

**Interval Symmetries as Divine Perfection
in Schoenberg's *Moses und Aron***

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Beginning with an analysis of certain tone-row partitions in Schoenberg's opera Moses and Aaron, this article examines the ways in which the composer dramatized the conflict between the two Biblical brothers by setting leitmotifs in opposition, conveying the tension (between the visual and verbal portrayal of God) in terms of an abstract, symmetrical system.

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When I was first asked to speak on the general theme of “Abstraction and Materiality,” I quickly realized that there was some music-analytical work I had been doing on Schoenberg's *Moses und Aron* for my recent book (*Schoenberg's Twelve-Tone Music: Symmetry and the Musical Idea*, Cambridge University Press, 2014) that fit the topic rather well. Those of you familiar with Schoenberg's opera know that it tells the story of Moses and Aaron trying, in contradictory ways, to communicate God to the people of Israel. Moses wants to use only words (an approach that ultimately fails) while Aaron prefers to use images (an approach that goes spectacularly wrong when he makes the Golden Calf, but he has more success later with the pillar of fire and pillar of cloud). In a sense, both are trying to bring God from the realm of the abstract into the realm of the material. As we shall see, Schoenberg's musical portrayal of these contrary attempts could also be understood as an attempt to materialize—for his listeners—something abstract, namely a symmetrical shape with multiple facets.

Schoenberg worked on the three-act libretto for *Moses und Aron* from September 1928 to 1932, composing the music for the first two acts from May 1930 to March 1932. He made a number of attempts to complete the opera up to

his death in 1951, but nothing more than a few sketches survives from his work on the music of Act III. Ever since Adorno's discussion of the opera in "Sakrales Fragment: Über Schoenbergs *Moses und Aron*," a debate has raged about whether the composition ought to have been finished or whether it works perfectly well as a two-act opera, and whether Schoenberg's text for the third act should be read from the stage as part of the opera's performance.¹ A letter from Schoenberg to Walter Eidlitz dated March 15, 1933 suggests one possible reason for the composer's inability to write the music for Act III: he was conflicted as to how to portray the scene in Numbers 20:6-13, where God decrees that Moses and Aaron should die before reaching the Promised Land, because they struck the rock at Meribah to give water to the thirsty Hebrews rather than *speaking* to the rock as God had commanded. (A parallel passage in Exodus 17:6 further confuses the issue by asserting that God had commanded Moses to strike the rock in the first place.) It seems as though Schoenberg may have been challenged by what seems to be a punishment far more severe than the offense, a discrepancy that has posed a difficulty for modern commentators as well (Jonathan Kirsch is one example).² In the Numbers account, Moses is accused of failing to trust and honor God and condemned to death. In his libretto for Act III, on the other hand, Schoenberg transfers the crime of striking the rock to Aaron, and includes it in a list of visual aids that Moses accuses him of using not to communicate God, but to gain power over the people—an ambition that merits death.

Now, Schoenberg claimed in his letter to Eidlitz that he could probably finish *Moses und Aron* without "[getting] over the divergence between 'and thou shalt smite the rock' and 'speak ye unto the rock.'"³ But his admission that it was an issue of the *meaning* expressed through the opera, not merely compositional issues, that posed an obstacle opens up a window to what I believe is the truth of the matter. *Moses and Aron* is principally about the unresolved conflict between Moses' inability to convey the idea of God to his people without images and his passionate belief, stemming from the second commandment, that no image of God may be made.⁴ The end of the second act expresses in an unusually

effective way Moses' failure to completely understand God or to represent Him in words. At the same time, Aaron's use of images such as the pillar of fire or pillar of cloud, while not portraying God in depth, is successful in the sense that it gives them enough information to march forward into the Promised Land. Musically, Moses' utter defeat is portrayed by conflicting means of dividing up the opera's tone row, which, rather than coming to some sort of agreement or synthesis at the end, simply disappear, replaced by a simple division into five notes and seven notes, which seemingly ignores the musical conflict that had come before. After this soul-shattering cadence, a third act that places Moses back in the ascendant position and enables him to confidently assert that Aaron will be united with God after death seems "tacked on," and I believe Schoenberg recognized this.⁵

But my assertion that *Moses und Aron* is—textually and musically—about an unresolved conflict, and that the cadence at the end of Act II is the only appropriate ending for such a piece, bears on our understanding of this opera's place in the larger context of Schoenberg's music. For the first time, we are dealing with an extended work that does not project a complete "musical idea," Schoenberg's preferred way to account for coherence in his music. (What I mean by "musical idea" is a framework or master process that spans the entire piece, and begins by presenting a conflict of some sort, continues by elaborating and deepening the conflict, and then resolves the conflict convincingly at or near the end.) The first two stages of the typical musical idea are certainly in force in *Moses und Aron*: a conflict is presented in the opening measures of Act I between the depths of God's being and Moses' limited ability to grasp Him. Out of that conflict, others grow—between God's command to Moses to prophesy and Moses' reluctance to do so, between Moses and Aaron's conceptions of God, between Moses and Aaron's preferred ways of expressing God to their people (word and image), between Aaron's desire to represent God through an image, the people's desire to use that same image for baser ends, and so on. The third scene of the second act, the famous "Golden Calf" scene, portrays a veritable battleground between forces of good and evil, understanding and

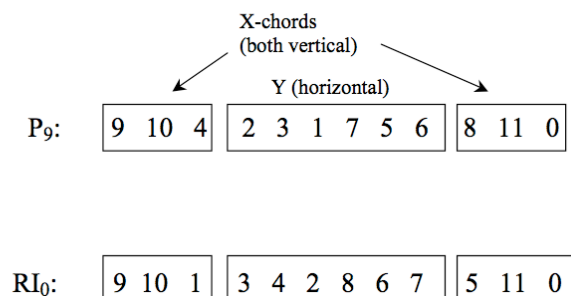
misunderstanding, each conflict represented by conflicting approaches to dividing up the twelve-tone row—musical means that gradually gain ascendancy over and yield to one another. But at the end of the scene and at the end of the opera, none of these “partitions,” as I call them, take firm control and relate the others to itself, as we see happen so often in Schoenberg’s other twelve-tone pieces. Because of its lack of musical synthesis, its presentation of conflicting partitions that are never really united, *Moses und Aron* as a whole can only be described as an incomplete musical idea—an idea without a resolution.

My discussion will start with analyses of particular row partitions that I consider to be “leitmotives,” themes with dramatic significance, for *Moses und Aron*. The idea of partitions as leitmotives is not original with me: it comes from David Lewin and Michael Cherlin’s analytic work on the opera (and to a lesser extent, that of Christian Martin Schmidt).⁶ After discussing some of the key leitmotives that appear at the opening, representing God’s perfection and Moses and Aaron’s imperfect grasp of God, I will consider several ways in which Schoenberg portrays the principal conflict by setting leitmotives against each other. I will conclude by showing how Schoenberg illustrates Moses’ despair at Aaron’s successful conveyance of the idea of God, which entailed the use of an image (this use being the source of Moses’ anguish).

First and foremost among the ways of dividing up tone rows in this opera is a pattern that Lewin and Cherlin both call $X + Y$, for which I have illustrated the

ways it appears near the beginning of the opera in Examples 1a through c.

