clap this Basic Unit in unison and in each of the subsequent twelve sections, Clap 2 moves one quaver out of phase with Clap 1 until in the final section they are back in unison.

The two clapping parts in this section of *Tehillim* operate in a similar manner to *Clapping Music* and Reich makes extensive use of rhythmic canons, although not always based on this motif. In phrase BI, the two parts move into canonic imitation at four beats distance in phrase BI (3/II/1 – 4/I/3 with anacrusis). This is based initially on the Basic Unit of *Clapping Music*, identified in the example below, the canon then continuing without further reference to that motif.



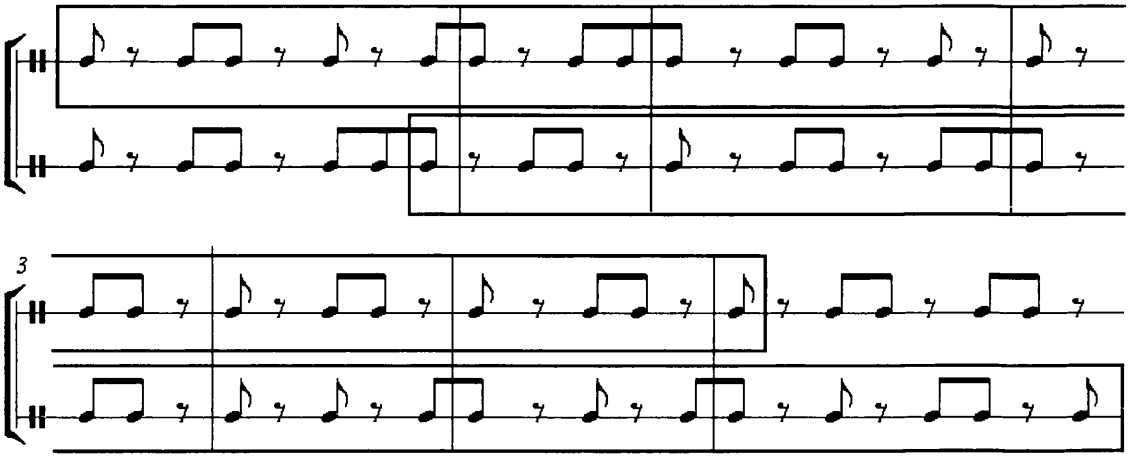
Example 21: Part I, Phrase BI: canon at 4 beats with 'Clapping Music' figure beginning the phase

Clap 1 and Clap 2 move back to unison for the opening bar of phrase BII (4/I/4) before again moving to a canon at four beats' distance. The pattern on which the canon is based is altered slightly from phrase BI. It should be noted in passing that Clap 2 has a printing error in the score at 5/I/2 where a quaver rest is missing.



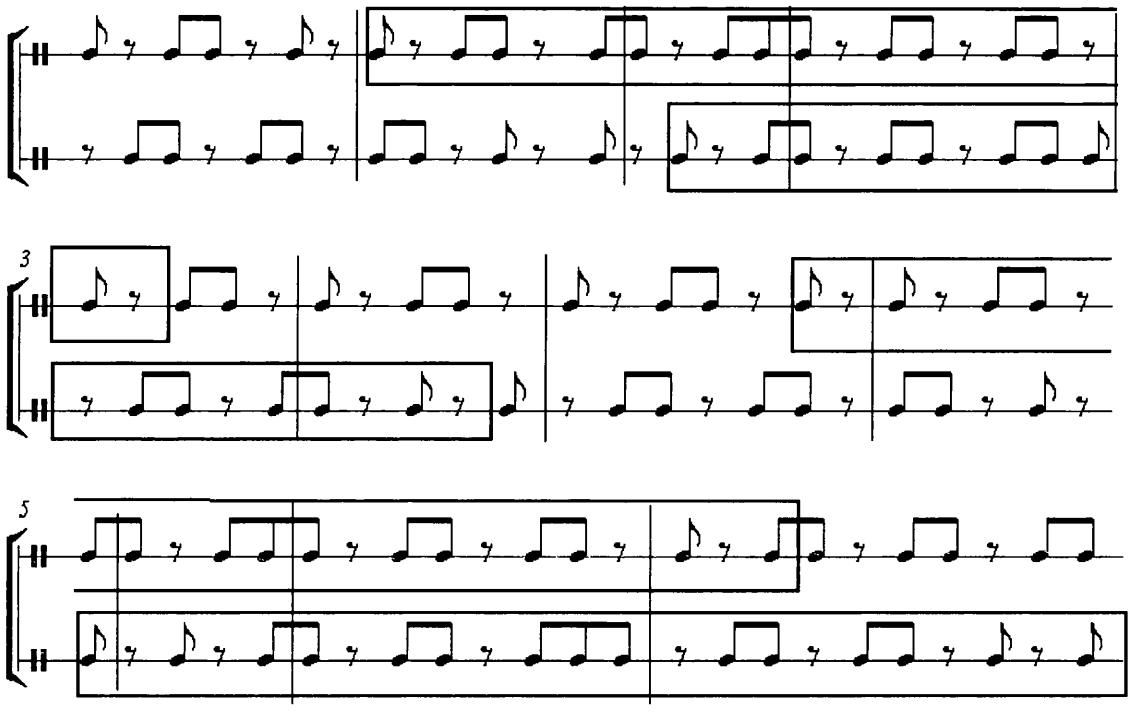
Example 22: Part I, Phrase BII: canon at five beats

In phrase BIII (5/I/3) Clap 1 and Clap 2 begin in unison before moving into a canon at 7 beats' distance. The rhythmic subject is again modified slightly.



Example 23: Part I, Phrase BIII: canon at seven beats

Phrase BIV (6/I/1) is also canonic. Unlike the previous three phrases there is no opening unison section and Reich divides the canon into two short sections, both at seven beats' distance. Both clapping parts are doubled. Clap 1 is doubled by Tambourine 1 (still pitched on A) and Clap 2 is doubled by Tambourine 2, pitched on E. The two tambourines in combination produce a drone on A and E and these two drone notes reinforce the previously discussed significance of A and E within the melody.



Example 24: Part I, Phrase BIV: two short canons at seven beats

The third statement of the melody begins at Section C (7/I/1) and is introduced by Voice 1 (lyric soprano) followed by Voice 2 (lyric soprano). The vocal canon in Voices 1 and 2 is doubled by Clarinets 1 and 2 and this shows a further building of the texture through doubled parts. This is reminiscent of Reich's approach to vocal writing in his earlier works such as *Music for Mallet Instruments, Voices and Organ* and *Music for a Large Ensemble* where voices were used as a device to build up the texture rather than to declaim words.

The canonic approach set in place by the rhythmic parts is now taken up by the vocal parts with Voice 2 now following Voice 1 at four beats' distance, the same distance as between the two rhythmic parts in the opening of the previous statement. The distance

between entries of the two voices in each of the phrases of the third statement melody is the same as the distance between the entries of the rhythm parts in the second section and this emphasises the primacy of rhythm within Reich's compositional approach. The canonic relationship between the rhythmic parts here is the same as that of the second statement with very minor changes at the opening of phrase CIV (10/I/1).

The canon between the voices is not exact since the opening of Voice 2 is now modified slightly on the first three notes of phrase CI (G-B^{b}-G) and also the first three notes of phrase CII (G-B^{b}-A). Rhythmically, the melody is the same as the initial statement but the time signatures are now changed in this statement to accommodate the working out of the canon. Such changes of time signature would normally indicate a change of emphasis on the stresses of the words. This is not reflected in performance practice on any of the three available CD recordings all of which have both vocal parts sung with the same stresses as in the opening statement of the melody. In practice, the stresses of the words indicated by Reich (in his transliterations of the texts at the front of the score) take precedence over any first beat stresses implied by time signatures. The change of time signatures could therefore be seen as a device simply intended to allow each part to retain a recognisable rhythmic pattern within the canonic structure.

The fourth statement of the melody begins at Section D (11/I/1). The new time signatures of the previous statement are retained and the vocal parts remain as before, as does the rhythmic canon between Clap 1 and Clap 2. The doubling of the vocal

parts by Clarinets 1 and 2 and the doubling of the rhythm parts by the tuned tambourine drone remain as before. The new development in this statement of the melody is Reich's introduction of a series of sustained block chords in the five string parts. Reich traces this approach back to the composition of *Music for 18 Musicians* in 1976 where he began by composing a harmonic cycle as the basis for the piece.[19] This was a deliberate move away from his early approach to static harmony, seen particularly in the way he approached serial composition as a student:

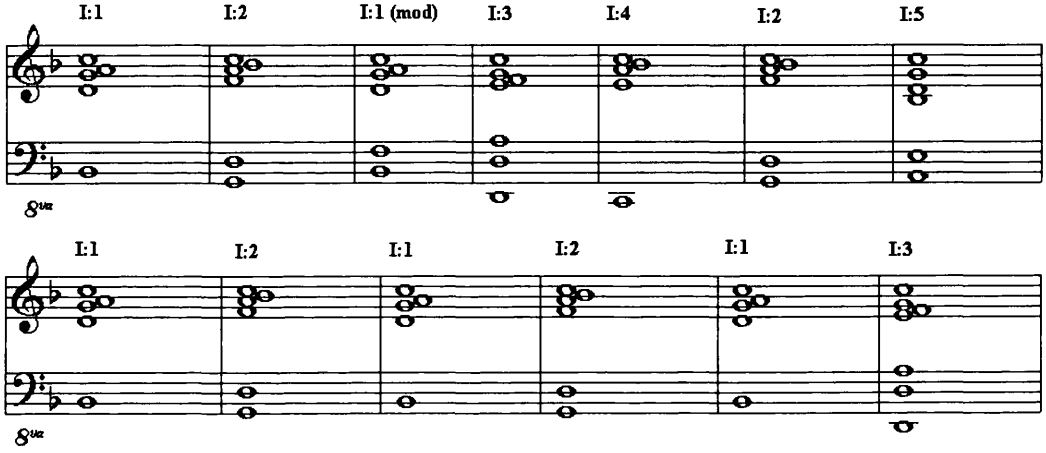
> I would just repeat the row over and over. By doing this you can create a kind of static harmony not entirely dissimilar from the Webern *Orchestral Variations* which are very static and intervallically constant.[20]

In *Writings on Music* Reich makes no reference to the chord cycles in his commentary on *Tehillim* and Schwarz asserts, citing a personal interview with Reich in 1981 as his source, that the work was conceived melodically with 'the harmonic skeleton not germinal but rather a later addition'.[21]

The chord cycle in Section D consists of thirteen chords, each of them taken (in some cases with adaptation) from five basic chords, identified as such in Example 25. These chords do not form a 'progression' in any functional sense and they are all arranged with the note C as the highest, thus creating a sense of statis. This approach to harmony is similar to Reich's technique in *Music for 18 Musicians* where the middle and upper registers of the chord undergo relatively little change whilst the bass moves to change the harmonic identity of the chords. In Section D of *Tehillim*, the change of

chords within the cycle is not related to the lengths of the vocal phrases as they are treated canonically. Furthermore, the string writing here has no real independence.

The chords are catalogued below (and subsequently) in order of appearance. The identification number allocated to each chord is for purposes of taxonomy and has no significance in terms of chord structure or function. The first of the two digits indicates the movement of *Tehillim* where the cycle occurs; the second digit indicates the order of the chord in that cycle.



Example 25: Part I chord sequence – Section D

The claim that the chords are not germinal is reinforced by the manner in which they appear to grow from the melodic line with each chord consisting essentially of a cluster of notes from within a melodic phrase, an approach that Reich uses to create harmonic structures throughout *Tehillim*. This is seen in the relationship between the chord sequence and melodic cells as set out in Table D.

The five chords on which the cycle is based can be linked to the melody of Part I and they emerge in the order that the melody unfolds. Thus chords 1 and 2 contain the same note structure as the first half of phrase AI but with a different bass note and some mid-range re-groupings in each case. Chord 3 grows from the second half of phrase AI. Chords 4 and 5 are related to the first half of phrase AII with chord 4 being a sub-set of chord 5.

These chords are therefore not used in a functional manner. Adrian Baker states that Reich's chords are not a collection of intervals above a bass but rather, 'his chords are a collection of notes and the note that happens to be lowest in pitch is no more significant than any other'.[22] In fact, bass registers do not feature in Reich's early music since his concentration is entirely on mid-register sounds; of the works composed between 1965 and 1973, only *Four Organs* makes any use of the bass clef. In so doing, Reich indicates a desire for harmonic ambiguity: 'I didn't want any bass that would say "this is where we are". I knew there were certain ambiguities, and I wanted to keep those ambiguities.'[23] Reich insists that this is no accident, but rather links it to a tradition stemming back to French Impressionism, in particular, the harmony of Claude Debussy.[24] In the accompanying booklet for the 1989 Musiques en Création, Festival d'Automne in Paris, Reich wrote

> From French impressionism, I unconsciously began working with harmonies where the bass was coloristic, while the middle register was structural. I say "unconsciously", because all Americans of my generation were surrounded by music influenced by Impressionism in movies, popular music, Gershwin, jazz, and so on.[25]

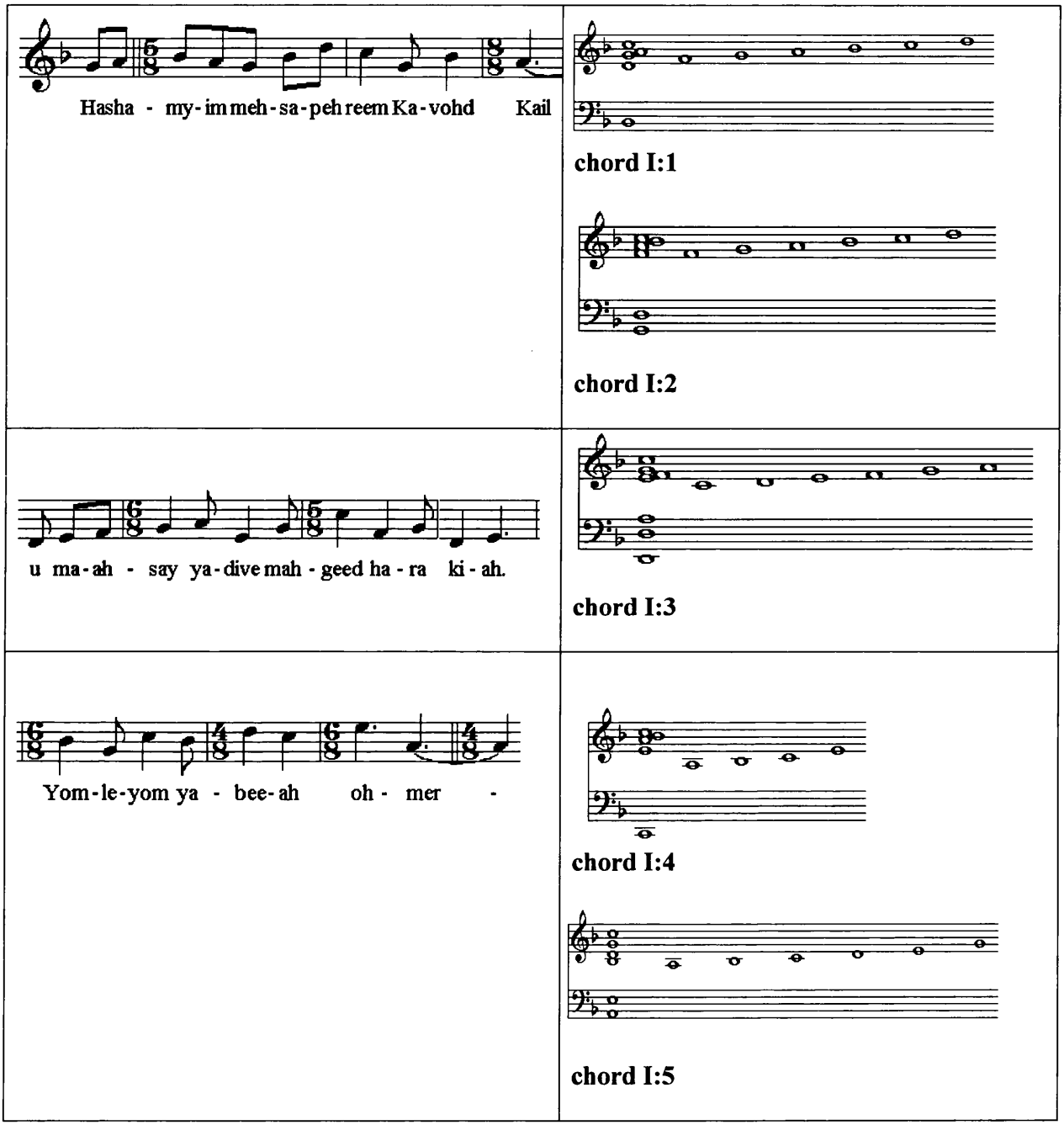


Table D: Relationship between melodic lines and chord structures in Part 1

The fifth statement of the melody in its entirety begins at Section E (19/I/1) and this acts as a codetta to the exposition of Part I. This statement is identical to the previous

one with just a minor regrouping of notes in voice 2 at 19/I/1 in contrast with the grouping across the bar line at 11/I/1-2.

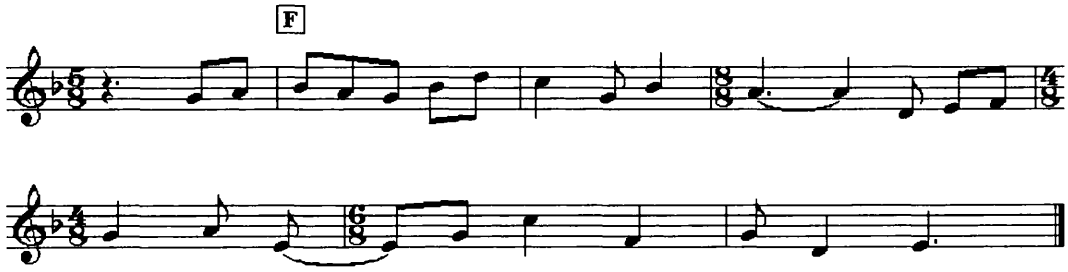
The middle section of Part I begins at Section F (27/I/1) and continues to the end of Section AA (62/I/4, 2nd time bar). Having stated the melody five times in its entirety, Reich's approach in this section is to work with individual phrases of the melody, each now treated in canon. The overall design of this middle section divides into four more densely contrapuntal sub-sections, each based on one of the four phrases from the opening melody.

The tempo is now marginally slower (crotchet = c.138 from crotchet = c.144) and the clapping parts (doubled by tambourines) fade away between (27/I/1 and 27/I/4). They are replaced by a single maracas playing continuous semi-quavers for the whole of the section, as far as 63/I/1. The instrumental writing in this section of Part I is therefore less percussive, consisting of four voices, two organs doubling these vocal parts, maracas and strings. Reich identifies his familiar marking of *mezzo forte* for the organ and voice parts, although the maracas is given a more prominent *forte* marking. The strings play the same block chords as before with the vocal lines continuing in canon, doubled by the electric organs.

The quality of the vocal texture changes as a result of being doubled by electric organs rather than clarinets. The use of electric organs is reminiscent of Reich's *Four Organs* (1970) where the maracas provided the only timbral variation from the four identical

Farfesa organs playing a sustained, gradually elongated chord. In the performance notes to the score, Reich specifies that the organs used in *Tehillim* should also have the same timbre to avoid introducing an arbitrary distinction within the four-part texture. Since the texture is itself a doubling of the four independent vocal parts any timbral distinction would be arbitrary.

The first of the four sets of canons runs from Section F (27/I/1) to the end of Section J (36/I/1) and is based on ten canonic statements of the opening phrase of the melody:



Example 26:Part I 26/I/4 to 28/I/ 2

Rhythmically, this has the same stresses as the opening statement of the piece (1/I/1) although the time signatures are different after the first 20 beats. The phrase, 36 beats in total, is treated in four-part canon, although the first two notes are again adapted in voices 2, 3 and 4 to produce a triadic harmony. The distance between the entries is not regular: Voice 2 enters at four beats distance, Voice 3 enters at five beats distance and Voice 4 enters at three beats distance. The lead varies between G-A-B^{b} (Voice 1) and B^{b}-G-B^{b} (Voices 2, 3 and 4) as previously established in the two-part canon in the third statement of the melody at Section C. The canon is otherwise regular with each part finishing at the same distance from its upper part as it began. Each canon overlaps the

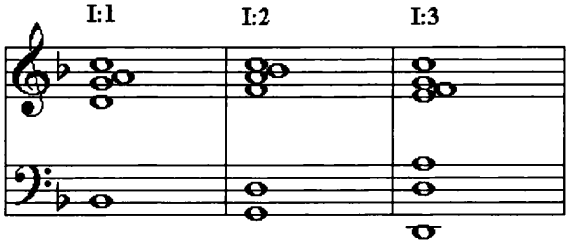
previous one with this canon being stated ten times in total. Each canon lasts for 40 beats (36 beats music, four beats rest) and this exactitude allows Reich to use a repeated passage in the score between pages 28 and 35.

Each repetition of the canon adopts a new pattern that uses almost nothing of the 3+2 units from which the exposition drew its momentum and, which in fact reverses the 3+2 construction in the opening two bars of the melody to give two 2+3 constructions, followed by six groups of twos and six groups of threes as follows:

2+3/2+3/2+2+2+2/2+2/3+3/3+3/3+3/

This produces ten statements of a regular pattern of 10 beats of 2+3, 12 beats of 2+2 and 18 beats of 3+3. This is, however, merely performing convenience and is not metrically significant.

The canonic writing is underpinned by three sustained chords played by the strings between 28/I/1 and 36/I/1. These are taken from the five chords identified in Table D above.

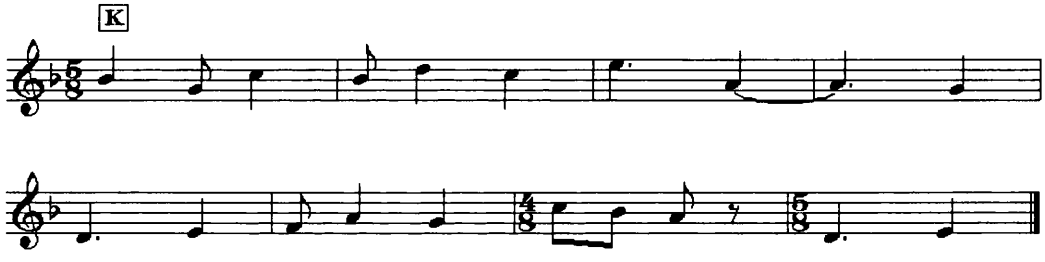


Example 27: Part I, Chords underlying first canon

Just as the chord changes did not coincide with the beginnings of phrases in the complete statements of the melody in Sections D and E, the chord changes here do not

coincide with the opening entries of any of the ten canonic statements of the phrase. More practically, however, they do coincide with the rehearsal letters G, H and I and there is broad regularity of length of each of the chords: chord 1 is sustained for 63 beats, chord 2 for 57 beats and chord 3 for 60 beats. The vocal canons are unsupported harmonically until the opening of Section G (28/I/1) and during the sixth iteration in Section J (35/I/1).

There is no overlap between the canonic sections and the second such section begins at Section K (36/I/ 2), continuing to the end of Section O (45/I/1). It is based on the second phrase of the opening melody.



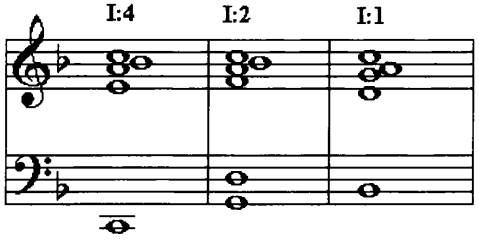
Example 28: Part I, 36/I/2 to 37/I/4

The phrase lasts for 39 beats and is separated from its next statement by 5 beats, making the canon 44 beats in total. As with the treatment of the first phrase, each repetition of the canon is regular. In contrast to the version of the melody in the exposition, the phrase is written here in 5/8 time with its penultimate bar in 4/8. This is the most regular use of a single time signature so far in *Tehillim*. Each repetition consists of seven bars of 5/8, one bar of 4/8 and a final bar of 5/8, the repetitions being separated by a further 5/8 bar.

Each of the 5/8 bars consists of a 3+2 unit derived from the text *yom-le-yom* although the natural bounce of this phrase is weakened by the adaptation of the crotchet-quaver-crotchet *yom-le-yom* motif into a quaver figure in Voices 2, 3 and 4. As a result of this modification of the subject this canon is less exact than before. Voice 2 enters five beats after Voice 1 with a motif consisting of sequentially rising thirds (G-B^{b}-A-C-B^{b}-D). Voice 3 enters at six beats distance and inverts the first two notes of the opening figure of Voice 2 to give (B^{b}-G-A-C-B^{b}-D). Voice 4 follows at four beats distance, imitating the opening of Voice 2 but then preferring the pattern of Voice 3.

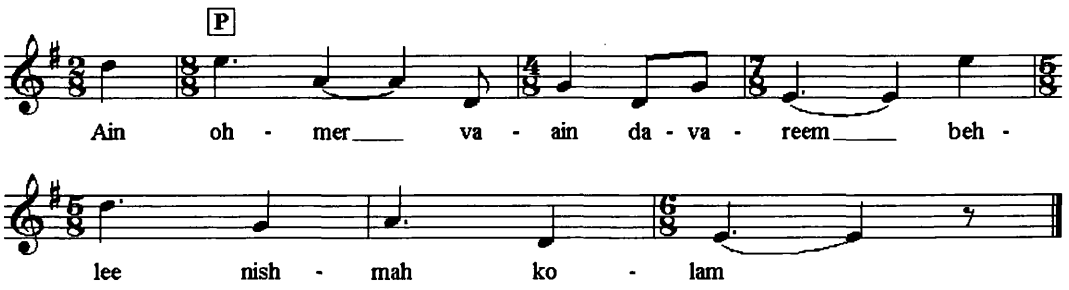
The texture remains the same as in the first canon with each of the four vocal parts doubled by one of the organ lines and the maracas maintaining a constant semi-quaver pattern. The strings play sustained chords which, as with the first canon, change at the rehearsal letters rather than in time with the canonic sequence.

The three chords used are 4, 2 and 1 from the originally identified sequence. In contrast to the use of the chords in the preceding canon, the length of chords here is less regularised. The first and last of these chords are sustained for 54 beats each; the middle chord is held for 98 beats.



Example 29: Part I, Chords underlying second canon

The third canon begins at Section P (46/I/1) and continues to the end of Section U (55/I/1). It consists of ten canonic statements of the third phrase of the opening melody.

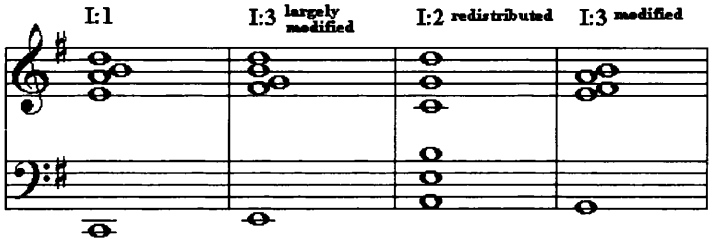


Example 30: Part I 46/I/1 to 47/I/3

The voices enter canonically in the same order as before and, in contrast to the minor changes in the first two canons, this third canon is exact in its use of the subject. This subject consists of the four pitches G, D, A and E that Reich identifies as providing a tonal context for the movement and the motif has a fugal quality. Voice 2 enters at 8 beats' distance, Voice 3 enters 9 beats later and Voice 4 enters last at 7 beats' distance from Voice 3. The melody is 36 beats long and is separated from the next repetition by 5 beats, each canonic repetition being therefore 41 beats. As with the preceding two canons, Reich states the melody ten times. In contrast to its treatment at the opening of Part I, there is no use of 3+2 rhythmic units here. There is, instead, a preponderance of groupings of two-beat units in the first half of the phrase (on *Ain-oh-mer va-ain deh-va-reem*) with a greater dependence on 2+3units in the second half (on *Beh-lee nish-mah ko-lahm*). The reduction of this melody in rationalised units of 2 and 3 is

(2)/2+2+2+2/2+2/2+2+3/2+3/2+3/3+3/2+2

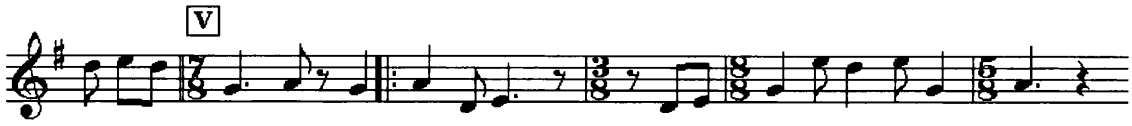
At letter Q, between the entries of Voice 3 and Voice 4, the strings begin a new series of four sustained chords. The key signature changes at this point from one flat to one sharp and, although the pitches of the melody remain as they were at the opening of the piece, the chords are now treated as being in a new pitch centre. The chord changes coincide with the rehearsal letters with the chords themselves being derived from the initial sequence in the exposition, which (transposed back into the original key centre) are 1, 3 (largely modified), 2 (redistributed), 3 (modified).



Example 31: Part I, Chords underlying the third and fourth canons

The spacing of these four chords is more varied than before with the third chord in the series (chord 2) using two series of stacked fifths, an approach to spacing that is different to what has gone before in *Tehillim*. This chord makes use of the same pitch material as two of Reich's 1969 compositions *Pulse Music* and *Four Log Drums*. Potter has referred to the modal ambiguities of this material and 'the alternative tonics made possible by a 'stacked'-fifths structure based on A – which characterised *Melodica* and, more importantly, *Violin Phase*'.[26] The first chord is significantly longer than the following three and lasts for 60 beats with each of the other chords being held for 41 beats.

The fourth, and final, canon begins on the anacrusis at letter V (55/I/1). It consists of ten repetitions of the fourth phrase of the opening melody, although the exact combination of time signatures is new.



Example 32: Part I 55/I/1 to 56/I/2

The scoring is the same as for the previous three canons with each voice entering in turn, doubled by an organ line. Voice 2 enters at eight beats distance to Voice 1; Voices 3 and 4 each enter four beats later. The phrase is 31 beats in total with each repetition separated by 4 beats, the length of each canon therefore being 35 beats in total. This phrase has a three-beat anacrusis which works against Reich's identified groupings of 2 and 3 at the beginning of each repetition (e.g. 55/I/1, 58/I/1). The phrase is grouped as (3)/2+2+3/3+2+2/3/2+2+2+2/3+2/2. As indicated earlier, however, this is intended as a performing convenience and is not metrically significant.

Three beats after the Voice 4 entry, (55/I/4), the strings enter with a series of four chords identical to those used for the previous canon (see Example 31). Whilst the first chord has the greatest duration, the relative length of the other chords is different. The first chord lasts for 60 beats (as before) whilst the other three vary in length at 45, 35 and 28 beats respectively.

This central section of Part I demonstrates a more intricate working with canonic textures. The interweaving lines are more complex than in the five complete statements of the melody and Reich's focus is on creating beauty of sound through dense polyphony. This denseness of the texture effectively obscures the declamation of the text in a manner reminiscent of pre-Reformation polyphony. Whilst individual vocal and instrumental lines contain extreme energy, there is also a sense of stasis since the individual accents driving each part forward are submerged by elaboration. Joseph Coroniti argues that this communicates the glories of the heavens spoken of by the Psalmist in spite of the words themselves being indistinguishable.

> The ... contrapuntal vocal lines effectively obscure the meaning of the Psalms as I'm used to reading them, but the contribution of the human voice to pure musical meaning is immeasurable.[27]

The recapitulation section of Part I begins at letter BB at 63/I/1 and consists of four statements of the original melody in its entirety. This means that the movement as a whole contains nine complete statements of the melody and a canonic working of it in the middle section. Hans-Christian von Dadelsen sees the movement as consisting of ten statements of the overall melody (by including the central section as one statement). In addition he points to the ten canonic repetitions of each phrase of the melody as a reinforcement of the significance of the number ten. However, he takes an eccentric view of this overall design and compares this reliance on ten statements to the construction of the Pantheon, both of which he sees as banal architectural devices, a lot of wasted material to make a simple point.[28]

The tempo now accelerates from the slower speed of crotchet = ca.138 adopted in the middle section to a new speed of crotchet = ca.160 by the start of the fourth phrase (64/II/1), a modest increase on the opening tempo of crotchet = ca.144. The key signature returns to the original key of one flat.

The first of the four statements in this final section is modelled on the second statement of the melody in the exposition where a solo Voice 2 is doubled by Clarinet 1. In place of the clapping, however, the maracas, introduced in the canonic section, continue for the rest of Part I. Whilst they are practically inaudible within the ensemble, the use of tambourine drones serves to emphasise, albeit weakly, the central pitches within this recapitulation section. Tambourine 1 (pitched on A) enters after two bars at 63/I/3 and by Tambourine 2 (now pitched on G) after a further five bars at 63/II/4) at the start of the second phrase. This drone of A and G contrasts with the tambourine drone on A and E in the exposition (3/III/1 – 26/I/4). The harmonic implication of the drone is strengthened by the entry of Tambourine 3 and Tambourine 4 on the third and fourth phrases of the melody respectively (64/I/3 and 64/III/1). Tambourine 3 plays a drone on E and Tambourine 4 plays a drone on D. This is now the first point in Part I where all of the four central pitches (G, D, A and E) from the setting of *Ain-oh-mer va-ain deh-va-reem* are used as drones and, whilst acknowledging that this level of detail is not perceptible aurally, it is nevertheless a confirmation of these pitch classes. The pentatonic arrangement of these notes – D, E, G, A – omits the third of the D triad, the key which Reich claims to be the home key for *Tehillim*.

The usage of units of 3+2 differs from the initial melody in the exposition. In phrase BBI there is one less unit than in the exposition, but the treatment of phrase BBII remains the same. Phrase BBIII has only four instances of a 3+2 unit compared with seven previously whereas phrase AIV (and its repetition) have only one less occurrence of the unit.

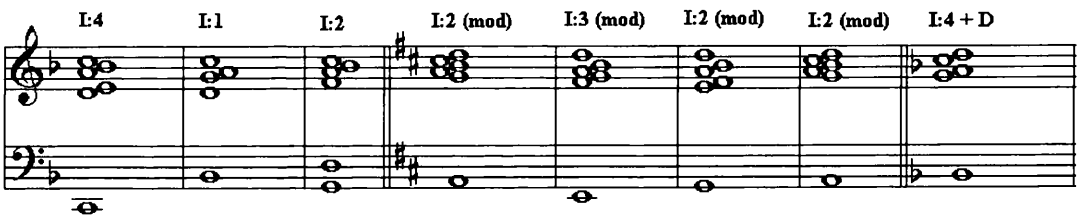
Section	Comparison of rhythmic structure in Exposition and Recapitulation	
Phrase AI	Exposition	(2)/3+2/3+2/3+3+2/3+3/2+3/2+3/2+2
Phrase BBI	Recapitulation	(2)/3+2/3+2/2+2+2+2/3+3/2+3/2+3/2+2
Phrase AII	Exposition	3+3/2+2/3+3/2+2/3+3/2+2/2+2/3+2/3+2(+2)
Phrase BBII	Recapitulation	3+3/2+2/3+3/2+2/3+3/2+2/2+2/3+2/3+2(+2)
Phrase AIII	Exposition	(2)/3+2+3/2+2/3+2+2/3+2/3+2/3+2/3+3 (+2)
Phrase BBIII	Recapitulation	(2)/2+2+2+2+/2+2/3+2+2/3+2/3+2/3+2/2+2+2(+2)
Phrase AIV	Exposition	(3)/3+2+2/3+3/2+2/3+3+2/3+2/3 (+2)
Phrase BBIV	Recapitulation	(3)/3+2+2/3+3/2+2/2+2+2+2/3+2/3 (+2)
Phrase AIV repeated	Exposition	(3)/3+2+2/3+3/2+2/3+3+2/3+3/2 (+2)
Phrase BBIV repeated	Recapitulation	(3)/3+2+2/3+3/2+2/2+2+2+2/3+3/2 (+2)

Table E: Comparison of rhythmic reductions in exposition and recapitulation of Part I

The second statement for the melody begins at letter CC, 65/II/1. The melody is again sung alone by Voice 2 and is the same as in the previous statement but with the repetition of the final phrases written out in full. The sub-groupings of 3+2 are also the same as in the previous statement. The key signature changes to two sharps at the start of the third phrase (68/I/3) giving a further hint of Reich's concept of D major

although this returns to the original key signature in the final half of phrase CCIVa (72/I/3). The tambourine drones continue on D, E, G and A throughout this section.

Sustained chords are held by the strings, the first two being for the same length of 24 beats, the third for 36 beats. Following the change of key signature to two sharps there is little regularity of length between the remaining five chords which are held for 19, 30, 35, 10 and 14 beats respectively. The spacing of the chords is similar to Reich's approach in the opening four statements where the majority of the movement takes place in the lowest part with the upper register parts being restricted in their movement.



Example 33: Chords underlying second statement of melody in Part I recapitulation

The chords continue at the end of this section and a new chord, I:4+D, precedes the third statement of the melody at 72/I/5. The melody remains in Voice 2 in this third statement but is now doubled throughout by Voice 3. This is entirely in intervals of a sixth or a third below, except for *va* at 75/I/2 and *ya-cha-vey* at 75/I/5. Voice 2 and Voice 3 are doubled by Clarinet 1 and Clarinet 2 respectively. As in the second statement of the melody, a key change to two sharps is introduced in the third phrase (76/I/3) with a similar return to the original key at 80/I/3. The chord sequence remains the same as in section BB (see Example 33).

The fourth and final statement of the melody begins at Section EE (81/I/1) and continues to the end of Part I, acting as a coda to the movement as the texture slowly changes and the individual parts fade out. The opening phrase (81/I/1) is scored for the same instrumental and vocal forces as section CC but with Voice 3 and Clarinet 2 fading away rapidly in the final bar (82/I/2). The sustained string chords are the same as the first three in Section DD and each has the same duration. They fade out, however, prior to the start of the change of key at the third phrase (84/I/1). Tambourine 4 fades during phrase EEIII with Tambourine 3 fading during phrase EEIV. This leaves the same A-G secundal drone as at the start of the recapitulation. The structure of the melody, including the key change in the third phrase, is as in the previous statement with a return to the initial key on one flat before the end of the melody. Part I finishes with the tambourine drone and maracas leading *attacca* into Part II where the A-G drone falls to A^{b}, the new centre for Part II.

