

TWINS, DOPPELGANGERS, AND MIRRORS:
BINARY PRINCIPLES IN JAY ALAN YIM'S *RAIN PALACE*

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Analytical Techniques III
December 13, 2010

Binary oppositions provide a convenient model for humans to understand and categorize objects: something is male or female, black or white, real or imagined, positive or negative, *yin* or *yang*, hot or cold. The 19th-century model of the concerto fits this paradigm with the binary opposition of the soloist and the orchestra, opposed characters working out a dramatic conceit. While Jay Alan Yim acknowledges and interprets this binary concept in *Rain Palace*, the ways in which duality plays out in the musical materials, timbre and texture, and form reveal a more nuanced version of opposition. This paper will examine the interpretation of binary relationships in the musical materials, timbre and texture, and form of Jay Alan Yim's *Rain Palace*.

Fitting the binary model of *Rain Palace*, two main musical ideas dominate the work, and both are fully chromatically saturated. The first is set class (014589). This hexachord possesses special qualities that provide special commentary on opposition in *Rain Palace*. One such special quality is the arrangement of pitches in this hexachord – three pairs of notes a half-step apart, with each pair transposed by T_4 . Because of this arrangement, not only is (014589) limited to four distinct transpositions, but each (014589) has a “shadow” (014589) set created by the notes *not* in the set. See Example 1 for the four transpositions of (014589).

Example 1: Possible Members of Set Class (014589)



Because (014589) is a symmetrical set, there are only four possible transpositions, without the possibility of inversion (inversion about a specific pitch class results in a different transposition of (014589)). Note that T_2 is the complement of T_0 ; this relationship would be described in logic

notation as $T_2 = \sim T_0$ (not T_0). Because T_1 and T_3 necessarily have the same relationship, T_3 is the same as $\sim T_1$. Thus, four possible transpositions can be interpreted as only two, each with a positive and a negative option (T_0 and $\sim T_0$) that, together, form a chromatic aggregate. In *Rain Palace*, T_0/T_2 are often used as one aggregate and T_1/T_3 are used as a different chromatic aggregate. T_1 is introduced at the beginning of the work, and the T_1 aggregate is the first (014589) aggregate, formed in m. 14. See Examples 2 and 3 for the T_1 aggregate as it is used in *Rain Palace*.

Example 2: *Rain Palace*, mm. 14-18, (014589) Aggregate

Piano

Example 3: *Rain Palace*, mm. 19-23, (014589) Aggregate

Woodwinds

Harp and Percussion

Cor Anglais

T_3 [3478E0]

T_1 [12569T]

The T_1 aggregate is present at the opening of *Rain Palace*, setting the scene for the drama to come and allowing the listener to draw expectations about the piece and its pitch content by in two different textures, dense piano chords and a melody and accompaniment texture with one of the soloists. By the end of the piece, T_0 and T_2 (the T_0 aggregate) have taken over the position of T_1/T_3 . See Example 4 for an example of the T_0 aggregate as it is found at the end of the work.

Example 4: *Rain Palace*, mm. 186-187, (014589) T_0 Aggregate

The image shows a musical score for piano, consisting of two systems of staves. The first system, starting at measure 186, shows a melody in the right hand and block chords in the left hand. The melody is a chromatic scale. The block chords are labeled T_0 and T_2 . The second system, starting at measure 187, shows a similar texture with block chords labeled T_2 , T_0 , and T_2 .

This usage mirrors the texture piano block chords in the opening T_1 aggregate in mm. 14-18. The T_1 and T_0 aggregates make a significant contribution to the overall shape of the work, as does another motive of complete chromatic saturation.

This prominent melody is comprised of all twelve pitches, using only eleven pitches in a phrase, and also provides a means of organizing all twelve chromatic pitches. See Example 5 for this melody in the first part of the piece.

Example 5: *Rain Palace*, mm. 50-63, 11-Note Melody with Order Numbers and Phrases Indicated

The image displays a musical score for two violins, Violin I and Violin II, covering measures 50 to 63. The score is written in a key with one flat (B-flat) and a 4/8 time signature. The Violin I part is the primary focus, with order numbers 1 through 11 written below the notes in measures 50-58. These numbers correspond to the 11-note melody. Brackets and vertical lines indicate phrases within the melody. The Violin II part provides accompaniment, with some notes and fingerings visible. Measure 60 features an asterisked '1' below a note, which the text identifies as a potential error. The score concludes with a double bar line at the end of measure 63.