Example 1a, "Depths of God" partition



C (in any octave/register) = 0, C# and Db = 1, D = 2, D# and Eb = 3, E = 4, F = 5, F# and Gb = 6, G = 7, G# and Ab = 8, A = 9, A# and Bb = 10, B = 11

Figure 1. Example 1a

Let me say a few words here about the row and pitch labels in this example: It is conventional in twelve-tone theory to give each of the note-names a number based on the number of places you travel in the chromatic scale starting at some C to get to that note. Hence "9" is given to the note A, whatever high or low register you find A in, because traveling from C to A through the chromatic scale, I traverse 9 half steps. Under this system, which we call "pitch-class integers," each note gets a number based on its half-step distance from C: C is 0, C# is 1, D is 2, etc. A complete list is given along the bottom of Example 1a.

Then, the twelve-tone row itself is identified with a label that includes a letter P, I, R or RI. This refers to whether the row is in the original row of the piece or one of its transpositions (P for prime), an inversion or vertical flipping over of the row (I), a version of P taken backwards (R for retrograde), or a retrograde of

Example 1b, "The Depths of God" in Act I, scene 1, Schoenberg, *Moses und Aron*, mm. 1-3

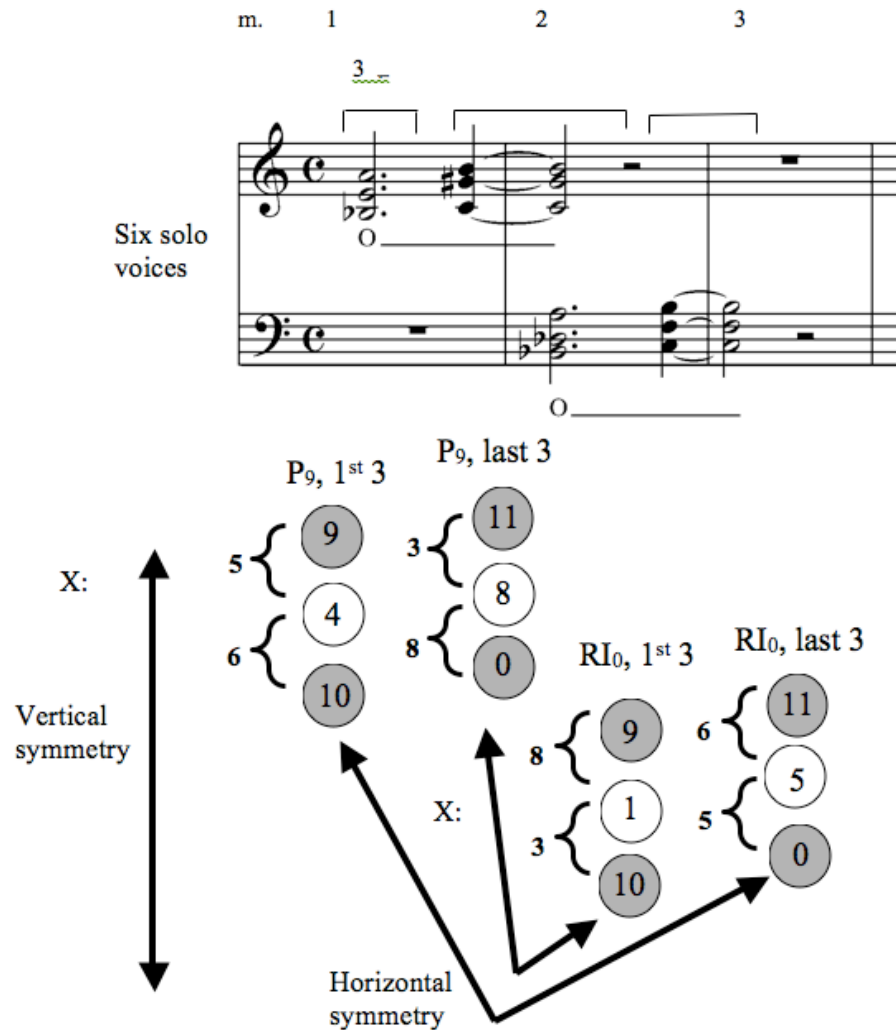


Figure 2. Example 1b

some inversion (RI). The number in subscript next to the letters represents the pitch class integer of the first note of the row for primes and inversions, and the pitch class integer of the *last* note of the row for retrogrades and retrograde inversions.

Now, the X + Y *leitmotivic* partition pairs two twelve-tone rows together and then divides them into two kinds of element, the first three notes and last three notes ("X"), which are typically given as chords in the music, and the middle six notes ("Y"), which typically appears as a melodic line. I have given this partition a

name that I believe characterizes its *leitmotivic* significance, “The Depths of God.” The partition, as it is deployed in Act I, scene 1 and the rest of the opera, enables a surprisingly large number of vertical and horizontal symmetries between the pair of row forms, and within each row form individually. Two instances of the partition in the opening scene, reproduced in Examples 1b and 1c, will illustrate. Example 1b presents the opening measures of the opera; here, six solo voices (representing some aspect of God’s person, communicating to Moses from the burning bush) offer the four X chords of P_9 and RI_0 and leave out the two middle Y hexachords. As the pitch-class map below the score indicates, Schoenberg arranges the pitches of P_9 ’s first and last three-note groups so that they create vertical mirrors with the last and first three-note groups of RI_0 . P_9 ’s two X chords consist of unordered pitch intervals <5-above-6> and <3-above-8>, and RI_0 ’s X chords produce <8-above-3> and <6-above-5>. (Now, by “unordered pitch interval” I mean a count of the half-steps between the notes. So, for example, from Bb or 10 to E or 4, there is a distance of 6 half steps. From E or 4 to A or 9, there is a distance of 5 half steps.) The same applies for the other three chords, forming a vertically symmetrical pattern, 6-5, 8-3, 3-8, 5-6. Now, any pair of inversion-related rows (not just this particular P_9 and I_0) could be disposed in such a way, so that the first three notes and last three notes form mirror inversions between the rows; but Schoenberg adds a second dimension to the symmetry by overlapping P_9 with RI_0 rather than I_0 , creating a horizontally-symmetrical pattern among the four chords. This horizontal symmetry is reinforced by the durations of the first P_9 group of three (3 quarter notes), the fourth P_9 and first RI_0 groups of three together (4 quarters), and the fourth RI_0 group of three (3 quarters).

Despite being reinforced by the rhythm, the horizontal and vertical symmetry may not be the most obvious feature of mm. 1-3, however. Schoenberg’s setting also highlights invariant or common pairs of notes between corresponding first and fourth three-note groups of P_9 and RI_0 . P_9 /first three and RI_0 /first three share pitch classes 9 and 10, and P_9 /last three and RI_0 /last three share 11 and 0. These pitch classes (shaded in the pitch-class map) appear as outer voices, and give the unmistakable aural impression of a progression

repeated down an octave with a different middle voice. In this way, the symmetry that is so obvious visually in the pitch class map becomes partially obscured aurally by the common pitch classes between the rows. This veiling of symmetry has a representative function, as we shall illustrate.