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Chapter 3: Analysis of Part II of *Tehillim*

3.1 The text of Part II

Mi-ha-ísh hey-chah-fáytz chah-yím,
Oh-háyv yah-mím li-róte tov?
Neh-tzór le-shon-cháh may-ráh,
Uus-fah-táy-chah mi-dah-báyr mir-máh.
Súr may-ráh va-ah-say-tóv,
Ba-káysh sha-lóm va-rad-fáy-hu.

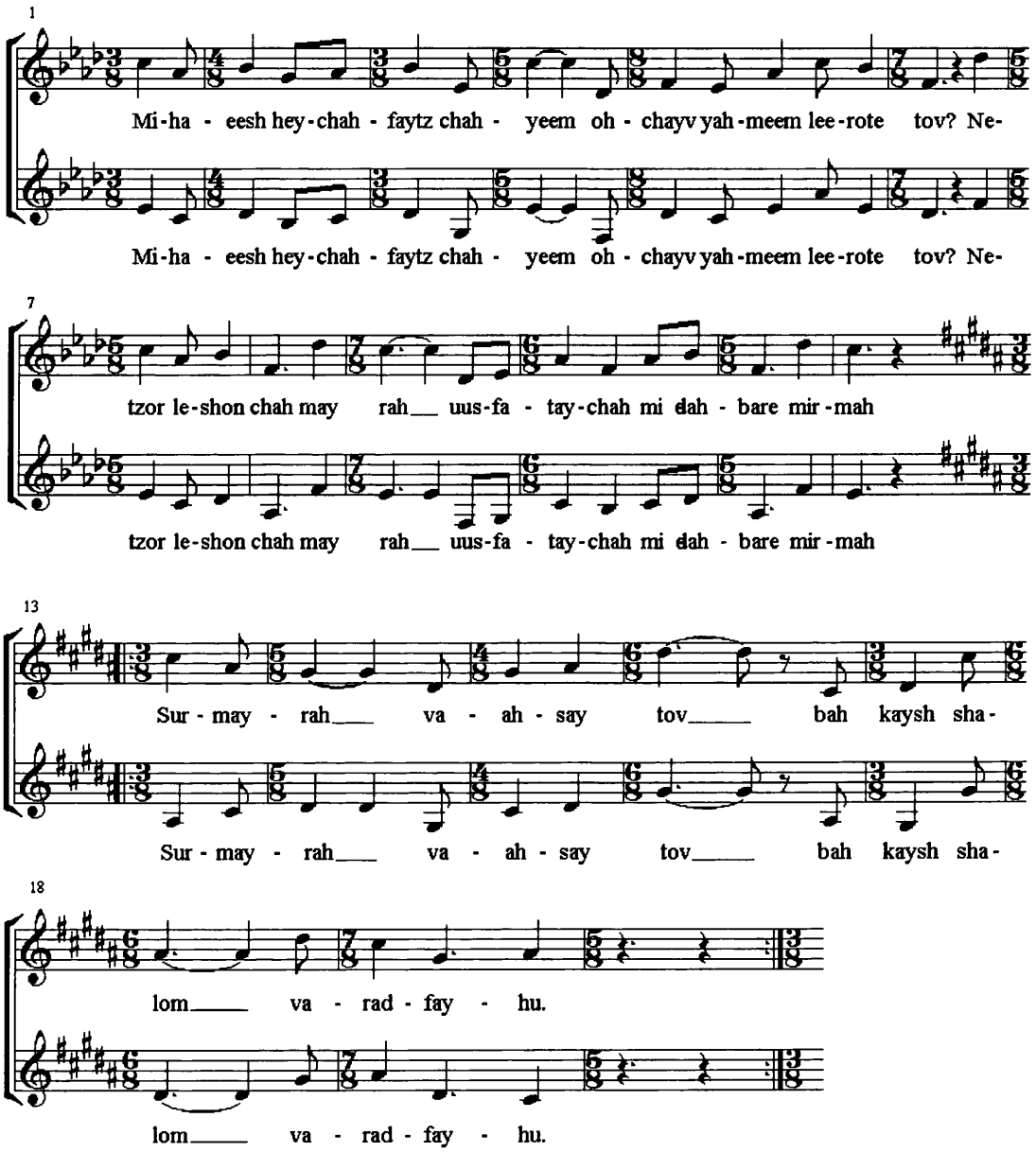
Who is the man that desires life,
and loves days to see good?
Guard your tongue from evil,
and your lips from speaking deceit.
Turn from evil and do good,
Seek peace and pursue it.

Pause

The text of the second part, a six-line extract from Psalm 34, offers advice on how human purity is to be achieved. It provides a contrast to the text of Part I since it focuses on individual human beings rather than the whole creation. In contrast to the heavens, whose voice is heard to declare the glory of God 'without speech and without words', human speech is something to be handled with care. By implication, the use of this text here suggests that the person who wishes to embrace the same kind of vitality of life possessed by the creation should control his speech as a prerequisite. It is as if human praise, reliant as it is on words, must remain inferior to that of the creation since the creation cannot speak evil or deceit with the subtlety of the human tongue.

3.2 Rhythmic properties of the text

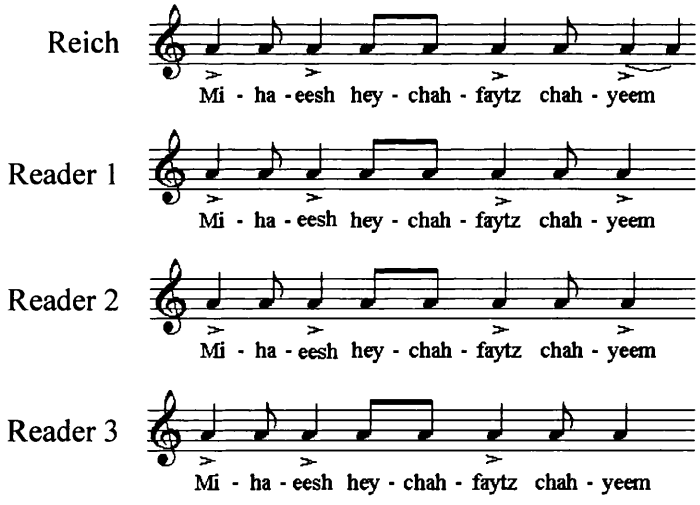
The setting is based on a single melody divided into three phrases, sung by Voice 2 (lyric soprano) and Voice 3 (alto).



Example 34: Part II Melody, Section A

The tempo is marginally faster than in Part I (crotchet = 160 as opposed to 144) and this complements the shorter lines in the text in producing a greater sense of urgency in the music. As before, the question arises as to what extent the rhythms of Reich's setting are shaped by the innate rhythm structures of the words. The rhythmic construction of each line of Reich's setting will now be considered in turn in the light of the transcriptions of the readings.

The first line consists of a setting of the eight-syllable *Mi-ha-eesh hey-chah-fáytz chah-yeem* in which complete rhythmic unanimity emerges between all readers and subsequently between them and Reich, save for the final note which Reich lengthens to four quaver beats to separate the subsequent phrase.

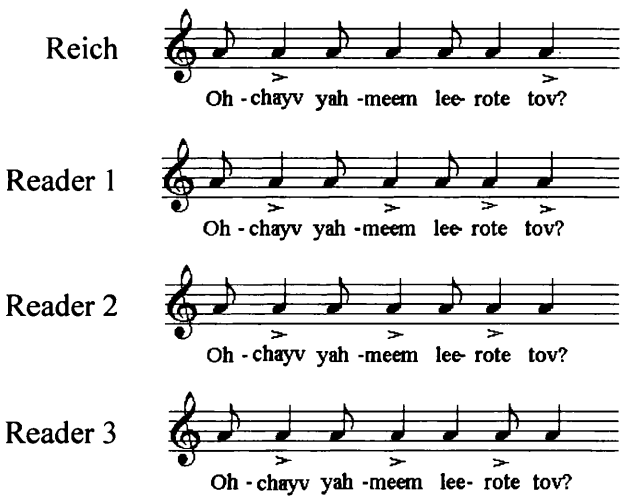


Example 35: Comparison of rhythmic stresses in Part II, line 1

There are four stresses common to each of the readers and these coincide exactly with the positioning of the bar lines in Reich's setting to reveal distinct rhythmic quaver

units of 3+4+3 on *[Mi-ha] [eesh hey-chah]-[fáytz chah].* This line demonstrates a greater degree of correlation between rhythmic properties of the words and Reich's musical setting of them than in any of the lines in Part I.

This increased level of correlation between the text and the music is continued in line two with the seven-syllable text *Oh-chayv yah-meem lee-rote tov?* Each of the readers gives emphasis to the second syllable (*cháyv*) and Reich captures this rhythmic stress by placing a bar-line before this syllable to produce an initial anacrusis. Each of the readers places a further stress on the fourth syllable (*meem*). Whilst this is not placed immediately after a bar-line in Reich's setting it nevertheless receives some emphasis through its positioning on the fourth beat of an 8/8 measure (87/II/1) divided into 3+3+2 as indicated by note grouping and conductor's beating directions. Reich's decision to use the relatively long 8/8 measure at this stage may simply reflect a desire to shape the melodic line and balance it with that of the preceding line.



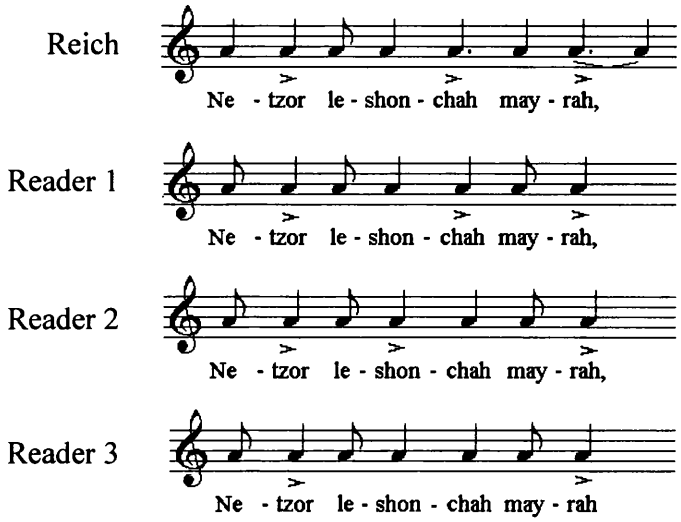
Example 36: Comparison of rhythmic stresses in Part II, line 2

Similarly, Reich allows some stress on the sixth syllable in this line (87/II/1) where it occurs on the seventh beat, the stress of which (like that of the fourth syllable) is emphasised by note grouping and conductor's directions rather than through positioning before a bar line. Each of the readers gives heightened emphasis to this sixth syllable of the text (*róte*) although in placing this syllable before a bar line, Reich's setting shifts the aural emphasis to the seventh syllable (*tov*). Reader 3 lessens the emphasis on the sixth syllable by reversing the crotchet-quaver rhythm of the fifth and sixth syllables; Reader 1 supports Reich's emphasising of this syllable but in addition to the sixth syllable rather than in place of it.

Notwithstanding these minor variations of emphasis, there is an exact correlation between the rhythmic layout of Readers 1 and 2 and Reich's setting. Furthermore, this rhythmic construction mirrors the shape of the third line of Part I (see Example 8). If the anacrusis on the first syllable is discounted, Reich's setting of the first six syllables of Part I, line 1 (*Yom-le-yom ya-bee-ah*) are restated in the rhythm of syllables two to seven here (*hav yah-meem lee-rote tov*). Since the third line of Part I demonstrated the greatest level of correlation between text and musical rhythm this indicates Reich's desire to make use of the text-derived crotchet-quaver (2+1) rhythmic construction as a recurrent rhythmic feature.

The third line consists of the seven-syllable text *Ne-tzor le-shon-chah may-rah.* Each of the readers emphasises two syllables, the second (*tzor*) and the seventh (*rah*). Both

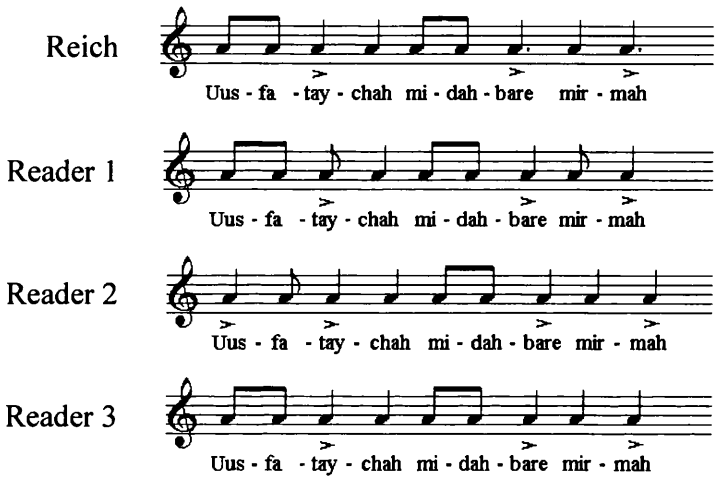
of these stresses are reflected in Reich's setting and reinforced through his positioning of bar lines immediately before these two syllables.



Example 37: Comparison of rhythmic stresses in Part II, line 3

Reich's setting makes a feature of the fifth syllable (*chah*). There is less agreement over the placing of stresses in syllables four and five (*shon-chah*). Reader 1 supports this emphasis whilst Reader 2 locates the stress on the previous syllable (*shon*); Reader 3 has no particular stress on either of these syllables. Despite this divergence, all readers have the same rhythm on syllables three, four and five (*le-shon-chah*) and this is reflected in Reich's rhythm. Reich elongates the final syllable of this small unit by setting the fifth syllable (*chah*) to a dotted crotchet. He also elongates the opening note of the phrase, the syllable (*Ne-*) so that it receives greater prominence whilst continuing to act as an anacrusis to the following syllable (*tzor*). The sixth syllable (*may*) receives a similar treatment.

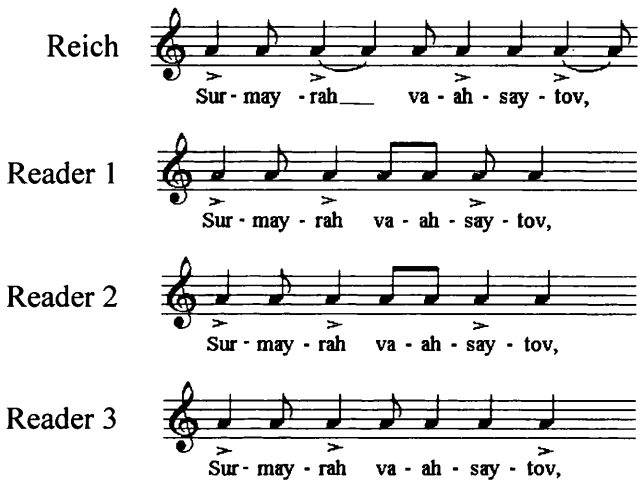
The fourth line of text is the longest in Part II and consists of nine syllables *Uus-fa-tay-chah mi-dah-bare mir-mah.* As in the previous line, there is a common skeleton to each of the readings, both in rhythmic shape and in location of stresses. All readers stress syllable three (*tay*), syllable seven (*bare*) and syllable nine (*mah*) and these stresses are each incorporated into Reich's setting. Additionally, Reader 2 emphasises the first syllable (*Uus*) which removes the anacrusis implicit in Readers 1and 3 and within Reich's setting.



Example 38: Comparison of rhythmic stresses in Part II, line 4

Reich's setting reflects the overall rhythmic consensus of the readings. His setting of the first four syllables (*Uus-fa-tay-chah*) is the same as Readers 1 and 3 although Reader 2 lengthens the first syllable. The same level of agreement is present in the remaining five syllables (*mi-dah-bare mir-mah*). The setting of *mi-dah-bare* has the same construction in Reich's setting as in all of the readers although he lengthens the final syllable. His subsequent lengthening of the final two syllables (*mir-mah*) reflects the lengthening given to them by Readers 2 and 3.

The fifth line consists of seven syllables *Sur may-rah va-ah-say-tov.* The first three syllables (*Sur may-rah*) are given the same strong-weak-strong emphasis by each Reader and this motif is incorporated into Reich's setting although he lengthens the third syllable to four quaver beats. The second part of the line demonstrates a greater divergence, however.

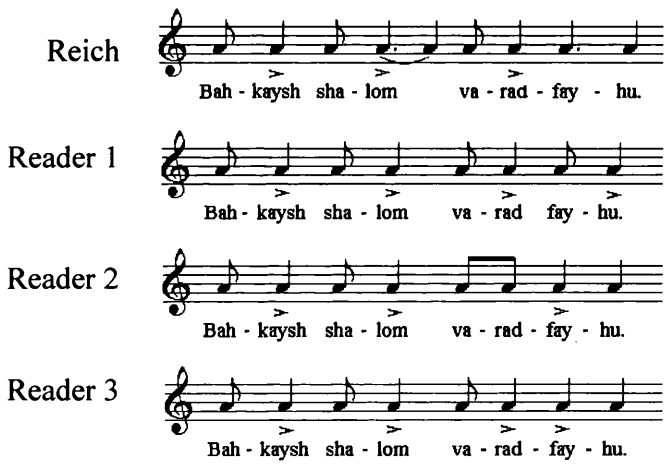


Example 39: Comparison of rhythmic stresses in Part II, line 5

Readers 1 and 2 emphasise the sixth syllable (*say*) whereas Reader 3 lays the emphasis on the seventh and final syllable (*tov*). Reich emphasises and lengthens this final syllable but also accentuates the fifth syllable (r*ah*) and so produces a contrasting rhythm not present in any of the readings. His elongation of the fourth syllable serves to give balance to the phrase and also has the effect of turning the fifth syllable into a quaver anacrusis before the stress on *ah* on the fifth syllable.

The sixth line sets the eight-syllable text *Ba-kaysh sha-lom va-rad-fy-hu.* As in other lines in Part II, there are common rhythmic elements underlying each of the readings

and Reich's setting. This is most apparent in the first part of the line, on the syllables *Ba-kaysh sha-lom* where Reich's repeated weak-strong quaver-crotchet motif mirrors exactly the stresses given by all of the readers to the second syllable (*kaysh*) and the fourth syllable (*lom*). As in previous lines, Reich lengthens this syllable to provide a mid-point to the phrase. There is significantly less agreement between the readers in the second half of the phrase and there is no commonly accented syllable in *va-rad-fay-hu*. Readers 1 and 3 stress the sixth syllable (*rad*) and this is accented by Reich. Readers 2 and 3 stress the seventh syllable (*fay*) with Reader 1 stressing the eighth syllable (*hu*). Reich, however, stresses neither of these syllables.



Example 40: Comparison of rhythmic stresses in Part II, line 6

In summary, Reich's setting of the text in Part II demonstrates a close relationship with the natural rhythm and stresses of the words as evidenced by the Readers and offers strong evidence to support the composer's belief that the music was determined by the rhythm and stresses of the words. Reich's rhythms appear to be shaped in a manner

that reflects the natural pacing of the text although there are nevertheless a number of points where his setting develops this pattern in order to create musical contrast.

Within the six lines of the extract, the greatest degree of correlation is in the first two lines where the composer's rhythm mirrors almost exactly the rhythm and stress of the words. In lines three and four, there is a broad degree of similarity between the readers and between them and Reich. In the fifth and sixth lines there is correspondence between the rhythms and stress of the words and music in the first half of each phrase with the second half being divergent among the readers and between them and Reich. In cases where the readers diverge, there is no instance where any one of them agrees entirely with Reich against the others and this suggests that some lines have a clearer natural rhythm than others.

3.3 Rhythmic organisation

The text is divided in the same manner as in Part I so that the musical setting follows the structure of the Hebrew poetic text. Reich divides the extract from Psalm 34 into couplets so that the musical setting reflects the nature of the poetry which, as discussed above, uses the second line of the couplet to elaborate on the first. As in Part I, Reich repeats the final two lines of the stanza and the section as a whole therefore consists of a series of four couplets rather than eight individual lines of text.

The text is non-metrical, although there is less divergence in this extract between the lengths of individual lines. Whereas in Part I the longest line had double the number

of syllables of the shortest (12 syllables in the second line in comparison with 6 syllables in the sixth line), in Part II the lines have an inherent regularity with each of the lines except the fourth containing either seven or eight syllables. Table F indicates the number of Hebrew syllables per phrase in comparison with the number of quaver beats allocated to it in Reich's setting.

Line	**Syllables per line**	**Beats per line (incl. rests)**	**Phrase**	**Syllables per phrase**	**Beats per phrase (including rests)**
1	8	14	AI	15	28
2	7	14			
3	7	17	AII	16	35
4	9	18			
5	7	17	AIII	15	39
6	8	22			
5 repeated	7	17	AIII repeated	15	39
6 repeated	8	22			

Table F: Rhythmic structure of Part II melody

The number of beats used to set each line relative to the number of syllables per line is at least double in each case and this is greater than in Part I. Despite the natural regularity of the lengths of lines in the text, Reich's setting of them to music serves to lessen their regularity rather than to emphasise it. With the exception of the first, each line of text is given at least twice the number of quaver beats as it has syllables but there is no systematic correlation between these. Whilst the first, third and fourth couplets each contain 15 syllables and the second couplet 16 syllables, Reich's setting varies between 28 and 39 beats per couplet.

Reich continues to make extensive use of sub-groupings of 3+2 rhythms in Part II as he did in Part I and, as previously, Reich indicates these as performance directions in the score.

Section	**Rhythmic Structure**	**Length in beats**
Phrase AI	3+4+3+5+8+7 Reduction of AI based on indicated components of 3& 2 3/2+2/3/2+3/3+3+2/3+2(+2)	28 (excluding two final beats which form an anacrusis for AII)
Phrase AII	5+5+7+6+5+5 Reduction of AII (2)/3+2/3+2/3+2+2/2+2+2/3+2/3+2	35 (including anacrusis from phrase AI)
Phrase AIII	3+5+4+6+3+6+7+5 Reduction of AIII 3/2+3/2+2/3+3/3/3+3/2+3+2/3+2	39
Phrase AIII repeated	3+5+4+6+3+6+7+5 Reduction of AIII 3/2+3/2+2/3+3/3/3+3/2+3+2/3+2	39
Total		**141**

Table G: Rhythmic organisation of phrases in Part II melody

Whilst the use of 3+2 sub-groupings is clearly present, they are less widespread than in Part I. In phrase AII, for example, eight beats in the middle of the phrase (beats 18 to 25 inclusive) have no sub-groupings and this pattern is reflected in phrase AIII where fourteen beats in the middle of the phrase similarly have no sub-groupings (beats 11 to 24).

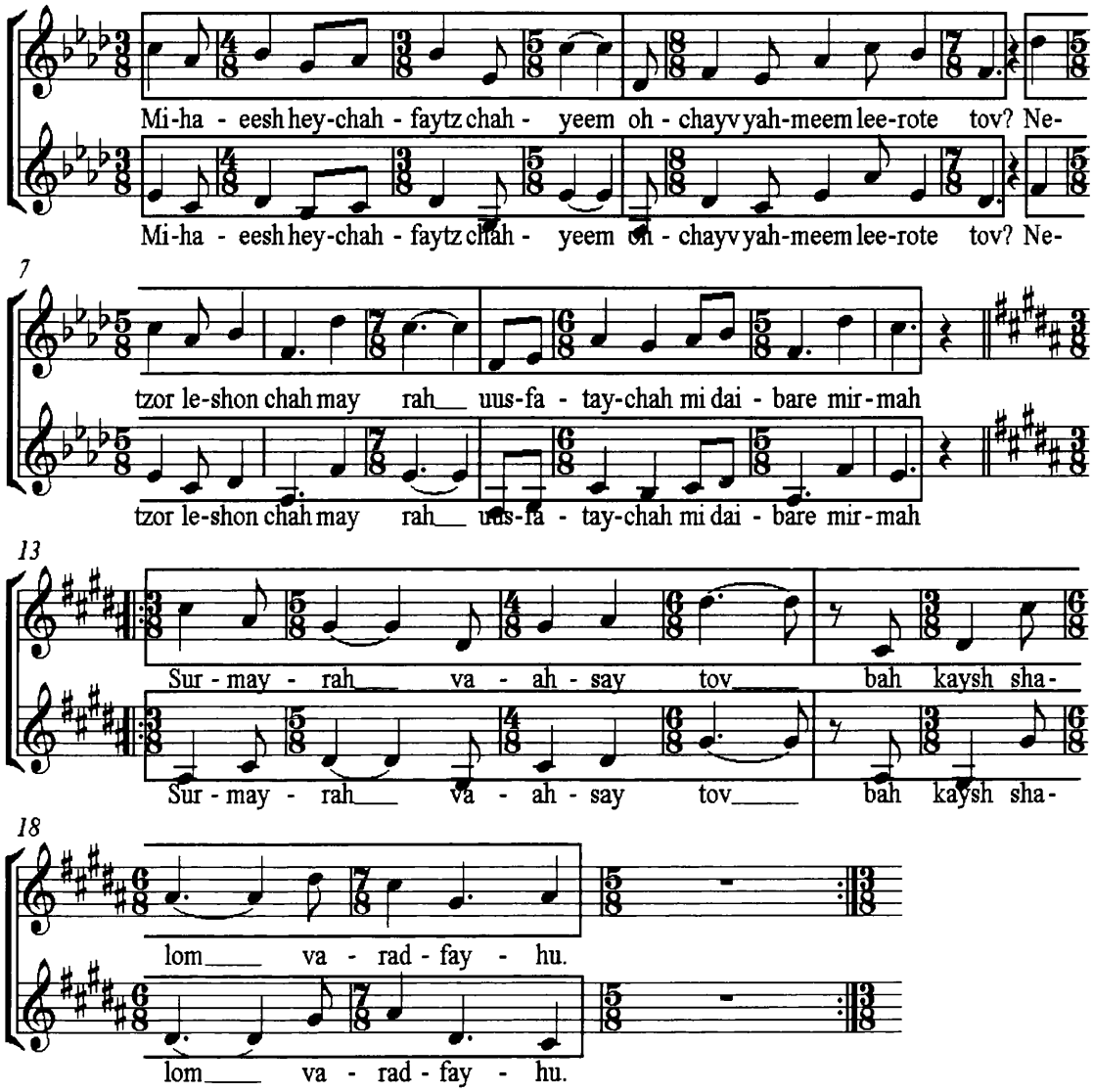
Examples 37 – 40 have already demonstrated that there is a strong link in Part II between the rhythmic properties of the text and Reich's rhythms. Whilst the proportion of sub-groupings of 3+2 in the musical setting of Part II is less than in Part I, there is evidence from the readings to support Reich's claim that these 3+2 units are inherent within the natural rhythms of the words. In phrase AI there is complete agreement between the readers and Reich as to the presence of sub-groupings of 3+2 in the first line of text and broad agreement between them in the second line. There is also evidence from the readers that some 3+2 sub-groupings are present in phrases AII and AIII.

3.4 Melodic structure

The text is set entirely syllabically as a continuous melodic line except for a quaver separation between the two halves of phrase AIII (88/II/4), the phrases being separated by a two-beat rest between phrases AI and AII and between phrases AII and AIII and a five-beat rest between the repetitions of phrase AIII. Reich heightens the mid-point of each phrase with a tied note which is either as long (phrase AIII) or longer (phrases AI and AII) than the other notes in the phrase. These notes are not, however, of the same length as they were in Part I where a similar technique was used. The melody is written for a two-part vocal texture with the Voice 3 (alto) providing a lower doubling part to the Voice 2 (lyric soprano) melody. Reich suggests an intentional painting of some words within this melody. In the third phrase, he identifies a deliberate contrasting of a downward line on with a rising motif to indicate a contrast between good and evil.

> In the second text, "Sur may-rah va-ah-say-tov" ("Turn from evil and do good") is 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 in a crystal clear A^{b} triad on the word "tov" ("good"), with the third of the chord voiced as a high C in the soprano voice.[1]

The phrases are the same length in both vocal parts by virtue of the homophonic nature of the setting and these are indicated in Example 41, as are the mid-points of each phrase. The sense of tonal centre and tonal closure is emphasised by phrases AI and AII moving towards cadence points, mainly in parallel 6^{th}s. In phrase AI the first nine notes in the vocal parts are a sixth apart with a further four being a third apart. Only two of the sixteen notes in the phrase are a fourth or a fifth apart. In phrase AII this is even more uniform with all of the sixteen notes being a sixth apart. However, the change in shape of the melodic line in part AIII is complemented by a change in the lower vocal part, resulting in more open harmonies based on 4^{th}s and 5^{th}s. The two-part writing changes with only two of the fifteen intervals being a sixth apart with a further three a third apart. This leaves ten intervals of fourths or fifths, thus producing a much brighter tone. This is particularly noticeable on the settings of the syllables 'rah', harmonised by a bare 4^{th} and 'ah', 'say' and 'tov' where bare 5^{th}s are employed. These heighten the effect of the exhortation of the final phrase.



Example 41: Part II melody with phrases (and mid-points) indicated

The melody is in A^{b} major and this is reflected in the tuned percussion drone. This initially consists of A^{b} as far as 89/I/1 and subsequently A^{b} and E^{b}. In using the same methodology as before to classify pitch material, the melody uses notes within the A^{b} major diatonic scale. The third phrase of the melody, however, is written in $G^{\#}$ major and this is effectively an enharmonic key change. Reich has made no commentary as to whether he attaches any significance to this but it is clear that the character of the melody is more disjunct than that in Part I, the leaps serving to define the tonal centre of the movement as $A^{b}/G^{\#}$. There is no aural evidence to support Schwarz's claim that the new key is B Major.[2]

The first phrase of the melody has the two voices moving in parallel sixths and stays within the structure of A^{b} major, coming to a rest on the subdominant, D^{b}. This movement between the A^{b} centre and the subdominant D^{b} also occurs in the second phrase, AII. The rising 6^{th} motif of the first phrase (E^{b}–C) becomes an important structural element in the second phrase as the rising F-D^{b} figure appears at 87/II/4 and at the end of this phrase, 88/I/4. The third phrase (AIII) shifts enharmonically from A^{b} to $G^{\#}$ and, in contrast to the 6^{th} motif of phrases AI and AII, makes more extensive use of rising and falling 4^{th} and 5^{th}s. The A^{b} 'tonic' becomes $G^{\#}$ in the second bar of AIII (88/II/2) and this is followed by a rising to the dominant – $D^{\#}$ – two bars later. AIII therefore emphasises the most important tonal points of the melody, the tonic and the dominant. The first two phrases, by contrast, made significant use of the third of the A^{b} triad, C. The second half of AIII now brings the supertonic – $A^{\#}$ (B^{b}) – to prominence, leading the melody away from a natural resolution onto the tonic but

allowing it to then 'resolve' on to the tonic triad when its next iteration begins. It is unclear why Reich introduces the enharmonic change here. It may reflect the traditional association of sharp keys with brightness and exaltation, particularly in view of the text's exhortation to 'turn from evil and do good, seek peace and pursue it'. The phrase is cited by Reich as an example of word painting as the line descends on 'evil' and rises on 'good'.[3]

3.5 Structure of Part II

As in Part I, Part II is monothematic with the opening melody (for two voices) forming the basis of the entire movement. Although Schwarz suggests that Part II is a series of variations[4] and offers an analysis based on this view, Reich's approach is arguably more sophisticated than this. Table H identifies the overall structure of the movement.

Section 1		Rehearsal letter
First statement of melody	87/I/1	A
Restatement of melody	89/I/1	B
Instrumental interlude I – melody based on voice 3 line	96/I/1	C
Section 2		
First augmentation of melody	103/I/1	D
Second augmentation with descant melody in voice 4	112/I/1	E
Instrumental interlude II – no melodic lines	121/I/1	F
Section 3		
Third augmentation with embellished melody	130/I/1	G
Restatement of third augmentation	148/I/1	H

Table H: Structural layout of Part II

Each rehearsal letter identifies a new statement of the melody and the movement therefore consists of eight statements of the melody. The movement has three sections

with the first and second sections each containing three statements of the melody and the third section containing two statements of the melody. In the first and second sections the concluding statement consists of an instrumental interlude.

The three-fold structure of Part II is based on augmentation of the melody and Reich's approach is to augment that melody twice. The first augmentation occurs at the beginning of the second section (rehearsal letter D) and the second augmentation at the start of the third section (rehearsal letter G). The possibility of augmenting musical material has inspired Reich since the 1960s. His *Slow Motion Sound* of 1967 sought to take a tape loop and 'ever so gradually slow it down to enormous length *without lowering its pitch*'[5] although this was technologically impossible to achieve at that point. It has not been performed to date and therefore remains a concept on paper.

Reich approached augmentation in a different way three years later in his 1970 piece *Four Organs* and this marked his first move away from the phasing techniques that had inspired his music in most of the previous decade. In *Four Organs*, Reich takes a single chord – a dominant 11^{th} – and gradually elongates it over forty-three repetitions. The inspiration for this, as with *Slow Motion Sound*, was the effect of sustaining the sound of the human voice. Reich acknowledges the influence of the 'enormous elongation of individual tenor notes in *Organum* by Perotin'[6] in approaching the composition of *Four Organs*. The chord, played by four identical electronic organs, grows from two quaver beats at its first appearance to 156 beats by its ending, some

twenty minutes later, although Reich establishes no precise formula in order to achieve this augmentation.

Reference has already been made to similarities in instrumentation between *Four Organs* and *Tehillim* and a further parallel may be drawn with Reich's approach to augmentation since in neither work does he adopt a precise approach. However, there is a broad sense of design in Part II of *Tehillim* with the three sections being broadly in the proportion 1:2:3.

Section		Total number of beats (including rests)
A	First statement of melody	141
B	Restatement of melody	141
C	Instrumental interlude I – melody based on V3	141
D	First augmentation of melody	245
E	Second augmentation with descant melody in V4	245
F	Instrumental interlude II – no melodic lines	245
G	Third augmentation with embellished melody	443
H	Restatement of third augmentation	443

Table I: Augmentation of melody in Part II

Specifically, the second section compared to the first is in the ratio 245:141 (approximately 1.74:1) with the third section compared to the second being in the ratio 443:245 (approximately 1.81:1). The overall ratio of section three to section one is 443:141 (approximately 3.14:1). Whilst this does not demonstrate an exact use of mathematical formulae to determine the proportions of the three sections, there is a clear design so that by the end of Part II the melody is three times its length in the initial statement. A detailed outline of the augmentation of each phrase is catalogued in Table J.

Page	Section		Total beats (including rests)
87	Melody AI	First statement of melody	30
89	Melody BI	Restatement of melody	30
96	Melody CI	Instrumental interlude I – melody based on V3	30
103	Melody DI	First augmentation of melody	54
112	Melody EI	Second augmentation with descant melody in V4	54
121	Melody FI	Instrumental interlude II – no melodic lines	54
130	Melody GI	Third augmentation with embellished melody	113
148	Melody HI	Restatement of third augmentation	113
87	Melody AII	First statement of melody	33
90	Melody BII	Restatement of melody	33
97	Melody CII	Instrumental interlude I – melody based on V3	33
105	Melody DII	First augmentation of melody	59
114	Melody EII	Second augmentation with descant melody in V4	59
123	Melody FII	Instrumental interlude II – no melodic lines	59
134	Melody GII	Third augmentation with embellished melody	102
152	Melody HII	Restatement of third augmentation	102
88	Melody AIII	First statement of melody	39
92	Melody BIII	Restatement of melody	39
99	Melody CIII	Instrumental interlude I – melody based on V3	39
107	Melody DIII	First augmentation of melody	66
116	Melody EIII	Second augmentation with descant melody in V4	66
125	Melody FIII	Instrumental interlude II – no melodic lines	66
138	Melody GIII	Third augmentation with embellished melody	114
156	Melody HIII	Restatement of third augmentation	114
88	Melody AIII	First statement of melody	39
92	Melody BIII	Restatement of melody	39
99	Melody CIII	Instrumental interlude I – melody based on V3	39
107	Melody DIII	First augmentation of melody	66
116	Melody EIII	Second augmentation with descant melody in V4	66
125	Melody FIII	Instrumental interlude II – no melodic lines	66
138	Melody GIII	Third augmentation with embellished melody	114
156	Melody HIII	Restatement of third augmentation	114

Table J: Thematic augmentation in Part II

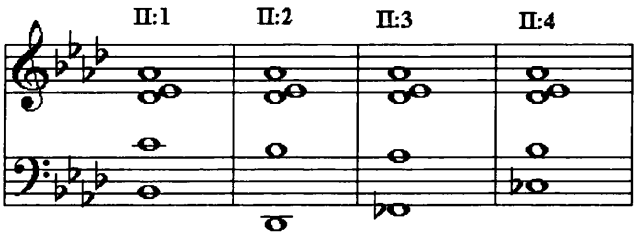
This reveals the augmentation of individual phrases of the Part II melody to be no more precise than the ratio of the overall augmentation, however. Furthermore, although Part II demonstrated a close correlation between Reich's melody and the stresses and rhythmic structures of the Hebrew text, there is no systematic development of these links in the augmentations of this melody.

3.6 Analytical commentary on Part II

The opening statement of the setting of the text is in Section A (87/I/1) and is written as a duet for Voice 2 (lyric soprano) and Voice 3 (alto). Both voices are doubled by instruments from the outset, Voice 2 by Oboe, Voice 3 by English Horn and Bassoon. Reich's blending of instrumental and vocal timbres as a compositional device has already been commented on in Part I. Percussion is now used more sparsely than in Part I and consists only of Tambourine 1 which supplies a rhythmic drone on A^b, doubled by Clap 1.

The melody is re-stated in Section B (89/I/1). This is the same as in Section A, although here the repetition of the third phrase is written out in full. The voice parts are doubled by Oboe, English Horn and Bassoon as previously. The percussion texture is thickened through the addition of the second tuned tambourine part on E^b (doubling Clap 2). The tambourines establish a drone on A^b and E^b which further emphasises the A^b tonal centre. Although Reich does not use them as extensively as in Part I, some canonic techniques are present in the drone parts. The *Clapping Music* motif is used momentarily at 89/I/2 in the upper drone part and is echoed at one beat's distance in the lower drone. In phrase BII, however, the same motif is used at 91/I/2 in the upper drone but is not taken up as part of a canon; there is no use of canon in phrase BIII.

The drone pitches coincide with the chords played by the strings. Reich's introduction of the five string parts at this point is much earlier than in Part I. Furthermore, the chord cycle coincides in each case with the beginning of the phrase, excluding the anacrusis in phrase BII. The start of each phrase is therefore reinforced by the sounding of a new chord. The chord cycle is as follows, with the third and fourth chords transposed enharmonically into A^{b} since the enharmonic change in the third phrase has no aural effect on the melody.