The first phrase of the melody contains pitch classes [9T8516E7423], missing pitch class 0. The second phrase contains p.c. 0 but lacks p.c. 6, with pitch classes [342E7051T89]. One could understand the second phrase as completing the aggregate of the first phrase, but it becomes apparent upon closer inspection that the pitch classes of the two melodies are transposed by a tritone (p.c. 9 maps onto 3, p.c. T maps onto 4, etc.). The asterisked A (order number 1) in m. 60 may be an error, as the rigor of the pitch organization here suggests that this note should be a G instead. Symmetrical features of this 11-note pitch series reveals internal symmetries that also support a reading of the series as an independent entity. See Example 6 for an illustration of the construction of this 11-note series.

Example 6: Ordered Pitch Intervals of 11-Note Series in *Rain Palace*

Ordered Pitch Interval

+1 +10 -3 +8 +5 # -7 -4 +9 -2 -11

Yim uses almost every melodic interval of the chromatic scale, except the tritone. However, if the first pitch and the last pitch occur in series, they do form the missing tritone, although the composer does not use the series in this way. If the ordered pitch intervals of half of the series (before or after F#) are inverted, then both sides of the series mirror each other. See Example 7 for a chart of this mirror inversion.

Example 7: Symmetrical Inversion of 11-Note Series from *Rain Palace*

	Ordered Pitch Intervals									
Original	+1	+10	-3	+8	+5	-7	-4	+9	-2	-11
Inv. 1	+1	+10	-3	+8	+5	+5	+8	-3	+10	+1
Inv. 2	-11	-2	+9	-4	-7	-7	-4	+9	-2	-11

Once again, Yim does not overtly display of this series' symmetrical properties in *Rain Palace*, but this construction alone contributes to a binary understanding of 11-pitch series. As with the transpositions of the (014589) set, the dualities of the 11-note series can be understood as two inside of two. On the surface, the second 11-note phrase is a mirror of the first phrase, transposed by a tritone and varied rhythmically. Additionally, the internal construction of each of those 11-note phrases results in an internal mirror at the midpoint. However, each of these mirror reflections is distorted. The rhythms of the tritone transposition (the second 11-note series) distort the melody in such a way that it is not easily recognizable as a tritone transposition and the internal mirror requires the distortion of inversion before its mirror structure is revealed.

These binaries are not positive/negative oppositions like the binary properties of (014589), but are obscured, doppelganger reflections.

In his introductory remarks to *Rain Palace*, Jay Alan Yim suggests that “timbre and texture become structural elements on equal terms with melodic and harmonic concerns.” Indeed, timbre and texture make significant contributions to the interpretations of duality presented in the work. A type of klangfarbenmelodie occurs frequently in *Rain Palace*, with a group of instruments yielding mainly their color to a melody already in another voice. Although the pitches of the klangfarbenmelodie group are the same as the main melody, their subtle timbres make them a ghost or shadow of the main melody. See Examples 8 and 9 for examples of this type of ghost melody in *Rain Palace*.

Example 8: “Ghost Melody” from *Rain Palace*, mm. 114-118

The musical score for Example 8, "Ghost Melody" from *Rain Palace*, mm. 114-118, is presented in a multi-staff format. The score is in 4/8 time and features a melodic line in the Oboe and Cor Anglais, which is doubled in Violin I, Violin II, and Viola. The strings (Cello and Double Bass) provide a harmonic foundation. Dynamics range from niente to mf, with a prominent use of pianissimo (pp) sul ponticello in the strings.

The Oboe and Cor Anglais parts begin at measure 114 with a melodic line marked *niente*. The dynamics increase to *f* at measure 115, *mp* at measure 116, and *mf* at measure 117. The Violin I and Violin II parts enter at measure 114 with a melodic line marked *pp* sul pont. The Viola part also enters at measure 114 with a melodic line marked *pp* sul pont. The Cello and Double Bass parts enter at measure 114 with a melodic line marked *mf*.

Mm. 114-118, shown in Example 8 above, are typical of the style of *klangfarbenmelodie* used in *Rain Palace*. Yim doubles the lyrical, floating soloists' melody (which is, itself, doubled) with the harsh pianissimo sul ponticello and ringing, metallic harmonics in the strings. This melody is doubled in other instruments aside from the strings at this moment, but the doubling in the strings is characteristic for *Rain Palace*. Also note the way that the melody becomes its own harmony in the process of doubling.

Example 9: “Ghost Melody” from *Rain Palace*, mm. 72-75

In Example 9, two celli double the vibraphone melody with artificial harmonics,¹ increasing a sense of detachment and cessation of forward motion because of the way Yim has staggered the doubling among the two strings. The composer indicates the importance of timbre for this work, and timbre choices present yet another facet of duality principles in *Rain Palace*.