Example 1c, "The Depths of God" in Act I, scene 1, Schoenberg, *Moses und Aron*, mm. 11-13

The figure displays a musical score for Example 1c, including vocal parts (Solo voices, WW) and instrumental parts (Vcl, Cb, Bsn, Speaking chorus). The lyrics are: "Le - ge die Schu - he ab, he ab, bist weit ge - nug ge - gan - gen;". Below the score are two pitch class diagrams. The left diagram shows a hexachord X with notes 9, 4, 10, 2, 3, 1, and a Y hexachord with notes 11, 8, 0, 3, 4, 2, 8, 6, 7, 9, 5, 11, 5, 10, 0, 1, 10, 2, 3, 1, 7, 5, 6. The right diagram shows a hexachord X with notes 3, 4, 2, 8, 6, 7, 9, 5, 11, 5, 10, 0, 1, 10, 2, 3, 1, 7, 5, 6. A Y hexachord is also shown with notes 11, 8, 0, 3, 4, 2, 8, 6, 7, 9, 5, 11, 5, 10, 0, 1, 10, 2, 3, 1, 7, 5, 6. The Y hexachord is labeled with the interval sequence $Y: \langle +1, -2, +6, -2, +1 \rangle$. A box labeled 'Vertical symmetries in Y:' contains two diagrams. The top diagram shows a hexachord symmetrical around F4 with interval sequence $\langle +1, +1, +2, +1, +1 \rangle$. The bottom diagram shows a hexachord symmetrical around E3/F3 with interval sequence $\langle +1, +1, +2, +1, +1 \rangle$.

Figure 3. Example 1c

In mm. 11-13, shown in Example 1c, Schoenberg brings back the horizontally and vertically symmetrical X chords of P_9 and RI_0 in the six solo voices, which sing the phrase "Lege die Schuhe ab" or "Take off your shoes" to the X chords of P_9 and "Bist weit genug gegangen" or "You have come far enough" to the X chords of RI_0 . But a new component is added here in the instrumental parts—the middle Y melodies of both rows. As the registrally-ordered chart (lowest to highest) on the right edge of Example 1c illustrates, the two Y hexachords create a vertical symmetry with one another, around E and F. Corresponding segments of inversion-related rows can always be disposed in

such a way. But in addition, each of the Y middle groups of six notes is vertically symmetrical within itself, a characteristic which is not shared by every row—the Y hexachord in P_9 centers around low E between Eb and F, and the Y hexachord in RI_0 mirrors around high F between E and F#. Not only that, but the actual orderings of the Y groups are such so that their ordered pitch interval succession creates a horizontal palindrome: $\langle +1, -2, +6, -2, +1 \rangle$. (To get an “ordered pitch interval,” by the way, I count both the number of half steps and the direction; +1 means an ascending half step, -2 means a descending interval of 2 half steps, etc.). As a result of the horizontal symmetry, each inversion of Y is equivalent to a transposition of the retrograde, and each retrograde inversion of Y is equivalent to a transposition of Y itself. The latter property is clearly illustrated in Example 1c—the rows are P_9 and RI_0 , but instead of hearing a retrograde-inversional relationship between the two Ys, what seems obvious to our ears is instead a transposition up 1 (plus a couple of octaves); $\langle 2, 3, 1, 7, 5, 6 \rangle$ goes to $\langle 3, 4, 2, 8, 6, 7 \rangle$. They sound like transpositions of one another, not really like inversions that are taken backwards.

What Schoenberg’s first *leitmotivic* partition makes available is the same kind of intervallic shape that represents the “ideal” or “perfection” in several of his earlier twelve-tone compositions. In *Moses und Aron*, the vertically and horizontally symmetrical shape at the opening represents God Himself (or Themselves, as portrayed by the singing and speaking choruses). The multiple symmetries and transformational relationships represent aspects of God’s person, which are clearly visible/audible at times, partially visible/audible at times, completely invisible/inaudible at other times and hidden behind more obvious relationships at other times. These visible, invisible and hidden symmetries represent beautifully the central conflict of the opera, which is expressible as a question: Since God is infinite, too deep and complex to be *completely* visible, is it acceptable to try to capture *some* of Him visually (as Aaron tries to do and fails with the calf, then succeeds with the pillar of cloud and pillar of fire), or must one forswear *any* kind of visual representation (as Moses believes)?⁷ And the faltering attempts of Moses and Aaron to grasp and communicate God’s nature

are beautifully represented in passages where completely different partitions signifying Moses or Aaron create symmetries or intervallic patterns belonging to the “Depths” (but without the full context).

Example 2a, “Moses’ Understanding of God,” or the discrete tetrachord partition

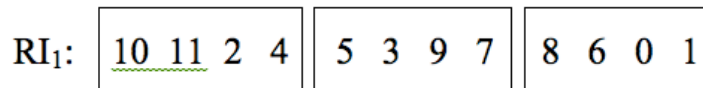


Figure 4. Example 2a

Example 2b, “Moses’ Understanding of God” in Act I, scene 1, Schoenberg, *Moses und Aron*, mm. 8-11

m. 8 9 10 11

Ein - zi - ger, c - wi - ger, all - ge - gen - wär - ti - ger, un - sicht - bar - er und un - vor - stell - bar - er Gott!

Vowels & diphthongs: “ei” “eh” “ah” “oo” “oo” ----- “aw,” just short of “oh”

Figure 5. Example 2b

One of the passages representing an incomplete grasp of God by man is illustrated in Examples 2a and b. I call this the “discrete tetrachord partition.” (Discrete tetrachord means first 4, second 4, third 4; three non-overlapping groups of 4 that exhaust the row.) In this opera it represents Moses and his limited yet unparalleled grasp of God’s depths and complexity. The passage in example 2b, measures 8-11 of Act I, scene 1, appears between the two passages that were illustrated in Examples 1b and 1c. In Example 2b, Moses discovers for himself some of God’s horizontal and vertical interval symmetries that are associated with the Y melody (played by the English horn). What is remarkable about this Y melody in mm. 8-11 is that it is generated from two tone rows, RI_1 and P_7 , in a completely different manner from Example 1. When RI_1 and P_7 are both subjected to the discrete tetrachord partition, one note from each four-note group can be pulled out to form Y at exactly the same transposition it takes in example 1c: $\langle 10, 11, 2, 4 \rangle$, $\langle 5, 3, 9, 7 \rangle$, $\langle 8, 6, 0, 1 \rangle$, $\langle 7, 8, 2, 0 \rangle$, $\langle 1, 11, 5, 3 \rangle$, $\langle 4, 6, 9, 10 \rangle$. So the vertical registral symmetry around E and F and the horizontal ordered pitch interval symmetry that was characteristic of Y when we saw it back in Example 1c, are both preserved here. I can think of no better way to depict Moses, coming to the burning bush with a completely different level of understanding, human rather than divine, and yet somehow managing to grasp more of God’s inherent symmetries than any other character in the opera. Moses’ almost-successful attempt to grasp God is also reflected in the vowels that he utters in this passage, as Cherlin has pointed out. The full text reads “Einzig, ewiger, allgegenwärtiger, unsichtbarer, und unvorstellbarer Gott!” The sequence of vowels and diphthongs that occur together with the English horn’s first five notes, “ei,” “eh,” “ah,” “oo,” “oo,” and finally “aw,” which follows the sixth note, traces a progression toward the “O” that the six solo voices representing God had sung in the opening measures—but Moses falls just short.⁸