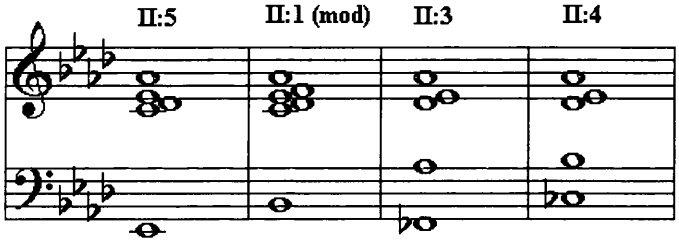


Example 42: Part II chords – Section B

The drone of A^{b} and E^{b} is doubled in the top two notes of each chord here, irrespective of the overall harmony and this further emphasises the A^{b} centre. These chords are closely spaced here although the lowest part moves in a manner more typical of a conventional bass line. Whilst this part helps to lend a Neapolitan character to the third and fourth chords, it clearly does not act as a functioning bass line. As in Part I, the chords are built up from the melodic line and the drones, the emphasis being on the static nature of the top part rather than any harmonic definition provided by the bass.

The first section of Part II ends with the third statement of the melody in Section C which begins at 96/I/1. This is the first of two instrumental interludes which separate

the three overall sections of Part II. It acts as an instrumental codetta to the first of these three sections and, despite the removal of the words, retains the structure of the eight lines of text. The voices are tacet for the first time in *Tehillim* and the melodic line is taken over by English Horn and Bassoon, doubled by Clarinet 1. This melodic line is a re-statement of the Voice 3 line at the outset of Part II (87/I/1 – 88/III/4) and is sounded in unison by all woodwind parts. Clap 1 & 2 are also tacet.



Example 43: Part II chords - Section C

This drone is again taken up in the four sustained string chords with each containing the drone notes of A^b and E^b as before. The focus on the highest part remains and the third and fourth chords are identical to the previous section. There are differences in the movement of the lowest part, a new symmetry between the rising fifth of the bass line in the first two chords with the same motif a semitone higher in the second two chords, E^b B^b F^b C^b here rather than the previous B^b D^b F^b C^b sequence in Section B.

Section D marks the opening of the second main section of Part II and begins at 103/I/1. This marks the fourth iteration of the melody and Voices 2 and 3 state the melody in a new augmentation. The melodic line itself does not change, the intervallic

relationship between the voices is identical and the same voice doublings are retained, Voice 2 by Oboe, Voice 3 by English Horn and Bassoon.

The rhythmic structure is emphasised by the use of accents in Tambourine 2 and Clap 2 although these accents are not related to the stresses of the words. Clap 1 and Clap 2 (doubled by Tambourine 1 and Tambourine 2) all play on the first beat of each bear, the only exception being the single bar before phrase AIII (118/I/2). This pattern had already been established in Section B. The drone on A^b and E^b continues in Tambourines 1 and 2 with their rhythm doubled by Clap 1 and 2 respectively.

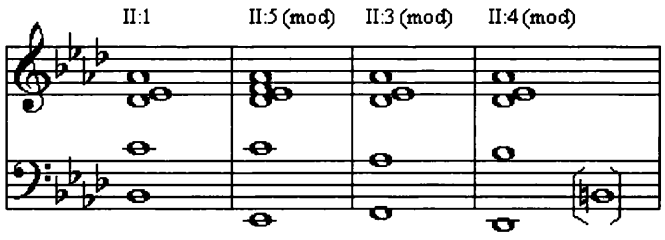
The melody is augmented so that the overall length is broadly 1.75 times as long as before although, as already discussed, the augmentation of each note or phrase is intuitive rather than exact and therefore the rhythmic shape of the melody is only broadly preserved. In the first two phrases the augmentation preserves the bar lines in the same places as in the opening melody. However, in the third phrase, there is a slight shift so that *va-rad-fay-hu* is set with the third syllable on the bar line at 109/I/1 rather than the second (at 88/III/3). This reflects the location of the stress on that syllable by Readers 2 and 3 in the original readings (see Example 40).

The construction of the rhythmic parts is not based on canon although Reich does make continuing use of the *Clapping Music* motif. This appears twice in succession in the first phrase of the melody between 103/I/4 and 104/I/2 in Clap 1 but does not appear in the other phrases and neither is it taken up by Clap 2. The chord cycle is

identical to that in Section B with the drone on A^b and E^b forming the highest two notes within the sequence.

The fifth statement of the melody – Section E – begins at 112/I/1. Each phrase is the same length as in the previous iteration and hence the overall melody is the same length. Here, Reich breaks with his custom of introducing an enharmonic change to $G^\#$ in phrase AIII and instead casts the entire section in A^b. The vocal texture is now broadened and Voice 4 is added to provide a high descant, doubled by Clarinet 1. This melodic line consists of new material from 112/I/1 to 112/I/4 and this forms the basis of further new material in phrase EIII beginning at 116/I/1. Between 113/I/1 and 115/I/3, however, Voice 4 simply doubles the Voice 3 part one octave higher. This line pushes the soprano voice to the extremes of its range – including high C twice (116/I/4 and 119/I/2) and at the same time reinforces the A^b centre of the melody. Voices 2 and 3 repeat the same lines as in Section D. The clapping and tambourine drones continue on A^b and E^b as before but in this iteration there is neither use of canonic material nor the *Clapping Music* motif from before.

Reich continues to use the drones of A^b and E^b as the basis of each chord and the chord sequence is adapted slightly from the previous section. With the removal of the enharmonic key change, the Neapolitan dimension to the third and fourth chords provided by the previously flattened F^b and C^b is replaced by F and D^b with an additional contrabass movement to B for the last 14 beats.



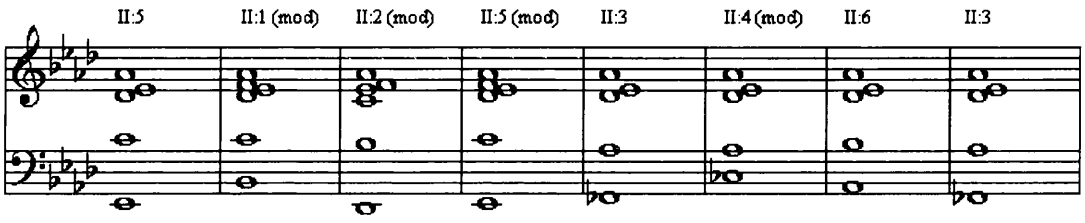
Example 44: Part II chords – Section E

The second section of Part II concludes with the sixth statement of the melody in Section F beginning at 121/I/1. This is a second instrumental interlude used in a similar manner to the first such interlude in Section C: there is no text and the voice parts are tacet. Despite the absence of the vocal parts, however, the structure of the section continues to follow that established in Sections D and E with the phrase lengths determined by the previous augmented melodic content. In contrast to the first instrumental interlude in Section C, Reich makes no use of the vocal lines as instrumental material and the texture comprises only tuned and untuned percussion and strings. Tambourines 1 and 2 on A^{b} and E^{b} continue to be doubled by Claps 1 and 2 and the rhythmic structure is the same as in the preceding section. They are now joined additionally by the maracas, a feature which distinguished the central section of Part I. There is no use of canon as a structural device.

The enharmonic notation of the third phrase in $G^{\#}$ for is reintroduced in this section at 125/I/1. Although Reich's chord cycles are derived from the vocal melodies in *Tehillim*, the chords are retained in this section in the absence of any melodic lines. The chord sequence (played by full strings) builds on previous statements but now contains six chords, two in each phrase. A new feature of this cycle is therefore that

for the first time in Part II changes of chord do not always coincide with the start of each phrase.

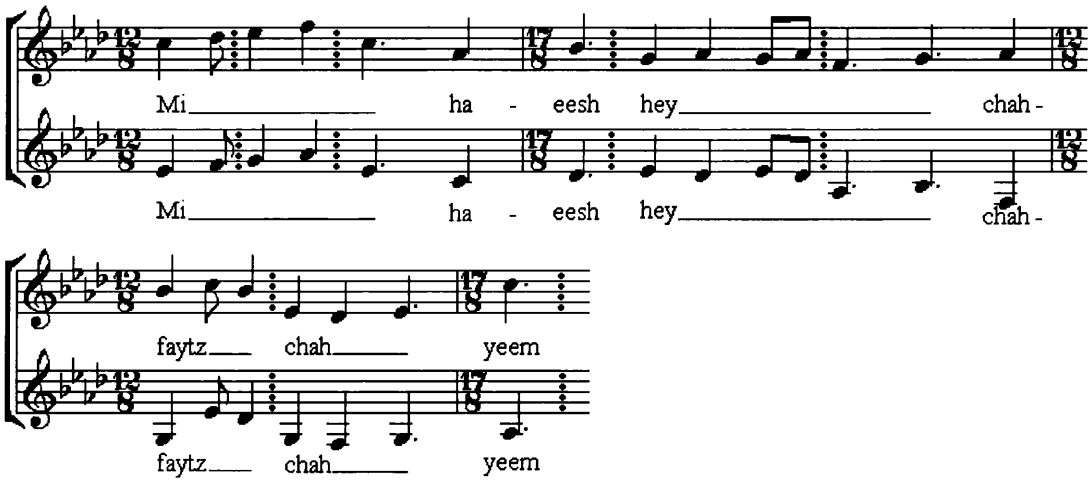
The drone of A^b and E^b is retained as the top two notes of each chord and the bass, though no more functional than before, is extended and has a considerable amount of disjunct movement. The fifth and sixth chords restate the flattened 6^{th} established earlier.



Example 45: Part II Chords – Section F

The third and final section of Part II begins at Section G (130/I/1). This comprises the seventh iteration of the melody, now given a quasi-coloratura treatment and sung by Voice 2 (doubled by Oboes 1 and 2) and Voice 3 (doubled by English Horn and Bassoon) as in the opening statement.

The syllabic approach to word setting which has prevailed throughout the setting is now replaced by a florid style which Reich uses as his main means of thematic augmentation.



Example 46: Coloratura variation of melody in Part II – Section G

It is through embellishment, rather than simple augmentation, that the melodic lines are lengthened and Reich embellishes them through a variety of means: stepwise melismas (e.g. 130/I/1), diatonic auxiliary notes (e.g. 131/I/1), triadic auxiliary notes (e.g. 139/I/1) and chromatic auxiliary notes (e.g. 135/I/1). The shape of the melody is the same as before and the embellishments do not detract from this overall shape.

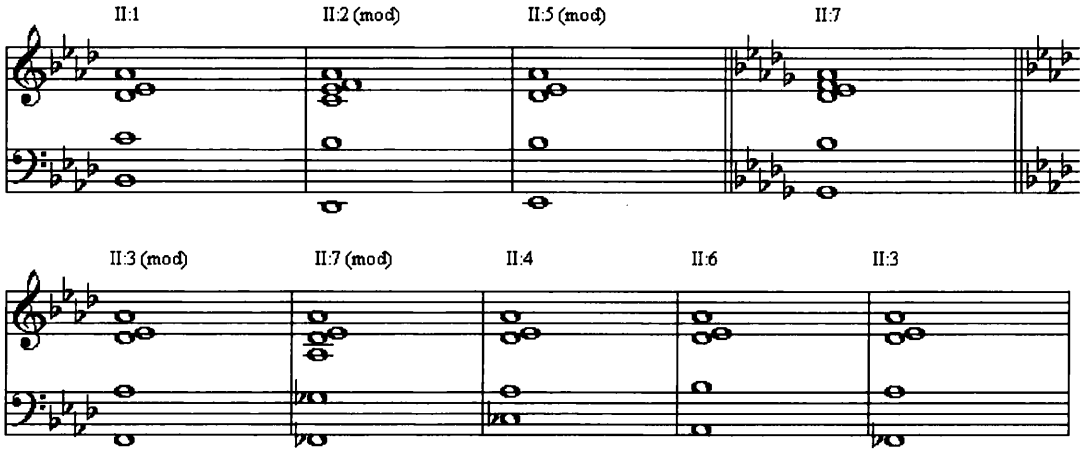
Example 46 also demonstrates Reich's use of dotted sub-bar lines to identify a number of the component cells within the embellished and expanded melody. These component units are more extensively identified in phrase GI than elsewhere. The combined effect of the melodic embellishments within the two-part texture is to endow the melody with a more conjunct, lyrical quality through the embellished harmony in sixths although the chromatic embellishments produce occasional points of dissonance with the drone, such as at 135/I/1.

The clapping lines and maracas continue throughout the section and Reich takes care to ensure that Clap 1 and Clap 2 both emphasise the first beat of each identified melodic sub-unit (for example at 130/I/1-2). There is some variation in the use of the tambourine drones. The tambourine drone on A^b and E^b quickly fades away at 131/I/1 leaving the remainder of phrase GI without a drone. With the change of key signature to five flats at 134/I/1 (the start of phrase GII), the drone is reintroduced as a single A^b in tambourine 1 and continues throughout the return to the 'home' key of four flats at 136/I/1. The two-note drone returns at the enharmonic change from four flats to five sharps at phrase GIII (138/I/1) where the second tambourine enters and plays for the remainder of the section.

As before, the drone forms the top two notes of each of the chords and there are nine string chords in this iteration of the melody. Only the second and third chord follow each other directly, each of the others being separated by a rest of between four and twelve beats. The positioning of the chords in relation to the beginning of each phrase becomes increasingly irregular throughout this section. In the first two chords the bass enters as in Section B and Section D but the introduction of a new key signature of five flats at 134/I/1 changes the character of the harmony.

Although there is no functional pattern to the progression of the bass line, this G^b descends chromatically through F and E to establish a more regular pattern of E – B – $G^{\#}$ - E in the final four chords. This effectively produces a major 7th harmony with

the drone by the end of the section. There is also some regularity in the length of these four chords, the first three lasting for 46 beats each and the fourth one being 39 beats.



Example 47: Part II Chords – Section G

Section H begins at 148/I/1 and forms the conclusion to Part II and, indeed, the first half of *Tehillim*. This is the eighth and final statement of the melody, and is conceived as an exuberant finale to the first half of *Tehillim*. The vocal and instrumental forces in this final section are expanded, although the section does not call for the whole ensemble. Voice 1, Piccolo, Clarinet 2, Vibes, Crotales and Electric Organs are not used at all in Part II, thus leaving considerable resources in reserve for the finale of Part IV.

The percussion parts also follow a similar pattern to Section G as maracas and Claps 1 and 2 continue throughout. The drone from the two tambourines on A^{b} and E^{b} fades at 149/I/1 but the A^{b} ($G^{\#}$) alone reappears at 152/I/1 in Tambourine 1, to be joined by Tambourine 2 on E^{b} ($D^{\#}$) at 156/I/1 until the end of Part II. Part II concludes with *tutti* percussion.

The Voice 2 and Voice 3 lines are modified slightly from their appearance in Section G and Voice 4 is added as a high descant, rising as in Section E to *c'''*. This coloratura line is doubled by Clarinet 1 and consists of new material based on the shape of existing melodic lines and produces a three-part ornate vocal texture. As in section G, the second phrase moves into five flats between 152/I/1 and 154/I/1 where it returns to four flats. The enharmonic change to five sharps occurs in its customary position at the start of the third phrase, 156/I/1.

The chord pattern is reiterated exactly as in the previous statement of the melody and this ensures that the drone of A^b and E^b is present throughout the whole harmonic structure of Part II. In addition, the gaps between the chords are the same as in the previous section as is the length of each individual chord. This pattern is reflected in the melody which Reich embellishes in the same manner as in Section G.

In summary, Part II reveals a number of compositional traits: the use of augmentation as a structural device, the contrasting uses of syllabic and melismatic word setting, ornate vocal writing, the use of instrumental sections interspersed with vocal sections, the use of enharmonic modulation and the incorporation of the two drone notes into the chord cycles of the movement.

References for Chapter 3

[1] Steve Reich, *Writings on Music 1965 – 2000* (Oxford University Press, 2002) 104
[2] K. Robert Schwarz, 'Steve Reich: Music as a Gradual Process' *Perspectives of New Music,* Volume 20, (1982) 271
[3] Steve Reich, *Writings on Music 1965 – 2000* (Oxford University Press, 2002) 104
[4] *Ibid.,* 272
[5] *Ibid.,* 26
[6] *Ibid.*, 50

Chapter 4: *Tehillim* Part III

4.1 The text of Part III

Im-chah-síd, tit-chah-sáhd,
Im-ga-vár ta-mím, ti-ta-máhm.
Im-na-vár, tit-bah-rár,
Va-im-ee-káysh, tit-pah-tál

With the merciful You are merciful,
with the upright You are upright.
With the pure You are pure,
and with the perverse You are subtle.

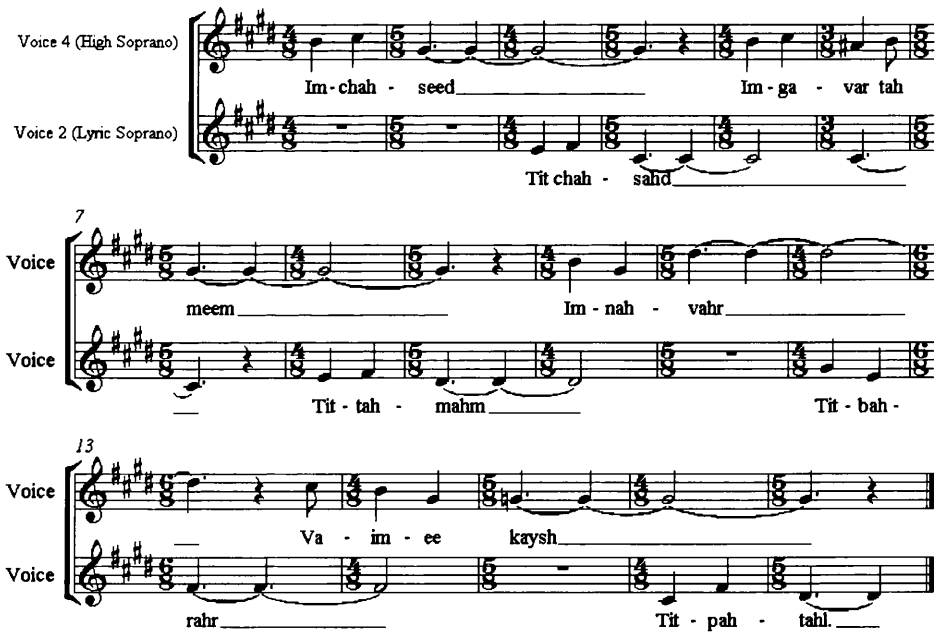
The third text, from Psalm 18:26-27, is the shortest and most reflective of the biblical extracts chosen by Reich and its subject matter provides an effective contrast to the preceding two. Placed at the opening of the second half of *Tehillim,* this contemplative text ushers in a complete change of mood from the first two settings.

The couplet structure of the previous texts gives way to a new poetic device. The Hebrew text has a clear symmetry in each line and in the first three lines this is reinforced through the assonance between words in each half. In line one, *chah-seed* and *chah-sahd* balance each other and a similar effect is achieved between *ta-meem* and *ta-mahm* in line two; the words *nah-var* and *bah-rahr* have a similar assonance in the third line. There is no such assonant relationship between the two halves of the final line. This reflects the meaning of the text ('and with the perverse you are subtle') as this line is indeed 'perverse' in its lack of assonance between *va-im-ee-kaysh* and *tit-pah-tahl* in its two halves.

Reich preserves this symmetry within his English translation and is able to retain the cause-and-effect polarity in each line in which a type of human attitude is linked with God's response to it. Reich therefore makes use of a formulaic 'with the ... You are...' in each line. Additionally, he attempts to preserve the natural anacrusis of the final line by using the conjunction 'and' to complete the stanza. The assonance between each half of the first three lines is lost, however, and the English translation lacks the economy of words of the Hebrew.

4.2 Rhythmic properties of the text

The text is set to the following melody which is stated by Voice 4 (high soprano) and Voice 2 (lyric soprano). This melody is divided into four phrases with each phrase being treated antiphonally between the two voices. In keeping with his approach in Parts I and II, Reich uses the resulting melody as the basis for the entire movement.



Example 48: Part III melody, Section A

Reich's setting of the third text is markedly different to that of the first two in its contemplative, almost sombre mood and the composer claims that *Tehillim* is significant in containing 'the first slow movement I have composed since my student days'.[1] The reduction in tempo is also accompanied by a change in orchestration with the more mellow vibraphone and marimba assuming a new prominence.

As may be seen from Table K, Reich's earlier repetitive music combined both speed and constancy of pulse and there are numerous examples in Reich's output prior to *Tehillim* that demonstrate his instinctive liking of constant rapid tempi. The tempo in this movement (crotchet =108-120) provides a contrast to his earlier compositions and is the slowest adopted by Reich at the time of composing *Tehillim*. In performance, however, this is less apparent as the quaver remains the common mensural unit for each bar.

Piano Phase	1967	Dotted crotchet = ca. 72; piece moves entirely in semiquavers
Four Organs	1970	Quaver = ca. 200
Clapping Music	1972	Crotchet = 160 – 184
Six Pianos	1973	Crotchet = ca. 192
Music for 18 Musicians	1976	Crotchet = 204 – 210
Octet	1979	Crotchet = 184 – 192
Variations	1979	Crotchet = ca. 132

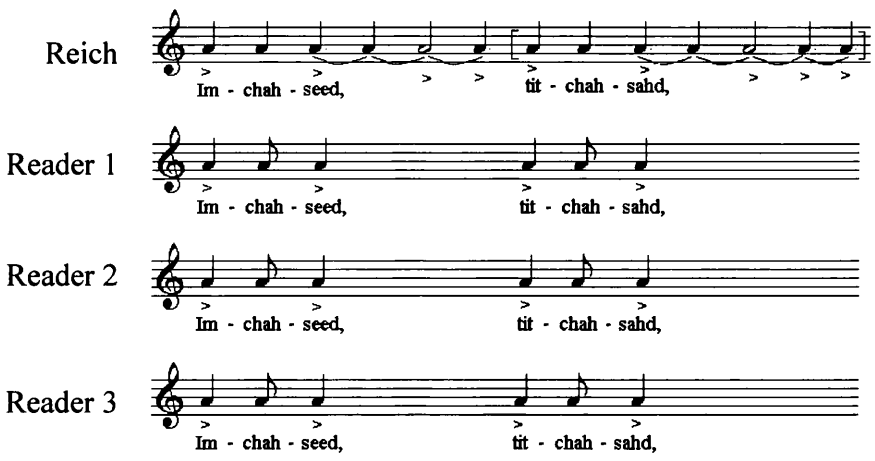
Table K: Indicative pulse in selected works by Reich in the 1970s

In contrast to the predominance of fast tempi, *Variations* has a tempo of crotchet = ca. 132 and moves entirely in crotchet-based time signatures but Reich gives no indication that this is intended as a slow piece. Significantly, the tempi in each of the works referred to above are unchanging throughout the entirety of each piece. Whilst there is

variation between pieces, individual pieces maintain the same tempo throughout. It is, therefore, the notion of a 'slow movement' rather than merely a slow tempo that is of particular significance here since Reich's works before *Tehillim* make little use of contrasting tempi as a means of achieving balance across a multi-movement piece. In using divergent tempi for each of the four movements in *Tehillim*, Reich develops a style embryonic in *Music for a Large Ensemble* which employs both key and time changes in its five sections.

As with Parts I and II of *Tehillim*, an investigation will now be made of the rhythmic stresses that emerge in the readings to establish the extent to which the rhythms of Reich's setting are shaped by the innate rhythmic structures of the words. Although the text is divided between two voices by Reich, each reader was asked to read the lines of the extract as a continuous unit. The antiphony is indicated in brackets in the line indicating Reich's rhythm.

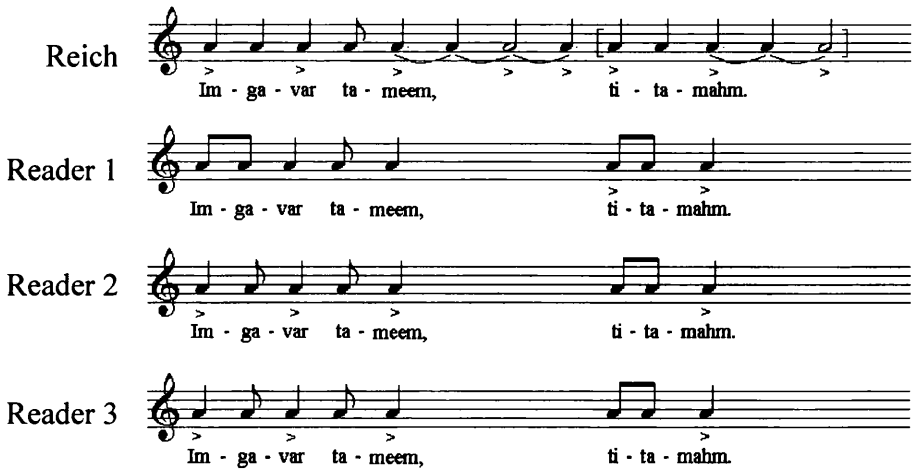
The first line consists of an antiphonal setting of the six-syllable text *Im-chah-seed, tit-chah-sahd.* Here, all readers agree on both the shape of the two rhythmic units and the placing of the rhythmic stresses, the rhythm itself being reminiscent of the *yom-le-yom* motif, first heard in Part I (2/I/4). Each of the readings reveals a symmetry between the two halves of the line with the same motif in both halves.



Example 49: Comparison of rhythmic stresses in Part III, line 1

Reich's setting, however, makes no reference to this rhythmic pattern and includes no quaver movement. In contrast to the quaver pulse established throughout *Tehillim*, Reich bases the rhythm of this melody on crochet movement to emphasise the relative slowness of the movement. Additionally, Reich lengthens the ending of each half of the phrase so that the voice entries may overlap.

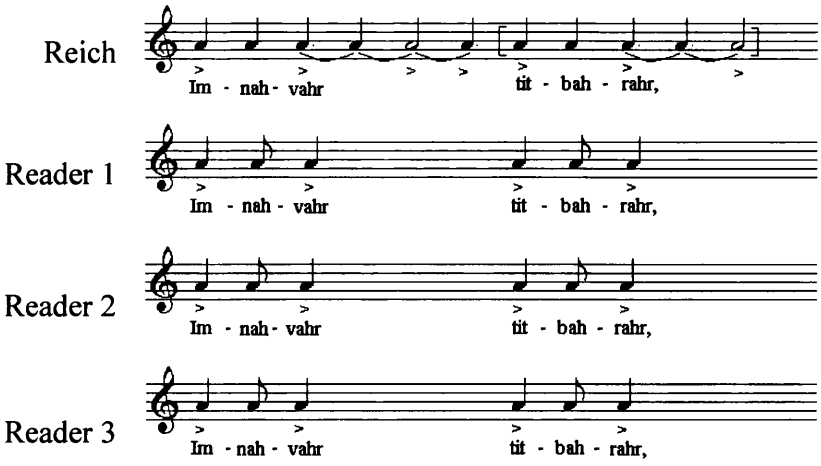
The second line sets the eight-syllable text *Im-ga-var ta-meem, ti-ta-mahm* in the same antiphonal style as in the first line. There is slight divergence in the readings of this line between Reader 1 and the others on the first three syllables (*Im-ga-var*). Readers 2 and 3 take the same motif as in the first line with Reader 1 taking a less syncopated approach.



Example 50: Comparison of rhythmic stresses in Part III, line 2

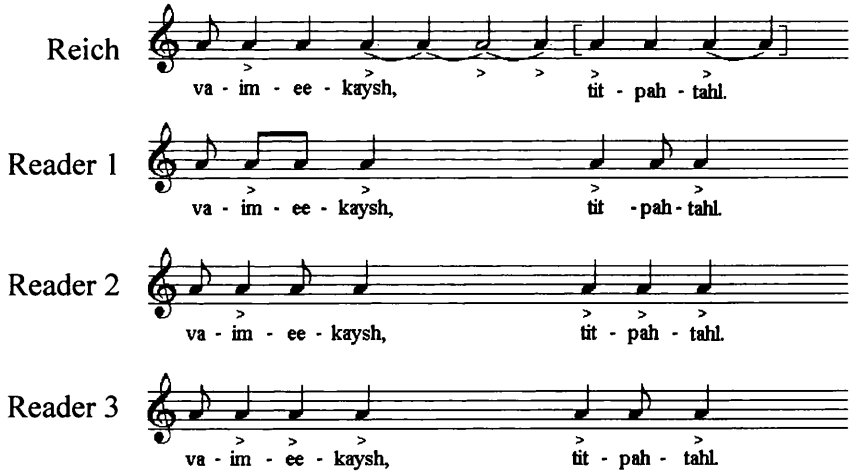
On syllables three to five (*var ta-meem*), however, all readings reveal the same syncopated motif and this is the only point of overlap with Reich's setting. There is further unanimity between the readers in the second half of the line on the syllables *ti-ta-mahm* but this is in contrast to Reich's reiteration of the crotchet-crotchet-minim motif from the second half of the previous line.

The third line consists of six syllables and is therefore the same length as the first line. All readers agree on the same syncopated motif as before and its recurrence begins to suggest it is inherent in the text. Reich, however, reverts to the crotchet-crotchet-minim motif of the first line and so reinforces the contrast between the natural spring of the words and his relatively flat rhythmic motif. As in the previous phrases, the ending of each half of the phrase is augmented considerably.



Example 51: Comparison of rhythmic stresses in Part III, line 3

The fourth and final line consists of the seven-syllable text *Va-im-ee-kaysh, tit-pah-tal* and this produces the greatest divergence between the readers with no two of them being exactly the same. In the first four syllables (*Va-im-ee-kaysh*) Reader 3 adopts the same rhythm as Reich but with stresses on all but the first syllable.



Example 52: Comparison of rhythmic stresses in Part III, line 4

In summary, Reich's setting of the text in Part III has similarities with the natural stresses and rhythms of the words as evidenced by the readers but these are not

extensive. The readings reveal a natural 3+2 rhythm which does not fully emerge in Reich's setting, based as it largely is on steady crotchet-minim rhythms. The slower pulse cannot be shown to grow directly from the natural speed and stress of the text, although there is a clear link with the contemplative mood of the words. Whilst the syllable continues to act as the basic unit of rhythm, there is a contrast between the crotchet-based melodic lines and the quaver pulse of the movement.

4.3 Rhythmic organisation

Each of the four phrases in the text in Part III is much shorter than in Parts I and II. Reich maintains the balance of the original Hebrew words but (as examples 49–52 demonstrate) extends the length of each phrase by augmenting the final note, thus creating an overlap between the two parts of the line. For consistency with other movements, the quaver is taken as the unit of measurement whilst recognising that the vocal parts move almost entirely in crotchets or longer notes

Line of text	**Syllables per line**	**Beats per line (incl. rests)**	**Phrase of music**	**Syllables per line**	**Beats per line**	**Overlap between parts**
1a	3	18	I	6	39	7 beats
1b	3	21				
2a	5	21	II	8	39	7 beats
2b	3	18				
3a	3	18	III	6	37	7 beats
3b	3	19				
4a	4	19	IV	7	37	7 beats
4b	3	18 including the two bars that link into the next iteration				

Table L: Rhythmic organisation of phrases in Part III

Unlike Part I and Part II, the phrases of the melody are not lettered as separate sections and, whilst as many as three phrases are identified in Section G, the four individual lines do not form whole sections in any of the iterations of the melody. The organisation of this text, however, reveals Reich's most systematic approach to setting within *Tehillim* and there is a far greater concern for consistency than is the case in either Part I or Part II. This reflects the symmetry and balance inherent in the Hebrew text where only lines 2a and 4a deviate from a standard three-syllable pattern. Despite this brevity, Reich constructs melodic lines of a length comparable to those in earlier movements where the texts contained considerably more syllables. Yet the setting remains syllabic since the additional phrase length is determined entirely by the augmentation of the final syllable of each line.

Reich works methodically to establish two distinct halves to the melody, each of them symmetrical. As Table L above shows, the first half is symmetrical between lines 1 and 2. In phrase I, Voice 4 has an 18-beat phrase (including rests) and this is balanced by a 21-beat phrase in Voice 2. This pattern is then reversed in phrase II where an initial 21-beat phrase in Voice 4 is answered by an 18-beat phrase in Voice 2. The same principle applies to the second half of the melody where there is symmetry between lines 3 and 4. In phrase III, Voice 4 has an 18-beat phrase, the same length as in phrase I. This is answered by a 19-beat phrase in Voice 2. This pattern is then mirrored in phrase IV where an initial 19-beat phrase in Voice 4 is answered by an 18-beat phrase in Voice 2. This symmetry between lines is reinforced by the overall balance between lines since lines 1 and 2 have 39 beats in total with lines 3 and 4 both

containing 37 beats in total. A further structural device emerges in the overlap between the two parts at the mid-point of each phrase. In each of the four phrases, the overlap between the two vocal parts remains constant at 7 beats.

As in Part I and Part II, the rhythmic organisation of the melody is based on the varying combinations of 2s and 3s as indicated by Reich's performance indications. In Part III, however, the positioning of the 3+2 structures creates less energy as a result of their separation in the melodic line. In order to provide direct comparison with the analytical method adopted in Part I and Part II, Table M catalogues the construction of each individual line, the two independent parts being categorised for each phrase.

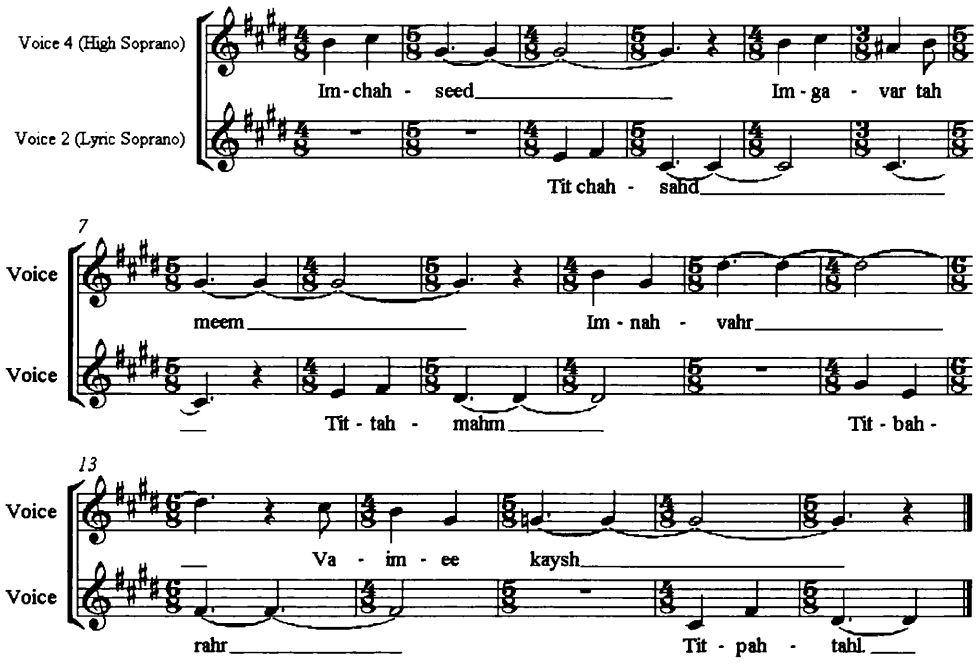
Section	**Rhythmic Structure**	**Length in beats**
Phrase AI (first line of text)	4+5+4+5 *Reduction based on indicated components of 3& 2* Voice 4: 2+2/3+2/2+2/3+2 Voice 2: 2+2/3+2/2+2/3/3+2	18 (18) (21)
Phrase AI (second line of text)	4+3+5+4+5 *Reduction based on indicated components of 3& 2* Voice 4: 2+2/3/3+2/2+2/3+2 Voice 2: 2+2/3+2/2+2/3+2	21 (21) (18)
Phrase AI (third line of text)	4+5+4+6 *Reduction* Voice 4: 2+2/3+2/2+2/3+3 (final beat = anacrusis for next phrase) Voice 2: 2+2/3+3/2+2/3+2	19 (18) (19)
Phrase AI (fourth line of text)	4+5+4+5 *Reduction* Voice 4: (1)/2+2/3+2/2+2/3+2 Voice 2: 2+2/3+2/2+2/3+2 (including final two bars rest)	18 (18)

Table M: Rhythmic Structure of Part III Melody

Whilst the 3+2 rhythm established in Parts I and II continues to present in Part III, there is now greater usage of regular groupings of 4 beats (composed of 2+2) to complement the irregular groupings of 5 (composed of 3+2). The juxtaposition of these two rhythmic units produces a less syncopated style than that created by recurrent 3+2 structures and this regularity is emphasised by the way in which each of the four lines begin with a 2+2 unit (albeit with an anacrusis in the Voice 4 entry on line 4). The augmentation of the end of each line means that some 3+2 units occur in the middle of sustained notes but the incessant quaver pulse in the percussion ensures the style is totally consistent.