The two solo instruments occasionally double each other as seen in Example 8, where the oboe and cor anglais melodies are identical twins, only distinguished by the timbre differences between the two reed instruments. In Example 9, two instruments double the melody of another (doubling inside of doubling), and they present a pale twin of the already subtle vibraphone melody, a doppelgänger doubling. Also in Example 8, the string section presents a very distorted doubling of the oboe and cor anglais melody, barely recognizable in the vague harmonic cloud created by the doubling and the *sul ponticello* timbre.

These melody and “ghost melody” *klangfarbenmelodien* represent a specific kind of binary relationship, but so do the more traditional melody and accompaniment textures, also

¹ At 5:40 on the recording I have, it sounds like there could be two celli alternating doubling the vibraphone melody, but they sound like they are not playing artificial harmonics as indicated in the score. This may have been a last-minute concession at the recording or simply an oversight, but I think this difference downplays some of the “ghost” quality of the *klangfarbenmelodie* doubling.

found throughout *Rain Palace*. See Example 10 for a typical melody and accompaniment texture.

Example 10: Melody and Accompaniment Texture in *Rain Palace*, mm. 163-167

The image displays a musical score for three instruments: Cor Anglais, Crotales, and Strings, spanning measures 163 to 167. The Cor Anglais part (top staff) features a melodic line with a trill in measure 164, a triplet in measure 165, and a quintuplet in measure 166. The Crotales part (middle staff) provides accompaniment with triplet patterns in measures 163 and 164. The Strings part (bottom staff) consists of sustained chords in measures 163 and 164, followed by a series of sustained notes in measures 165, 166, and 167.

This texture can be interpreted as a binary as well, with two oppositions (the melody and its accompaniment), one opposition subjected to the other. Note how the melody presents an eight-note set, [79T01234] and the accompaniment completes the chromatic aggregate with the set [568E]. As with the (014589) melody/accompaniment aggregate completion in Example 3, the melody/accompaniment binary is complemented by the positive/negative binary of the aggregate completion, and perhaps the positive/negative binary is here somewhat less hierarchical than those traditional implications brought by the melody/accompaniment binary.

The traditional homophonic texture in Example 10 presents a more expected binary relationship, but less traditional textures in *Rain Palace* bring new possibilities for duality in the piece. See Example 11 for an example of a heterophonic texture in the piece.

Example 11: Heterophonic texture in *Rain Palace*, mm. 72-75

Heterophonic texture is often associated with “other” or “ethnic” musics, especially those from East Asia, and Yim may be referencing that aspect of this texture here. However, Yim’s two heterophonic melodies in the oboe and cor anglais stemming from the seed melody in the vibraphone and cello (as in Example 9) pose contrasting but equal adaptations of one main idea. By limiting the heterophonic texture in this way, Yim poses yet another binary relationship: the opposed but not opposite, the juxtaposed but not entirely contrasting. Here, the oboe and cor anglais each present a different variation of the seed melody, and the two variations coordinate with one another without any suggestions of hierarchy.

Rain Palace has not one but a pair of non-hierarchical textures. Just as the heterophonic texture coordinated two melodic variations with one another while avoiding suggestions of hierarchy, Yim also coordinates what could be interpreted as two traditionally accompanimental textures with one another. See Example 12 for the two accompanimental textures.

Example 12: Accompanimental Textures in *Rain Palace*, mm. 140-144

Like the heterophonic texture, the two accompanimental figures in Example 12 (trills and ostinato figure) do not have a clear hierarchical arrangement. Like the melody and accompaniment texture in Example 10, however, they have a close relationship and their pitches form a chromatic aggregate with the T_1 transposition of (014589). The upper staff, the eighth-note ostinato, is T_1 , with pitch classes [12569T], and the lower staff, the descending trill gesture, is its complement, with pitch classes [3478E0]. Each accompanimental gesture fulfills its role in completing the chromatic aggregate, but neither is subjected to the other. This texture of two accompanimental gestures emphasizes a specific pitch relationship; the binaries here are positive/negative complements, without a hierarchy.

Although the heterophonic and accompanimental textures above are binary without hierarchy, the melody and accompaniment texture comes from a tradition in which it has specific hierarchical connotations. Musical form also often has hierarchical connotations, whether one considers a sonata form or even a piece given form by organized tension and relaxation. While the form of *Rain Palace* is necessarily hierarchical to convey a sense of drama, various binary relationships are explored in its form. See Example 13 for a chart describing the form of the work.