Example 3a, "Aaron's Understanding of God," or the odd-even partition

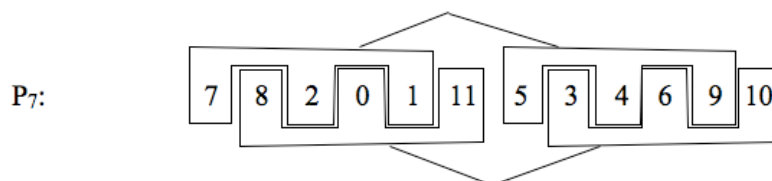


Figure 6. Example 3a

Example 3b, "Aaron's Understanding of God" in Act II, scene 5, Schoenberg, *Moses und Aron*, mm. 1073-75

m. 1073 1074 1075

Aaron:
P₇: {7, 8, 2, 0, 1, 11, 5, 3, 4, 6, 9, 10}

1st trombone, viola, 2nd violin:
R_{I10}: {7, 8, 11, 1, 2, 0, 6, 4, 5, 3, 9, 10}

Flutes:
I₁₀: {10, 9, 3, 5, 4, 6, 0, 2, 1, 11, 8, 7}

R₇: {10, 9, 6, 4, 3, 5, 11, 1, 0, 2, 8, 7}

Bass clar., bsns., harp:

(almost) vertical pitch-interval symmetry

Flutes: -7 +1 -4 +1 +7 (+1) (-5) +1 -4 +1 +5

Aaron: +7 -1 +4 -1 -7 (+11) -7 -1 +4 -1 -5

Horizontal pc and set-class symmetry

Figure 7. Example 3b

Next for us to consider, in Examples 3a and b, is a partition that is associated with Aaron and his grasp of the Unrepresentable One. As Example 3a shows, it divides the row into odd and even notes. Its first appearance is in Act I, scene 2, where Moses and Aaron meet and seem to talk past one another for a while, before Moses pleads with his brother to “purify his thinking.” But the example I want to use to illustrate “Aaron’s Understanding” comes from the final scene, Act II, scene 5. At this point, Aaron is about to persuade Moses that visual images, though they cannot capture every aspect of God’s being, do still have some usefulness in leading the people toward God.

In mm. 1073-75 of Act II, displayed in Example 3b, Aaron is near the end of his argument: reassuring Moses that the people will be preserved as a testimony to the eternal idea. The most striking aspect of the passage’s music is that, using a completely new partition (odd vs. even pitch-classes), Aaron is able to recreate in a different way from Moses some of the vertical and horizontal symmetries that came out of the X + Y partition at the beginning of the opera. As the bottom of Example 3b shows, Aaron’s melody carries out an almost-complete vertical mirror around G[#] and A with the flutes. Only the initial three-note groups of m. 1074, <8,1,0> in Aaron’s solo and <9,4,5> in the flute part, break the pattern. This vertical symmetry is of the same kind as that displayed by the X chords in Example 1b, though the axis of symmetry is different: Schoenberg is, again, taking inversion-related rows, P₇ and I₁₀, and creating actual pitch and interval inversions from them. In addition, because of his row sequence (P₇ and I₁₀ in m. 1073 followed by RI₁₀ and R₇ in mm. 1074-75), the flute pitch classes <9,4,5,1,2,7> in mm. 1074-75 reverse Aaron’s pitch classes in m. 1073, <7,2,1,5,4,9>, and the flute pitch classes <10,3,4,0,1,8> in m. 1073 reverse Aaron’s pitch classes <8,1,0,4,3,10> in the latter measures. Aaron’s partition thus creates both vertical and horizontal symmetry. Aaron recreates some (but not all) of the horizontal and vertical symmetries that define God, but in a different way from God and Moses, and using a different partition. His ability to lead the people using images that represent God (rather than words, like his brother wants to) is effectively depicted by musical relationships in Example 3b.

However, it seems that much of Schoenberg's purpose in rewriting the story of Moses and Aaron is to show how visual images of God can, if used indiscriminately, lead people away from God and toward celebrating their own baser inclinations. Act II, scene 3 of the opera portrays how the creation of the golden calf leads to delusion, suicide, unrestrained military power, murder, and rape. The magical power of images to benefit the people (if used rightly) and harm them (if used wrongly) is represented by its own *leitmotif*, which I call "Magic of the Image" and illustrate as Example 4a. From Example 4a, we can see that this particular way of dividing up the tone row creates a unique property that music theorists like to call "collectional invariance." According to this property, the same partition applied to different forms of the same tone row yields the same groups of pitch classes, in different orders. Here, dividing six different row forms,

Example 4a, "Magic of the Image," or the chromatic tetrachord partition

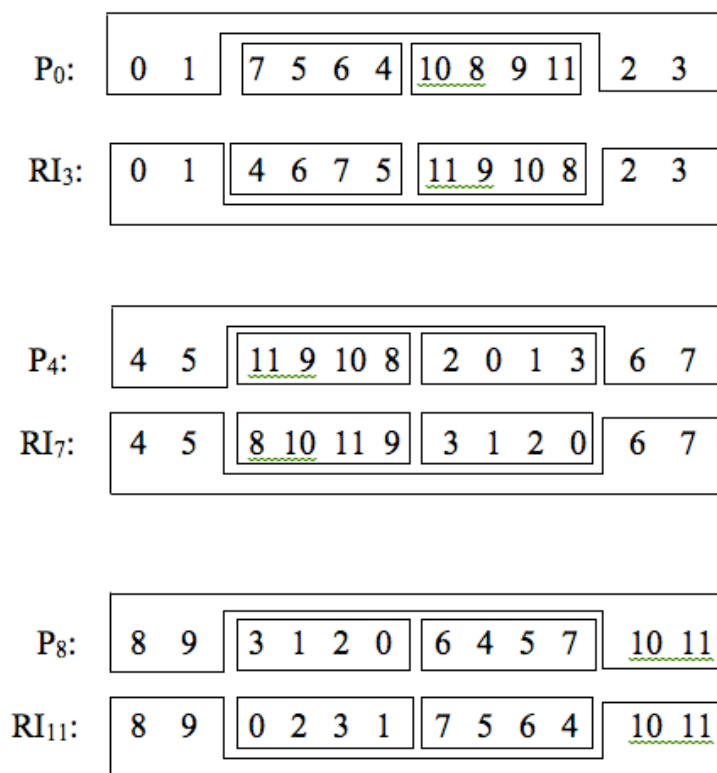


Figure 8. Example 4a

P_0 , RI_3 , P_4 , RI_7 , P_8 and RI_{11} , into first two notes and last two together, then dividing the remaining 8 in half, gives in every case 3 four note groups that read $\{0,1,2,3\}$, $\{4,5,6,7\}$ and $\{8,9,10,11\}$, three portions of the chromatic scale, in different orders almost every time. One would think that if Schoenberg presented one of these four note groups as a chord, or changed its order from the ones that we see here, it would make it confusing for the listener who was trying to figure out what row form a group came from. For example, if I had a motive that went $\langle 0,3,1,2 \rangle$ (the equivalent of C, Eb, Db, D), none of these rows has that particular motive, but all six have some version of the same 4 pitch classes. So what row do I associate $\langle 0,3,1,2 \rangle$ with? The resulting confusion parallels the bewilderment that the golden calf caused for the people of Israel.