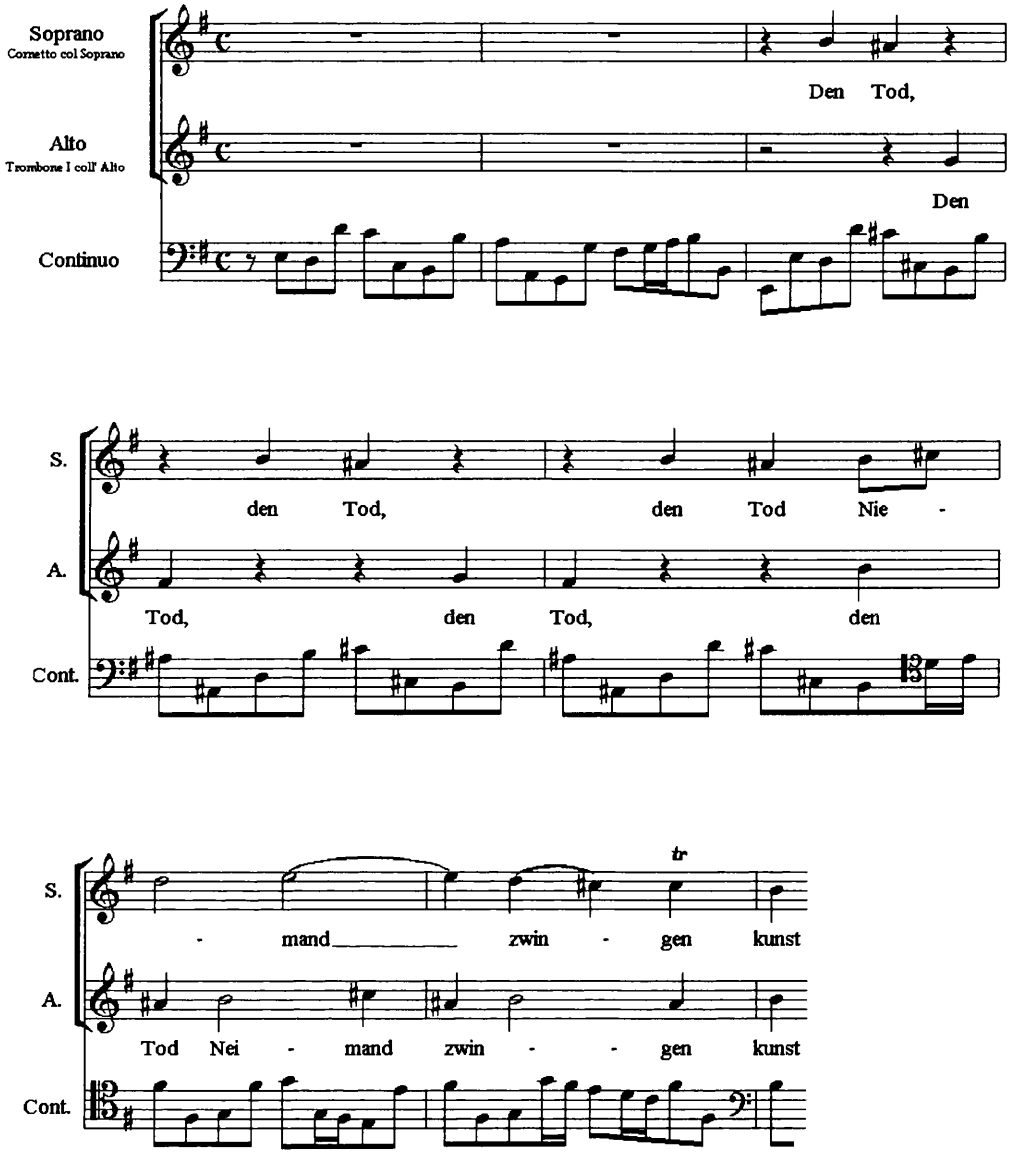
4.4 Melodic considerations

Reich's setting divides the melody between two voices although he writes for two sopranos rather than soprano and alto. He gives the higher melodic line to Voice 4 (high soprano) with Voice 2 (lyric soprano) underneath and abandons the homophonic textures of Part II in favour of a quasi-antiphonal approach which, as has already been noted, reflects the natural symmetry of each line. The text is set syllabically to the following melody.



Example 53: Part III Melody, Section A

In conversation with Gisela Gronemeyer, Reich has claimed that the inspiration for the duet style in the melody derives from J. S. Bach's Cantata No. 4 *Christ lag in Todesbanden*[2] where, in the opening of Versus II, the soprano and alto interweave short melodic fragments over a quaver-based continuo part.



Example 54: J.S.Bach: Christ lag in Todesbanden (Opening of Versus II)

In the first line of the text of Part III, the two vocal parts imitate each other; the gently rising and falling motif stated firstly by Voice 4 being taken up a fifth lower by Voice 2. The second phrase retains the pitch imitation in the first three notes of each part.

However, the number of syllables in the text is unequal in the two parts and, since there are only three syllables in the Voice 2 text, the fourth and fifth notes of the Voice 4 part are not imitated. In the third phrase there are fewer similarities. Voice 4 begins with a falling minor third, Voice 2 has a falling major third; the triadic leap in Voice 4 is not imitated at all in the lower part. The fourth and final phrase is distinct in its use of anacrusis in Voice 4 and reflects the natural stresses of the words; this is not imitated by Voice 2 as the text demands a different emphasis.

The Voice 4 melody is conceived in $G^{\#}$ minor and the cadence points confirm this. The first and second lines both end on $G^{\#}$ and establish it as the tonal centre. The cadence at the end of the third line is on $D^{\#}$ and establishes this as the dominant. The final G natural therefore acts as a raised leading note in an imperfect cadence. As written in the score, Voice 2 reflects an orientation towards $C^{\#}$ as a tonal centre, although less emphatically so. Whilst the first phrase ends securely on $C^{\#}$, the following three phrases end on $D^{\#}$, $F^{\#}$ and $D^{\#}$ respectively. However, the aural effect in performance of the two lines being put together reinforces the $G^{\#}$ centre, especially at the final cadence point where the $D^{\#}$ in Voice 2 serves to produce an imperfect cadence in $G^{\#}$ minor.

In identifying a specific example of word-painting within the text, Reich makes reference to both $C^{\#}$ and $G^{\#}$ to describe the tonal centre of the melody.

> 'In the third text the verse *Va-im-ee-kaysh, tit-pah-tal* (*and with the perverse You are subtle*) is set in $C^{\#}$ minor with a strong G natural (lowered fifth, tritone or diabolus in musica) on the word *ee-kaysh* (*perverse*). This is then later

> harmonised with an altered A dominant chord on the word *tit-pah-tal* (*You are subtle*) to suggest that the G natural may be a leading note to a $G^{\#}$ Phrygian mode – a subtle accommodation to keep a perverse chromatic tone within the original key signature but with a modal shift.[3]

Voice 2 begins each of the three phrases on either the third or the fifth of the $C^{\#}$ minor triad and this appears to support Reich's reference to $C^{\#}$ minor as the 'key' of the melody. However, this is immediately undermined by the opening motif B - $C^{\#}$ - $G^{\#}$. This could be seen as $C^{\#}$ Dorian (transposed down a semitone) supported by the $A^{\#}$ in the second phrase. Schwartz supports this view that the melody opens in $C^{\#}$ Dorian but acknowledges that the modality becomes clouded by the melodic shift to G natural in the melody in the fourth phrase of the melody.[4]

Reich refers, however, to $C^{\#}$ minor rather than $C^{\#}$ Dorian but this implies a flat leading note throughout the melody since the B starts each of the subsequent three phrases announced by Voice 4 (with an anacrusis $C^{\#}$ in the final phrase). This serves to reinforce the role of B as the mediant of $G^{\#}$ minor. Reich partially recognises $G^{\#}$ minor as the centre of the melody in his assertion that the final G natural can be viewed as the leading note to $G^{\#}$ Phrygian. However, the various accidentals (especially the $A^{\#}$ and the G natural) establish the melody simply in $G^{\#}$ minor rather than the Phrygian mode. The G natural therefore becomes an enharmonic F double sharp. The strong $C^{\#}$ drone, however, has a greater effect when played on vibes/marimba than the earlier ostinati on tuned tambourines and needs to be taken into account.

4.5 *Analytical Commentary on Part III*

Part III is constructed around seven repetitions of the initial melody. The first two statements of this melody are of equal length and, as in Part II, Reich adapts the subsequent appearances through varying their length. In contrast to Part II, however, he achieves this variation of length through the use of diminution as well as augmentation and thereby creates greater diversity than before.

A comparison of the lengths of each statement of the melody does not reveal any systematic pattern in the use of such techniques and this continues the approach seen in Part II. Structurally, a focal point emerges in the fourth and seventh statements since these are the longest but there is no consistent approach to the augmentation or diminution of the melody in relation to these. In these augmentations, Reich adopts a variety of textural and melodic techniques which move away from the symmetry of the original melody. Table N identifies the way in which Reich structures Part III, the relationship between the length of individual sections and the use of 3+2 rhythmic units. As in Parts I and II, each statement of the melody coincides with a new rehearsal letter.

AI	166/I/1	2+2/3+2/2+2/3+2/	18	
	Statement of melody-	2+2/3/3+2/2+2/3+2/	21	
	two-part vocal texture	2+2/3+2/2+2/3+3/	19	
		2+2/3+2/2+2/3+2/	18	76
BI	168/I/4	2+2/3+2/2+2/3+2/	18	
	Re-statement of	2+2/3/3+2/2+2/3+2/	21	
BII	melody	2+2/3+2/2+2/3+3/	19	
		2+2/3+2/2+2/3+2/	18	76
CI	170/I/1	3+2/2+2/3+2/3/2+2/3+2/3+2/3+2+3/3+2/	44	
CIa	First augmentation	3/2+2/3+2/3/3+2/3+2/2+2/3+2/2+3/2+3/2+3/3+3/	55	
CII	with four-part vocal	2+2/3+2/3+2/3/2+2/3+2+2/2+2/2+2/3+2/3/	44	
CIIa	texture	3+2+2/3+2/3/2+2/3+2+2/3+2/3+2/3/3+2+2/	46	189
DI	178/I/1	3+2/3+2/2+3/3+2/3+2/2+2/3/3+2/3/2+2/3/3+2/	52	
DIa	Second augmentation	3+2+2/3/3+2/2+3/3+2/3+3/3+3/2+2/3/3+2/	49	
DII	based on textures of	3+2+2/3+2/3+2/3+2/2+2/3+3+2/	34	
DIIa	fifths and contrary	3+2+2/3+3/2+3/3+3/3+3/2+2/3+2+2/	41	
DIIb	motion writing	3+2+2/3+2/3+2/3+2/2+2/3+2/3+2/3+2+2/3+2/3+2/3+3/3+2+2	66	242
EI	187/I/1	3+2/3+2/2+3/3/2+2/3+2/2+3/3+2/2+2/3+2/	46	
EIa	Third augmentation	2+3/3+2/3+2/3+2/3/3+2/3+2/2+3/2+3/2+2/3+3/	53	
EII		3+2/3+2/2+3/2+3/2+2/3/2+3+2/	34	
EIIa		3+2/2+3/2+3/2+3/2+2+2/3+3/3+2/3+3+2/	45	178
FI	193/I/3	3+2+2/3+2/2+3/3+2/2+3/3+3/2+3/3+2/	43	
FIa	Fourth augmentation	3+2/2+3/3+2/2+3/3+2/2+3/3+3/2+2+2/3+3/3/	51	
FII		3+2+2/3+2/2+3/3+2+2/3+2/2+3/3+2/3+2/3+3+2/	52	
FIIa		3+2/2+3/3+2/2+3/2+2+2/3+3/2+3/3+3+2/	45	191
GI	200/I/3	3+2+2/3+2/2+3/3+2/2+2/3+2/2+3/3+2/3+2/	46	
GIa	Fifth augmentation	3+2+2/3/3+2/2+3/3+2/2+2/3+2/2+2/3+2/2+3/3/	51	
GII		3+2/2+2+3/3+2/3+2/3+2/2+3/3+2/2+3/3+3/2+3/2+3+3/	61	
GIIa		3+2+2/3+2/2+3/2+3/3+3/2+2/3+2+2/	39	
GIIb		3+2+2/3+2/3+2/2+3/2+2/3+2/3+2/3+2+2/	43	
GIIc		3+2+2/3+2/3+2/3+2/2+2/3+2/3+2/3+2+2/3+2/	48	
GIII		3+2/3+2+2/3+3/2+2/3+2/3+3/2+2/3+2/3+2+2/3+3/2+2/	59	347

Table N: Structural layout of Part III with sub-groupings identified

The first statement of the melody, identified as section A in the score, begins at 166/I/1. The apportionment of the text between Voice 4 (high soprano) and Voice 2 (lyric soprano) has already been discussed. As in Part I and Part II, Reich doubles each of the voices with woodwind: Voice 4 is doubled by Clarinet 1 and Voice 2 is doubled by Oboe for the whole of this statement of the melody. The entire melody has a repeated $C^{\#}$ drone on Marimba and Vibes and the quaver movement of this drone serves to offset the effect of the crotchet movement in the vocal lines. Beats 3 – 13

have the same rhythm as the figure from *Clapping Music* that appeared in Part I. The tonal effect of the drone is reminiscent of the repeated C in Terry Riley's 1964 composition, *In C* which was itself suggested by Reich.[5] Insofar as it can be heard, the effect of this drone is to emphasise $C^{\#}$ as a tonal centre so that the $G^{\#}$ minor of the Voice 4 melody is less emphatic, particularly as the drone always sounds on the first quaver beat of each bar.

Throughout *Tehillim* the tonal centres are reinforced through the widespread use of drones and Part III has a highly developed use of such drones.

Phrase	Drones	Key signature
AI	C#	F#, C#, G#, D#
BI	C#, G#	
CI	C#, G#	
CIa	changes to D#, G# 173/I/2	
CII	changes to D#, F# 175/I/1	
CIIa	changes to D# G natural 176/I/2	
DI	D#, G#	
DIa	changes to C#, G#, 180/I/3	
DII	changes to A, E, 182/I/2	
DIIa	changes to D#, A, 183/I/3	
DIIb	changes to C#, A, 186/I/5	
EI	D#, G#, changes to D#, A, 187/I/4	F#, C#, G#, D#, A#
EIa	changes to D#, G#, 189/I/1	
EII	changes to E, G#, 190/I/5 becomes	F#, C#, G#, D#
EIIa	changes to D# and G, 192/I/1	
FI	D#, G#, changes to C#, G#, 193/I/4	F#, C#, G#, D#, A#, E#
FIa	C#, G#	
FII	changes to C#, F#, 197/I/1	F#, C#, G#, D#, A#
FIIa	changes to G, D#, 198/I/5	
GI	changes to C#, G#, 200/I/2	F#, C#, G#, D#
GIa	changes to C#, F# 202/I/4	F#, C#, G#
GII	changes to B, F#, 204/I/3	F#, C#
GIIa	changes to C#, G, 206/I/3	
GIIb	C#, G	
GIIc	changes to A, G, 209/I/3	
GIII	A, E, changes to F, B^{b}, 211/I/4	F#, changes to B flat
	changes to A, E 212/I/2	

Table O: Use of drones in Part III

The second statement of the melody, identified in the score as Section B, begins at 168/I/4. This is identical to the first statement although in this iteration, the mid-point of the melody at 169/I/3 is identified in the score as BII. The voices are treated in the same manner as the initial statement and the text apportioned in the same way between Voice 4 and Voice 2. The drone is expanded with the introduction of Marimba 2 (and Vibes) playing a repeated $G^{\#}$ thus producing a two-part drone on $G^{\#}$ and $C^{\#}$ although there is no canonic relationship between the parts. The drones emphasise the two pitch centres of the melody already discussed. The $G^{\#}$ drone creates a dissonance reflecting Reich's word painting at 169/II/3 when it clashes with the G natural in the melody on the syllable *kaysh* ('perverse').

The rhythmic structure of the Marimba 1 drone is the same as in the first iteration of the melody and the rhythm of the second marimba part has quaver rests to complement successive quavers in the first. There are two points at which the rhythms are in unison where they emphasise contrasting words from the text: at 169/I/4 the syllable *vahr* ('pure') and at 169/II/3 the syllable *kaysh* ('perverse'). The latter of these lends added emphasis to the dissonance between the melody and the drone. There are, additionally, four points at which the rests coincide in both drone parts (168/II/1, 169/I/1, 169/I/4 and 169/II/2).

The third statement of the melody begins at 170/I/1, identified in the score as Section C, and is a free augmentation of the initial melody. As in the previous iteration, Reich indicates two main sections to the melody (CI and CII). Each of these is now further

subdivided to produce an overall structure of CI, CIa, CII and CIIa with each section being an augmentation of a line from the opening melody. Phrase CI (170/I/1) is an augmentation of the first line of the melody and its sub-phrase, CIa (171/I/5), is an augmentation of the second line. Phrases CII (174/I/2) and CIIa (176/I/1) correspond to the third and fourth lines of the text respectively. As Table N shows, the total length of the third statement is 189 beats compared to 76 beats in the first two iterations and the melody is therefore more than double its previous length. The most significant feature in creating some extensive augmentation lies in Reich's elongation of the final syllable in each phrase in a manner reminiscent of *Slow Motion Sound* of 1967 and foreshadowing the type of 'freeze-frame' sound used much later in *Three Tales.* The underlying intention is the same in each case: to create a sung treatment of speech in which a single speech component is elongated to create an audible vapour trail behind the words.

Reich now calls for all four voices and these are used in two pairs. Voices 4 and 2 are each joined by a second voice singing a lower line; Voice 4 (high soprano) is joined by Voice 1(lyric soprano) and Voice 2 (lyric soprano) is joined by Voice 3 (alto). As before, each voice is doubled by a woodwind part, Voice 4 and Voice 1 being doubled by Clarinets 1 and 2, Voice 2 and Voice 3 being doubled by Oboe, English Horn and Bassoon (albeit the Bassoon part is indicated as optional in the instrumentation list at the front of the score).

In phrase CI (170/I/1) each pair of voices moves in parallel fourths although this symmetry is not maintained in subsequent phrases where the interval between the pairs of voices is different. In phrase CIa (171/I/5), Voices 4 and 1 move at a fifth apart with Voices 2 and 3 subsequently moving in sixths (172/I/5). In phrase CII (174/I/2), Voices 4 and 1 continue in fifths with Voices 2 and 3 moving initially in thirds (174/1/5) and then onto a fifth (175/I/1). There is more divergence in the final phrase CIIa (176/I/1) with Voices 4 and 1 moving in sixths from the phrase's anacrusis (175/I/5) to a diminished fifth on the syllable *kaysh* ('perverse') at 176/I/2. This *diabolus in musica* is intended to give emphasis to the word painting here.

The drones move at 176/I/2 to G natural and $D^{\#}$ having previously been on $C^{\#}$ and $G^{\#}$ at the opening of this iteration, $G^{\#}$ and $D^{\#}$ at 173/I/1 and $F^{\#}$ and $D^{\#}$ at 175/I/1 [see Table O]. Additionally, the rhythm of the drone parts is the same at this point as it was at 175/I/1 where the contrasting word 'pure' is heightened. The drones interact in a complementary manner as in the previous section but there are nine points where they have rests at the same time: 170/I/3, 171/I/4, 172/I/4, 173/I/1, 174/I/1, 174/I/4, 175/I/4, 176/I/2 and 177/I/5. With the exception of 173/I/1, these points occur immediately before the start or mid-point of a line of the text.

This section contains the first example of independent string writing in *Tehillim*. In Part I and Part II, string entries are homophonic and the majority coincide with the opening of a section, if not with the exact beginning of individual phrases. In Part III the string entries are independent and have a different function in building up the

texture in the second half of each phrase. All four vocal parts are then held whilst the inner strings – Viola and Cello – enter in turn.

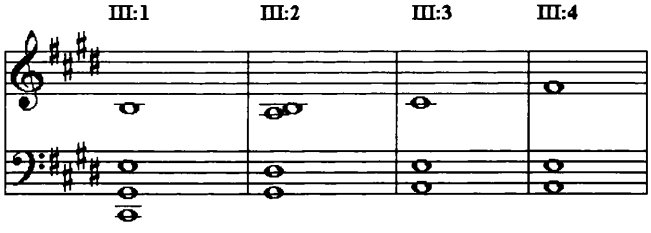
The string entries (and resulting chords) both conflict with, and complement, the chords held at the end of each phrase by the four voices. At the end of the first phrase (171/I/1) Voice 4 and Voice 1 hold a sustained $G^{\#}$ and $D^{\#}$ which reinforce the tonal centre $G^{\#}$ of this melody. The lower pair of voices, by contrast, sustain $C^{\#}$ and $G^{\#}$ and this serves to emphasise $C^{\#}$ as their tonal centre. It is the $C^{\#}$ that is eventually taken up as a pedal point in the bass (171/I/5) although full emphasis is not given to $C^{\#}$ since the next phrase (CIa) overlaps this pedal point.

The tensions between the centres of $C^{\#}$ and $G^{\#}$ continue in the second phrase with the vocal parts emphasising $C^{\#}$ and the drones and chords centring on $G^{\#}$. At the end of this phrase (173/I/1) Voice 4 and Voice 1 sustain the tonic and dominant note of the $C^{\#}$ minor triad, whilst Voice 2 and Voice 3 hold $F^{\#}$ and $D^{\#}$. However, the start of this phrase signals a change in the upper drone note from $C^{\#}$ to $D^{\#}$ resulting in an open fifth on $G^{\#}$ which is reflected in the second string chord at 174/I/1 being based on $G^{\#}$. This chord is allowed greater aural impact since the entire chord sounds for a bar (174/I/1) before phrase CII begins at 174/I/2.

This tension between $C^{\#}$ and $G^{\#}$ is avoided in the third and fourth chords. The third phrase ends with a four-part vocal chord based on B with an added 6^{th} (175/I/1). The $F^{\#}$ is reinforced by being taken up by the lower of the drone notes which changes from

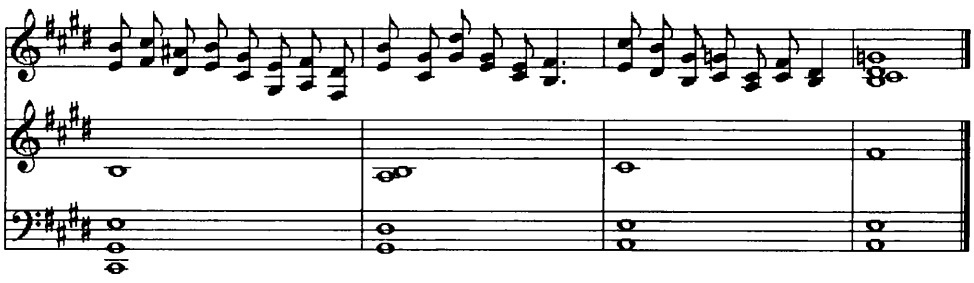
G# to F# at 175/I/1. However, the strings (excluding Violin II) sustain a simple A major triad, apparently unrelated to the vocal parts of the third phrase but momentarily reinforcing the Voice 1 and Voice 4 entries for the final phrase (175/I/5) and anticipating the 'altered A dominant' that Reich refers to which is at its clearest at 176/I/3. The final vocal chord embraces the tritone already discussed and this works with the string chord at 177/I/5 to provide components of a dominant seventh chord on A. But the overall chord includes the superimposed D# and B of Voices 2 and 3.

The string chords initially appear simple in their harmonic construction. There are fewer notes and they are less widely spread than those in Parts I and II; most noticeably, the top notes varies from chord to chord. There is a clear triadic structure underlying these chords, particularly noticeable in the first three where the use of the third of the chord offers a potential harmonic dimension that Reich shuns.



Example 55: Part III chords – Section C

However, the vocal parts add considerable complexity to this harmonic framework, as may be seen by superimposing the vocal lines on the string chords.



Example 56: Section C, chords with superimposed melody

The fourth statement of the melody is identified in the score as Section D and begins at 178/I/1. This forms a natural mid-point of Part III and is a second free augmentation of the melody, significantly longer than the augmentation in Section C and approximately three times the length of the original melody (see Table N). Rhythmically, the treatment of the melody follows the same technique as in Section C with the final syllable of each phrase being elongated considerably. The augmentation is further achieved through the introduction of an additional variation of the final phrase, DIIb (184/I/5 – 186/I/5) which acts as a codetta to the section.

In addition to augmentation techniques based on sustained chords, Reich also develops the shape of the melodic line itself and the approach to instrumental and vocal textures. This section adopts a greater freedom in the treatment of the melody although it is clearly related to it in character and rhythmic construction. The voices continue to be paired in the same manner as in the previous section: Voice 1 with Voice 4 and Voice 2 with Voice 3. The voice parts are doubled by woodwind parts as previously and the same approach is adopted to overlapping phrases. With the single exception of the first interval at 178/I/1, the paired voices move in fifths for the whole of phrase DI,

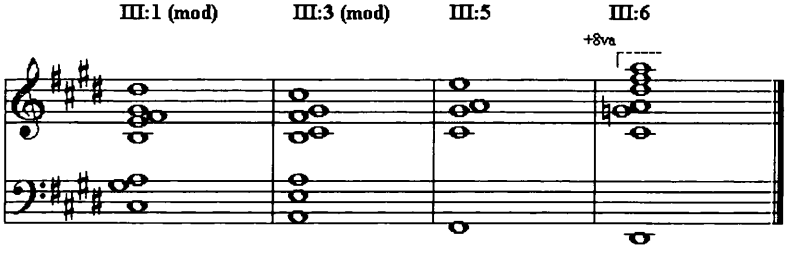
although the intervallic relationship between the voices varies between fourths and fifths in phrases DIa, DII and DIIa. The final phrase, DIIb, Reich thins out the vocal texture with only the upper voice of each pair (Voice 2 and Voice 4) continuing, as at the opening of Part III.

The codetta to this section, DIIb at 184/I/5, reduces to two vocal parts and these are introduced in reverse order to their earlier appearance in Part III. Reich now introduces solo voice writing, doubled by solo Violin I and Violin 2, the higher of the vocal parts (Voice 4) being doubled by Violin II rather than Violin I. Voice 2 is doubled by solo Violin 1 at the octave and also by Clarinets 3 and 4 at pitch. At 185/I/3 voice 4 enters, doubled by solo violin II at the octave with a new melodic motif of a fourth followed by a seventh (185/I/3). Reich fades out the voices and the woodwind parts doubling them so that the final three bars of the section have only a sustained chord and the drone.

The drones continue on Marimba/Vibraphone and move from the tritone at the end of Section C to a perfect fifth on $G^{\#}$ and $D^{\#}$ at 178/I/1, reflecting the sustaining of these notes in Voices 1 and 4. The change in drone to a perfect fourth on $G^{\#}$ and $C^{\#}$ at 180/I/3 also coincides with the movement of the voice parts in fourths at that point. This returns in phrase DII mostly to fifths (182/I/1b) on a new tonal centre of A and E. In phrase DIIa Reich continues the word painting on 'kaysh' (perverse) by moving voices 1 and 4 to a tritone at 183/I/3, the drone notes moving also to $A^{\#}$ and $D^{\#}$ at the same point and continuing throughout the final phrase, DIIb, (184/I/5). This phrase

repeats the text of phrase DIIa and acts as a codetta to Section D. Whilst there is no use of canon within this section, passing reference is made to the *Clapping Music* motif in Marimba/Vibraphone 2 at 179/I/4 – 179/I/6 and in Marimba/Vibraphone 1 at 181/I/3 – 181/3/5.

Section D begins a new method of changing the drones to initiate the build-up of a new chord (180/I/3, 182/I/2 and 183/I/3). Each of the four chords in this section is built around a combination of the drones and the notes in the melodic lines, thus following the practice established earlier in *Tehillim.*



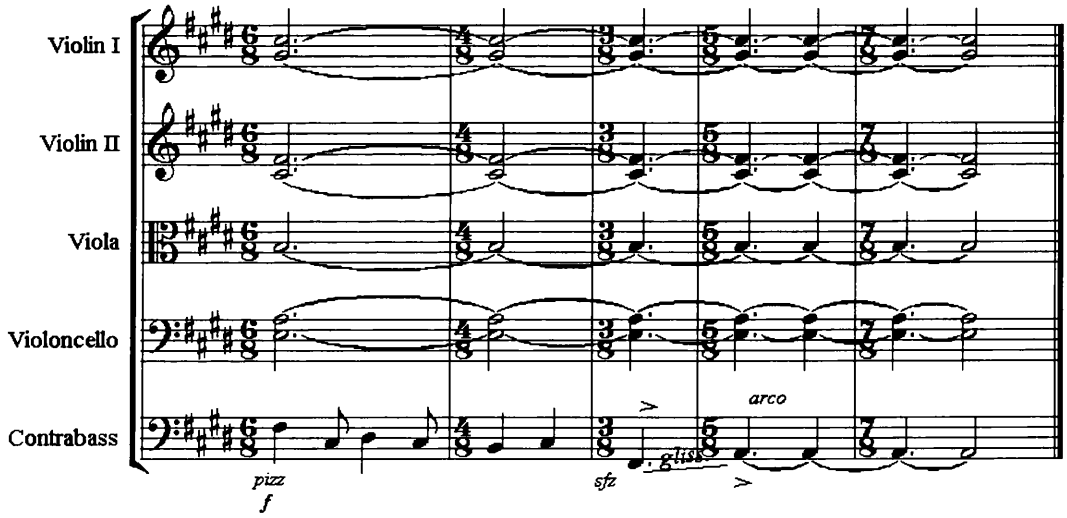
Example 57: Part III chords – Section D

The opening $G^{\#}$ and $D^{\#}$ drone (178/I/1) starts the building of the string chord in phrase DI in which all strings except contrabass play isolated open fifths and culminates in a sustained diatonic chord at 179/I/6 containing all the notes of the E major scale. This is sustained whilst the voices begin phrase DIa. The chord is extended in the strings to overlap with the next voice entry at 180/I/1, thus allowing Reich to extend this chord seamlessly beyond the limitations of the human breath. The fragmented string writing leading into this chord, however, contrasts with both the extended chords in Parts I and

II and the build-up of chords through combining sustained string textures in Section C of Part III.

The new drone on $G^{\#}$ and $C^{\#}$ at 180/I/3 initiates the build-up of the second chord in the voices and strings in section DI. The notes held by the four voices at 180/I/5 are taken up by Violin 1and Violin 2, with the short accented style of the first phrase now giving way to sustained textures. The lower string parts (Vla and Vc) adopt the same approach with short accented fifths replaced with sustained chords.

This is one of the few points in *Tehillim* where the dynamic markings vary from Reich's customary *mf* and there are several instances of *forte* markings and *sforzando* accents in the string parts. The chord that culminates at 181/I/2 now includes an independent Contrabass part which introduces a triadic pizzicato motif centred on $F^{\#}$ minor.



Example 58: Independent string writing at 181/I/2-182/I/1

The third chord occurs in phrase DII and is prefaced by a change of drone to A and E at 182/I/2. The chord is built up through a combination of sustained notes in Violins I and 2 and pizzicato interjections in Viola and Cello (although the score is probably in error as Viola is probably intended to be pizzicato the same as Cello). The sustained fifths in the upper strings take the same pitch classes as the lower strings in the first chord: the A and E formerly played by the Viola is now taken by Violin I, the $C^{\#}$ and $G^{\#}$ formerly played by the Cello is now given to Violin II.

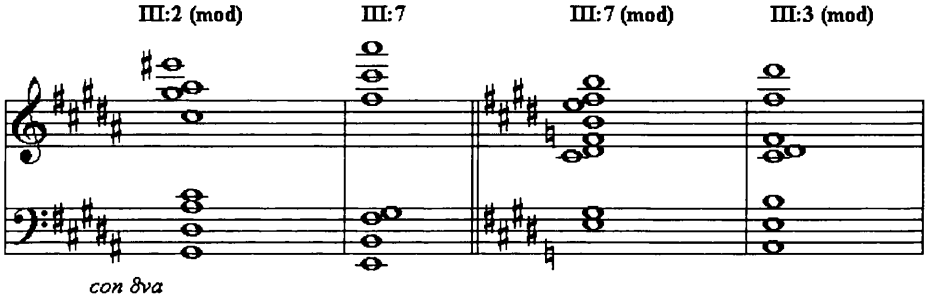
The fourth chord begins at 183/I/3 and is this time introduced by high register (*divisi* in the Chamber Orchestra version) violas playing a tritone on A and $D^{\#}$. This follows the change of drone note in the first half of that bar and emphasising once again the syllable *kaysh.* The structure of the chord is built up over phrase DIIa and DIIb with sustained, but different, tritones in violas and cellos. In phrase DIIb this is joined by solo Violin I and Violin II which double the voice parts and, from 184/I/2, a Contrabass pedal which doubles the $D^{\#}$ from the drone part. Both pizzicato and arco are called for in *divisi* Contrabass which acts as a rhythmic pedal to lend added 'perversity' to the setting of *vaimee kaysh* ('with the perverse').

The fifth statement of the melody, Section E, begins at 187/I/1. It is of a similar length to Section C and uses the same phrase structure (see Table N). A new key signature of five sharps is introduced reinforcing the key centre of $G^{\#}$. All four voices are used and they are paired with the same woodwind doublings as before. In the opening phrase,

EI, the voices have a new, more euphonious style, based on thirds although this varies in subsequent phrases. In the first phrase, Voice 4 has the same melodic line as in Section D although this is not true of subsequent phrases. The material of the other vocal parts is new although the manner in which the second entry always 'answers' the first is retained for each phrase. Each phrase is elongated as in the previous three sections through the extension of the final syllable.

The drones are used as in Section E to instigate the building up of each of the four chords. The initial statement of $G^{\#}$ and $D^{\#}$ gives way after three bars to $A^{\#}$ and $D^{\#}$ (187/I/4) thus making use of the $A^{\#}$ from the new key signature. In this section, the changes of drone do not coincide with the openings or endings of the phrases and the drone returns to the initial $G^{\#}$ and $D^{\#}$ three bars into phrase EIa (189/I/1). The fourth change of drone to $G^{\#}$ and E at 190/I/5 establishes a new drone in E major and presages the return of the initial key signature of four sharps at 191/I/4. The movement to the fifth and final drone of this section is achieved through a gradual process at EIIa (191/I/6) where the upper part moves from E to $D^{\#}$. In the following bar, the lower drone moves on to G natural to create a further tritone to word paint *kaysh* ('perverse'). Whilst the drones do not operate in canon with each other, there is more frequent occurrence of the Basic Unit of *Clapping Music* in this section: 187/I/1-187/I/3, 188/I/3-188/I/5, 189/I/4-189/I/6 in Mar./Vib. 2 and at 188/I/6-189/I/2 in Mar./Vib.1.

The chordal harmony is now more complex and each of the four string chords in this section is more widely spaced than previously in *Tehillim*. These contrast with the mid- to low-register string writing of Part I and Part II where the string chords occupy the same register as the drones. As in previous sections, however, the chords are composed almost entirely of notes from within the melodic line they accompany, although in this section Reich does not always incorporate the notes from the drone.



Example 59: Part III Chords – Section E

As in section C and section D, the string writing demonstrates some independence from both the drones and the vocal parts. The first chord is initiated by the change of drone at 187/I/4 and then built up through independent *divisi* string writing in Violin I and Violin II with the final notes sustained as before to overlap with the beginning of the following phrase. Viola, Cello and Contrabass enter at 188/I/3 with the lower two parts making further use of contrasting articulation between arco and pizzicato. The resultant first chord (188/I/6) includes components of $G^{\#}$ and $C^{\#}$, and the polytonal aggregation prepares the way for the chromatic alteration of the melody in the following phrase. Phrase EIa takes up this $E^{\#}$ in Voice 4 at 188/I/6 although Reich

immediately counters it by re-establishing E natural in Voice 2 at 189/I/2, reinforced by the subsequent Voice 1 entry at 190/I/4.

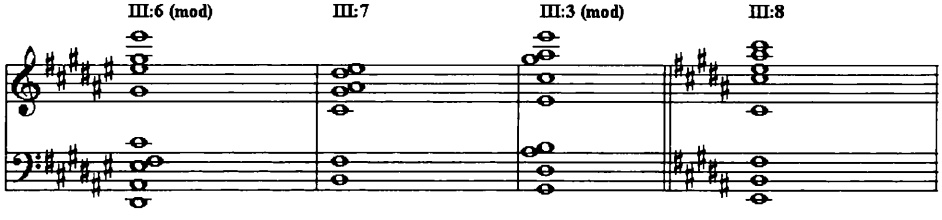
The second chord is built up in a similar manner and is initiated by the change of drone at 189/I/1. This chord (190/I/4) combines a triad of E major with a triad of $F^{\#}$ major but includes only the lower of the drone notes, $G^{\#}$. There is less *divisi* writing in Violin I but with the same usage of contrasting articulation in the lower string parts. The third chord, initiated by the change of drone at 191/I/5, is built up without independent string writing and retains the E major triad but now superimposes a triad of B major. Reich takes a similar approach in the fourth chord, initiated by the change of drone to the tritone at 192/I/1, which consists of an A major triad with superimposed B major (193/I/1-2).

The relationship between voices and strings creates further complexity since the sustained string chords overlap the sustained voice chords. In phrase EI, the sustained voice notes are not always doubled in the string chords although the movement of thirds in the voices is complemented by imitative upper string writing in sixths. In phrase EII, however, the Voice 1 and Voice 4 chord is doubled by Violin I and the Voice 2 and Voice 3 chord is doubled by Violin II, both after three beats. In the final phrase, the tritone in the voice parts on $C^{\#}$ and G natural is complemented by the Violin I part with an augmented fifth on G natural and $D^{\#}$.

The sixth statement of the melody, Section F, begins at 193/I/3, is also of a similar length to sections C and E (see Table N) and introduces a change of key signature to six sharps. The voices are paired as before, are doubled by the same woodwind parts as previously and Reich retains the same quasi-antiphonal structure in his approach to setting the words. The endings of each phrase of the melody are elongated as in Sections C, D and E but here there is a slight lengthening of the first syllable of the first and third lines – *Im* – at 193/I/3 and 196/I/5 and this reflects the stresses identified earlier in the readings. There is now a predominance of thirds and fourths in the paired voice parts with the only fifth being the tritone reserved for the final phrase (198/I/5). There is some ambiguity between tonal centres although this is far below the operating surface of rhythm and melody. Voices 4 and 1 work melodically around B whilst voices 2 and 3 initially emphasise the relative minor of $G^{\#}$; in phrase FII ,voices 2 and 3 also move to B.

There are four drones in this section. The marimba and vibes parts initially sound $G^{\#}$ and $D^{\#}$ (193/I/3) but move almost immediately (193/I/4) to $G^{\#}$ and $C^{\#}$. This change of drone does not coincide with the start of a new phrase, although the move to the third drone on $F^{\#}$ and $C^{\#}$ (197/I/1) does coincide with the same notes in Voices 4 and 1. Having established the principle that individual drone notes move by step with only one part moving at once, the move to the fourth drone at 198/I/5 is staged over the preceding bar (198/I/4). Whilst there is no use of canon between the drones, the *Clapping Music* rhythm emerges again at 193/I/3-193/I/5, 196/I/2-196/I/4, 198/I/1-198/I/3 in Marimba/Vibraphone 1 but not at all in Marimba/Vibraphone 2.

As in the previous section, the first three phrases (FI, FIa, FII) conclude with a chord played by *tutti* strings that underpins the opening of the following phrase. The final phrase (FIIa) does not overlap into the next section. The four chords have a similar range as those in Section E, although the second chord is less broad than the other three. As before, the harmonic language is built up from the melody and each chord is formed broadly from the melodic line it supports, although the third and fourth chords do not contain all of the drone notes.



Example 60: Part III, Section F chords

Reich's approach in these chords is to create bitonality since each chord is assembled gradually through the superimposition of triads. The first chord (195/I/2) superimposes $C^{\#}$ minor onto a chord of $D^{\#}$ minor. In the second chord (196/I/5) a triad of $A^{\#}$ minor is superimposed on a chord of B major. In the third chord (198/I/4) a chord of $A^{\#}$ minor is superimposed on a chord of $G^{\#}$ minor and in the fourth chord (200/I/2) a triad of $F^{\#}$ major is superimposed onto a chord of E major.