Example 13: Form of *Rain Palace*

Large Section	Introduction		
Mm.	1-13	14-18	19-38
Rehearsal Letter	Slowly unfolding	A	B
Characteristics	Chromatic ascending and descending gestures	Introduction of (014589) T_1/T_3 aggregate in orchestra	Soloists enter with (014589) T_1/T_3 aggregate

Large Section	A					
Mm.	39-49	50-71	71-75	76-80	81-88	89-94
Rehearsal Letter	C	D	E	F	G	H
Characteristics	Syncopated clusters and flourishes in orchestra introduce (014589) T_0/T_2 aggregate	11-pitch series introduced over D pedal-tone	Heterophonic texture	T_0/T_2 aggregate, orchestra accompanies soloists	(014589) T_0 in soloists' melody with (014568) and (012469) neighbor sets in orchestra	(014589) T_0 appears at end of section

Large Section	A	
Mm.	95-104	105-113
Rehearsal Letter	I	J
Characteristics	pp orchestra chords and cadenza-like gestures for soloists, no aggregate completion of any kind, approach to local climax at J	Local climax with thick texture, all pitch content derived from (014589) T_0/T_2 aggregate

Large Section	A'					
Mm.	114-124	125-139	140-144	145-160	161-167	168-172
Rehearsal Letter	K	L	M	N	O	P
Characteristics	Oboe and clarinet have 11-pitch series in unison, "ghost melody" forms harmony	(014589) T_1 in soloists complemented by (014568) and (012469) neighbor sets; texture, motives, and pitch content from G	(014589) T_1/T_3 aggregate; motives, texture and pitch content from F	New material: 9-pitch symmetrical scale arranged in hexachords, each measure is a chromatic aggregate	Character reminiscent of E; aggregate completion	(014589) T_0/T_2 aggregate; texture, motives, and pitch content from C

Large Section	A'	Coda		
Mm.	173-178	179-187	188-196	197-206
Rehearsal Letter	Q	R	S	T
Characteristics	11-note series from K, D; syncopated blocks from P, C	Final Climax, all pitch content derived from (014589) T_0/T_2 aggregate; texture and pitch content from J	11-pitch series over F# pedal tone, melody split between soloists, pitch content and texture from D	(014589) T_0 ; hexachord only

For all of the rigor in *Rain Palace*'s general pitch, the form of the work is quite organic. Some sections in the latter half of the piece have precedents, like the regularly recurring (014589) materials in C, P, and Q and the 11-pitch series in D, K, and Q, while others like I and N stand alone, fitting into the environment without a specific precedent. While *Rain Palace* does not have the driving impulse toward dramatic resolution of a sonata form movement, it does share the sort of binary drama inherent in a sonata form that emerges between conflict between two themes. Two main ideas, the 11-note series and (014589), recur the most in *Rain Palace*, and while these two ideas don't have the tonal conflict of sonata themes, they do emphasize the "drama of two" so inherent in the construction of the piece- two soloists, two main ideas, binary oppositions and doppelgangers.

Rain Palace does not end (T_0 (014589)) where it begins (T_1 (014589)), and yet the ending feels satisfying without a sense of permanence. No construction inherent in *Rain Palace* impels it to end on T_0 (014589), so this ending could be a resting point as much as it is a stopping point. However, continuous use of T_0 (014589) throughout the work does give it a sense of permanence when this set brings the piece to a close. This ending, both seemingly momentary and permanent, neatly encapsulates yet another sense of two meanings prevalent throughout the work.

Binary structures are reflected at all levels in *Rain Palace*, from the positive/negative complements and semitone pairs in the (014589) set to dualities in texture, timbre and large-scale form. Although the work arguably has no tonal center, it fits a basic tenet of musical understanding, with surface gestures, middleground, and background constructions all supporting a deep, pervasive structure. In his introductory notes to the piece, Jay Alan Yim encourages the listener to “invent his/her own narrative thread.” Binary structures are pervasive in *Rain Palace*, but the onus is still on the listener to provide a narrative to the drama. I turn to Yvan Goll’s poem, “Der Regenpalast.” While this poem may or may not have a connection to the piece for Yim, it provides a powerful context for the binary structures in *Rain Palace*:

I have built for you a rain palace
Of alabaster columns and rock crystal
So that a thousand mirrors shall tell me
How ever more beautifully for me
You change.²

The thousand mirrors, rain drops in Goll’s “Regenpalast” reflect twins, perfect copies, doppelgangers, pale ghost twins, and distorted images obscured by the process of producing a double - these principles appear throughout Jay Alan Yim’s *Rain Palace*.

² Yvan Goll, “Der Regenpalast,” trans. Christopher Middleton, in *Modern German Poetry, 1910-1960, an anthology with verse translations*, ed. Michael Hamburger and Christopher Middleton (New York: Grove Press, 1962), 195.

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