Example 4b, "Magic of the Image" in Act II, scene 3, Schoenberg, *Moses und Aron*, mm. 423-28

m. 423 424 425 426 427 428

Obs. and cls.: $\langle 6,4,5,7 \rangle$; $\langle 7,6,4,5 \rangle$; $\langle 5,7,6,4 \rangle$

Bottom vns./vas., mm. 425-26

P_8 : 8 9 | 3 1 2 0 | 6 4 5 7 | 10 11 | R_g : 11 10 | 7 5 4 6 | 0 2 1 3 | 9 8

RI_{11} : 8 9 | 0 2 3 1 | 7 5 6 4 | 10 11 | I_{11} : 11 10 | 4 6 5 7 | 1 3 2 0 | 9 8

P_0 : 0 1 | 7 5 6 4 | 10 8 9 11 | 2 3 | R_0 : 3 2 | 11 9 8 10 | 4 6 5 7 | 1 0

RI_3 : 0 1 | 4 6 7 5 | 11 9 10 8 | 2 3 | I_3 : 3 2 | 8 10 9 11 | 5 7 6 4 | 1 0

P_4 : 4 5 | 11 9 10 8 | 2 0 1 3 | 6 7 | R_4 : 7 6 | 3 1 0 2 | 8 10 9 11 | 5 4

RI_7 : 4 5 | 8 10 11 9 | 3 1 2 0 | 6 7 | I_7 : 7 6 | 0 2 1 3 | 9 11 10 8 | 5 4

Vcls. and cls., m. 423
1st tpt. and Obs., 424

Top vns. and vas., 2nd hn., 426-28

Vcls. and cls., 425-28, obs. and cls., 425-28

Bottom vns./vas., 4th hn., 426-28

Vcls. and cls., 425-28, obs. and cls., 426-28

4th hn./2nd bsn., 423-25

Obs. and cls., 426-28

Figure 9. Example 4b

The musical example I have chosen to illustrate “Magic of the Image” highlights this confusing aspect of it. Example 4b comes from near the beginning of Act II, scene 3, mm. 423-28, in an orchestral passage that serves as a dynamic climax part way through the “Dance of the Butchers.” I think this dynamic climax suggests the looming power of the golden calf to influence the people to think and do evil, as the passages that portray their various delusions and sins begin to occur not long after, at measure 454. Example 4b uses a slightly different format from some of the others in this presentation, as I want to highlight the idea that Schoenberg is pulling out chromatic four-note groups from all six of the row forms that are collectionally invariant with each other under “Magic,” P_8 , RI_{11} , P_0 , RI_3 , P_4 and RI_7 , as well as their retrogrades. In some cases, Schoenberg will pull an ordered tetrachord that appears only once in the 6 row forms, like $\langle 6,4,5,7 \rangle$ in the ‘cellos and basses from mm. 425-28, which appears only in P_8 . In other cases, ordered tetrachords in this passage are pulled from more than one row, like $\langle 0,2,1,3 \rangle$ in the 4th horn and 2nd bassoon at mm. 423-25. That tetrachord appears in order in both R_8 and I_7 . In several other cases, he takes an ordered tetrachord that is shared by two rows and reorders it—for example, the succession $\langle 2,0,3,1 \rangle$, which shows up in the bottom violin and viola parts in mm. 425-26, is shown on my chart as a reordering of $\langle 3,1,2,0 \rangle$, shared by P_8 and RI_7 . (Or, in truth, $\langle 2,0,3,1 \rangle$ could also be heard as a reordering of ten other tetrachords that share those pitch classes.) The succession $\langle 4,5,7,6 \rangle$, which anchors the texture in m. 423 as its bass line, can be heard as a reordering of $\langle 4,5,6,7 \rangle$, which comes from P_4 and RI_7 .

Much of Act II, scene 3, which can be thought of as the dramatic apex of the opera (it certainly contains most of its violent and shocking staging) involves a battle for supremacy between two partitions—“Magic of the Image,” which we’ve just seen, and Moses’ partition into discrete four-note groups, that we considered in Example 2. Now, there are many, many examples I could use to illustrate this battle, but the one I chose comes directly after four virgins are sacrificed to the

golden calf. Schoenberg's stage directions give an idea of the intensity of this particular section:

The crowd now begins to destroy things and kill themselves; implements are shattered; stone jars smashed; wagons destroyed, etc.; everything possible is thrown around; swords, daggers, axes, lances, jars, implements, etc. In a frenzy, some throw themselves on implements, weapons and the like, others fall on swords, still others jump into the fire and run, burning, across the stage; several jump down from the high rocks and similar things; with all of this, wild dancing.

One thinks that Schoenberg could really have used a good special-effects team at this point! Since he lacked that in the early 1930s, he uses music, especially *leitmotives*, to portray the mighty struggle. My illustration, Example 5, comes near the beginning of that section, mm. 829-32. The passage establishes a texture that will be dominant throughout the next 80 measures—essentially a

Example 5, beginning of the "two-part antiphony" ending Section E, Act II, scene 3, Schoenberg, *Moses und Aron*, mm. 829-32

The figure displays a musical score for measures 829-832 of Schoenberg's *Moses und Aron*. The score includes parts for Xylophone, Ob., Mand., Hp., Piano, Violins/Violas, 1st Trombone, and Cellos/Basses. Above the score, rhythmic patterns are indicated: $\langle +1, +4, +1, +2, +1, +5, +1 \rangle$ for measures 829-830 and $\langle -1, +4, -1, -2, -1, -5, -1 \rangle$ for measures 831-832. The diagram below the score illustrates the rhythmic patterns for various instruments, categorized into Higher and Lower sections.

Higher:

- Ob., Mand., Hp., Piano, Xyl. (P2): 2 3 9 7 8 6 0 10 11 1 4 5
- Violins/Violas: 4-18 (0147) and 4-18
- Ob., Mand., Hp., Piano, Xyl. (R2): 5 4 1 11 10 0 6 8 7 9 3 2
- Violins/Violas: 4-18 (R1): 5 4 10 0 11 1 7 9 8 6 3 2
- Ob., Mand., Hp., Piano, Xyl. (R1): 2 3 6 8 9 7 1 11 0 10 4 5

Lower:

- 1st Trombone (chromatic): P2/h2: 0 10 11 1 4 (5)
- Violins/Violas: 4-18 (1st Tb. discrete): R1s/t1: 5 2 3 6 8
- 1st Trombone (chromatic): R1s, next 5: 9 7 1 11 0
- Violins/Violas: 4-18 (1st Tb. discrete): R2/h1: 5 4 1 11 0 10 0
- 1st Vcl./Cb. vertical (chromatic): 3-1 (chromatic) and 2nd vert. (discrete)
- 1st Vcl./Cb. vertical (discrete): R2/t1: 5 4 1 11
- 1st Vcl./Cb. vertical (chromatic): 3-1 (chromatic) and 2nd (discrete)
- 1st Vcl./Cb. vertical (discrete): P2/r1: 2 3 9 and R1s/t1: 2 3 6 8
- Cellos/Basses (Is/h2): 7 9 8 and 6 3 2

Figure 10. Example 5

two-part antiphony of groups of instruments, each part of which is characterized by its own partition or group of partitions. The higher instruments (oboes, xylophone, mandolin, piano, harp, violins and violas) rely on a partition I haven't discussed yet, called "Revelry II," while the lower group (trombones, 'cellos and basses) exhibit a mix of partitions.⁹ At the beginning, the lower group seems almost like an afterthought, because most of the action is happening in the upper instruments. But as the section progresses, it turns out that the significant *leitmotivic* action, the battle for supremacy between Moses' partition, represented in my example by the word "discrete," and "Magic of the Image," represented by the word "chromatic" and gray shading, takes place in the lower instruments.