The string writing is similar to that already established in Part III. In the first two chords, however, Reich builds the texture from the lower strings rather than the upper strings with Viola leading the entries in both cases (194/I/2 and 195/I/6). The independent upper string writing is absent in the building-up of the first chord but

returns as a structural device at 196/I/2 in the second chord. Upper strings then lead the entries in the third and fourth chords. Reich calls for the same technical contrasts of *unison* and *divisi*, *arco* and *pizzicato* but also adopts a more fragmentary string texture in the build-up of the final chord in this section in which there is some introduction of rests within individual parts (198/I/5-199/I/4).

Section G begins at 200/I/3 and is the longest and most complex of the variations of the melody in Part III (see Table N). It is more than four times the length of the initial statement and also fulfils the dual purpose of a coda and a transition into Part IV. The melody is augmented in a similar manner to before, the same overall structure being retained so that sections GI, GIa, GII and GIIa correspond to the four phrases of the initial melody. In addition to the phrases identified in Section E and Section F, Reich significantly extends the length of the variation by indicating three further phrases: GIIb, GIIc and GIII. The first two of these perform the same function as the codetta in section D (184/I/4-186/I/2) and are for two voices only, Voice 2 followed by Voice 4. Each phrase has the same antiphonal structure as before. Section GIII consists of an accelerando instrumental passage that acts as a Coda and leads directly into Part IV of *Tehillim*. In this section, the extensive augmentation is also achieved through two repetitions of the final line – *Va-im-ee-kaysh, tit-pah-tahl.*

The vocal pairings and instrumental doublings are not changed from those in previous sections of Part III and Reich returns to the original melodic shape of the melody in Voice 4. There are some differences in the treatment of the text in this section,

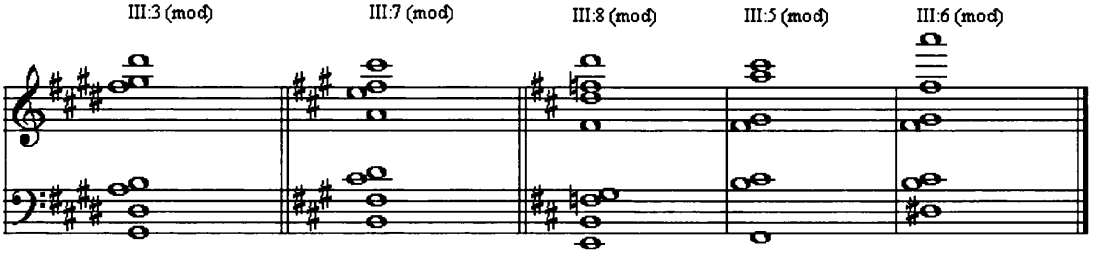
however. The first syllable of each line - *Im* - is lengthened as in previous variations (200/I/3, 202/I/1) but on its third appearance is treated melismatically (204/1-2). Despite the augmentation of the melody, however, the original crotchet-quaver rhythm is retained on *ta-meem* (202/I/3).

Section G moves through five key signatures, from four sharps to one flat through a partial cycle of fifths in preparation for the key signature of one flat in Part IV. These changes of key signature do not coincide with the changes of drone but they mark the end of the sustained string chords from the previous section (202/I/4, 204/I/3, 206/I/3 and 210/I/5), the exception being at 209/I/3 where the same chordal structure continues through phrases GIIa, GIIb and GIIc. The drone change at 206/I/3 is the first point at which both drone notes change simultaneously.

From 209/I/3 the drone plays a role in the modulation process and moves to G and A. At the start of GIII a drone of a fourth on A and E (210/I/5) leads to a change of key signature one bar later. The final change of key signature to one flat at 212/I/1 is pre-empted by the drone movement to F and B^b at 211/I/4, at which point both drone notes change simultaneously (as established at 206/I/3). However the subsequent entry of the tuned tambourines at 212/I/2 on E and A creates an unusually dissonant second drone as the two semitones E-F and A- B^b are sounded.

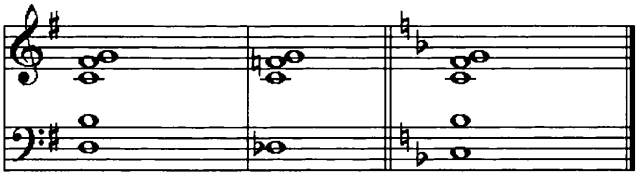
The chords follow Reich's practice established in the previous section with each of the phrases concluding with a chord played by *tutti* strings that overlaps with the opening

of the following phrase. Additionally, phrases GIIa and GIIb have a continuous chordal component underpinning them. The five chords have a similar structure as those in Section E and are built up from the melodic line and drone notes, although the first of the chords includes only the lower of the drone notes, $C^{\#}$.



Example 61: Part III Chords – Section G

The bass rhythmic ostinato returns at 207/I/1 and this, together with the three transitional chords in Section GIII provide a hint of functional harmony as the music moves to the key signature of one flat by the start of Part IV.



Example 62: Part III, Section G transitional string chords

At 211/I/4 a kind of Neapolitan suspended chord resolves on to a dominant 7^{th} (still with suspension, and never reaching a tonic bass) in the key of F at 212/I/2. This hint of functional harmony may be seen as a significant development in Reich's re-assimilation of conventional harmonic practices.

In summary, Part III repeats a number of compositional traits already used in Part II, most importantly, the use of augmentation as a structural device and a use of harmony that grows from the melodic lines and the drone notes. The drone notes are used to initiate the build-up of the chords in the voices and strings and the strings take on a new role of extending the chords in the voice parts to overlap the phrases. The string writing is itself more advanced and makes use for the first time of varied articulation and independent part writing in addition to sustained homophonic textures.

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[5] K. Robert Schwarz, *Minimalists* (Phaidon Press, 1996) 60

Chapter 5: *Tehillim* Part IV

5.1 The text of Part IV

Hal-le-lú-hu ba-tóf u-ma-chól,
Hal-le-lú-hu ba-mi-ním va-u-gáv.
Hal-le-lú-hu ba-tzil-tz-láy sha-máh,
Hal-le-lú-hu ba-tzil-tz-láy ta-ru-áh.
Kol han-sha-má ta-ha-láil Yah,
Ha-le-yu-yáh.

Praise Him with drum and dance,
praise Him with strings and winds.
Praise Him with sounding cymbals,
praise Him with clanging cymbals.
Let all that breathes praise the Eternal
Hallelujah.

The text of Part IV is a setting of four verses from Psalm 150 (verses 3-6), a biblical extract which reflects the exuberant nature of much Jewish worship. Psalm 150 is the final Psalm in the biblical collection, a 'hymn achieving remarkable force with equally remarkable economy; a fine conclusion for the sequence of praise running from Psalm 145'.[1] The most significant word in the extract is *Hal-le-lu-hu* and its related imperative *Ha-le-yu-yah* which encapsulates the feverish ecstasy and exaltation of praise. Each of the first four lines of the text begins with the acclamation *Hal-le-lu-hu* and this becomes the most repeated rhythmic feature of the extract.

In the 1970s, Steve Reich adopted an approach to world musics that intentionally avoided reproducing their sound in favour of assimilating their structural techniques. The text of Psalm 150 includes a number of references to musical instruments which must have offered the composer many tempting possibilities. Whilst he makes no claim to have been drawn to the text on that basis, Reich also

appears to want to reproduce some of the sounds associated with the psalm's original usage since he specifically calls for tambourines without jingles that he identifies as being similar to the *tof* (small drum) of Psalm 150.[2]

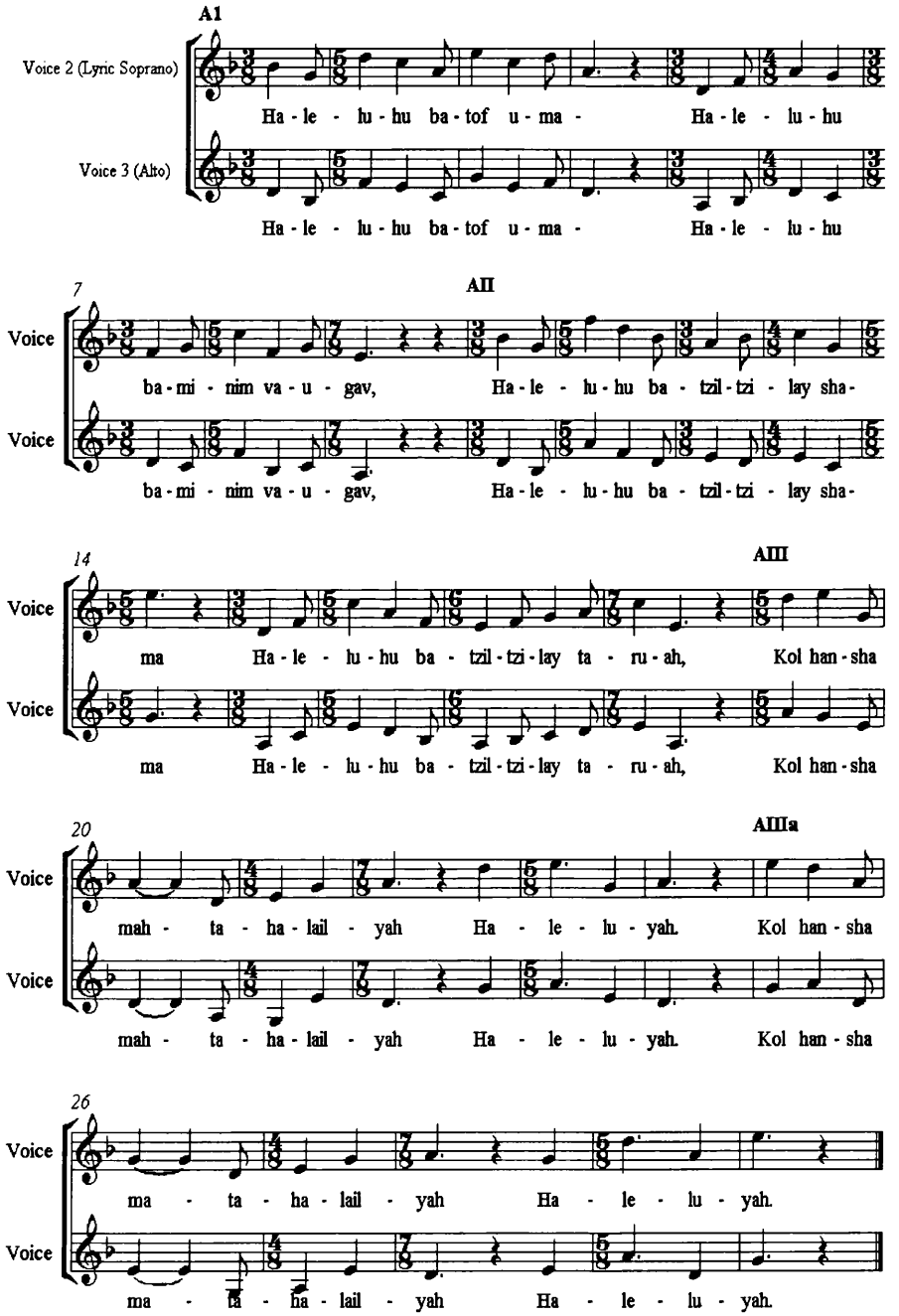
The instruments named in verses 3-6 of Psalm 150 are all utilised to some extent in *Tehillim*: drum, strings and winds. Technically, of course, the 'sounding cymbals' and 'clanging cymbals' of the final verse are not present but they are represented generically through the variety of percussion used: maracas, marimba, vibraphone and crotales. Reich excludes verse 2 which calls for instrumentation not used in *Tehillim* ('Praise him with the sound of the trumpet/Praise him with the psaltery and the harp') but gives no indication for his reason in so doing. Regardless of this musicological content, he maintains that the use of these instruments does not imply the use of Jewish melodies.

5.2 Rhythmic properties of the text

Reich's setting of this fourth text is based on a single melody divided into three phrases (Example 63), sung initially by Voice 2 (lyric soprano) and Voice 3 (alto) in rhythmic unison. The third phrase is repeated in Reich's setting although, in contrast to the earlier melodies, there is some minor thematic variation (of pitch only) in this repetition.

The tempo is crotchet = c.144, the same tempo indicated for Part I of *Tehillim*. This thesis has so far examined the natural rhythms that emerge when these words are read and the level of agreement between the three readings and Reich's setting. Having already assembled considerable evidence in support of the link between

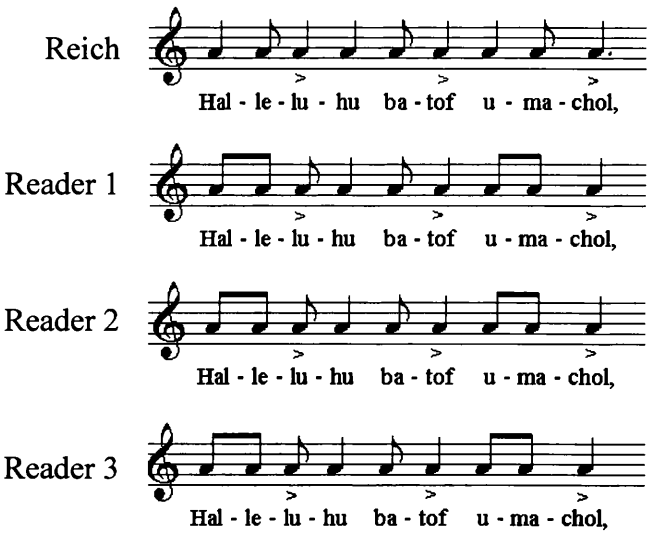
text and music, the question must now be asked for Part IV as to the nature of the relationship between the innate rhythmic structures of the words and the rhythms of the music. The rhythmic construction of each line of Reich's setting will therefore be considered systematically, as before, in the light of the transcriptions of the readings.



Example 63: Part IV Melody, Section A

The first line consists of a setting of the nine-syllable *Hal-le-lu-hu ba-tof u-ma-chol* in which complete rhythmic unanimity emerges between all readers. The opening word *Hal-le-lu-hu* receives a stress on the third syllable – *lu* – and an elongation of the final syllable which propels the rhythm towards the end of the word. Reich's setting of this word stresses the first syllable as well as the third and lengthens the third and fourth syllables. Although this divests the word of its natural sense of anacrusis and emphasis, Reich's approach does reflect the unaccented transitional second syllable (*le*).

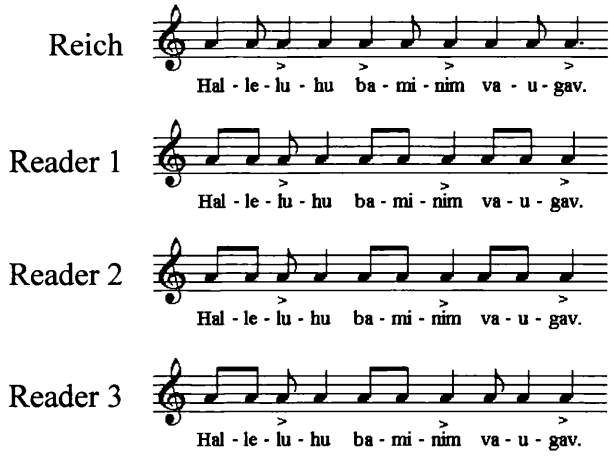
The second word *ba-tof* demonstrates a stronger level of agreement between Reich and the readers since all agree that the stress should be placed on the second syllable (*tof*) with the first syllable (*ba*) short. There is agreement over the placement of stress in the final word of this line *u-ma-chol* as the readers and Reich place the emphasis on the third syllable (*chol*). Reich's setting takes the same approach as at the opening of the line on *Hal-le-lu-hu* in lengthening the first syllable (*u*). This is not, however, placed on the first beat of the bar and its emphasis is therefore less.



Example 64: Comparison of rhythmic stresses in Part IV, line 1

Whilst there is some agreement as to the location of stresses in the first line, Reich's lengthening of the first, third and seventh syllables subtly alters the character of the rhythm produced by the readers. Reich's rhythm makes more use of the *yom-le-yom* (3 + 2) unit from the third line of Part I (2/I/4) and this syncopated effect is really the consequence of converting text to the 3 + 2 rhythms that feature in Reich's approach.

The second line consists of a setting of the ten-syllable *Hal-le-lu-hu ba-mi-nim va-u-gav* in which there is almost complete rhythmic unanimity between all readers with the exception of the final three syllables (*va-u-gav*) in which Reader 3 lengthens (but does not accent) the second syllable.

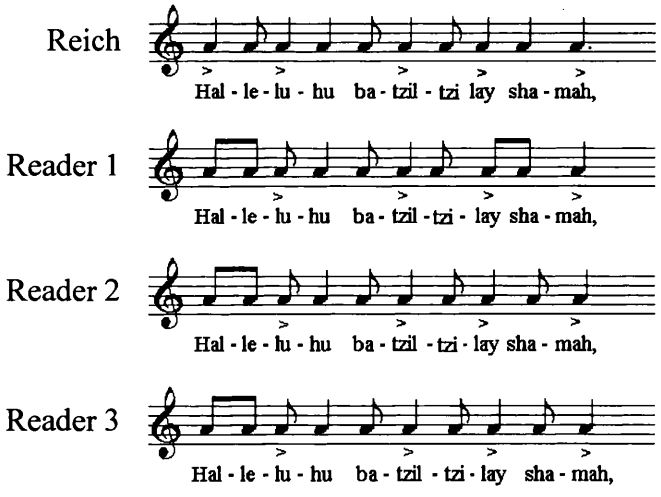


Example 65: Comparison of rhythmic stresses in Part IV, line 2

A consensus emerges from the readings with the first word *Hal-le-lu-hu* which is identical to that of the previous line; in contrast, Reich maintains the same rhythm as before. The second word *ba-mi-nim* produces a similar contrast between the readers' consensus and Reich's setting as the readers emphasise only the third syllable (*nim*) and precede this with two quick syllables on *ba-mi*. Reich takes the same rhythm as he used for *Hal-le-lu* and stresses the first and third syllables, although agreeing with the readings in the short unaccented second syllable (*mi*). A similar approach is taken with the third word (*va-u-gav*) where Reich prefers the 3 + 2 motif to the rhythm indicated by Readers 1 and 2.

In comparing Reich's setting of this line with the rhythms produced through the readings, it is clear that he has taken a similar approach to that of the first line. The setting of these three words relies on the threefold repetition of the crotchet-quaver-crotchet unit. In spite of a number of points of similarity with the readings, therefore, the decision to rely on the 3 + 2 motif shifts the overall rhythm of the line away from the readers' accentuation of the words.

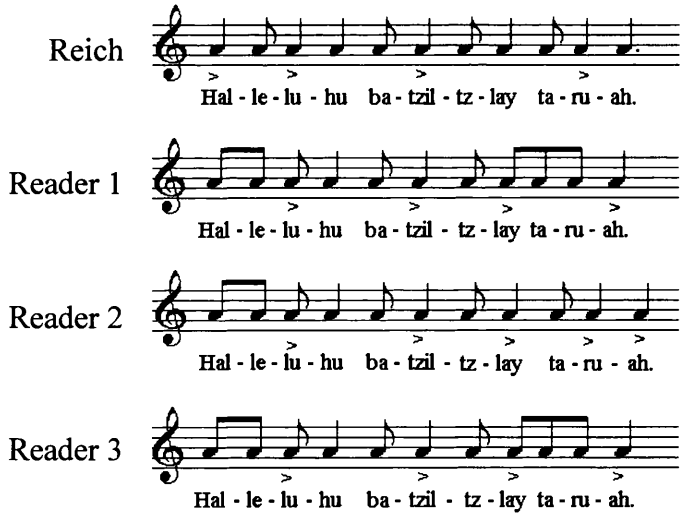
The third line sets a second ten-syllable text, *Hal-le-lu-hu ba-tzil-tzi-lay sha-mah.* In the setting of *Hal-le-lu-hu* the same similarities emerge between the readers as in the first two lines. Reich's setting also takes the same rhythm as in the first and second line and the difference of approach is therefore maintained. There is a greater level of agreement between the readers and Reich in the setting of *ba-tzil-tzi-lay* as both take a common rhythm, although Reich lengthens the final syllable. The readers each place a stress on *tzil* and *lay* and Reich's use of bar lines indicates these same stresses. Both syllables of the final word (*sha-mah*) are lengthened by Reich but with the second emphasised by the positioning of the bar line. The readers also emphasise the second syllable (*mah*) but shorten the first syllable (*sha*).



Example 66: Comparison of rhythmic stresses in Part IV, line 3

Reich's setting of this line is more akin to the rhythm of the readers and this is largely because his syncopated rhythm on *ba-tzil-tzi-lay* grows from the readings. The beginning and ending of the line, however, bear less resemblance to those identified rhythms of the words.

The fourth line is the longest in the text of Part IV and consists of the eleven syllables *Hal-le-lu-hu ba-tzil-tzi-lay ta-ru-ah.* The first two of these words - *Hal-le-lu-hu ba-tzil-tz-lay* – are common to lines three and four. The readers, in each taking the same rhythm as each other in line four, repeat their rhythm from the previous line. Reich also sets these two words to the same rhythm as in the previous line. The three-syllable third word *ta-ru-ah* produces some divergence between the readers. Readers 1 and 3 run these syllables on from the previous word and emphasise the final syllable (*ah*). Reader 2, however, agrees with Reich in allowing a separation between the end of *ba-tzil-tz-lay* and the start of *ta-ru-ah.* Both lengthen the second and third syllables of the word (*ru-ah*) although Reich emphasises only the first one.

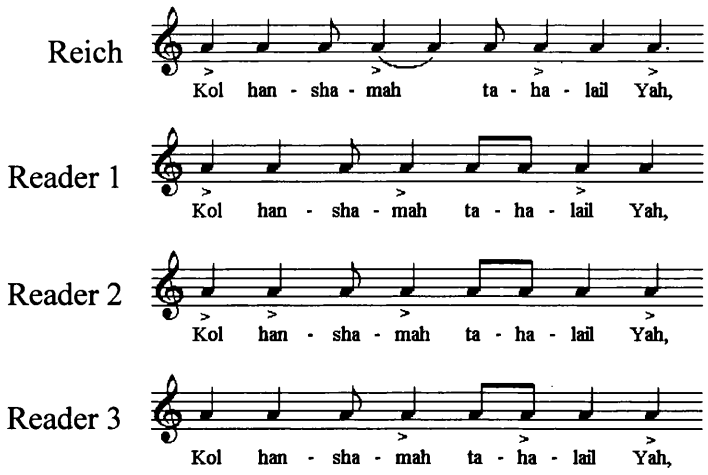


Example 67: Comparison of rhythmic stresses in Part IV, line 4

This line demonstrates a similar degree of correlation between Reich's setting and the readings to that of the previous line and this is because of the assimilation of the rhythm of the words on *ba-tzil-tz-lay* in the middle of the line. Reich's setting of the third word *ta-ru-ah* is supported only by Reader 2.

The fifth line consists of eight syllables: *Kol han-sha-ma ta-ha-lail Yah.* There is complete agreement between the readers as to the rhythm of these words and this is largely reflected in Reich's setting. Reich sets the first four syllables (*Kol han-sha-ma*) to the same rhythm as in the readings but lengthens the fourth syllable to create a more emphatic mid-point to the line. Whilst there are slight differences between the readers and Reich's setting of the fifth and sixth syllables (*ta-ha*), the rhythm of the final two syllables (*lail Yah*) takes a similar approach but with Reich lengthening the final syllable to complete the line.

Despite their unanimity of rhythm, there is significant divergence in their location of rhythmic stresses between the readers. All of them emphasise the mid point of the line on the fourth syllable (*mah*) but this is the extent of their agreement. Readers 1 and 2 emphasise the first syllable (*Kol*) and Readers 2 and 3 stress the final syllable (*Yah*). Reich's setting emphasises all three of these syllables in addition to the sixth syllable (*ha*) which is also stressed by Reader 2. The emphasising of the second syllable (*han*) by Reader 2 and the penultimate syllable (*lail*) by Reader 1 is not supported by either Reich or the other readers.

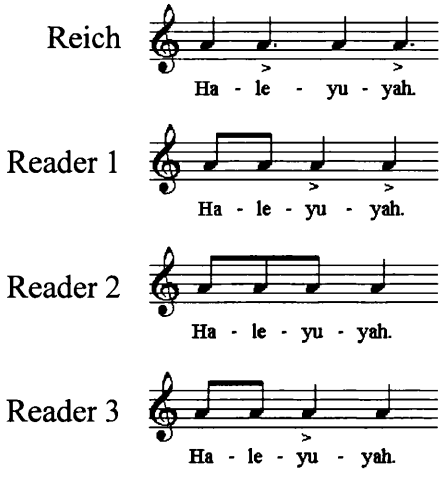


Example 68: Comparison of rhythmic stresses in Part IV, line 5

In comparing Reich's setting of this line with the readers, there is more obvious agreement between them regarding rhythmic patterns than concerning location of the syllabic stresses although the notation alone reveals a high degree of correlation. Following previous practice, Reich introduces a lengthened note at the mid-point of the phrase, the fourth syllable.

The sixth and final line of the extract is the shortest and consists simply of the four syllable word *Ha-le-yu-yah.* Readers 1 and 3 take a similar approach to this word and lengthen the final two syllables (*yu-yah*), Reader 1 emphasising both syllables, Reader 3 emphasising only the penultimate syllable. Reader 2 does not emphasise any syllable more than another but adopts a rhythm reminiscent of that produced by all readers for the word *Hal-le-lu-hu* in lines 1, 2, 3 and 4. Reich lengthens each of the syllables and thereby takes a musical decision to heighten the significance of this word in a way that its natural rhythm would not normally suggest. Lines 5 and 6 are repeated in Reich's setting of the words. The rhythmic construction of this

repetition is the same as for the first occurrence of the lines although there are minor alterations to some pitches in the melody.



Example 69: Comparison of rhythmic stresses in Part IV, line 6

In summary, Reich's approach to the text in Part IV demonstrates several of the natural rhythms of the words as identified by the readers, particularly in lines 3,4 and 5 where the central rhythmic unit of the words is taken up in the music. In lines 1, 2 and 6, Reich's musical decisions complement the rhythms of the words rather than growing directly from them. In particular, the conversion of the text into 3 + 2 motifs adds a distinctive rhythmic effect to the melody that links it to the words and motivic construction of other movements as much as with the specific accentuation of the words in Part IV.

5.3 Reich's setting of the text

Reich sets the text so that, as before, the syllable becomes the basic unit of rhythm. In musical terms, this means that following the crotchet-based melody of Part III, the quaver now returns as the unit of measurement. The six lines of the text are extended into an eight-line stanza through the repetition of the third couplet. This

produces a four-phrase setting where the length of phrase AI and AII is broadly equal and is balanced by two shorter phrases of similar length, AIII and AIIIa.

The effect of setting the words to music, however, is to even out the relative lengths of lines and in particular to produce a balance between AI and AII and between AII and AIIIa. This is seen in the way in which in the first two phrases, the number of beats per phrase is broadly double the number of syllables whereas in each of the second two phrases, there are almost three times as many beats as syllables. In contrast to his approach in Part III, Reich is less concerned with achieving a precise mathematical balance between the pairs of phrases.

Line	**Syllables per line**	**Beats per line (incl. rests)**	**Phrase**	**Syllables per phrase**	**Beats per phrase**
1	9	18	AI	19	40
2	10	22			
3	10	20	AII	21	41
4	11	21			
5	8	19	AIII	12	31
6	4	12			
7	8	19	AIIIa	12	33
8	4	14			

Table P: Rhythmic structure of Part IV melody

The analysis of the readings identified some points at which Reich diverges from the rhythms of the words, most noticeably in his extensive use of the crotchet-quaver-crotchet motif. The syncopated effect produced in so doing gives the melody a powerful rhythmic impetus that Reich harnesses through the widespread use of sub-groupings of 3+2. Whilst these are present through *Tehillim,* their usage in Part IV is clearly derived from Reich's approach to the setting of the words.

Whilst the presence of these sub-groupings throughout the words is not apparent from the readings, Reich clearly perceived the words to contain such units. They are therefore strongly in evidence throughout the initial statement of the melody and Part IV demonstrates a thoroughgoing use of 3+2 units as a rhythmic device in a way that builds on the natural rhythmic structures present in the words.

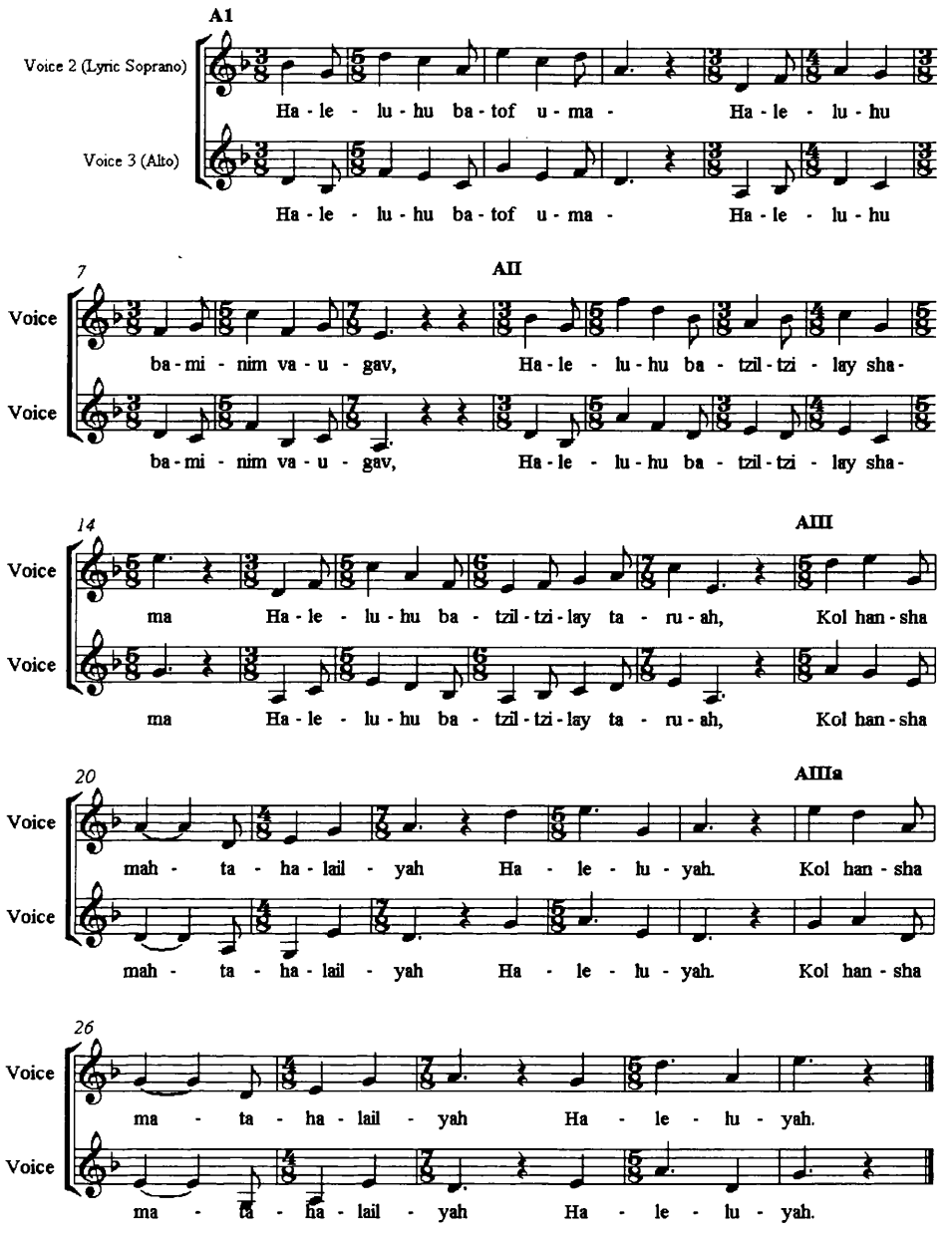
Section	**Rhythmic Structure**	**Length in beats**
Phrase AI (first line of text)	3+5+5+5+3+4+3+5+7 *Reduction based on indicated components of 3& 2* 3/2+3/2+3/3+2/3/2+2/3/2+3/3+2+2	40
Phrase AII (second line of text)	3+5+3+4+5+3+5+6+7 *Reduction based on indicated components of 3& 2* 3/2+3/3/2+2/3+2/3/2+3/3+3/2+3+2	41
Phrase AIII (third line of text)	5+5+4+7+5+5 *Reduction* 2+3/2+3/2+2/3+2+2/3+2/3+2	31
Phrase AIIIa (third line of text, repeated)	5+5+4+7+5+7 *Reduction* 2+3/2+3/2+2/3+2+2/3+2/3+2+2	33

Table Q: Rhythmic sub-groupings in Part IV melody

5.4 Melodic considerations

As with the other movements in *Tehillim* the setting of the text is syllabic. The melody consists of four phrases, already outlined above (see Table P) and is characterised by considerable rhythmic energy and a preponderance of melodic leaps. As in Part II, it is stated initially by Voice 2 (lyric soprano) and Voice 3 (alto).

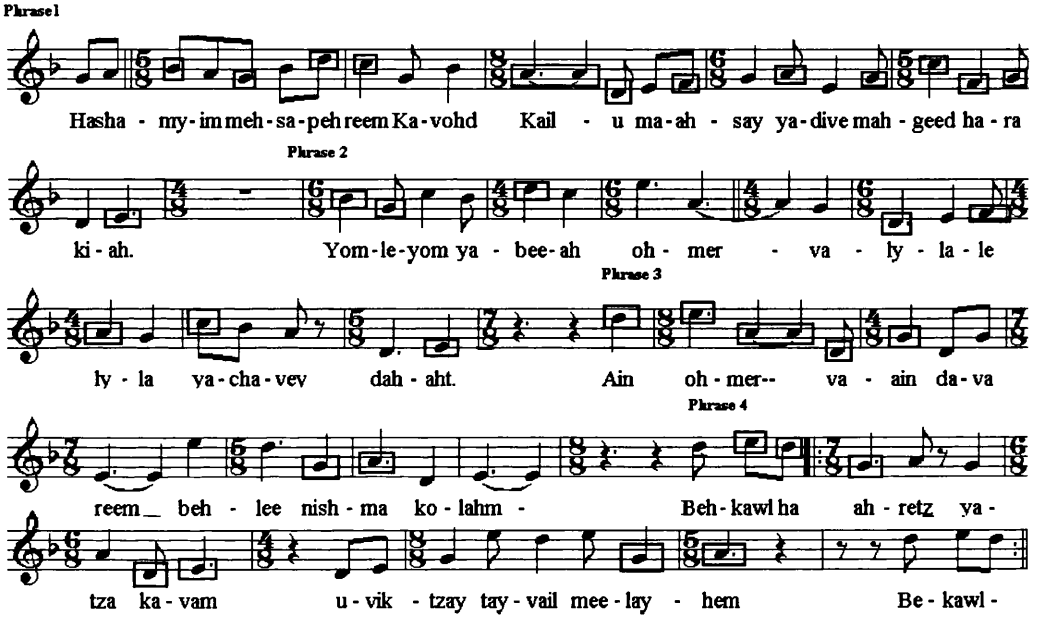
The word *Hal-le-lu-hu* occurs four times within the text and Reich attempts to reflect the significance of this recurrence in the way he sets the word. In phrase AI he uses three-note triadic motifs for *Hal-le-lu-hu* (213/I/1-2 and 213/I/5-6) and develops this into a motif of similar length in phrase AII, this time based on a bigger interval of a minor seventh. The setting of the complementary, and concluding, word *Ha-le-yu-yah* in phrases AIII and AIIIa is not given the same rhythmic vitality, however, and this has already been observed in the comparison of Reich's rhythm with the readings. Reich sets *Ha-le-yu-yah* to a four-note melodic motif consisting of the pitch classes G, D, A, E, the four notes used as drones in both Part I and Part IV. The motif is stated twice in phrase AIII as D-E-G-A and is subsequently altered in phrase AIIIa, firstly to E-D-A-G and finally into a motif based on rising fifths, G, D, A, E.



Example 70: Part IV melody, Section A

Following the practice established in the first three movements of *Tehillim,* Reich uses this melody as the basis for the whole of Part IV. The melody itself is clearly derived from the melodic material of Part I and whilst Schwarz goes much further in claiming that 'each verse of Part Four can be viewed as a free melodic version on the respective verse of Part One',[3] it is certainly possible to identify specific melodic features shared by the two melodies.

The text of Part IV is significantly shorter than that of Part I (52 syllables in comparison with 73 syllables) and consequently, given Reich's choice of syllabic style, requires fewer notes. In spite of both this textual dissimilarity and the homophonic scoring of the Part IV melody for Voices 2 and 3, a number of significant points of overlap may be traced between the Voice 2 melody of Part IV and the melody as stated initially by Voice 2 in the first movement. These similarities are identified as follows.



Example 71: Part I melody with shape of Part IV melody indicated

The first phrase (213/I/1 – 214/I/2) falls into two halves with the triadic motif on *Hal-le-lu-hu* derived from the Part I melody. The rhythm used for *Hal-le-lu-hu* is the same as that used for the setting of *yom-le-yom* at the opening of the second line of Part I. The division of the phrase into two halves, as before, continues to reflect the binary structure of the Hebrew poetry. The two cadences, one half-way through on the note A and the second at the end of the phrase on the note E, are the same as those used in the corresponding phrase in Part I.

These cadence points also emphasise the tambourine drones on A and E, although the statement of the Part I melody is initially for a single drone on A. In Part IV, Reich separates the two halves of phrase AI by two quaver beat rests in contrast to his method (in Part I) of separating the halves by means of a sustained note in the middle of the phrase. This separation of the halves of the phrase is copied in the second phrase (214/I/3 – 215/I/4). Here, however, Reich has less widespread imitation of note patterns of the corresponding phrase from Part I although the *Hal-le-lu-hu* rhythm is common to the opening of both. In both Part I and Part IV the phrase is divided into two halves with a final cadence on E.

Phrases AIII and AIIIa bear the strongest similarities to the corresponding phrase of the Part I melody as a result of their dependence on the four central pitches of A, E, D and G. Reich significantly stresses that this is intentional: 'This four note scale – recurring later on "Halleluyah" at the end of the piece – supplies one of the basic means of harmonic change in the piece and was suggested by the text'.[4] This is an important observation since in Part IV (as in Part I) the entirety of the phrase is constructed using these four pitches. In Part IV, however, Reich calls for only two of them in the tuned tambourines – A and E. We have already discussed in Part I the many harmonic possibilities offered by these four pitches and their role in Part IV will be considered later. The final phrase, IIIa, acts as a coda (216/I/5 – 217/I/4) and shares a similar shape and pitch outline with the Part I melody but no exact coincidences of pitch.