Some of the two groups' eventual motivic functions become clear already in mm. 829-32. The top group divides up three rows, P_2 , I_5 , and R_2 , according to "Revelry II". This consistency of partitioning lends a quality of stability to the top group of instruments in the texture. Meanwhile, the lower group, solo trombone accompanied by 'cello and bass chords, exhibits a more variegated partitional scheme using the same row forms among others. But almost all of the partitions are either discrete (dividing into first 4, second 4, and third 4) or chromatic, which enables the lower group to portray the struggle between Moses and the golden calf more directly. For example, the first phrase of the lower instruments in m. 829 gives the first trombone the first five notes of P_2 's second group of six (which we call the second "hexachord" in music theory terminology), and the accompaniment gets the third and fourth three-note groups of I_5 . The beginning of the trombone's line, $\langle 0,10,11,1 \rangle$ creates a chromatic set, as does the third three-note group of I_5 in the first 'cello/bass vertical, $\langle 7,9,8 \rangle$. The second phrase of the lower group (m. 830) takes the final note of P_2 's second six-note group, 5, and joins it to the first discrete four-note group of RI_5 , $\langle 2,3,6,8 \rangle$, in the trombone. The 'cellos and basses accompany the soloist with the first discrete four-note group of R_2 , $\langle 5,4,1,11 \rangle$. In the third phrase of trombone and low strings, m. 831, the trombone keeps working its way through RI_5 with its fifth through ninth notes, $\langle 9,7,1,11,0 \rangle$. This ends with a chromatic three-note group, $\langle 1,11,0 \rangle$, that is set

apart rhythmically. The accompaniment takes the same order positions from R_2 and divides them into a two-note group $\langle 10,0 \rangle$ and the chromatic three-note group $\langle 6,8,7 \rangle$ for the two verticals. Finally, the fourth phrase in m. 832 has the trombone skipping from the fifth note to the second and first in R_2 's first hexachord, then reversing itself and going forward through the first four notes, $\langle 5,4,1,11 \rangle$ (producing a discrete four-note group of R_2). The 'cellos and basses play the first discrete three-note group of P_2 followed by the first discrete four-note group of RI_5 .

Let me emphasize the alternating pattern in the four phrases played by the trombone and low strings: The first and third phrases are heavily dependent on chromatic segments of the tone row, so that you hear a lot of these kinds of sounds, while the second and fourth feature discrete three- and four-note groups that are not chromatic. Given the association of discrete four-note groups with Moses and chromatic ones with the calf that's been built up not only in Act II, scene 3 but also through the opera as a whole, the significance of these compositional choices seems obvious. The struggle between Moses and the calf for the people's attention will continue to grow more intense as the scene progresses.

Now that I've described Schoenberg's ways of dividing up the twelve-tone row that represent God's perfection, Moses and Aaron's grasps of different aspects of God, the destructive influence of the golden calf, and the battle between the calf and Moses for the minds and hearts of the people of Israel, I want to skip ahead to the end of the opera. As I mentioned at the beginning, Schoenberg transforms some of his *leitmotivic* partitions in ways that suggest that Aaron has taken over the mantle of leadership and found a way to communicate God to the people, *using images*. These transformed partitions occur a number of times in Act II, scene 5, but I'll focus on those just before and during that passage where Aaron points out to Moses that the pillar of cloud, pillar of fire, and the burning bush itself are all visual images that represent God quite effectively. Thus he wins his argument with Moses about words vs. pictures, which has been going on from the beginning. Directly after Aaron's victory, the music associated with

God, Aaron, and the people disappears from the score, as Aaron and the people march off the stage, headed to the Promised Land. Moses is left alone and powerless—and the only partition left to him is one I call “Moses’ Failure,” which represents his situation well: because it has no obvious relation to the partitions that stand for Moses, Aaron, God or the people, and because it has almost no special “powers” to create symmetry or bring back the same notes in different places, unlike “Depths of God,” Moses’ or Aaron’s partitions, or even “Magic of the Image.”

Now, we’re going to pick up Act II, scene 5, at that place where Aaron reassures Moses that “this people will be sustained, to give proof of the eternal idea,” near the end of his final argument that clinches his victory over Moses. You will remember from our discussion of Example 3b that “Aaron’s Understanding” (even and odd) applied to P_7 and I_{10} together in m. 1073 followed by $R_{I_{10}}$ and R_7 together in mm. 1074-75a creates a number of possibilities for horizontal and vertical symmetry, some of which are realized. We said that the flute line and Aaron’s part create vertical ordered pitch interval symmetry with each other in mm. 1073 and 1074b-75a, but not in the first part of 1074 (flutes, $\langle -7, +1, -4, +1, +7, +1, -5, +1, -4, +1, +5 \rangle$, Aaron, $\langle +7, -1, +4, -1, -7, +11, -7, -1, +4, -1, -5 \rangle$). In other words, most of the same intervals that went up in the flute’s music go down in Aaron’s music, and *vice versa*. And the pitch-class succession of Aaron’s line in these $2\frac{1}{2}$ measures, $\langle 7, 2, 1, 5, 4, 9, 8, 1, 0, 4, 3, 10 \rangle$, reverses that of the flutes, $\langle 10, 3, 4, 0, 1, 8, 9, 4, 5, 1, 2, 7 \rangle$.

But there are two other properties of “Aaron’s Understanding” in this passage that we did not discuss before, because I was focusing on *complete* symmetries. Within each six-note group of their lines, both Aaron and the flutes almost achieve horizontal ordered pitch interval symmetry, one of the many symmetries of “Depths of God” (the kind that had been found in the Y hexachord, $\langle +1, -2, +6, -2, +1 \rangle$). Here in Example 3b, the first hexachord in the flutes (m. 1073) contains the ordered pitch intervals $\langle -7, +1, -4, +1, \underline{+7} \rangle$, and Aaron’s first hexachord, mirroring the flutes vertically as he does, reads $\langle +7, -1, +4, -1, \underline{-7} \rangle$. In both cases, they almost create a horizontally symmetrical ordered pitch interval succession,

but go astray on the last interval, which is the right number of half-steps but moves in the wrong direction. The situation becomes even worse with the two second hexachords—the flutes give us $\langle -5, +1, -4, +1, \underline{+5} \rangle$, and Aaron, who no longer mirrors them in m. 1074, sings $\langle -7, -1, +4, -1, \underline{-5} \rangle$. I argued earlier that “Aaron’s Understanding” is able to comprehend some of God’s symmetries but not others (the horizontal interval symmetry of Y, in particular, is one that Moses can reproduce, as he did in Example 2b, but Aaron can’t). Our description of the ordered pitch intervals of Aaron’s and the flutes’ lines here strengthens my case, because they depict Aaron trying to create horizontally symmetrical hexachords and falling just one element short. But, later on in the scene, Aaron will start singing “Depths of God” himself (taking it out of Moses’ hands, as it were), so that the pure intervallic symmetry of Y will be captured by him also.

The place where Aaron eventually does manage to capture “Depths of God” is mm. 1087-93, illustrated by Examples 6a and 6b (these come 12

Example 6a, The musical portrayal of Aaron’s final victory, where he finally grasps the horizontally-symmetrical Y motive, Act II, scene 5, Schoenberg, *Moses und Aaron*, mm. 1087-90

Intervallic Analysis for Example 6a:

Measure	Instrument/Voice	Intervallic Pattern	Annotations
1087	Mezzo-sopranos	R10/h1: 9 10 1 3 4 2	
	Ten./Bar./Basses	R10/h1: 9 10 1 3 4 (2)	
	Flutes and Clars.	R9/h1: 0 11 (8) 6 (5 7)	
	Piccolo	R10/h1: 9 10 1 3 4 2	
1088	Bars./Basses	P9/h2: 7 5 6 8 11 0	
	Piccolo	P9/h1: 9 10 4 2 (3) 1	
	Xyl./Mands./Timp./Piano	R9/h1: 0 11 8 6 5 7	Last 2 beats
	1 st Trombone	R9/h1: 0 11 8 6 (5 7)	Discrete
1089	Bars./Basses	R10/h2: 8 6 7 5 11 (0)	
	Flutes/Clars./Picc.	I0/h2: 2 4 3 1 10 9	
	Xyl./Mands./Timp./Piano	I0/h1: 0 11 5 7 (6 8)	Last 2 beats
	1 st Trombone	I0/h1: 0 11 5 7 (6 8)	Discrete
1090	Trombone and Piano	R9/h2: 1 3 2 4 10 9	
	Choir, 2 nd and 3 rd beats	P9/h1: 9 10 4 2 3 1	Chromatic
	Mand./Timp./Xyl., 4 th -6 th beats	P9/h2: 7 5 6 8 11 0	Picc.
	Outside verticals	R9/h1: 0 11 8 6 5 7	

Additional Annotations:

- 1st 2 beats: Discrete, 2nd 2 beats: Transitional
- 1st Trombone: Discrete
- 1st Trombone, Piano: Discrete
- 1st Trombone, Piano: last 4 beats of the measure: Chromatic
- Xyl./Mands./Timp.: first 2 beats: Chromatic
- Choir S/A/T, 4th and 5th beats

Figure 11. Example 6a

measures after Example 3b). By this time, the chorus has entered, and they are singing a reprise of some music that depicts the Hebrews as God’s chosen people that happened twice before in the opera. One feature of this third and final instance of “God’s Chosen People” is different from the earlier ones, however: while the people sing about their privileged position before God using most of the same words and music they had used in the earlier passages, Aaron adds a line to the texture, for the purpose of calling Moses’ attention to the pillar of cloud and pillar of fire that goes before the people to lead them. The effectiveness of the pillars finally clinches Aaron’s victory in his ongoing dispute with his brother, because they provide a clear example of God Himself using visual images to at least partially represent Himself to the people. It is as if Aaron were saying: “See?”

Example 6b, The musical portrayal of Aaron’s final victory, where he finally grasps the horizontally-symmetrical Y motive, Act II, scene 5, Schoenberg, *Moses und Aaron*, mm. 1091-93

The figure displays a musical score for measures 1091-1093 of Schoenberg's *Moses und Aaron*. The score includes parts for the Orchestra behind the scene (Piccolo, Flute and Clarinet, Xylophone, 2nd and 4th Mandolins, Timpani, Trombone/Piano) and vocal parts (Sopranos/Mezzos, Altos, Tenors, Baritone/Basses, Aaron, and Moses). The score is annotated with a 'Y of I0' motive and 'X1 of I0' and 'X2 of I0' motives. Below the score are two sets of pitch class set diagrams. The left set shows relationships between various instruments and vocal parts, including I0/h2, Bars/Basses, RI0/h1, R9/h1, I0/h2, and RI0/h2. The right set shows relationships between Mands., Xyl., Flutes/Clarinets, I0, Trombone/Piano, Aaron, Timpani, and Sopranos/Mezzos, including I0/h2 and I0/h1 diagrams.

Figure 12. Example 6b

I *told* you God can use pictures!” Moses’ reaction (m. 1091) is predictable: “Idols!” And then Aaron administers his rhetorical *coup-de-grace* (mm. 1092-93): “No, signs sent from God, *just like the burning bush that was sent to you.*” Aaron’s triumph is complete.

The use and the projection of partitions in this passage beautifully portrays the final stages in Moses and Aaron’s argument. In the first five measures, mm. 1087-1091, one choral part (or sometimes two) sings a complete six-note melody representing the Jews as God’s Chosen, while the other choral parts and instruments cut the same six-note group and other, related ones up into smaller segments—representing the Gentiles. Within these smaller segments, one can trace an alternation between chromatic and discrete four-note groups, just like we saw in Example 5. Hence, the battle between Moses and the calf is still going on in the smaller partitions. Moses still has a chance! But in mm. 1092-93, just as Aaron sings the clinching words of his argument, “Signs from God, just like the burning bush!,” the flutes and clarinets launch into a full version of Y in its original, horizontally symmetrical state— $\langle -1, +2, -6, +2, -1 \rangle$, created by the middle six pitches of I_0 . The xylophone and mandolins also provide the X chords from I_0 as verticals, and Aaron himself sings along with the lower mandolin part.

Now, this particular outbreak of “Depths of God” does not have all the vertically and horizontally symmetrical properties of the partition as it was first introduced in Act I, scene 1 (you can compare Ex. 6b with Examples 1b and c and see that that is the case). But Aaron here has finally attained a horizontally symmetrical Y hexachord, after trying to do it a number of times earlier in the music from example 3b). The horizontal ordered pitch interval symmetry of Y, that interval motive $\langle -1, +2, -6, +2, -1 \rangle$, was exactly that aspect of God’s symmetries that Moses had so laboriously discovered with his first utterance in the opera. What better way to represent Aaron’s winning their argument about whether God can be represented with visual images than to have Aaron capture the symmetrical motive that had belonged to his brother?¹⁰

Not long after, the people and Aaron leave the stage, following the pillar of cloud to the Promised Land. After the sound of them dies away, we hear the

music of Example 7, the final section of the opera in its two-act version. Here, Moses admits his defeat and gives up his efforts to represent God to the people through words, claiming that what he had said before was “madness, and can and should not be spoken.” In response, he hears only silence. The loneliness and powerlessness of Moses is expressed both through pitch materials and through more obvious features such as texture and orchestration in these final measures. After the joyful polyphony of the people and Aaron as they march off stage, the texture telescopes down to a single line which begins in the violins, and is doubled (at the unison) by low strings and woodwinds, as well as piano, in m. 1127 after Moses speaks of his madness, then taken over by contrabasses, contrabassoons and tuba in mm. 1128-30 where he utters “and can and may not be spoken,” returning to the violins thereafter.

The pitch material that Schoenberg uses here to depict Moses’ fate is a starkly simple partition of RI₆ into the first five notes followed by the last seven.

Example 7, “Moses’ Failure” bringing the opera to its close, Act II, scene 5, Schoenberg, *Moses und Aron*, mm. 1121-36

Moses’ Failure: 5 + 7

Violins, mm. 1121-26	+ lower instruments, m. 1127	Cbn., Tuba, Basses, mm. 1128-31	Violins, mm. 1131-33 1133-36
RI ₆ : 3 4, 3 4, 3 4 7 9 10	3 4 7 9 10 (3 times)	8 2 0	8 2 0 11 1 5 6
“I have made a false image...”	“Madness...”	“Can and may not be spoken...”	“O Word that I lack!”