5.5 Analytical commentary on Part IV

As in Parts I, II and III, the melodic material of the opening statement (213/I/1 – 217/I/4) provides the basis for each section of the movement. The similarities between the melodies of Part I and Part IV have been noted above and Reich further establishes linkage between these two movements by creating structural similarities. The overall structure of Part IV bears some similarities to that used in Part I since the movement sub-divides into three broad sections (although in Part IV the setting of *Halelujah* acts as a coda).

Exposition	Page/system/ bar number	Rehearsal letter
Statement of melody	213/I/1	A
Second, canonic statement of melody	217/I/5	B
Canonic development		
Canonic treatment of phrase AI only by all 4 voices	222/I/1	C
Canonic treatment of phrase AII only by all 4 voices	229/I/1	G
Canonic treatment of phrase AIII only by all 4 voices	233/I/1	J
Recapitulation		
First augmentation of the initial melody in its entirety for Voices 2,3 and 4	238/I/1	O
Instrumental interlude	246/I/1	P
Second augmentation of the melody for three voices	252/I/1	R
Coda		
Coda for four voices and full instrumentation.	261/I/1	S

Table R: Structural Layout of Part IV

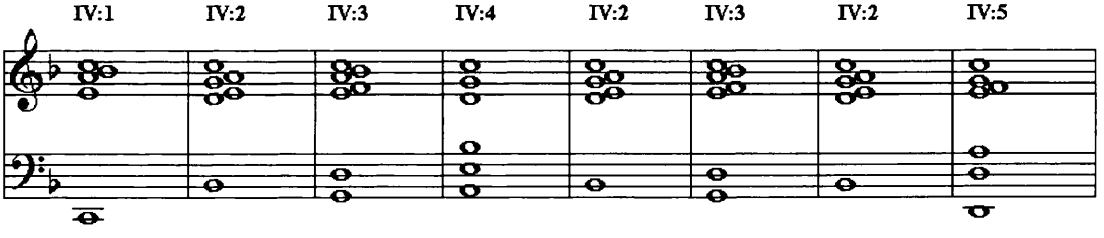
As in Part I, there are three sections (Exposition – Development – Recapitulation) and Reich now adds a Coda for Part IV. The exposition consists of two statements of the melody in its entirety although he now introduces a canonic statement of the melody within the exposition. In Part IV Reich brings together – in the same movement – the two central techniques of canon and augmentation that have formed the basis of his thematic development throughout *Tehillim* but which have been previously kept separate. The third, fourth and fifth sections work through a

canonic treatment of a single phrase, AI, AII and AIII respectively. In this overall development section, the repetition of the melody (AIIIa) is not used, however, as the basis of a canonic section. The 'recapitulation' functions as a repeat of Reich's other compositional techniques in *Tehillim*: the use of thematic augmentation (in the sixth and eighth statements of the melody) and the use of a purely instrumental interlude (minus the melody) in the seventh statement. The Coda consists entirely of seventeen statements (not counting lower voices) of the word *Hal-le-lu-yah.* Further similarities in the structures of Part IV and Part I are reflected in the tempi of the two sections. The opening tempo of Part IV (crotchet = ca.144) is identical to the opening tempo of Part I and the coda of Part IV (crotchet = 160) is the same as the tempo of Part II.

The first statement of the melody is in Section A (213/I/1) and Reich labels each phrase as a different section (AI, AII, AIII and AIIIa). He sets the text as a two part note-against-note vocal texture for Voice 2 (lyric soprano) and Voice 3 (alto). The first half of phrase AI starts with the voices a sixth apart, the second half of the phrase being mixed but with a predominance of fifths between the parts. Both parts move in similar motion and this pattern is replicated in phrase AII but with a more flexible approach to the intervals between the voice parts. In phrase III there is less similar movement between the parts. Following the fade out at the end of Part III, the voice parts return to *mf* and this dynamic marking is applied to all the instrumental lines, notwithstanding the accent markings for the chords in the string parts.

The two tambourines provide a stable rhythmic pulse that contrasts with the rhythmic stresses created by the frequent repetition of *Hal-le-lu-hu* with its stress on the first and third syllables. Whilst the two parts have overlapping rhythms for almost all of the section, phrases AI and AII and AIIIa end with a common rest to delineate the end of the section (although phrase AIII runs into phrase IIIa with no common rest). Tambourine 2 makes use of the *Clapping Music* motif highlighted earlier, although this time the motif also appears reversed. Three 'retrograde' statements occur at 214/I/1-2, 216/I/1-3, 216/I/4-6 with two further statements of the motif appearing in its original form to link phrases AIII and AIIIa (216/I/4-217/I/2). There is no use of canon within the drone parts, however.

These Tambourine drones are on A and E (as in Part I) with both of these notes being incorporated into each of the chords used within the section. The string chords are introduced in the second bar of the movement (213/I/2), much earlier than in previous movements; the sequence of eight chords is indicated below.

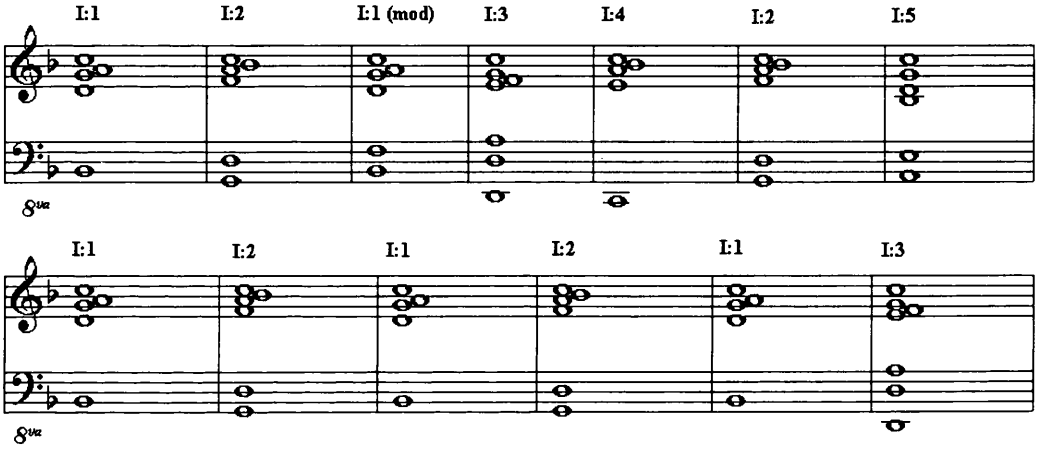


Example 72: Part IV Chords – Section A

The sequence is composed of five different chords which occur in the order IV:1 IV:2 IV:3 IV:4 IV:2 IV:3 IV:2 IV:5, each of them positioning the note C at the top of the chord. These chords are of irregular length and do not correspond to the beginnings and ends of the four phrases. Whilst the chords overlap the phrases of the melody, there is little evidence of their systematic use. The first two entries in

phrase AI serve to emphasis the third syllable of *Hal-le-lu-hu* (213/I/2 and 213/I/6) although subsequent entries do not correspond with other syllables stressed in the readings.

The link between Parts I and IV is also reflected in the apparent similarities between the chords in both movements. Each of the chords in the sequence outlined above is reproduced exactly or with modifications from the five chords in the initial chord sequence in Section D of Part I.



Example 73: Part I, Section D, chord sequence

Three of the five chords in Part IV are taken exactly from this Part I sequence, although the Part IV sequence places them in different positions. Chord IV:I exactly matches Chord I:4, Chord IV:4 is identical to Chord I:5 and Chord IV: 5 is identical to Chord I:3. The remaining two chords are modified slightly from chords occurring in Part I. Chord IV:2 is an adaptation of Chord I:1, with an additional treble clef E being inserted; Chord IV:3 is derived from Chord I:2 but with an additional treble clef E. In the case of these latter two chords, the additional E ensures that the drone notes are present throughout the chord sequence.

The second statement of the melody begins at Section B, 217/I/5. Voice 3 (alto) is now replaced by Voice 1 (lyric soprano) and the melody is treated canonically by these voices with voice 2 entering at 8 beats distance from Voice 1. The change of voice parts is marked by a concurrent change of doublings of the melody in the woodwind parts. The Oboes, English Horn and Bassoon that doubled Voice 3 give way to clarinet doublings where Voice 1 is doubled by Clarinet 1 and Voice 2 is doubled by Clarinet 2.

Whilst the length of each phrase (and therefore the entire section) does not vary from the first statement, the time signatures of individual bars do vary as a result of Reich's desire to retain the stresses on individual words within the contrapuntal texture and through notational compromise to allow the canon to work. The melodic line is preserved in its entirety in Voice 1 but, following the technique established in Part I, Reich makes minor adaptations to Voice 2 through the addition of passing notes into the melody (218/I/1 and 219/I/3). Within this closely stated counterpoint, the parts cross frequently and the melody is regularly obscured.

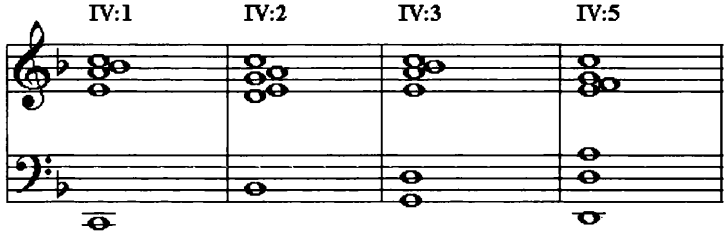
The drones and the rhythmic backing come from the two tambourine parts, as before, and they are again built into the top half of the chord sequence. This is identical to the chord sequence used in section A with the same groupings of notes and bass lines. Whilst the chord sequence does not change, however, the length of each chord is different and there are no similarities between the length of each chord in Section A and the length of the same chord in Section B. In Section A, the first two chords are separated from the third chord by five beats rest. This chord is, in turn, separated from the remaining five chords by two beats rest. This

produces an irregular grouping: a block of two chords, a single chord and a block of five chords. In Section B, Reich regulates the distance between the chords or groups of chords at three beats: three initial chords are separated from the next two by a gap of three beats rest with a further three beats rest before the third chord. There is yet another three beat rest before the final two chords.

The central development section begins at Section C, 222/I/1 and this introduces more complex contrapuntal textures based on individual phrases of the melody for all four voices, following the model established in Part I (27/I/1-62/I/4). The first section consists of a canonic treatment of phrase AI by all four voices and that phrase appears five times in this section 222/I/1-228/I/6. Whereas in Part I, each canonic section is repeated with the result there are twice the number of repetitions in total, in Part IV no repetitions are indicated. All four voices enter in number order, starting with Voice 1, and this means that the highest voice, Voice 4, enters last. The entries are at 8, 4 and 3 beats distance from each other.

The voice doublings change again and the electronic organs used in Part I now return with each of the four voices now being doubled by an organ line rather than woodwind; the maracas also returns playing constant semiquavers. The similarities between this and Reich's use of electronic organs in *Four Organs* has been commented upon in the analysis of Part I. The drone parts fade out at the start of this section and finish at 222/I/5. They are then tacet within this canonic development of the phrase AI although the drone notes of A and E are retained within the chord sequence of this section.

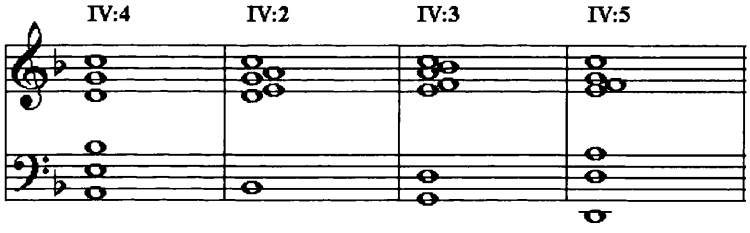
This section is based on four of the five chords (IV:1, IV:2, IV:3 and IV:5) taken from the sequence used in Sections A and B to accompany the melody as a whole. The chords appear in that order and Reich sustains each one for considerably longer than in sections A or B. The first chord begins once the canon is established at 222/I/5 and does not coincide with a rehearsal letter. Subsequent changes of chord in this section, however, coincide with the beginning of sections D, E and F.



Example 74: Chords underlying first canonic section (Section C – Section F)

Sections G, H and I treat phrase AII in the same canonic manner, again with all four voices entering in number order and with each voice part doubled by the same organ lines as in the previous section. Voice 2 enters at 5 beats distance to Voice 1 although Voice 3 and Voice 4 entries are at the same distance as in the previous section, 4 and 3 beats respectively. The canon is based on only three statements of phrase AII which contrasts with Reich's practice in Part I where each phrase of the melody becomes, in turn, the basis for a canonic section. The time signatures in this phrase have only one slight adaptation from the initial statement of the melody (231/I/2) and the word stresses are the same as before. Voices 2, 3 and 4 now contain additional auxiliary notes such as at 229/I/3 (Voice 2), 229/I/5 (Voice 3) and 230/I/2 (Voice 4).

The maracas continue as in the first canonic development to ensure the rhythmic impetus of the section but the tambourine drones remain tacet. The previous drone notes of A and E continue to be incorporated with the string chords in this section, however. Four chords - 2, 3, 4 and 5 - are used within this section, each drawn as before from the initial five chords of section A, although they appear in the order IV:4, IV:2, IV:3, IV:5. There is no correlation between the lengths of these chords and the length of the chords in the previous section. Chord 5 is treated here, as in the previous section, as a concluding chord and, although it is not used functionally, its bass note of D might bear out something of Reich's assertion of D as the home key for the piece.

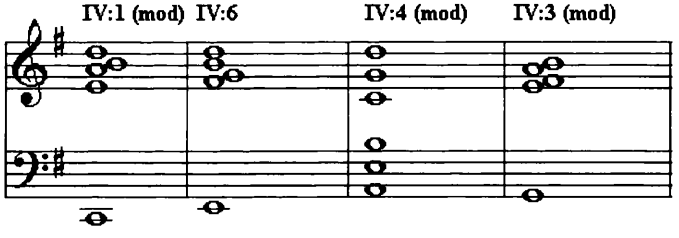


Example 75: Chords underlying second canonic section (Section G – Section I)

The third canonic section begins at Section J, 233/I/1. In this section, phrase AIII is treated canonically in a similar contrapuntal manner to the previous two phrases. Phrase AIII appears five times, the same number of statements as phrase AI in the first canonic section. The canon is again for all four voices and these enter in the same order as before although the entries between the parts are now more broadly separated at 7, 9 and 7 beats distance and the time signatures of almost all bars are changed from those in section B. The melodic line is stated exactly in each of the parts and is doubled by an organ line as before. The key signature changes from one flat to one sharp at 233/I/5 and this continues to the end of the section at 237/I/8 but this has no effect on the melodic lines. As in the previous two canonic

sections, the tambourine drones remain tacet whilst the maracas continue throughout the section.

The harmony is, however, affected by this change of key signature and an adapted sequence of four chords is introduced. The first chord is a version of chord 1 from Section A with the second chord relating to chord 3. The third chord retains the character of chord 4 from the previous sequence despite the change of key signature with the final chord being an adaptation of chord 2. The naturalised B appears in all four of the chords used and the $F^{\#}$ in the second and fourth. The A and E drone is present in all but the second chord of this new sequence. The first chord begins at 233/I/6 and continues until the end of the second statement of phrase AIII at 234/I/8. Thereafter the third, fourth and fifth statements of the phrase coincide with the change of chord and are indicated by the rehearsal letters L, M and N respectively.



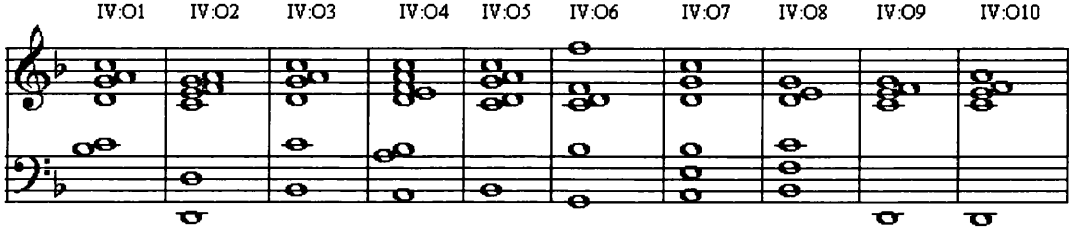
Example 76: Chords underlying third canonic section (Section J – Section N)

The 'recapitulation' section of Part IV begins at Section O, 238/I/1 where the key signature returns to one flat and the tempo increases via an accelerando to crotchet = 152. Whilst not a strict recapitulation as such, this section consists of two augmented re-statements of the whole of the initial melody, separated by an instrumental interlude.

The first augmentation of the initial melody occupies the whole of Section O and is for voices 2, 3 and 4. These are doubled by English Horn/Bassoon, Oboe 1 and Clarinet 1 respectively. Phrase OI retains the same melodic structure as the initial melody but with augmentation. The second phrase expands the melody both melodically and rhythmically by splitting the phrase into two sub-phrases, OII and OIIa. The voice writing is homophonic throughout the section but there are textural variations in the use of the voices. The first of these sub-phrases (240/I/1-241/I/4) calls for all three voices in 3-part consonant triads whilst the second (241/I/5-242/I/4) is for the lower Voices 2 and 3. The third phrase is similarly divided into phrases OIII and OIIIa and this marks the first non-canonic variation of texture within a vocal phrase as Voice 4 (high soprano) is used only to reinforce the beginning and end of the phrase (243/I/1/2 and 245/I/1-4), leaving Voices 2 and 3 exposed for the remainder of the phrase. The doubled woodwind parts copy the vocal entries exactly. The intervals between the parts are adapted from their first appearance in section A so that the first half of the new phrase OI (238/I/1-238/I/4) moves entirely in parallel sixths to contrast with the second half (239/I/1-239/I/5) which moves almost completely in fifths.

The maracas continue throughout the section and the tuned tambourine drone is reintroduced in the course of the first phrase of the melody at 238/I/4. This is initially on A but becomes a two-note drone once the quicker tempo is fully established at 239/I/5. The drone then remains on A and E for the remainder of this section. Whilst there is no use of canon between the drones, the *Clapping Music* Basic Unit is used in the Tambourine 2 drone at 244/I/3-5 and 245/I/2-4. It is also used in retrograde in the same part at 240/I/4-241/I/1.

The drone notes of A and E appear intermittently within the chord sequence of this section with only the second and third chord containing both drone notes. Only the sixth chord in this section contains neither of the drones. The chord sequence does not begin until after the start of phrase OII (240/I/3) and Reich now introduces a sequence of eight sustained chords with a further two short emphatic chords to complete the section at 245/I/2 – 245/I/3. The chords are based on derivatives from chords IV:2, IV:3, IV:4 and IV:5 in the original sequence in section A although Reich now moves away from his earlier technique of keeping the highest note the same in each chord.



Example 77: Part IV Chords – Section O

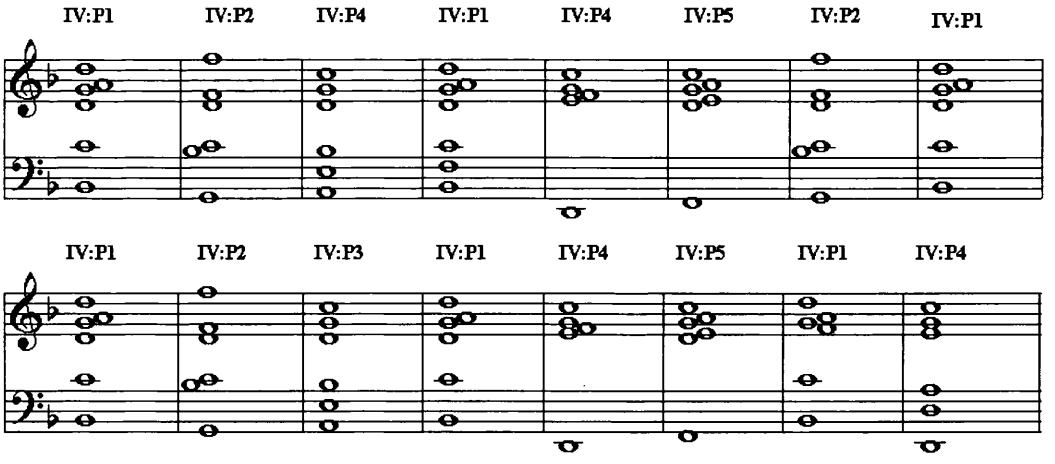
Within this sequence of ten chords, the first, third, fifth and eighth chord are derived from chord 2 in Section A, with the second, ninth and tenth chords being adapted from chord 3 in that section. The seventh chord is identical to chord 4 in section A (the only chord to be reproduced exactly in this section) with the fourth chord being a derivative from it. The sixth chord bears least similarity to the earlier sequence although there are discernible links with chord 3.

Section P comprises an instrumental interlude between the two augmentations of the melody in the recapitulation. Although the melody is not present here, its rhythmic structure is still evident (although truncated since there is no phrase PIII). This technique was previously used in Part II of *Tehillim* as a means of providing a

contrasting instrumental section whilst still using rhythmic structures derived from the phrases of the text. The voice and woodwind parts are tacet, leaving only the maracas, tambourine drones and sustained string chords. The maracas continue as previously and the drones move to A and G for the entire section.

This section contains sixteen chords, allocated equally between each of the four sections of the melody although there is no regularity regarding the length of each chord. As in the previous section, the chords are derived from the sequence in Section A with chords PI and P5 being derivatives of IV:2 and chord P2 being broadly adapted from IV:3. Chord P3 is an exact replica of IV:3 (the only such restatement in this section). Chord P4 is derived from IV:5 and Reich uses this to give emphasis to the D octave at the bottom of the chord.

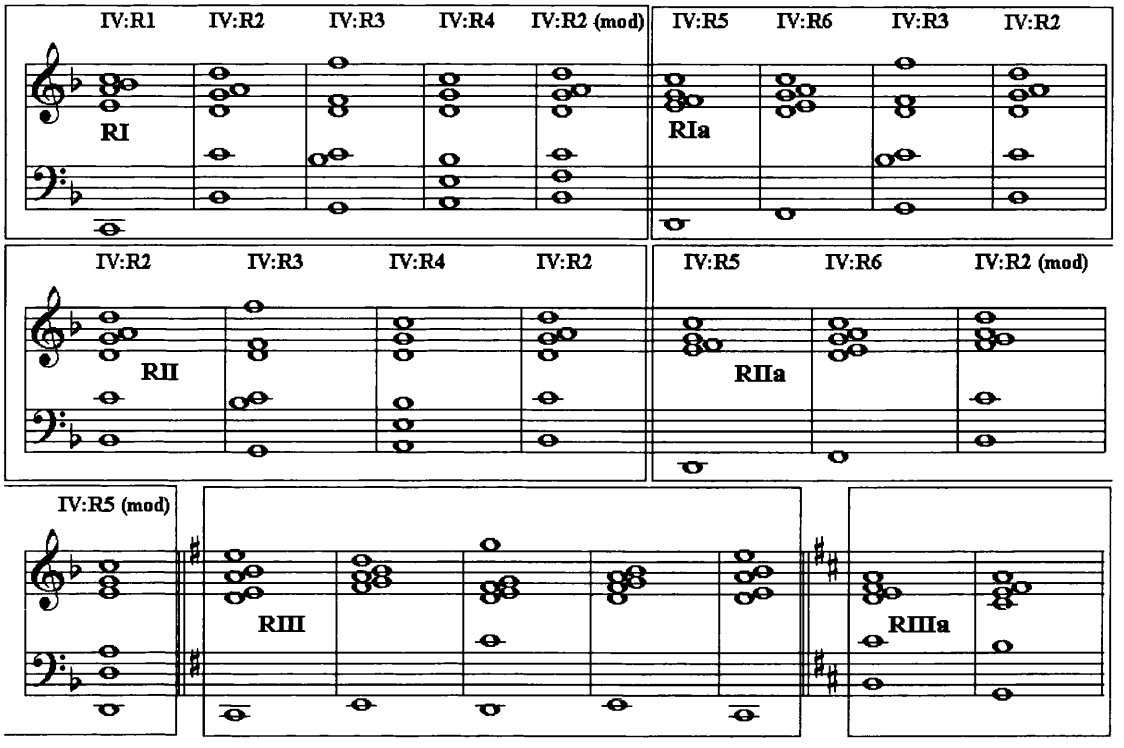
Apart from this emphasis of the D centre in this final chord, there is no functional harmonic approach in the use of the chords. Phrase PI uses the chords in the order P1 – P2 – P3 – PI with phrase PIa taking the order P4 – P5 – P2 – P1. Phrase PII restates the same sequence as the first phrase (P1 – P2 – P3 – PI) and therefore provides symmetry. Phrase PIIa initially follows the order of Phrase PIa but then changes the sequence to move towards the D-based chord in the sequence P4 – P5 – P1 – P4.



Example 78: Part IV Chords – Section P

Reich indicates in the score that there is no Section Q – although he gives no reason for this – and Section R therefore follows Section P with a change of key signature to one sharp. This section contains a second augmentation of the melody set homophonically with voices 2, 3 and 4 moving in parallel triads. In contrast to Section O, all three voices are used throughout with no variation of texture, although the phrases are delineated in the same manner as in Section O with the third phrase now restored. The melody is treated freely with considerable embellishment of the vocal lines.

Each voice part is doubled by a woodwind part: Voice 4 is doubled by Clarinet 1, Voice 2 by Oboe, Voice 3 by English Horn and Bassoon. The voice parts have a broader tessitura, particularly Voice 4 which rises as high as $c^{\#'''}$ at the end of the section. The maracas continue as before and the tambourine drones return to A and E although these drones are not contained within all of the chords. The drone parts do not operate in canon although Reich makes use of the *Clapping Music* motif at 255/I/2-3, 257/I/2 in Tambourine I and at 254/I/2-3 and 256/I/3 in Tambourine II.



Example 79: Part IV Chords – Section R

The harmony in this section is considerably more extensive and consists of a sequence of twenty-four chords, subdivided into six sub-groups, each coinciding with a phrase of the augmented melody: RI, RIa, RII, RIIa, RIII and RIIIa. Phrases RI, RIa, RII and RIIa are constructed from six chords, labelled above as R1 – R6. These are based on the chord sequence stated in Section A. The five chords in phrase RI have only slight alterations to the earlier ones and appear in the same order as in section AI: 1 – 2 – 3 – 4 – 2. Phrase RII moves away from this structure and, in introducing two new chords, uses the sequence 5 – 6 – 3 – 2. Phrase RII returns to the same chord sequence as RI but this time omits the first chord of the sequence, thus leaving 2 – 3 – 4 – 2. Phrase RIIa has the first two chords from RIa but then uses chord 2 followed by a variation of chord 5. The change of key signature to one sharp in phrase RIII introduces a new series of four chords based

loosely on the sequence 2 – 6 – 5 – 3. Phrase RIIIa introduces a final sequence of three chords of which the first is identical to the initial chord in phrase RIII. The second and third chords fall within a new key signature of two sharps.

Part IV ends with a finale consisting of seventeen statements (in the upper voices) of *Hal-le-lu-yah.* This begins at 261/I1 – letter S – and the tempo immediately increases to crotchet = ca. 160. This increase in speed from the previous crotchet = ca. 144 is the same as the difference in tempo between Part I and Part II. The instant change of tempo in both instances contrasts with the gradual accelerando between Part II and Part III. Reich now calls for the entire instrumental and vocal forces established throughout *Tehillim*, including some not used previously in the piece (i.e. Piccolo and a semi-independent Crotales part which moves between doubling Voice 4 and providing imitative interjections).

The Maracas part is constant throughout; the drone parts (although present throughout) contain some variations. The tuned tambourines remain constant on A and E throughout the section, irrespective of the changes of key signature and are joined by a second set of drones in Vibes 1 and 2 for which Reich adds the performance instruction to use medium hard wool mallets. The highest note within the resulting four-part drone is always the repeated A of Tambourine I, whilst the lower point of the drone varies. At two points (261/I/1-262/I/1 and 264/I/5-265/I/2) the drones sound the four notes A, G, E and D established in phrase AIII of the initial statement of the melody (215/I/5-6) and derived from phrase AIII of the Part I melody (2/III/2-3). The drones are paired rhythmically with Vibes 1 doubling the rhythm of Tambourine 1 and Vibes 2 doubling the rhythm of

Tambourine 2. Whilst there is no canonic relationship between the pairs of drone parts, the *Clapping Music* Basic Unit appears at 265/I/2-3, 266/I/1-2, 267/I/2-3, 267/I/4-5 and 268/I/3-4 (Vibes 1 and Tambourine 1) and at 270/I/3 (Vibes 2 and Tambourine 2).

The voices are paired in the same manner as previously, Voice 4 with Voice 1 and Voice 2 with Voice 3. Each of the four voices is doubled by at least one other part. Voice 4 is doubled by Oboe, Clarinet 1 and the upper line of Organ I; there is an additional doubling at the octave by the Piccolo, newly introduced here. Voice 1 is doubled only by Clarinet 2 and the lower line of Organ I and this imbalance in favour of the upper part of each pair is reflected in the treatment of the other two voices. Voice 2 is doubled by English Horn, the upper line of Organ 2 and additionally at the octave by the Flute; Voice 4 is doubled only by Bassoon and the lower line of Organ II.

The seventeen statements of *Hal-le-lu-yah* (as delineated by the upper voices) divide into five sub-groupings, differentiated by the vocal textures employed by Reich; these sub-groupings are not explicitly indicated in the score. The first two settings of *Hal-le-lu-yah* are between 261/I/1 and 263/I/1 where Reich sets the word antiphonally for paired voices (Voices 1 and 4 form the upper pair with Voice 2 and 3 forming the lower pair), the first pair of voices sustaining a final dyad above the *Hal-le-lu-yah* of the second pair (261/I/2-262/I/1 and 262/I/3-263/I/1). This follows the approach established by Reich throughout Part III.

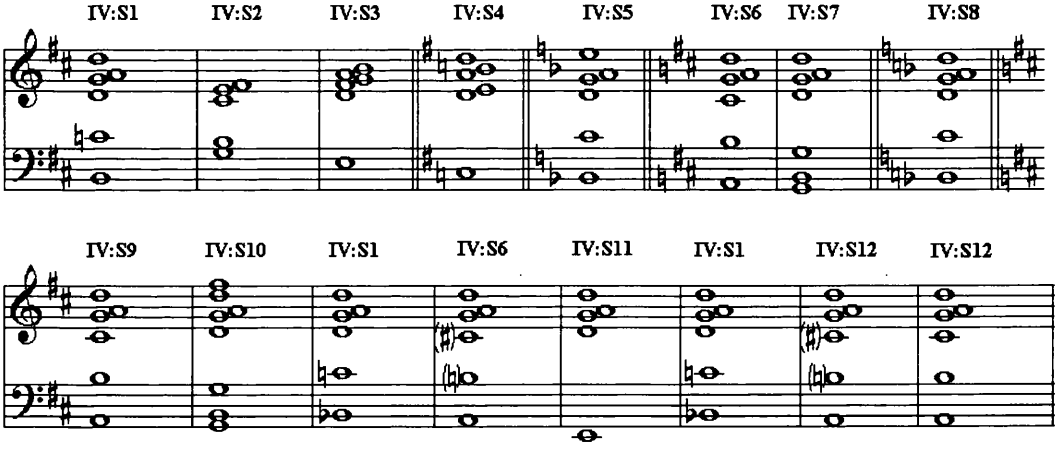
The vocal texture changes between 263/I/1 and 263/I/5 as Reich presents a further two statements of *Hal-le-lu-yah* for Voice 4 and Voice 1 in a two-part homophonic texture. At 263/I/5 this broadens to a three-part homophonic texture between Voices 1, 3 and 4 for three more statements of *Hal-le-lu-yah.* During these three declamatory statements, the key signature moves to one sharp at 264/I/2 and again to one flat at 264/I/5, returning again to the 'home' key signature of the section, two sharps, to coincide with the final syllable (*yah*) at 265/I/3.

The fourth sub-grouping is from 265/I/4 (last beat) to 268/I/2 where Reich returns to the antiphonal structure of the opening of this section for the next three statements of *Hal-le-lu-yah.* In addition to the augmentation of the final syllable, the last of these three statements makes use of some auxiliary embellishment on the second syllable (*le*) at 267/I/3 (Voices 4 and 1) and 267/I/5 (Voices 2 and 3). Within this section, there is another brief change of key signature to one flat between 266/I/6 and 267/I/4 and, for the only time in *Tehillim*, Reich offers advice to the singers, piccolo and clarinet players on an optional breathing point at the key signature change of 266/I/6.

The fifth and final sub-grouping of this section begins at 268/I/2 (last beat) and continues to the end of the piece. It consists of seven statements of *Hal-le-lu-yah*, a number perhaps reflecting the symbolism of that number within the Jewish tradition – the number of days in which the creation of the world was completed in Genesis and a number applied to worship in Psalm 119:164 'seven times a day I praise You'. Each of these seven statements of *Hal-le-lu-yah* is set homophonically for all four voices. The key signature remains constant here

although there is some ambiguity between the major and minor use of the key of D as Voice 4 moves between $F^{\#}$ and F natural (268/I/4, 269/I/3, 270/I/2, 271/I/1), an ambiguity not clarified in either of the last two statements of *Hal-le-lu-yah* which contain no third in spite of the climactic use of these chords and their untypical (for Reich) dynamic marking of *fortissimo*.

There are sixteen chords played by the strings within this setting of *Hal-le-lu-yah* and these vary in their manner of introduction. These chords are the most complex within Part IV and move away from the original sequence of Section A. Some chords are built up from individual string entries (1, 2, 8, 9, 14) with others consisting of *tutti* entries (3, 4, 5, 6, 10, 11, 12, 13, 15 and 16). The seventh chord is *tutti* except for the contrabass entry. In chords 3 to 6, Reich uses a repeated contrabass motif derived from the initial *yom-le-yom* motif from the text of Part I.



Example 80: Part IV Chords – Section S

Reich claims that 'the last movement affirms the key of D major as the basic tonal centre of the work after considerable harmonic ambiguity earlier'.[5] This assertion is not entirely borne out through analysis of this final chord sequence, however.

Whilst only the second and third chords do not contain the note D, the remainder of the chords emphasise the note D rather than D major as a harmonic centre. Throughout the section, the note D is almost always highest in the vertical layout but the tonal centre of D is ultimately understated since there is no functional bass line and none of the chords ever contains the tonic in the bass. Even in the two final chords, Reich uses more dominant than tonic components of D major and whilst the text may finish with a triumphant and unambiguous declaration of *Hal-le-lu-yah* the accompanying chords contain harmonic ambiguities.

In summary, Part IV acts as a consolidation of the entire piece and makes use of material and techniques used earlier. Much of the thematic material is derived from the melodic material of Part I as is the choice of tempo and overall structure. The use of an instrumental interlude in the final section of Part IV is derived from Part II. The use of devices such as canon and augmentation is also derived from earlier in *Tehillim* with the melody being treated canonically in the central development section of Part IV and later subjected to considerable augmentation in the recapitulation.

References for Chapter 5

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[1] John H Eaton, *Psalms* (SCM Press, 1967) 316
[2] Steve Reich, *Writings on Music 1965 – 2000* (Oxford University Press, 2002) 101
[3] K. Robert Schwarz, 'Steve Reich: Music as a Gradual Process' *Perspectives of New Music,* Volume 20, (1982), 275
[4] Steve Reich, *Writings on Music 1965 – 2000* (Oxford University Press, 2002) 104
[5] *Ibid.*, 101

Chapter 6 Findings

The preceding analysis has examined in detail Reich's entire compositional apparatus in *Tehillim* and allowed a detailed investigation of his approach. In conclusion, the findings of this research will now be summarised.

6.1 The influence of the text on rhythm

Keith Potter argues that Reich's decision to set a text is 'the work's single most radical step'[1] since it involves a voluntary acceptance of the pre-eminence of the rhythm of his chosen words. Reich claims that by using a constant quaver pulse and a frequently changing time signature throughout *Tehillim*, he is able to ensure that the text is set in accordance with its natural stresses. This appears to be borne out at first sight by the large number of bars that have irregular time signatures of 5/8 7/8 11/8 or 13/8. Simple time signatures such as 3/8 or 4/8 are seldom used and never with the intention of regularising the rhythmic structure; there is hardly any use of regular compound time signatures such as 6/8 9/8 or 12/8.

The overall structure of *Tehillim* is clearly dictated by Reich's decision to work with four separate extracts from the Psalms and to set each of these as a separate movement. The use of a four-movement structure, delineated by changes in key signature and metre, has a precedent in Reich's *Music for Mallet Instruments, Voices and Organ* (1973). *Music for a Large Ensemble* (1979) also has four sections and the same model is used again in Reich's 1982 composition *Vermont Counterpoint* which, like *Tehillim*, includes a slow third movement. Since these are instrumental works, the length of the movements is not determined by the length of the texts. In *Tehillim*, each text is repeated a number of times within each

movement. Whilst each movement reflects to some extent the mood of the words, its form is largely independent of the length or structure of the extract. The subject matter of each extract also has some influence in determining Reich's choice of tempo but, once established, this varies little within each movement.

The structure of the text in each of the four movements dictates the construction of the melodic line, although Reich expands this by repeating the final two lines in Parts I, II and IV. Once established, the overall structure of the melody remains constant throughout the movement with augmentations and diminutions taking place within the architecture of this melody. The instrumental interludes in Part II and Part IV retain the structure of the melody in spite of the absence of either text or melody or both. Additionally, the canons in Part I and Part IV are built on the structure of the individual phrases. Within individual lines, however, there is no correlation between the number of syllables in the text and the number of beats of music to which the text is set. Only in Part III is there any clear evidence of an attempt by the composer to regularise the number of beats per line or in the overlap between vocal parts.

Reich's fundamental assertion in his comments on *Tehillim* is that the rhythmic patterns in the setting grow directly from the rhythms of the Hebrew words. He cites this as the main reason for a radical move of his compositional style away from the fixed metres of his previous works towards constantly changing metres in *Tehillim*.[2] The detailed analysis in this thesis bears out this claim and indicates that the direct relationship between words and music operates in different ways. Firstly; the line and verse structure of the text controls the phrasing and

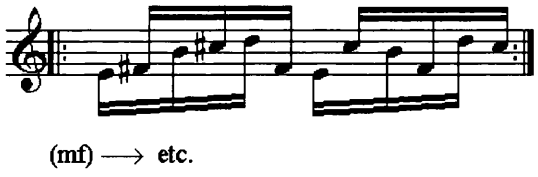
sectionalisation of the music; secondly, the Hebrew text's accentuation pattern determines the rhythm and metre of the music; and thirdly, the exigencies of tone painting occasionally dictate the contour of the melodic lines.

As has been demonstrated through the analysis of the readings of the texts, there is considerable evidence to support Reich's claim. The nature of the linkage between words and music varies throughout the setting, however. The composer's approach in Part I immediately establishes a distinction between stress and rhythm as Reich demonstrates greater rigour in assimilating the natural stresses of the words through the location of bar lines than in composing rhythms that reflect the pacing of these words. At some points, musical decisions take precedence over the rhythms of the words. In particular, the 3 + 2 motif allocated to *yom-le-yom* in the third line (2/I/4) is later used as a structural feature for words that do not appear naturally to call for it (such as *Hal-le-lu-hu* in Part IV). It has already been noted that the conversion of text to rhythm is reliant on Reich's perception of how he hears rhythms and this is borne out by his assertion that 'based on my musical intuition, the text demanded this kind of setting'.[3] The analysis in Tables B, G, L and Q confirms that the setting makes sustained use of these 3 + 2 units as rhythmic building blocks to construct musical phrases.

These groupings have been fully tabulated in the preceding analysis and this proves beyond doubt that these groupings dominate the rhythmic motifs of each melody. However, their appearance in the readings sometimes occurs at points where Reich does not make use of them, such as the fourth and fifth lines of Part I (see pages 49-50) and the first and third lines of Part III (see Examples 49 and 51). The use of

the sub-groups of twos and threes is central to the setting of *Hal-le-lu-hu* in Part IV although this does not exactly match their structure in the readings. The best correlation between words and music is in Part II where Reich sets larger groupings of syllables.

Reich recognises that the way in which his ear picks out the groupings of twos and threes may be perceptual. He acknowledges that when listening to the American English poetry of William Carlos Williams he is drawn to the same patterns of twos and threes as he identifies in the Hebrew psalm texts. As a result, Reich suggests the possibility that he hears all language in that way.[4] The importance of the use of twos and threes is in reality a feature of Reich's style that considerably predates *Tehillim*. Such organisation of units may be traced back as far as *Piano Phase* where groups of two and three are clearly present in the basic melodic unit. Reich suggests that there are 'two groups of three in the left hand and three groups of two in the right; the overlapping hands just naturally fell into those separate patterns'.[5]



Example 81: Melodic subject in Piano Phase

The delineation of twos and threes here is not primarily rhythmic, however, since it derives from the organisation of the musical material in a manner that lies naturally under the pianist's hands. Other antecedents of this type of organisation in the piano music of Bartók and Stravinsky's *Les Noces* have already been identified

(see Examples 14, 15 and 16). Watkins goes further and suggests that *Les Noces* could be seen as an antecedent to later minimalism.[6] Whilst Reich acknowledges his familiarity with Bartók and Stravinsky, he clearly sees his own technique in *Tehillim* as taking the principle of changing rhythms a stage further. This is based on his belief that the shifting groups of twos and threes are derived from the text he was setting and this has been established through the preceding analysis. The significance of the sub-groupings of 3 + 2 is therefore established and Reich creates rhythmic units that grow from the words he is setting but sometimes adapts them to fit his overarching musical intentions.

Interestingly, the Basic Unit from Reich's own *Clapping Music* plays a significant role within *Tehillim* although this subject itself is based on groupings of twos and threes: 3-2-1-2. The analysis has revealed a widespread use of this Basic Unit in the drones, both in the interlocking rhythmic canons of Part I and in individual drone parts elsewhere. The use of the motif in retrograde is infrequent and may not have been perceived by Reich as a significant rhythmic unit (see page 182).

Each text inspires its own rhythmic structures and there are subtle differences in Reich's approach to each movement. In Part I, Reich elevates some musical rhythms over textual ones, particularly his heightening of the significance of 'without speech and without words' (2/II/1) and the way in which this augmentation is taken as the basis for the rhythm of the fifth and sixth lines in order to give the music shape and contrast.

In Part III there is a comparable range of similarities and differences with the stresses and rhythms of the words. It is of particular note, however, that the innate 3 + 2 unit which emerges in the readings is replaced with predominantly regular crotchet-minim rhythms. Even the decision to allow the syllable to continue to act as the basic unit of rhythm contrasts with the crotchet-based melodic lines and the quaver pulse of the movement. The slower pulse does not appear to be related to the natural speed of the words but Reich allows his musical decisions to grow from the rhythms of the words and his approach captures almost all of the natural stresses (see Examples 49, 50, 51 and 52).

Part IV demonstrates a greater degree of correlation between the rhythms of specific words and Reich's music, particularly in lines 3, 4 and 5 where the central rhythmic unit of the words is taken up in the music. By contrast, in lines 1, 2 and 6, Reich uses a rhythmic unit derived from the *yom-le-yom* motif of Part I as a structural device to complement the rhythms of the words rather than one which grows from them. This adds a syncopated effect to the rhythm of the melody that links it to the construction of other movements.

Examples 35-40 demonstrate that the clearest links between Reich's setting of the text and the stresses given to the words by the readers occur in Part II. This movement offers the strongest evidence in *Tehillim* to support the composer's assertion that the music was dictated by the rhythm and stresses of the words. The rhythms used in this melody follow the natural pacing of the words, especially in the first two lines where the rhythms of the setting are almost exactly the same as

the rhythms and stresses identified by the readers. Even here, though, the relationship between words and music is not mechanistic. In the fifth and sixth lines there is also considerable similarity between the rhythms and stress of the words and music in the first half of each phrase but this is broadened in the second half to create musical balance. Similarly, the third and fourth lines retain the natural stresses but call for longer notes in order to create musical contrast.

Reich's approach to setting words in *Tehillim* demonstrates a very high regard for the integrity of the text. There is no reason to support Joseph Coroniti's extreme view of *Tehillim* in which he claims Reich has fractured the integrity between words and music that he asserts must lie at the heart of any setting of poetry.[7] Ignoring Reich's clear, overwhelmingly syllabic lines and their relationship to the Hebrew text, Coroniti argues that *Tehillim* obscures the meaning of the Psalms in two ways. The first is through the use of the Hebrew text itself and the second through the development of contrapuntal vocal lines. As a result, he takes the view that 'it seems clear that in *Tehillim* ... poetry is subservient to music'.[8] This view assumes that the poetry of the words resides somehow within its English translation and that contrapuntal vocal writing predominates in *Tehillim*, neither of which is borne out by the preceding analysis. Whilst cantillation techniques are not a feature of Reich's style in *Tehillim*, Antonella Puca argues that in the pieces composed after his studies of Hebrew cantillation, 'the preservation of semantic meaning of the words becomes for [Reich] a central concern, and that sound aspects of spoken language, such as intonation, timbre, melodic cadences and metric accentuation become the defining elements of musical structure'.[9]

It is clear from the analysis of *Tehillim* that Reich's primary concern is with the text and that this interest in words may be traced back to his work with speech in his tape pieces of the 1960s. The readings have demonstrated beyond doubt the high level of agreement between the three readers and the ways in which the Hebrew words generate the musical structures in *Tehillim*. Individual motifs, and often lines, reflect the rhythmic structures of the words and the setting as a whole takes this as a framework around which Reich builds a musical structure. Whilst the setting of words to music allows Reich some freedom in his compositional approach, it is clear that respect for the primacy of the text is paramount and that, generally, the expansion of musical ideas beyond the innate stresses of the words is intended simply to provide musical interest and balance.

The 'window to Reich's soul' in *Tehillim* is therefore primarily musical rather than linguistic. The structures of words and phrases are embodied in the setting and the Hebrew words are expressed entirely through the musical phrases they inspire. Reich's assertion 'that my "assignment" in life .... seemed to be indicated, at least in part, by my early interest in speech as a source of musical sound and meaning'[10] is reinforced in *Tehillim* through the primacy given to the rhythmic properties of the words.

6.2 Approaches to melody

Reich claims that *Tehillim* is 'based on melody in the basic sense of that word' and, in discussion with the *Washington Post* critic, Richard Harrington, he explains that this understanding of melody simply means that 'you can hum it'.[11] He further asserts that 'I didn't do that because I wanted to write a melodic piece; the text

forced me' and this develops the composer's earlier claim that the link between words and music is rhythmic. The derivation of the melodic material cannot be traced back to Jewish practice since the tradition of chanting psalms in Western Jewish communities is lost and, in any case, Reich shows no willingness to utilise cantillation techniques from elsewhere in the Scriptures in setting the texts. Indeed, the cantillation techniques that had been Reich's point of contact with music in Jewish worship formed no part of his approach in *Tehillim*. Reich confirms that 'even the principles of motivic combination basic to the structure of cantillation, which begin to appear in the flute and piccolo parts of my *Octet*, are not present in *Tehillim*'.[12]

Reich's work immediately prior to *Tehillim* explored the development of melodic lines of greater length and complexity such as the extended violin and clarinet lines in *Music for a Large Ensemble* and the further development of extended lines in the *Octet*. This expansion of the significance of melody may be directly related to Reich's fascination with cantillation techniques during this period. Here, Reich produces independent melodic lines which 'neither double resulting patterns in other voices nor join together repetitive fragments to form a longer line [so that] ultimately the melodic material achieves complete primacy in *Tehillim*'.[13]

The text enabled Reich to compose melody capable of being sung which was crafted in a manner that reflected the natural structure and cadences of the text. This is clearly borne out by his creating melodic lines that reflect the structure of the Psalm extracts (see Tables A, F, L and P). Schwarz is therefore correct in asserting that *Tehillim* represents a very considerable expansion of the melodic

parameter in comparison with Reich's approach in previous works since the demands of setting text required it. In addition to the structure of individual lines, Reich's melodies in Parts I, II and III complement the couplet structure of Hebrew poetry with the second line of each couplet elaborating on the first. In Part I, the melody is initially stated by solo Voice 2 with a lengthened note indicating the mid-point. This approach is repeated in Part II and Part IV although here the melodies are composed as duets and set homophonically. The melody of Part III is also set for two voices but here each line of the two couplets contains within itself a further mid-point and this provides the structural framework for the setting of each of the four lines. Reich recognises the differences of this text through the antiphonal way in which he sets it, in each case sustaining the upper voice whilst the lower begins its answer.

In addition to the structural link between the shape of the melodies and the structure of the poetry, Reich indicates specific examples where the melodic line is intended to reflect the meaning of the text as he makes use of word painting devices. He claims that these instances of word painting – *Ain-oh-mer va-ain deh-va-reem, Beh-li nish-mah ko-lahm* in Part I, *Sur-may-rah va-ah-say-tov* in Part II and *Va-im-ee-kaysh, tit-pah-tal* in Part III – are a method of ensuring faithfulness to the Hebrew text. As has been seen from the analysis, the melodic fragments to which these three examples are set confirm the existence of such word painting. Interestingly, however, a further opportunity for word painting is not taken. Whilst the syllable *tov* (good) does indeed have a rising motif to contrast with *rah* (evil) in the fifth line of Part II (as cited by Reich), its appearance at the end of the second line is accompanied by a falling motif. In any case, the accessibility of such word

painting to non-Hebrew speaking listeners in a concert hall setting is likely to be limited at this pace and in undifferentiated textures!

6.3 Use of canon

The analysis of *Tehillim* has revealed an extensive use of canonic structures. Paul Hillier asserts that canon 'more than anything else, dominates Reich's musical processes'[14] and by the time Reich wrote *Tehillim* it was a well established feature of his compositional style. The three influences that inspired him to take up composition, be-bop, Baroque music and Stravinsky,[15] all shared a thorough-going approach to counterpoint. Reich has confirmed this view in his assertion that

> there is no question that by far the greater part of my own music is contrapuntal in texture. The period in Western musical history where I find the most useful information is that from 1200 to 1750 – the contrapuntal period. Musics outside the West that I have learned a great deal from are West African and Balinese, both of which are contrapuntal in nature.[16]

The canons in Reich's early music are achieved through the technique of phasing and Reich links these 'close canons' with *Tehillim* in the preface to the score. Phasing is, however, a unique type of canon which uses its musical material in a particular way. John Adams has described phasing as 'a form of counterpoint produced when two or more instruments play identical repeated material at a given time delay'.[17]

Whilst this definition works well for Reich's phase pieces involving live performers it does not embrace the less systematic phasing in the tape pieces where the time delay between the statements of the musical material is constantly changing. Reich's own definition of phasing attempts to include the tape phases and the 'live' phase pieces as he states that 'phasing is a form of canon using

irrational numbers'.[18] The number relations between the parts are therefore less important than the movement through the phasing process. Nevertheless, the cyclical nature of Reich's pieces ensures that the limits of the system are defined although the overall effect might be appropriately summed up by John Rockwell's depiction of a 'happy babble of overlapping dialogues'.[19]

In making use of phasing as a form of infinite canon, three important features of the phase process emerge: it is seamless, inexorable and mysterious. Of these, the first two are determined by the nature of the process, while the third is determined by the listener's perception. The seamless process is best achieved in the tape medium/domain where the relationships between the parts change so slowly that the music develops imperceptibly and is aided by the monotimbral nature of the music. Since the process runs by itself once Reich has set up the system, the composition follows its course without further intervention, an inexorable working out of a devised system. This challenges Mertens' view of early Minimalist music as a-teleological since the working through of the system determines expectation as to where the end of the piece will occur.

As a structural device, Reich abandoned phasing after the composition of *Drumming* in 1971[20] and an examination of how canons are constructed in *Tehillim* reveals the composer's approach to canon ten years after he moved away from phasing. Schwarz has commented that 'although it's no longer appropriate in *Tehillim* to speak of 'musical processes', there is no doubt that Reich's former technique of phasing only served to reinforce his veritable obsession with counterpoint.'[21]

The preceding analysis of *Tehillim* reveals a relatively restricted use of canon as a compositional device. It is used most intensively within the central sections of Part I and Part IV (27/I/1 – 62/I/4 and 222/I/1 – 237/I/8) where individual phrases of the particular melody are treated in four-part counterpoint and in these sections, Reich makes minor modifications to his thematic material to allow the canons to progress smoothly. Less complex canonic sections are also present, particularly within Part I, which occur in the interlocking drone parts as well as in the vocal parts. There is, however, no doubling of the canon between voice and drone parts. Although individual canons demonstrate clear organisation of entries, the overall use of canon within *Tehillim* is not systematic, however, and Reich appears to indicate that their most significant feature – in comparison with his earlier work – is simply that listeners would be more aware of them since 'the subjects were longer and more traditionally melodic'.[22]

Given the extensive evidence to support Reich's claims concerning the pre-eminence of the words, it is no surprise that the rhythmic construction of the melodies is supported by the interlocking rhythms in the drones which consistently emphasise the 3+2 units. These drones make significant use (both in the canonic sections and elsewhere) of the primary unit of *Clapping Music* (1972) which itself derives from the same groupings. Reich, however, makes no mention of the use of this motif in his various discussions of the piece. Significantly, the very first canon in section B of Part I is based on this motif and this becomes more extensive as that section progresses (see pages 72-74). The analysis reveals the extent to which the motif is subsequently used throughout *Tehillim* and its several intriguing appearances outside the canonic framework. Ultimately, however, the use of the

Clapping Music motif is no more aurally perceptible than the occasional word painting that Reich outlines in detail. One possibility is that it simply emerged subconsciously through Reich's method of composition as he used a small drum to improvise around the text.[23]

Within *Tehillim*, the use of augmentation is as significant as Reich's use of canon and there is extensive use of this technique in Parts II and III and again in the recapitulation of Part IV. Augmentation techniques may be traced back to Reich's 1967 experiments for *Slow Motion Sound* and, more importantly to *Four Organs* (1970). Their effect in *Tehillim* is to undermine the relationship between the natural stresses of words and their musical setting through elongation. The fifth augmentation of Part III, for example, extends the initial 76-beat statement of the melody into a greatly expanded 347-beat augmentation which retains only tantalising glimpses of the original rhythms such as, for example, 202/I/3. The use of sustained chords within these augmentations heightens the significance of the harmony they create and, having made his claims for the significance of canon within the preface to the score, elsewhere he indicates his belief that 'what is new in *Tehillim* is its specifically homophonic sections'.[24] This accounts for the significance that some commentators have attached to it within Reich's musical language.

6.4 Harmony

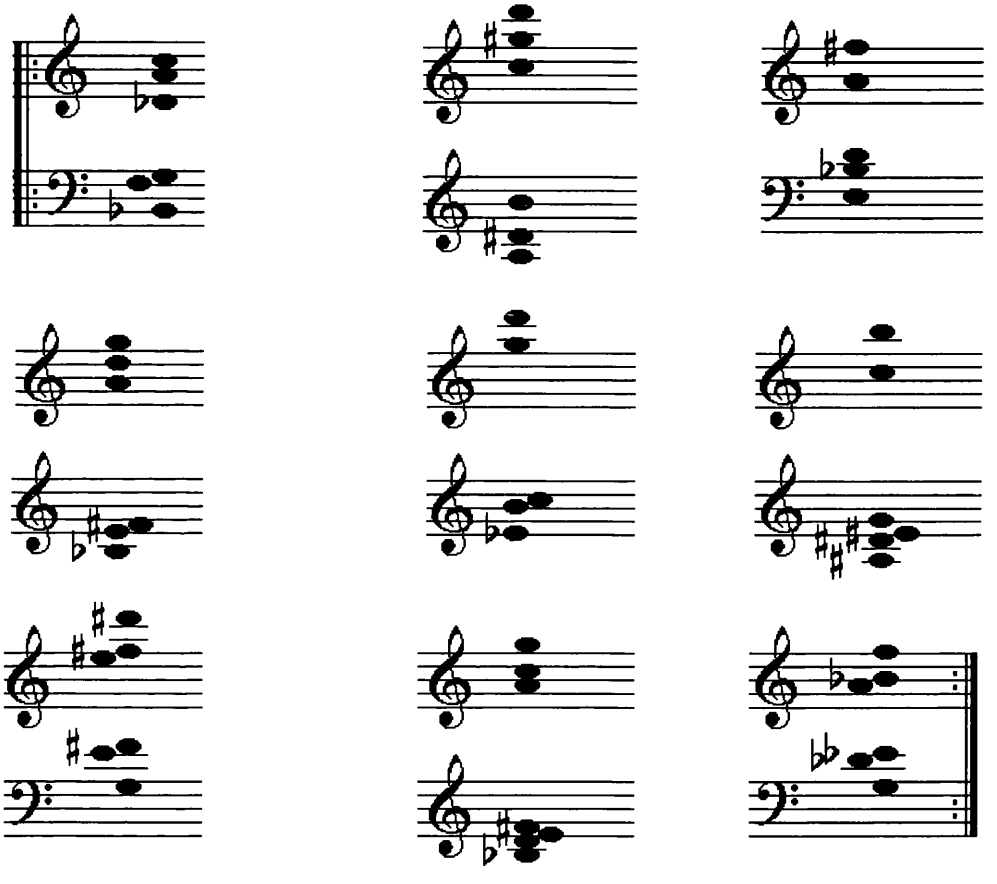
Tehillim builds on the approach to harmony established by Reich in *Music for 18 Musicians*. The analysis supports Reich's assertion that the harmonic skeleton for

Tehillim 'was not germinal but rather a later addition'[25] by the way in which the chords within *Tehillim* are generally clusters formed of notes in the melodic lines, the drones, or both. In some cases, when abbreviated in short score, they appear similar to the type of chords used in his early compositions, conceived for three notes in each hand of a pianist.

This calls into question Schwarz's assertion that the significance of *Tehillim* lies in the way Reich develops harmonic structures rather than in his engagement with language. Writing in 1987, Reich stated that 'for me the main questions in composition are rhythm, pitch, and timbre – in that order'.[26] This confirms the composer's perception of the primacy of rhythm rather than harmony and Paul Hillier has specifically referred to the period from 1965 to 1970 as 'unalleviated by harmonic variation'.[27] The harmonic dimension of the phase pieces grows entirely from their polyphonic texture and Hillier argues that Reich's harmonic language 'has evolved from his polyphonic techniques [that] he applies to melodic and rhythmic ideas'.[28] This may be traced back to Reich's initial excitement in the 1950s for modal jazz which, put simply, contains 'a lot of notes and very few changes of harmony'.[29]

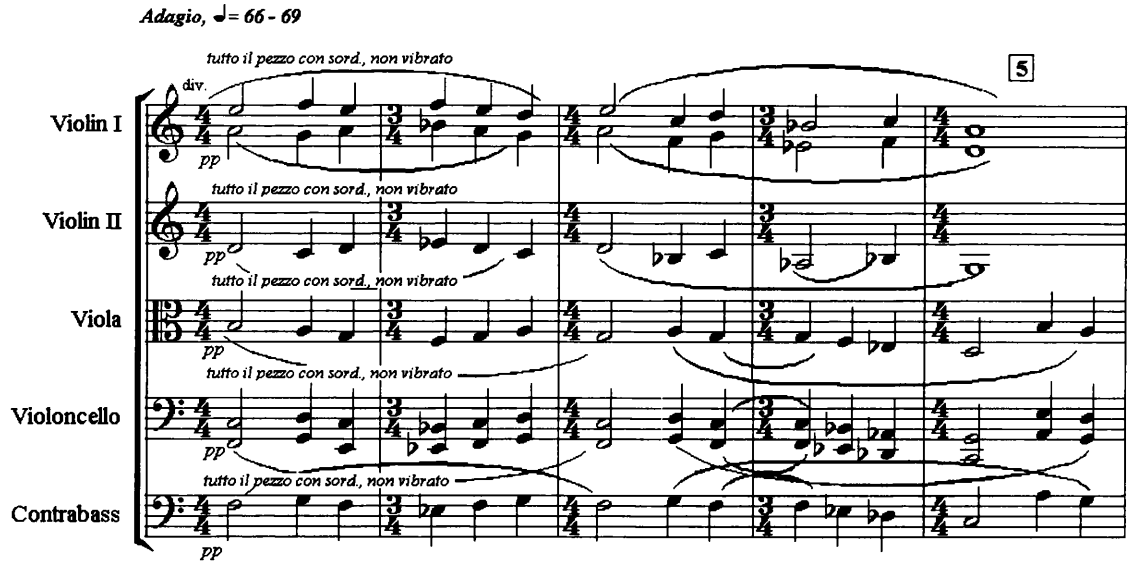
Within *Tehillim* the predominant feature of the harmony lies in its use of long sustained chords constructed from the melodic lines. To some extent this approach is reflected in Reich's juvenilia. In 1957, whilst taking private lessons with Hall Overton, he composed a song with a chord structure based on 'stacked' fifths which fit comfortably under a pianist's hands 'three fifths in the left hand and three fifths in the right.[30] Reich's earliest use of harmony in his mature compositions is

found in *Music for Two or More Pianos* (1964) and demonstrates a similar approach to chord construction, referred to in the now lost 1957 song. Paul Hillier says of it that 'the modular structure of this work prefigures Reich's later style ... and the loosely tonal foundation of the harmonies seems characteristic of his later chord patterns.[31]



Example 82: Reich: Music for Two or More Pianos – chord structure (as printed in score)

Reich has traced this type of chord construction to the sequence that opens the second movement of Bartók's Second Piano Concerto,[32] a technique also found in Ives' *Central Park in the Dark.*



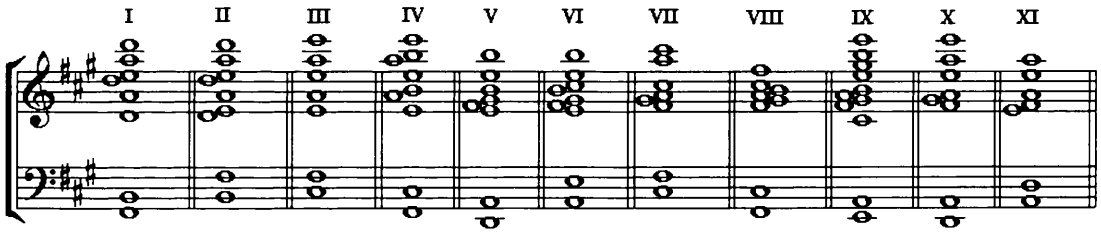
Example 83: Béla Bartók: Piano Concerto No. 2 Second Movement (opening)

Further harmonic dimensions emerge in Reich's music of the early 1970s. *Four Organs* features the augmentation of a chord 'composed exclusively of the gradual augmentation (lengthening) of individual tones within a single (dominant 11th) chord'.[33] In *Music for Mallet Instruments, Voices and Organ* (1973), the four sections of the piece are marked by changes in key: F dorian – A flat dorian – B flat minor – D flat. The significant use of the dorian mode within this emerging harmonic framework may also be traced back to its use in modal jazz. Indeed, Reich has commented on the significance that the dorian mode holds for him: 'major, minor, dorian: these are my big three'.[34]

In *Music for 18 Musicians* (1976) Reich takes this a stage further by establishing a cycle of eleven chords at the opening of the piece. Each of the subsequent sections is in turn based on one of these chords. Reich's recognition of the significance of this in his harmonic development has been quoted frequently:

> There is more harmonic movement in the first five minutes of *Music for 18 Musicians* than in any complete work of mine to date. Although the movement from chord to chord is often just a reworking, inversion or relative minor or major of a previous chord, usually staying within the key signature of three sharps at all times, nevertheless, within these limits, harmonic movement plays a more important role here than in any of my earlier pieces.[35]

This approach is also used in *Sextet, The Desert Music, New York Counterpoint, City Life, Triple Quartet* and *Three Tales* which Reich claims *'all* began by composing either a single harmonic cycle or several...'.[36] Despite Reich's claim that the chord cycle in *Music for 18 Musicians* introduced a type of functional harmony, Potter argues that 'by continuing to be evasive about the role of the bass ... the work pointedly avoids any clear fulfilment of such 'functional' expectations as it sets up'.[37]



Example 84: Music for 18 Musicians - chord sequence

In this approach, sustained chords evolve through the addition of extra notes and/or the subtraction of existing ones rather than through progressions defined by movements of root chords or bass lines. The harmonic principle of requiring some elements of a chord cycle to remain fairly constant whilst allowing restrained movement in other parts can be traced back to Reich's juvenilia. *Music for String Orchestra,* written at Juilliard in May 1961, takes the principle of repeating a tone row in its original position but with different groupings of notes; there were no inversions, retrogrades or transpositions.[38]

In *Tehillim*, the chord cycles take a similar approach although the chords themselves vary between the four movements (despite those in Part I and Part IV having strong similarities). In each of the movements, there is an overriding principle that sustained chords are built up from notes within the melodic or drone framework. These chords appear in varying combinations achieved mainly by changing the lowest part whilst allowing the middle and upper registers of the chords to remain fairly constant. The use of the lowest part in *Tehillim* is therefore harmonically irregular, and there is no indication of a functioning bass line in the piece. However, the ambiguity created by the use of this lowest part sometimes allows implied movement towards a tonal centre such as at 212/I/2. In spite of Reich's assertion that the home key of *Tehillim* is D major, the harmony is never based on a clear use of a tonic in that key and this ambiguity reflects Reich's comment to William Duckworth on *Four Organs* which he describes as 'perhaps, a humorous comment on the V-I cadence'.[39]

Each movement of *Tehillim* makes use of sustained strings chords (although there is a glimpse in Part III of some independent string writing) and these chords sometimes overlap the vocal phrases; at other points (such as 191/I/3-4) they serve to reinforce the vocal texture and elsewhere are used to extend the length of a chord beyond the capabilities of the human breath (such as at179/I/6). In this third instance, *Tehillim* builds on earlier compositions where the length of the chords was dictated by the length of time they could be sustained by the human voice. The chords in *Music for a Large Ensemble* are written so that it is possible to play them in one comfortable breath which in turn is a development of the model in *Music for 18 Musicians* where a similar device is employed.

At some points in Part III, the harmony is influenced by the nature of the word painting such as at 210/I/1 where the tritone on the word *káysh* becomes part of the harmonic structure of the chord. In 1989, Reich referred to the harmonic framework suggested by the text of both *Tehillim* and *The Desert Music*, asserting that he found himself 'using more chromatically altered chords to accommodate problematic aspects of the text'.[40] James Pestell similarly points to the significance of this harmonic development as a 'strange chromatic element to *Tehillim* which gives it a mordant quality and foreshadows the more dissonant harmonic path Reich was to take over the next decade'.[41]

As has been demonstrated, therefore, Reich's harmonic writing in *Tehillim* builds on his earlier approach of working with chord clusters and then sustaining the upper and middle parts of these chords whilst allowing the lowest part to move. *Tehillim* is significant, however, in linking harmonic structures with the setting of words, and in allowing melodic lines to be sustained to create vocal harmonies which double the string parts. Additionally, there is the first indication of harmony being used in a colouristic manner to reinforce the meaning of the words.

6.5 Performance context

In discussing the compositional techniques used in *Tehillim,* Schwarz suggests that Reich's harmonic language and contrasting timbres and textures 'draw more deeply from the well of Western tradition than any previous Reich composition'.[42] Yet relatively little has been written about the significance of the performance context and instrumental resources required by the work.

a) Instrumental and vocal resources

Tehillim is conceived in orchestral terms in both the ensemble version and the later chamber orchestra version, the main difference between the two versions being the number of string players required. The ensemble version has five amplified string players; the chamber orchestra version has twenty-one string players but only the contrabass is amplified. Despite the lack of a functioning bass line, this amplification adds emphasis to the bottom note and so does the octave doubling. The voices and winds (except piccolo) are amplified in both versions. The number of players in the ensemble version is less than is required for *Music for a Large Ensemble*, the chamber orchestra version of which calls for a total of forty players.

b) Performance direction

The engagement with greater instrumental forces between 1978 and 1984, including large chamber ensembles and full orchestra, challenged Reich's approach to performance. None of Reich's pieces before 1978 requires a conductor although prior to that date he did not compose for any ensemble other than his own. His use of increased orchestral forces from 1978 and the acceptance of commissions for other ensembles involved the composer in the decision to use a conductor. *Tehillim* was, however, not the first of Reich's works to require a conductor and Duckworth is incorrect in asserting it to be the first for an ensemble other than the composer's own.[43]

The role of conductor was first required in *Music for a Large Ensemble.* Commissioned for the Netherlands Wind Ensemble and completed in 1978, the premiere in June 1979 was conducted by Reinbert de Leeuw. Reich's preference,

however, would clearly have been not to use a conductor in *Music for a Large Ensemble*. In his notes on the work he offers the possibility that 'if there is sufficient rehearsal time, the cues from the vibraphone will enable the musicians to know when to move on to the next bar by listening, and the piece can thus be played without a conductor as a large chamber work'.[44]

The premiere of the much smaller *Octet* in the same month was also conducted by de Leeuw and performed by a selection of players from the Netherlands Wind Ensemble. The February 1980 premiere of the ensemble version of *Variations for Winds, Strings, and Keyboards* was given by Steve Reich and Musicians although the premiere of the orchestral version in May of the same year was performed by the San Francisco Symphony with Edo de Waart as conductor. Reich played electric organ in this performance. A similar approach was adopted in the first performances of *Tehillim* but with a significant difference. Reich's own ensemble gave the premiere of the ensemble version in February 1980 but with George Manahan conducting. This was, therefore, the first time that Reich used a conductor for his own ensemble.[45]

This transitional period demonstrates the composer's reluctance to use a conductor because of its gestural associations. In *Music for 18 Musicians*, Reich conceives of the piece in chamber music terms and the function of the conductor is covered through an elaborate system of cueing led by the metallophone. In the case of *Tehillim*, the conductor was no more than a practical necessity for coordinating the complexities of performance.

Paul Hillier sums up the approach by affirming that 'a conventional maestro is not needed for expression or interpretation, and indeed such an approach would simply be out of place. In this respect, the conductor becomes more like the director in baroque music (often the lead continuo player)'.[46] The use of a conductor in *Tehillim* clearly aligns Reich's music with the orchestral tradition of art music; writing for musicians other than those in his ensemble is a parallel step. Compositions of the 1960s and 1970s were conceived for Reich's own ensemble, a feature to which he has drawn attention.

> In 1963, I first decided that despite my limitations as a performer I had to play in all my compositions. It seemed clear that a healthy musical situation would only result when the functions of composer and performer were united.[47]

This approach is more like that adopted by popular musicians and Robert P. Morgan points out that 'the performance-oriented character of [Reich's] music ... is one of its essential features, a respect in which it resembles popular music, especially jazz and rock'.[48]

John Adams' assertion that the performance of *Tehillim* by the New York Philharmonic in 1982 'seemed to herald the official acceptance of minimal works into the established orchestral repertory'[49] is questionable since there is no reason why this statement could not be applied to the earlier *Music for a Large Ensemble* or the orchestral version of *Variations*. Neither was it Reich's first performance in an established venue; a performance in Carnegie Hall took place nine years earlier in 1973. On that occasion, players from the Boston Symphony Orchestra performed *Four Organs* in a 1973 subscription programme, a performance that provoked extreme disturbance among some members of the audience.[50]

c) Performance style

Despite the similarities between the composer's ensemble - *Steve Reich and Musicians* - and rock groups in their performance of original material, the performance approach is quite distinct from that adopted by rock musicians in that it is fully notated. Furthermore, the style demanded by Reich from his singers calls for little physicality as the composer insists that physical posture and vocal technique are not used to add emotional depth to the performance beyond that already inherent within the music.

As in Reich's earlier pieces, the voice parts in *Tehillim* are amplified by microphone. In a 1989 lecture on chamber music, Reich outlines his views on the similarities he perceives between early music and jazz and the vocal style best suited to his own music. He identifies two central, and related, performance issues – the use of a 'natural' singing voice and an ability to be at ease when singing with a microphone. The first of these is in reaction to the *bel canto* style of singing associated with vocal projection in large opera houses where a heavy vibrato is dominant.[51] Reich recognises this as a practical necessity of its time but one which could be addressed simply through the use of microphones. The resultant style is clearer and more suited to the articulation of complex polyphonic lines. Reich takes the same approach towards the performance of the string parts. The vocal direction *non vibrato sempre* at 1/I/1 is replicated in the string parts at their first entry at 11/I/1. The vibrato style of string playing associated with the Romantic orchestra has no more place in *Tehillim* than *bel canto* singing.

Both strings and voices are amplified in the original ensemble version although the decision not to amplify the string parts in the orchestral version does not carry with it any implication that the performance style has changed. In the Performance Notes in the score to *Tehillim*, Reich is specific about the nature of the amplification required in performance. He calls for a sound engineer who 'is familiar with balances from a previous good performance or from a successful recording' and although he offers no definition of what constitutes such a performance, he is clear about his requirements for amplification. In the voice parts he wants the four parts to be balanced in such a way that the audience may hear distinctly the four-part canons in the first and last movements. Additionally, he stresses the need for the singers to be heard above the electric organ parts.

d) Recordings

Three recordings of *Tehillim* are available at the time of writing, making the piece one of Reich's most-recorded works. The first of these (ECM New Series 1215 827 411-2) was recorded in 1981and released in 1982. The performance is given by Steve Reich and Musicians (21 performers in total) and conducted by George Manahan. This was the same combination as at the first performance at West German Radio, Cologne on 20 September 1981.[52] In this recording, the piece lasts for a total of 29 minutes and 52 seconds (Parts I & II lasting for 17 minutes 25 seconds and Parts III & IV 12 minutes 27 seconds respectively). The CD recording is a digital remastering of the original analogue recording.

A second recording (Elektra Nonesuch 7559-79295-2) was made in August 1993 and released the following year. The performance is given by the Schönberg

Ensemble with Percussion Group The Hague, conducted by Reinbert de Leeuw. In this recording the piece lasts for 30 minutes and 20 seconds (Parts I & II lasting for 17 minutes 40 seconds and Parts III & IV 12 minutes 40 seconds). The original recording was paired with a performance of *Three Movements* by the London Symphony Orchestra and has since been included as the 'definitive' version of *Tehillim* in the 10-CD collection *Steve Reich: Works 1965 – 1995* (Nonesuch 79451-2). This version is reproduced on the CD in the back cover of this thesis.

A third recording (CA21009), this time paired with *The Desert Music*, was made in May 1999 and released in 2002. It was supported financially by the Institute for American Music and performed by Ossia (a performance group described on the CD liner notes as 'The Innovative Eastman Student Ensemble'), conducted by Alan Pierson. This is the steadiest of the three performances and lasts for 30 minutes 51 seconds although the total does not reveal the quicker approach to the first half and the lengthening of the second half (Parts I & II lasting for 17 minutes 5 seconds and Parts III & IV 13 minutes 46 seconds).

e) Instrumental and vocal style

Tehillim calls for woodwind, percussion, electric organs, women's voices and strings. There is no use of brass, despite Reich's use of a full brass section in the 1979 orchestral version of *Variations*. This decision is reflected in his selection of an extract from Psalm 150 for Part IV of *Tehillim* which seems to begin deliberately at verse 4, yet the verse immediately preceding makes reference to praising God on the trumpet.

Voices

Tehillim calls for four women's voices, three sopranos and one alto, a pattern later replicated by Reich in his 1999 piece *Know What is Above You*, a setting which also takes for its basis a Jewish text, though this time from Pirkei Avos ('The Ethics of the Fathers'). The use of woodwind and organs is predominantly to double the voices to produce a distinctive texture in unison. Voice 4 (high soprano) is used predominantly within the four-part canons and also introduces the top part of the melody in Part III. Its most significant contribution, however, is as a descant in the final sections of Part II and Part IV where it is pushed to the extremes of its register on $c^{\#'''}$.

Woodwind

The use of woodwind does not represent any expansion of Reich's usage in earlier pieces and there is little independent woodwind writing in *Tehillim*. Their main function is to double the voice parts and even the apparently 'independent' clarinet writing at 207/I/3 is simply a doubling of the vocal parts. This is similar to *Variations* (1979) where the solo melody lines are provided by three flutes and three oboes and doubled by two pianos/electric organs or simply electric organs respectively.[53] The doublings of vocal lines by woodwind may be traced back further to the combined instrumental/vocal texture used in the works of the mid 1970s.

Percussion

It is clear that, in spite of some creative adaptation, the rhythmic dimension of *Tehillim* grows from the rhythms of the Hebrew texts. Reich calls for a range of

percussion to establish the primacy of these rhythms and the percussion used within *Tehillim* is significant in two aspects. Firstly, Reich acknowledges some instruments, the small drums known as *tof*, to have some ethnomusicological associations with Biblical instruments. These instruments were used by Reich again in his later Jewish work *Know What is Above You* (1999). Secondly, two percussion instruments are used for the first time in Reich's output: the small tuned tambourines without jingles and the crotales (antique cymbals). As a percussionist, Reich offers the greatest amount of detail about the tambourines to be used in performance, even specifying in the score the name of a company that supplies such a type considered by him to be suitable. The length of the dowel stick with which to hit the instrument and its diameter are also indicated.