Figure 13. Example 7

This partition reflects well Moses' lonely and powerless state, as it doesn't create common groups of notes or intervals with the discrete four-note groups that had characterized him earlier, and it has comparatively little power to create symmetry (like God's partition). As it plays out, there is some internal repetition, musical "stuttering," perhaps. (Church lore teaches that stuttering was the speech impediment Moses protested about during his burning bush experience.) The violins repeat the opening two notes of RI_6 in mm. 1121-23, as Moses acknowledges that he too has made a picture (referring to the pillars of fire and cloud, or maybe to the stone tablets as well as their visually-impressive destruction). The repeated half-step, $\langle 3,4 \rangle$, calls to mind the chromaticism of the golden calf, signifying the evil potential in visual images. The violins then continue with $\langle 7,9,10 \rangle$ in mostly long notes (mm. 1124-26) as Moses admits his defeat and begins to renounce everything he had taught before as madness. A measure after he utters the word "Wahnsinn," the lower strings, woodwinds and piano repeat $\langle 3,4,7,9,10 \rangle$ three times in a headlong "mad" rush to the lowest registers (m. 1127), a clear text-painting device. (By the way, a more subtle way to signify that Moses is "out of it" is his rhythm in mm. 1125-27, with the quarter note quintuplets and triplets detaching themselves from the underlying meter.)

The three lowest instruments/groups in the orchestra take over at Moses' words "and can and may not be spoken," playing the next three notes of RI_6 , $\langle 8,2,0 \rangle$, in long or accented notes. Again, this is a musical "stutter," as the violins will play the last seven notes, $\langle 8,2,0,11,1,5,6 \rangle$, starting in m. 1131. The use of the lowest register here most likely signifies Moses' utter despondency at the failure of his mission to represent God in language. Then after the violins play the final seven notes (which rise, then fall precipitously to their final note), they sustain the last F^\sharp , while Moses utters his final, heartrending complaint: "O Word, thou Word, that I lack!" The single pitch expresses well the isolation that Moses must feel at this point, and makes a convincing, if rather devastating, conclusion to the act and opera as a whole.

I began my discussion of *Moses und Aron* by mentioning the debate over whether the opera should be understood as an incomplete three-act work or a

complete two-act one. Schoenberg's libretto for the planned third act is available with most scores and recordings of this piece, and if you read through it after listening to the first two acts it evokes a sense of surprise (at least it did for me). Moses—somehow—is placed again in the ascendant position, as the judge at Aaron's trial, where he is being convicted of leading the people astray after other gods, "images, strange wishes, and earthly pleasures," a capital offense. The soldiers holding Aaron ask Moses if they should kill him, and Moses replies, "set him free, and if he can, he will live." Released from his chains, Aaron falls down dead, and Moses assures him that he has now found "unity with God." Now, one *could* imagine a musical setting of all this, probably in a Coda to the third act, which resolves the central conflict of the opera between Moses' discrete four-note groups and the golden calf's chromatic four-note groups in favor of the discrete ones in some final way, thus closing the circle and providing the listener with a complete musical idea. But Schoenberg could never bring himself to write anything like this, and as I pointed out at the beginning, the most convincing reason for that seems to be the utter finality of Act II's cadence. Schoenberg does such an amazing and brilliant job of convincing us of Moses' failure, just because he (Schoenberg) has created so many conflicts in the music that fail to come to resolution and are eventually ignored. After this, to "tack on" a resolution, to try to solve *Moses und Aron's* problems, would diminish the piece.

¹ Theodor Wiesengrund-Adorno, "Sacred Fragment: Schoenberg's *Moses und Aron*," *Quasi una Fantasia: Essays on Modern Music*, trans. Rodney Livingstone (London: Verso, 2002).

² Jonathan Kirsch, *Moses: A Life* (New York: Ballantine Books, 1998), pages 304-07.

³ Arnold Schoenberg, *Letters*, trans. by Eithne Wilkins and Ernst Kaiser, ed. Erwin Stein (Berkeley and Los Angeles: University of California Press, 1964), p. 172.

⁴ Others who have analyzed this piece before me, such as David Lewin, Michael Cherlin and Christian Martin Schmidt, begin from the same premise, and their work on what the unresolved conflicts of *Moses und Aron* are, and how they are expressed in music, serves as a guide to my own investigation. All three authors will be referred to frequently in the coming pages.

⁵ David Lewin makes a similar argument in “*Moses und Aron: Some General Remarks, and Analytic Notes for Act I, Scene 1,*” *Perspectives of New Music* 6/1 (Fall-Winter 1967): 2. As he puts it:

To what extent the tragic breakdown is due to Moses’s inability to communicate clearly enough to Aron, or to Aron’s inability to suspect and resist his natural affection for the Volk—this remains an open question at the end of Act II. Schoenberg evidently meant to decide this question, in the third act, in Moses’s favor. But the libretto is unconvincing to me. The problem posed by the drama is not whether Moses or Aron is “right,” but rather how God can be brought to the Volk. If the triple-play combination of God to Moses to Aron to Volk has broken down between Moses and Aron, and if the Moses-Aron link cannot be repaired, then the catastrophe of the philosophical tragedy has occurred in Act II and the drama is over. If there is a personal tragedy involved, it is surely that of Moses, and he, as well as or instead of Aron, should be the one to die (which in a sense he does at the end of Act II).

⁶ Lewin, “*Moses und Aron*”; Michael Cherlin, “The Formal and Dramatic Organization of Schoenberg’s *Moses und Aron*” (Ph.D. dissertation, Yale University, 1983), especially pp. 45-48; Cherlin, *Schoenberg’s Musical Imagination* (Cambridge: Cambridge University Press, 2007), especially pp. 237ff; Christian M. Schmidt, *Schoenberg’s Oper Moses und Aron* (Mainz: Schott, 1988), especially pp. 59-83. Schmidt lists 33 partitions by number, but does not give them descriptive names or focus on their *leitmotivic* significance to the same extent as Lewin, Cherlin or myself.

⁷ Cherlin also takes note of the intervallic symmetries in the X chords that are partially hidden by the {9,11}—{10,0} dyad invariances, and the RI relationship between Y hexachords that is hidden by the more obvious $t = 1$. His interpretation of the significance of these multiple ways of relating is partly different, but (I believe) harmonizes with mine: as he puts it (speaking specifically of the Y hexachords),

it is not so much that either choice, “retrograde inversion” or “transposition,” is wrong, but rather that neither is an adequate name for the musical relationship. We might paraphrase the musical conundrum to claim “that which cannot be adequately named cannot be adequately conveyed (through language),” a thought that brings us into the realm of musical signification,

representation, and the role of the X + Y partition in the opera.
(*Schoenberg's Musical Imagination*, p. 240)

⁸ See Cherlin, *Schoenberg's Musical Imagination*, p. 283.

⁹ Michael Cherlin also discusses mm. 829-32 in detail, as an example of "stratification" in *Moses und Aron*. See "The Formal and Dramatic Organization of Schoenberg's *Moses und Aron*," pp. 181-84.

¹⁰ I will admit that though it represents Aaron's rhetorical move well in the immediate context, the music of mm. 1092-93 is not new to the opera. The pitch-specific line that is played by the flutes and clarinets in mm. 1092-93 already has appeared three times in Act I: once in God's prophecy to Moses in scene 1 (violins, mm. 79-80), and twice in scene 4 where first Aaron and then the people repeat God's promise (violins, mm. 906-07, and violins again, mm. 927-28). In all three of these Act I occurrences of the line, it accompanied the words "This I promise you" or "This He promises you/us." So, I have to make the disclaimer that Aaron is not snatching <-1,+2,-6,+2,-1> (or its inversion) away from his brother for the first time in the opera near the end of Act II. But the emergence of a "perfectly symmetrical" version of Y at this specific spot in mm. 1092-93, and especially the very pitch succession associated with God's promise to the people, still carries the connotation that it is the AUTHENTIC God, not a false one, that is being depicted by these pillars of cloud and fire, just as He was depicted by the burning bush, exactly the point Aaron is making in these two measures.

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