Reich asserts that *Tehillim* follows in the tradition established by *Drumming* and *Music for Mallet Instruments, Voices and Organ* in making no attempt to simply imitate the sound of music from the Middle East. The combination of these instruments with a setting of these texts, however, militates against this more than in the earlier works and whatever Reich's protestations to the contrary, the aural effect of blending ancient language and instruments serves to associate the work with a particular historical context and culture.

Organs

The organs are used predominantly in the canonic sections of Part I and Part IV and the uniformity of their timbres serves to obscure even further the words in these canonic sections. Although indicated on the opening system of Part III, the organs are not used in that movement. By contrast they are not indicated in the first

systems of the movements in which they are used. Reich offers a choice of four synthesisers or two double manual electric organs for the two organ parts. As in *Four Organs*, he is specific about the timbre that should be used and that it should be the same for all instruments. In this sense, *Tehillim* contains an element of the monotimbral style associated with Reich's early minimalist period.

Strings

The strings are used in each of the four movements to provide sustained chords and the nature of the instrumental writing is therefore insultingly easy! Schwarz claims that Reich makes significant advances in his string writing in *Tehillim* in additionally taking part 'in the motivic fabric [through] rhythmic punctuations, staggered imitative entrances, timbral enrichment and further imitation of vocal motifs'.[54] This is, however, to overstate the case since almost all of this innovation is confined to Part III of the setting. The staple diet of string players in *Tehillim* consists of sustained chords, often accented or marked *sforzando*.

Orchestral balance

At the time of writing *Tehillim,* Reich appears to have been in a transitional phase between writing for his own ensemble and the opportunities presented to him in writing for orchestral forces. Consequently, he appears ill-at-ease in writing for the orchestra and tends to write for individual parts as he might have done for *Steve Reich and Musicians*. The string parts in particular require only an elementary level of technique, a feature recognised by the composer when working on his subsequent piece *The Desert Music* where he determined that 'all sections of the orchestra would get a workout'.[55] Throughout *Tehillim* there is a tendency to

assign the same roles to specific instruments (e.g. the use of electric organs to double voices only in the canonic sections of Part I and Part IV, the constant doublings between woodwind and voices resulting in no independent woodwind writing). This approach demonstrates a continuing link with the monotimbrality of the minimalist period.

The orchestral version of *Tehillim* attracted a range of critical responses, a significant one being that the simplicity of the non-vibrato style of singing of the four women's voices (one high soprano, two lyric sopranos, and one alto) was obliterated by the strength of the amplified string playing. Reich has frequently expressed his dislike of the distortions created by operatic styles of singing and Callaghan rightly observes that 'by using a non-vibrato voice, the performers refuse to draw on the emotional reserves that Western classical music has accumulated over the centuries'.[56] This style – referred to in the performance notes in the score as 'that used in the performance of Early Music (before 1750)' – is unsuited to lavish textures. The chamber version therefore reduces the nineteen string players to five and makes the bassoon optional. In the orchestral version only the voices are amplified; in the chamber version only the piccolo, percussion and two electric organs are *not* amplified.

6.6 Reich's subsequent approaches to speech-based material

This has implications for future research into Reich's compositional approach since his claims for subsequent works are similarly broad. In his *Writings*, the composer claims that the constantly changing metres derived from Hebrew words in *Tehillim*

are carried on in *The Desert Music* and that he also hears the sub-groupings of twos and threes in William Carlos Williams' poetry. However, of more significance may be his return to direct engagement with the human voice in four other works: *Different Trains* (1988), *The Cave* (1993), *City Life* (1994) and *Three Tales* (1998-2002).

The development of the sampling keyboard in the mid-1980s allowed Reich a new engagement with speech and speech melodies and this marked a major shift back to his initial approach of using the human voice as compositional material. Although separated by some seven years in composition, both *Different Trains* and *City Life* take a documentary approach made possible by the sampling keyboard, initially the Casio F2-I and the F2 – IOM. In *Different Trains* (1988) Reich used recorded speaking voices together with a string quartet in such a way that the speech melody formed the basis for melodic material to be played by the strings. This represents a significant new development by Reich in exploiting the relationship between speech melodies and music.

There are similarities and differences in the treatment of voices in *Different Trains* and *City Life* and there is potential for these to be investigated in the same manner as the preceding analysis of *Tehillim*. The basic idea in *Different Trains* is that recordings of human speech generate musical material which is then taken up by instruments. This is a natural development from the way in which pitch patterns simply emerge and thereby create their own melody in the tape pieces. Christopher Fox distinguishes between words <u>set</u> to music and words that have <u>become</u> music.[57] The speech samples form part of a pre-recorded tape in *Different Trains* but this is

taken a stage further in *City Life* as the sampling keyboard is played live. Reich clearly believed that these works marked a new direction in the use of language within music. In his liner notes on *Different Trains* he argues that the work 'presents both a documentary and a musical reality' which he expects to 'lead to a new kind of documentary music video theatre in the not-too-distant future'.[58]

The documentary nature of *Different Trains* and *City Life* is continued in the video operas *The Cave* and *Three Tales,* composed with his wife, video artist Beryl Korot. Reich has emphasised the documentary aspect of recorded voices as 'people bearing witness to their own lives. Their speech melody is the unpremeditated organic expression of the events they lived through.'[59] This reinforces his earlier belief that language is inextricably bound up with time and place, the notion underlying his assertion that 'all music is ethnic music'. Reich takes this a step further in his video operas in asserting that 'the only way in which music theatre will remain of interest is if its form is constantly changing to honestly reflect its time and place'.[60] All opera is, therefore, ethnic opera, a principal that extends back to the identification of the rhythms and contours of the American speech of Brother Walter and Daniel Hamm, the voices of *It's Gonna Rain* and *Come Out.*

In attempting to predict the nature of music over the next 150 years, Reich argues that the use of video will 'bring more of the world around us into the opera house and will certainly not mean the end of serious music but rather new means of making it'.[61] In *Tehillim*, Reich clearly believed that the properties of words had enabled him to shape his music in a particular manner. His belief in his video-

opera work was that human speech also created identity and that traditional operatic forms were no longer appropriate for the twentieth century since they were not rooted in the historical events they purported to represent. In particular, John Adams' *Nixon in China* came in for criticism from Reich because of its attempt to portray events as recent as 1972, for which ample documentary film footage was available, in a style more closely related to grand opera. For Reich, the issue was not only the cultural absurdity of the endeavour but its resultant fragmentation of identity; why, asked Reich, would a contemporary composer wish to portray former US President Richard Nixon as a *bel canto* tenor when his actual speech could be used as the basis of composition? Reich claims that *Three Tales* fuses together two of the strongest elements of his vision: canon and speech melody and opens up a further area of investigation as to the manner in which speech melodies generate other musical parameters in video opera.

6.7 Conclusions

This thesis has investigated Reich's claim that the rhythms of the Hebrew text were central in dictating the rhythm of the music for the piece. This approach has been in marked contrast to other discussions of Reich's music which have focused on the composer's developing musical language, particularly in his continuing use of canon and his developing use of harmony. Reich's assertion that speech melodies provide a 'window to the soul' has been taken as a metaphor for his use of the Hebrew psalms since they provide a dual insight into his rediscovery of the Jewish faith in their subject matter and his musical approach to setting the words.

The discussion began with an investigation of the significance of speech (and speech melodies in particular) on Reich's compositional style. The systematic cataloguing and analysis of the independent readings of the Hebrew text has confirmed that Reich's perception of the significance of these texts is largely justified. There are clearly many words whose internal rhythms are reflected in the stresses of Reich's music and some entire lines where this is the case. The Hebrew speech also confirms the 3+2 rhythmic units which dominate the piece.

This is not to ignore those aspects of the work in which Reich's compositional decisions appear to take precedence over the natural rhythms of the words themselves. It should be noted that Reich does not claim that the shape of the musical phrases grows from a simple aggregation of the individual words but rather that 'the rhythm of the music [in *Tehillim*] comes directly from the rhythm of the Hebrew text'.[62] The need to shape and adapt the rhythms produced by the words into musical phrases is inevitable in converting speech to song. The melodic lines themselves reflect the shape of the Hebrew text although the melodies themselves help to shape and balance the settings. Based entirely on the evidence of this thesis, the spoken text should be seen to be overwhelmingly the source of the rhythms and the melodies.

The use of rhythmic structures is therefore central to Reich's approach. The syllabic nature of the text setting permeates the whole of the work and gives rise to the constant quaver pulse embodied in the rhythmic drones and canons. The rhythmic drones themselves are complementary and serve to reinforce the syllabic nature of the setting. These canons complement the rhythmic structure of the

words and create interlocking canonic structures, additionally involving the basic unit of *Clapping Music* as well as rhythms that grow from the words of the text.

As has been demonstrated, the harmony is clearly subsidiary to the rhythmic and melodic aspects of *Tehillim.* The chords are constructed from the melodic lines rather than existing independently of them. Once created, however, the use of chord cycles follows a practice that may be traced back to Reich's juvenilia where the middle and upper parts of 'stacked' chords remain fairly constant whilst the lowest part moves independently but without creating functional harmony.

Finally, the instrumental writing (other than that for the percussion parts) is entirely subservient to the setting of the texts. There is hardly any independent instrumental writing in *Tehillim* that does not stem from the nature of the vocal lines. The woodwind and electric organ parts are conceived as doublings for the vocal parts; the string parts simply reinforce the notes in the melodies by playing them as chords. Whilst it is true that the nature of the instrumental writing (and also the harmonic language) is a step forward from Reich's earlier work, it is all subject to the manner in which the words are set.

The overall conclusion from this comprehensive analysis is that Reich's claims about his compositional approach in *Tehillim* may be verified through a systematic consideration of his use of the Hebrew text and its effect on the other elements of the setting. In considering this relationship between the Hebrew words and the music of the setting, it is the pre-eminence of the text that may be shown to inspire

and generate all the other aspects of *Tehillim*. This elevation of the sacred text is truly a window to the soul of Steve Reich, both musically and spiritually.

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Appendix 1: Interview with Steve Reich: Huddersfield, 29 November 1998

JP Thanks for agreeing to see me. The interview is not for publication, it's purely for my own research.

SR OK. What exactly is your doctorate on?

JP A philosophical approach to your music, rather than the analysis of texts.

SR And it's taken from that perspective?

JP Yes.

SR And it's a doctoral dissertation?

JP I hope so.

SR You definitely got yourself a first. I'm pleased to see someone doing something about that.

JP My background is in music and theology; I've done some previous work on Augustine...

SR Augustine?

JP St Augustine.

SR Sorry (laughs). I was gravitating between the words 'organum' and 'organ'! (laughs)

JP I'm looking at the way in which the aesthetic dimension may be seen in what you find a composer's work.

SR That's OK. I don't know whether I'll be able to supply you with the answers but I'll do my best.

JP I've jotted a few things down: these are just things taken from various things I've read. I'm fascinated by something John Adams says about "restoring the pleasure principle in composition". I wondered whether you thought that's a reasonable summary of where you're coming from?

SR Well I wouldn't have used those words! I think that what he's talking about – I wouldn't have described it in that way but I agree with what he says. When I was 14 and discovered the music (have you heard this story?) that was going to steer the course for me – be-bop, Baroque music (Bach to begin with) and Stravinsky – I heard them and I loved them. Later, I began to analyse what it was about them that I loved, why the three of them should adhere to one another and what were the similarities and so on and so forth. But I mean, *prima facia*,

it's just an emotional reaction. The emotional reaction is, indeed, what drives the human being. In fact, it drives us all a little too fully and we don't have enough intellectual steerage, as it were. In music, it's a very, very safe bet to bet on that as your motor.

JP As a composer, is an emotional response what you want?

SR Well, let's put it this way. What I'm trying to say to you is the reason I wanted to dedicate my life to music was because I'd heard those musics. So that's an emotional beginning. I don't actually commit myself to that because I felt at that point I was already on the late side, given the amount of musical training I'd actually done. And then later, after I'd done most of my schooling and was clearly finished with Julliard and was finished with Mills College, it was 1963 at which point, in America, the academic musical world is basically 100% filled with imitations of Stockhausen, Boulez, Berio or John Cage. I felt there was no place for me there and I had to say either 'do something else in life' or leave the academic world completely and devote myself to composition, dot, dot, dot, dot, dot. You may have heard I ended up doing a lot of odd jobs: I worked as a cab driver.

JP I was fascinated by the bugging of the taxi! [Both laugh]

SR But I mean, basically, all those things are done because ... And yet emotionally, I'm drawn to a certain kind of music which, because of musical fashion, because of musical intellectual fashion, or whatever way you want to put it, was *persona non grata* in the musical outfit in that historical period. It's only an emotional commitment which could keep one rooted there because there was no-one else to say "that's a great idea, why don't you just follow that way ... and when I gradually found something that works which I became known for (that was the tape works), even the people who were my contemporaries appeared close to John Cage felt "this isn't what we do". So it was out of a great deal of emotional commitment and a feeling that, not only was I drawn emotionally to it, but that it represented something basic to music as a reality, a basic musical truth, if you will, i.e. that pulsation and tonality could never be viewed as a musical aberration.

So while the engine is still running on gasoline supplied by the emotions, the mind was beginning to – and I had regular contact with other musicians – one's best source of feedback – if they're sympathetic at all – then when they become practically involved they begin to give you information which is invaluable which is: can the piece be done, what kinds of skills are necessary to play it and what happens to them emotionally when they're playing it? And I could see that it was very encouraging to them – they didn't have to tell me – I could <u>see</u>. Now, that's very encouraging.

JP I'm fascinated by that. I'm also fascinated by the kind of reactions that audiences have to your music. I forget where I read it but you say you "particularly relate to music that has a kind of emotional reticence". And yet I read stories of women running down the aisle at a performance of *Four Organs*

and banging the stage – that kind of extreme.

SR Well, if the situation to which you refer took place in a situation ... well, all situations are loaded. We're here in Huddersfield: who's here? Who are the audience? It's not the audience who wants to hear Brahms – it's the audience who wants to hear music of the late twentieth century and there are lots of political subdivisions as we know within the audience up here. OK. Michael Tilson Thomas invited me to play *Four Organs* with the Boston Symphony Orchestra. The audience was a subscription audience. They wanted the Boston Symphony Orchestra when it came to New York City. The audience was made up overwhelmingly (that was the 1970s) of older people who are totally involved in the classics and to some extent and mostly the Romantic literature. They wanted your Beethoven, Brahms and Wagner, Mahler, etc.

JP But they're still there.

SR And they're still there. And fine, you know, that's great music. It may not be my cup of tea but it's great music. OK. If you, in that period of time take that audience which has never heard anything of mine or heard of my name and never heard anything in music like this, and on a programme on which the most adventurous piece was the Bartók *Music for Strings, Percussion and Celeste* which I'm sure made nobody happy. They also had a piece for double string orchestra which I don't happen to remember and they did as the feature piece the Liszt *Hexameron* for six pianos, written for Chopin and himself and four other virtuosi of the day. You know, Liszt was a bit of a showman and this was a real showpiece. So the audience that would come to a programme like that where the feature piece was six pianos impersonating Chopin, Liszt etc.... that's the last audience in the world that's going to sit still for two minutes for *Four Organs* which is perhaps my most abrasive, unflinchingly difficult piece the timbre of which is these screaming rock n'roll farfesa organs and maracas. So it was like the clash of two cultures – the piece was a set-up. And the result was totally predictable, the people went nuts. But my ensemble had done that piece at the Guggenheim Museum two years earlier in 1970 – this was 1972 – to an audience who loved it because they had heard that this was the kind of thing they'd be interested in. So audience reaction is also a function of the audience we are talking about. The people who went to the original Schoenberg ISCM musical soirée wanted to hear early twelve-tone and free twelve-tone music. What I meant when I was talking about musical reticence was to compare myself to other composers whose emotions are not considered Romantic, Stravinsky in particular. Stravinsky to me is an enormously emotional composer – there's something in Stravinsky like a wall as it were holding the emotions in check and what's killing you is this feeling that you are the wall – you feel this force and I love that and that's a different kind of emotion.

I would say that Johann Sebastian Bach was in a sense reticent. Bach is incredibly emotional music but if you play him in the style he's meant to be played the music keeps on going along and the emotions are not made by either changes of tempo connected with generally chromatic movement in the music. Bach's very chromatic but the music just keeps on going. When Paul Hillier

and Theatre of Voices was about to record *Proverb*, a piece of mine, we were joking about my dynamic marking of *mf* – mezzo forte. I said, 'don't take it in its usual sense, take it as an imperative marking meaning "matter of fact"' [both laugh]. And they said to me, that that's actually all of my pieces – matter of fact. Yes, I expect you to feel something and if you don't, I've failed. But how do we approach this? Do we approach it by really trying to sock it to the audience – give them that emotion – or do we just do the pieces and the emotions are there? And that's the Baroque ideal, I think to some extent Stravinsky's ideal and it's my ideal. It's that music is dead without strong emotional content but that its delivery is not done with a Berstein rounding of the theme. It's done by simply just playing the notes *in* time, *in* tune and that's what you're supposed to do.

JP My problem with twentieth-century music is that a lot of what's there doesn't engage me. I find your music engages me and, many of the students that I teach, that's what fires them: there is some emotional engagement in the early stages.

SR I'm very glad to hear that because, you know, Bach also was asked what the most important part of music was and he said it was just that fact. So he didn't dodge that, either. It's just a question of how you get to it; different for different composers of different eras. If you start from Haydn and you go through to Wagner you notice two things, technically. Number 1, music is more chromatic and number 2, the tempo is getting more and more flexible and gestural. Now those two things are not unrelated. The loss, the ambiguity of tonality becomes the one expressive tool which is then moulded further by freeing of the tactus on the beat and *that* is what Romantic music lovers really love – that's the moment they're really waiting for, when the beat disappears and that's why the conductor is central. Any group of people can get together and do Mozart or Haydn without a conductor. Certainly, you can do Bach without a conductor. As a matter of fact [for Bach] you don't want one around [both laugh].

JP The cult of the conductor is something I find very strange.

SR The cult of the conductor is something that really only became important in the twentieth century and Stravinsky was very much a supporter of the conductor – for different reasons – because the metres were changing like mad. But he also wanted you to play it as it's written and "an eighth note is an eighth note". I think that his early twentieth-century pieces saw a different appreciation of the conductor and a different set of heroes. And a different attitude – go back to the text. It's no surprise that with an attitude like Stravinsky's, that in the 50s, when Stravinsky is in his heyday, you also have in a sense the birth of the 'back to original instruments' going on in early music. The rise of Stravinsky and the rise of an interest in Baroque and early music come at the same time.

JP The tonality issues comes next. When modern audiences who are drawn to the sort of music that you write are engaged by it, it's perhaps the tonal aspects of it that engage them as much as anything else.

SR In early twentieth-century music it is tonal – *The Rite of Spring* is tonal – it's

very complex but never leaves there. Early Schoenberg is arguably tonal – you could find something there.

JP I wonder to what extent you see tonality as 'natural'?

SR Well, I believe that there is a truth – it may not be Common Practice harmony (but a truth that is based on the harmonic series that is based on physics). But the harmonic series is based on physics. It's interesting that the notes are really international as you might expect in physics. The octave and the fifth come first in the harmonic series – the third comes much higher. So what we find is that in East Bali and India, and in most societies, I can't think of any music I've ever heard which didn't have octaves and fifths featuring prominently in it and recognised as prominent – and fourths. By the time you get to thirds, well, you know, we at a certain point in our history latched on to it. In the medieval period, thirds are no more important than seconds. But I would say, yes, definitely that part of what's wrong about Schoenberg's theory is that any music that says that all tones are equal and that all intervals are equal and … which ignores the importance of regular pulse. If all of tonality, including the basic intervals of the fourth, fifth and octave and the pulse is all thrown out of the window then you write music which will always be a very recherché, dark and discordant chord music and that's what it is today.

JP I wonder if we've hit on it there? That if you jettison some elements – perhaps tonality could be one of them – but if you jettison the whole lot …

SR Tonality is a slippery word. If you take tonality to mean Common Practice harmony some would say that from Bach or from Haydn to just before Wagner, well then, you're talking about a Western thing. But if you mean tonality in the sense of the feeling that there is a home note, then you're talking an internationally recognised truth which I would say is absolutely in the physics of music. And the fourth and fifth are the intervals which are pushing towards that octave and they're recognised in all cultures. And seconds can do that too because they're just grinding away at what we know has to be a unison. So, yes, in my experience, listening to Western and non-western music, that would seem to be the case. Our particular form of tonality in the eighteenth– and nineteenth– centuries was a Western particularity [the tradition] from Gregorian chant, through organum, through Machaut, through Palestrina, through Bach, the whole Classic and Romantic period up to (but not including Schoenberg) says that there's something magnetic there in the sense of physical magnetism, not just aesthetic.

JP So it's not just taste?

SR We are physical beings. Our physical nature is regulated by the force of gravity as space shots have shown – and many other realities for which I have to see the doctor when they cease functioning properly. And when the cease functioning properly, we die. So we are part of nature. We are part of a physical system – divine in origin, I believe – which has laid out certain truths which we have discovered. So yes, I'd subscribe to that.

JP I share your view on the divine original. One of my favourite works is *Tehillim*. I find it a tremendously moving work, I guess because the notion of the transcendent is in there, perhaps for the first time. Is that, fair? Is it a celebration of you re-finding your faith?

SR Well, that's an aspect of it, yes. That's a perfectly good aspect of it. I wanted to set a Hebrew text. I felt particularly in the *Hallelujah* – "gosh, a lot of people have done this before – better get this one right" [laughs]. Interestingly enough, the chord which leads the *Hallelujah* there is a dominant eleventh which is the chord of *Four Organs*! [more laughter]. So in other words I would say that there's an aspect of – well, here's another distinction that you may not be interested in but is always interesting to me: people say 'I love late Beethoven quartets' (and I love some of them two) – particularly Op. 132 in A minor. It's so spiritual – I think it can be come dangerous... [interruption].

So briefly, *Tehillim*. People say that's a religious piece: it's a concert piece.

JP You'd draw a parallel with the *Symphony of Psalms*, I guess?

SR Yes. Because basically I think that within traditional Judaism there has been a musical man – and a *man* only – just *one* – handing down the Hebrew text by generation orally. There's a book of essays I've written which Paul Hilliard is editing – it'll be out in Oxford University Press in about a year – which talks in a semi-scholarly article on Hebrew music.

JP Is that the one which is translated into Italian at the moment?!

SR Yes! [laughs]. It'll be back in English very shortly! Anyway, to make a long story short, therefore, there's no place in musical composition... When Jews were liberated in Germany, and left the ghetto, there was no need for them to become composers of a liturgical sort unless they became baptised Christians (which many of them did and began writing, like Mendlessohn, pieces for the church). The church has maintained a tradition of accepting, and desiring, new compositions. So perhaps it's no accident that my favourite living European composer is Arvo Pärt who is writing religious music because his *Te Deum*, his Mass, his *St John Passion*, can be used in a church. I think that's religious music when someone writes something that's usable within a liturgical service. 'Spiritual' I think in our contemporary vocabulary, has become a way of saying "this moves me very deeply; it maybe moves me to tears" and we call that "spiritual" and maybe there's something to that. But I think it's a good thing to stay separate to that because someone like Wagner capitalised on it and then we get to this kind of 'cult of the personal' music and this can become exceedingly dangerous [laughs].

JP I see the importance of faith in your life. I'm interested also by the number of times Wittgenstein appears in your career: he seems to have been there at a number of key points.

SR What are you thinking of besides *Proverb*?

JP I understand you considered using a recording of his voice on *Different Trains* and a text of his for *The Desert Music*. He emerges at different times: is it philosophical, or is it just his quality of writing?

SR Wittgenstein is not very sympathetic to Freud; he writes other things besides strict philosophy and he brings his ideas to bear on some contemporary things and he has a kind of contempt for the whole psycho-analytical thing. But you feel a kind of reverence for religion – a tortured kind of reverence for religion. He never dismisses the idea of God out of hand – he never comes close to it. During the war he's been an ambulance driver, by the way. He was a very tortured soul. Also, Wittgenstein, if I may say so, is the quintessential kind of Jew who is like an infant when it comes to his Judaism and therefore his own view of religion's entirely Christian. So he knows not his own condition. Yet I see within him something whereby if he had any exposure to the tradition and the learning of the tradition, I think it might have been extremely satisfying to him.

JP Perhaps the position you were in up to your mid-thirties, cut off from the tradition of Judaism?

SR Well, yes, but I had different history because I went to the Eastern religions as so many of my contemporaries did. I did yoga for ten years. I did Buddhist meditation and all of it was quite good. It just didn't quite fill the gap. But, with Wittgenstein ... he was a genius, an enormously provocative one and in this one text it said something ... it was clear in my mind that *Proverb* was going to be an augmentation canon so I wanted something very terse. I didn't want to set the *Song of Songs* which Hilliard had suggested. And then, what was I going to do with it? I realised I had never done an augmentation canon – I knew all about them and thought it really sounded like something I ought to do. So I needed something that would be very short which would then go on and his text invites that: "how small a thought it takes to <u>fill</u> a whole life". So the piece is, literally if you like, a pun on that. It means other things as well but it really is about the small thought, at least at its most literal translation, it's the idea of canon. And it's filled my life and it's also filling this piece by simply augmenting. So that's why it felt like it was a perfect text. Wittgenstein was something that I read at a particular time. If I'd been raised differently I would have read Jewish *midrash* and *Talmud* and lots of other things. But Wittgenstein – one could have done a lot worse! [laughs].

JP The use of words is what comes through my reading of Wittgenstein. To what extent does an audience need to know what the words of a piece mean in order to appreciate it?

SR What appealed to me about Wittgenstein also related to my understanding of American poetry – its spoken aspect. And also, Wittgenstein's approach to philosophy was to say well, you know, how would you teach a child to understand the word *mind*? It's not the same as you learn the word *spoon*. So

what's the difference? Now that's a very interesting approach to philosophy, especially in the later works, *Philosophical Investigations*. And that, I've always been drawn to personalities and to thinking which sees the profound in the simple in a very specific way. William Carlos Williams was aware of life in the arts going on around him. He knew what was going on in Paris, he knew what was going on in London and lived in New Jersey with that awareness – that's an interesting tension. Wittgenstein knew Russell, he knew Whitehead and came to this idea that mathematics was not the model. We are not extracting theorems – he'd tried them – the *Tractatus* has a number of paragraphs. Wittgenstein's path is a very close examination of the way we speak every day and the way we actually speak … He says that philosophical problems arise when language goes on a holiday. So he would always bring you back 'how would you use that word'? So Wittgenstein observed something about the way we are which could then be seen from a religious standpoint but which can also be seen from a totally psychological or rational standpoint where language (which is our basic characteristic, religiously as well) means that philosophical problems might not be out there floating in the universe: they are. Quite literally, inside of our heads, largely in our mouths [laughs].

JP It's the thing throughout about words that I find fascinating. You talk about the meaning of words and how you put meaning into music and this is at the crux of what I'm really interested in.

SR When you hear a piece of music and there's words in it, whether it's rock n'roll or whether it's Handel, or even me, or what have you, the odds are you won't hear every word, even if it's in English. Now, what happens? You hear music. You are either drawn to the music and sort of "cock your ear" (even if you're in a concert hall) or you may go to the words in the text because you really would like to know. Now why do you want to know what's there? Because the music has drawn you. So I would say, 'prima la musica'. The music is the magnet, the music is the emotional force that's either driving you, pulling you in or pushing you away. If the music is pushing you away you say, 'Oh, it's something in Italian; I don't really want to know … or German, or English …" And that can be whether it's an all night rave where there's some kind of sampled voices coming in or whether it's Puccini in Italian, or Verdi in Italian or Monteverdi in Italian; whether it's John Dowland or whether it's me or what have you. But if you feel pulled in, then you "cock your ear" to both and try to figure them out. And then you try to get a recording and then you want to analyse the relationship between what's said and how it's sung to see how the music expresses, if you like, the words, or deepens the words or intensifies the words.

JP In your more recent work using video images, do you think the music has independent meaning outside the words?

SR Well I certainly hope so!

JP I've got the CD recording of *The Cave*; I haven't seen the video.

SR I would say that *The Cave* is really tied together with the video and that it's

really important to see both. I think that the pieces I'm doing with Beryl are pieces that you really want to see the visuals more than you have to see them in an opera. But I would hope that there are parts of it – you don't happen to have the ten CD box?

JP I have, yes!

SR Instead of listening to *The Cave* in its entirety ... I never wanted to release *The Cave* in its entirety but my record company who I basically love insisted so – there we are. But I had my say in the box so sometime when you get home have a listen to it – see if that doesn't entertain your ear and keep you going more than you thought. That's number one. Number two is the piece I'm working with Beryl on *Hindenburg*. The pieces *Different Trains* and *The Cave* were basically listening to speech and then, as people spoke, so I wrote. I didn't change the melodic structure and I didn't change the tempo and so consequently (particularly in *The Cave*) you've got a lot of stopping and going all the time very quickly. Starting in *Three Tales*, of which *Hindenburg* is the first act, I took another approach. First of all, there isn't that much speaking in it, a lot of it is just music and sampled sound, all of which is made to fit the music. So, three flats, crotchet equals 144 and when some voices introduce the voice of the radio announcer who's narrating the crash of the Hindenburg – very famous voice – you can barely understand it because it's an old recording – he's not in three flats and he's not at 144. So I put him in the computer and now he's in three flats and at 144! [Both laugh.]

So this piece is like, I want to get a head of steam up musically and I want to make the sample material so it does not have the religious weight of the earlier pieces. *Different Trains* isn't religious but it is in homage to mostly people who are clearly not here anymore. So in this piece it's much more casual material, historically speaking and it is made to fit the music so the music is going along and the musicians can get up that momentum and the stuff, as it were, rains down on your head and it's certainly part of the piece – a little bit more like *City Life*.

JP Would it be fair to say that it was almost a reversal of the earlier stuff where the music grows out of the words?

SR Well they are tied but in subject matter. Beryl and I knew that the opening of *Hindenburg* was going to be the crash with the *New York Times* headline and it's very similar to *The Cave* – two snare drummers drum it out: 'Hindenburg burns ...' and then there's a quote from the German Ambassador who, when interviewed by the *New York Times* in 1937 said it was a terrible tragedy but "it could not have been a technical matter", which is very German, very human, very contemporary and that becomes the text for the rest of the movement through an augmentation canon. And all the announcer's voice – this is actually something I talked about in the 1970s, slowing something down without changing the pitch, is applied to this voice and again to another newscaster's voice in the fifth movement to last us through the piece, without changing its pitch and you get all these long glissandi [demonstrates] which, when you see

this crash in slow motion, fits exactly what's going on. Also you'll find in the middle movement of *Hindenburg* which is called *Nibelung Zeppelin* [quotes rhythm from Wagner] and then the notes that go with that and instead of *The Ring*, Beryl is using the footage of the actual workers in 1935 in a little town outside of Frankfurt building the zeppelin. And you see these metal workers and it becomes a *ballet mécanique* to the Wagner which is set quite exactly when it's augmented and set to repeating patterns. I turn it into a piece of mime. I think it really works [laughs].

JP Finally do you welcome people doing research in your music? Some composers don't always?

SR I feel that music has to survive on a couple of levels. It has to work while someone's doing the dishes to fill the air with pleasant sounds. If you go to a lot of coffee houses in New York (I don't know how it is in London) they tinkle away in the background. On the other hand, if that's all it is, then it's probably tinkling away in the background this month or this six months and then six months later something else is going in the background. So I welcome those people who want to go in with a fine toothed comb and really take it apart, find out what makes it tick and why its ticking is sound [laughs] because then there's a chance that it might be ticking away in the background for thirty, forty, fifty years in the future. No-one knows that finally but, I basically feel that you have your heart and you have your mind and any music which is really worthwhile will keep them both and if it doesn't then either you're going to find that it just suits your head (rather interesting and fascinating but finally, after a while, you find something else that's fascinating) or it's emotionally overpowering and in the course of writing about it you find yourself getting less and less interested for the same reason as there's really not a great deal there. But if you can, in fact, cheat the enthusiasm and also see through analysis what's going on, then at least there's a fighting chance [laughs].

JP Thank you very much indeed for that.

Appendix 2: Liner notes from 1982 Recording of *Tehillim.*

Written by Steve Reich to accompany the ECM New Series 1215 Recording 827411-2 (1982) and reproduced with minor modifications in Reich, Steve., *Writings on Music 1965-2000*, ed. Paul Hillier, (Oxford University Press, 2002), pp. 100-105.

Tehillim (pronounced *teh-hill-léem*) is the original Hebrew word for 'Psalms'. Literally translated it means 'praises', and it derives from the three letter Hebrew root hey, lamed, lamed (hll) which is also the root of halleluyah. *Tehillim* is a setting of Psalms 19: 2-5 (19: 1-4 in Christian translations), 34: 13-15 (34: 12-14 in Christian translations), 18: 26-27 (18: 25-26 in Christian translations), and 150: 4-6.

The chamber version recorded here is scored for four women's voices (one high soprano, two lyric sopranos, and one alto), piccolo, flute, oboe, english horn, 2 clarinets, six percussion (playing small tuned tambourines with no jingles, clapping, maracas, marimba, vibraphone and crotales), two electric organs, two violins, viola, cello and bass. The voices, winds and strings are amplified in performance. In the orchestral version there are full strings and winds with amplification for the voices only.

The first text begins as a solo with drum and clapping accompaniment only. It is repeated with clarinet doubling the voice and with a second drum and clap in unison with the first. It then appears in two voice canon and at last the strings enter with long held harmonies. At this point all four voices, supported by a single maraca, doubled by two electric organs and harmonized by the strings sing 4 four-part canons on each of the four verses of the first text. When these are completed the solo voice restates the original complete melody with all drums and full string harmonization. The second text begins immediately after a short drum transition. Here the three verses of text are presented in two or three voice harmony in a homophonic texture. Sometimes the voices are replaced by the english horn and clarinet or by the drums and clapping. Soon the melodic lines begin augmenting (or lengthening) and then adding melismas. The effect is of a melodic line growing longer and more ornate. After a pause the third text begins in a slower tempo and with the percussion changed to marimba and vibraphone. The text is presented as a duet first between two and then all four voices. This third text is not only the first slow movement I have composed since my student days, but also the most chromatic music I have ever composed (with the possible exception of *Variations for Winds, Strings and Keyboards* of 1979). The fourth and final text resumes the original tempo and key signature and combines techniques used in the preceding three movements. It is, in effect, a recapitulation of the entire piece which then, in a coda based solely on the word Halleluyah, extends the music to its largest instrumental forces and its harmonic conclusion. This last movement affirms the key of D major as the basic tonal center of the work after considerable harmonic ambiguity earlier.

The tambourines without jingles are perhaps similar to the small drum called 'tof' in Hebrew in Psalm 150 and several other places in the Biblical text. Hand clapping as well as rattles were also commonly used throughout the Middle East in the Biblical period as were small pitched cymbals. Beyond this there is no musicological content to *Tehillim*. No Jewish themes were used for any of the melodic material. 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 singing Psalms has been lost. (It has been maintained by Yemenite Jews.) That means that, as opposed to the cantillation of the Torah and Prophets, which is a living 2500 year old oral tradition throughout the Synagogues of the world, the oral tradition for Psalm singing in the Western Synagogues has been lost. This meant that I was free to *compose* the melodies for *Tehillim* without a living oral tradition to either imitate or ignore.

In contrast to most of the my earlier work, *Tehillim* is not composed of short repeating patterns. Though an entire melody may be repeated either as the subject of a canon or variation this is actually closer to what one finds throughout the history of Western music. While the four-part canons in the first and last movements may well remind some listeners of my early tape pieces *It's Gonna Rain* and *Come Out*, which are composed of short spoken phrases repeated over and over again in close canon, *Tehillim* will probably strike most listeners as quite different than my earlier works. There is no fixed meter or metric pattern in *Tehillim* as there is in my earlier music. The rhythm of the music here comes directly from the rhythm of the Hebrew text and is consequently in flexible changing meters. This is the first time I have set a text to music since my student days and the result is a piece based on melody in the basic sense of that word. The use of extended melodies, imitative counterpoint, functional harmony and full orchestration may well suggest renewed interest in Classical – or more accurately Baroque and earlier Western music practice. The non-vibrato, non-operatic vocal production will also remind listeners of Western music prior to 1750. However, the overall sound of *Tehillim* and in particular the intricately interlocking writing which, together with the text, forms the basis of the entire work, marks this music as unique by introducing a basic musical element that one does not find in earlier Western practice including the music of this century. *Tehillim* may thus be heard as traditional and new at the same time.

A further question may arise for some listeners familiar with any earlier music: why is there no repetition of short patterns in *Tehillim*? The basic reason for avoiding repetition in *Tehillim* was the need to set the text in accordance with its rhythm and meaning. The Psalm texts set here not only determine the rhythm of the music (which is basically combinations of two or three beats throughout the piece combined so as to form constantly changing meters), but also demand appropriate setting of the meaning of the words. In this respect I have tried to be as faithful to the Hebrew text as possible, and some examples of word-painting should be pointed out. In the second text, "Sur may-rah va-ah-say-tov" ("Turn from evil and do good") is set with a descending melodic line on "Sur may-rah" ("Turn from evil"), and a strongly rising line for "va-ah-say-tov" ("do good") ending in a crystal clear $A^{\flat}$ major triad on the word "tov" ("good") with the third of the chord voiced

as a high C in the high soprano voice. In the third text the verse "Va-im-ee-kaysh, tit-pah-tal" ("and with the perverse You are subtle") is set in C# minor with a strong G natural (lowered fifth, tritone or diabolus in musica) on the word "ee-kaysh" («perverse»). This is then later harmonized with an altered A dominant chord on the word "tit-pah-tal" ("You are subtle") to suggest that the G natural may be a leading tone to a G# Phrigian mode – a subtle accommodation to keep a perverse chromatic tone within the original key signature but with a modal shift. Another example is found in the first movement on the word "Ain-oh-mer va-ain deh-va-rim, Beh-li nish-mah ko-lahm" ("Without speech and without words, Nevertheless their voice is heard") which is set with only four notes, G, A, D, E. 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 canons) 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 without words we are not only hearing music, but music of the most open sort which is consonant with many harmonic interpretations. This four note scale – recurring later on "Halleluyah" at the end of the piece – supplies one of the basic means of harmonic change in the piece and was suggested by the text. Returning then to the question about repetition as a musical technique, my reason for limiting it to repetition of complete verses of this Psalm text is basically that, based on my musical intuition, *the text demanded this kind of setting*. I used repetition as a technique when that is where my musical intuition leads me, but I follow that musical intuition wherever it leads.

Steve Reich
February 1982

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