TRANSFIGURED WIND IV BY ROGER REYNOLDS

A RESEARCH PAPER
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MM FLUTE PERFORMANCE

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INTRODUCTION

Adding electronics to an instrumental solo can intimidate performers and listeners. American composer Roger Reynolds celebrated the chance to push the boundaries of musical experience, as he composed mainly electroacoustic instrumental works. Through experimentation with forms, electronics, and instrumental techniques, he hoped to extend a listener’s temporal experience of musical materials. This goal was realized in the completion of four closely-related works for flute titled *Transfigured Wind I-IV*. This paper will focus on the formal, temporal, and electronic elements in the last of these, *Transfigured Wind IV* (TWIV).

Reynolds has a diverse educational background, as he studied science and music at the University of Michigan. His love for engineering was probably what sparked his interest in experimental and electronic music. He also spent time studying and composing in Japan and Europe. In 1969, he earned a professorship at the University of California, San Diego, where he founded the Center for Music Experiment in 1972. His output includes mainly instrumental works, including unconventional chamber settings, electroacoustic music, and solo instrumental works. In addition to his teachers Gerhart and Finney at the University of Michigan, musical influences include composers of the Second Viennese School, American experimental composers such as Cage and Ives, and close friends and composers Takemitsu and Xenakis.¹ These influences are apparent in TWIV through the use of rows, rhythmic motivation, variation, and temporal expansion. Specific characteristics common in most of his works include extended instrumental techniques, “reiterated attacks on fixed pitches, sliding pitches to extend the sense of pitch-spectrum far beyond the common, coloristic glissando effect, and fixed vertical

constellations of pitches in which musical movement is achieved by dynamic modulations of timbre and spatial deployment.”

Reynolds seemed to take a liking to the flute, as he composed several orchestral, chamber, and solo works for the instrument. This bias was caused by his personal association with several flutists. His wife, Karen was a flutist, earning prestigious awards such as the Fulbright Award, and an endowed scholarship from Finlandia University. Also, Transfigured Wind IV was commissioned and premiered by Canadian flutist and composer, Robert Aitken, who use similar compositional techniques, specifically for solo flute. Another one of his close friends and colleagues is flutist, composer, and teacher, Harvey Sollberger. Sollberger also held a position at The University of California, San Diego, after spending time teaching at Columbia University, Manhattan School of Music, and Indiana University. Sollberger was known for portraying a sense of drama, appropriate pacing, contrasting tone colors, and innovative extended techniques in his performances and compositions.

Each of the four Transfigured Wind compositions was set in a different medium, using similar, but reconstructed materials. The instrumentation is as follows:

- **Transfigured Wind I:** solo flute
- **Transfigured Wind II:** solo flute, orchestra, and tape
- **Transfigured Wind III:** solo flute, chamber ensemble, and tape
- **Transfigured Wind IV:** solo flute and tape

Sollberger is not only the performer on commercial recordings of TWIV, but his performance of TWI is the sole sound source of the edited tape that is used for all performances of TWII-IV

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across the globe. Because of this, Reynolds refers to Sollberger as a collaborator on this project. Reynolds wanted to create a multi-dimensional experience for the listener, and believed in accentuating the interpretation of the performer. Reynolds states:

I began with a four-part solo for flute. It was recorded as performed. That is, all the directional, musical intelligence that the player brought to my phrases was captured and became, along with pitch, duration, and dynamics, a part of the compositional materials. Once inside the computer, it underwent a host of transformations before reemerging on a tape.\(^5\)

He worked closely with Sollberger to ensure the correct realization of the character of each section. In an interview with Richard Boulanger, Reynolds stated that Sollberger’s first performance of the notes, rhythms, and dynamics written in TWI did not accurately portray the character he had intended. Thus, the composer set out to give very specific directions to the performer and supplement the intended character with the use of electronics.\(^6\) The goal of this paper is to discuss how Reynolds uses Sollberger’s nuances as compositional material in addition to temporal and formal elements extended from TWI.

**FORM AND CHARACTERS**

TWIV is composed in four large sections, each conveying unique and distinct characters. Each section begins with the previously composed material of TWI, which Reynolds describes as “proposals,” in TWIV.\(^7\) These proposals are then followed by an episode of flute and/or tape, which was composed to replace ensemble functions in TWII and III. The distinctive characters of each section are emphasized and punctuated by the shape of the gestures in the flute and the recollection of previous motifs in the tape. According to Reynolds, the formal aim of this work is to “invite back into music recognizable but not literal repetition of materials, while at the same

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\(^7\) Reynolds, “Transfigured Wind IV.”
time providing a new rationale for the role of the ‘precursor’ (that which acts as a premonition of musical ideas that have not yet appeared in definitive form).”

Figure 1 displays a list of proposals and episodes present in each section, the duration of each of these, and a brief description of character.

**Figure 1: Formal elements**

<table>
<thead>
<tr>
<th>Section</th>
<th>Proposal</th>
<th>Duration</th>
<th>Description/character</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I (TWI)</td>
<td>85 seconds</td>
<td>Aggressive, attacks</td>
</tr>
<tr>
<td></td>
<td>Episode I</td>
<td>69 seconds</td>
<td>Disjunct, pointy</td>
</tr>
<tr>
<td>2</td>
<td>Proposal II (TWI)</td>
<td>115 seconds</td>
<td>Fluid, obsessive</td>
</tr>
<tr>
<td></td>
<td>Electronic Episode</td>
<td>57 seconds</td>
<td>Haunting, fragmented</td>
</tr>
<tr>
<td>3</td>
<td>Proposal III (TWI)</td>
<td>186 seconds</td>
<td>Antic, eccentric</td>
</tr>
<tr>
<td></td>
<td>Episode III</td>
<td>55 seconds</td>
<td>Frantic</td>
</tr>
<tr>
<td>4</td>
<td>Proposal IV (TWI)</td>
<td>256 seconds</td>
<td>Fluttering, furious</td>
</tr>
<tr>
<td></td>
<td>Electronic Episode</td>
<td>100 seconds</td>
<td>Interruptive</td>
</tr>
<tr>
<td></td>
<td>Episode IV</td>
<td>144 seconds</td>
<td>Calming</td>
</tr>
</tbody>
</table>

The four proposals increase in length as they progress. The episodes decrease in length, with exception of section 4. Due to his scientific background, Reynolds frequently used proportions in his formal structures. While the specific proportions of TWIV are unclear, it is evident that section four makes up around half of the entire piece. The final two episodes (electronic and IV), are double the length of any previous episode. Reynolds uses this final lengthy section feature elements from previous sections to emphasize his goal of the piece. Reynolds writes, “this work is primarily concerned with the way in which transformations may allow music a more subtle and far-reaching engagement with the complexity of our temporal experience as human beings.

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8 Reynolds, “Transfigured Wind IV.”
We recall, immerse ourselves, and anticipate.”

Throughout the piece, the tape provides this temporal experience as it repeats the past, stops time, and anticipates future statements.

PROPOSALS

Proposal one is the simplest section of them all, yet provides the basis of numerous transformations throughout the piece. It is marked by aggressive attacks rather than barlines, and is punctuated by the use of an explosive articulation. Reynolds instructs the performer to attack with an “overblown shriek [and a] forceful ‘shh’ articulation.”

Sollberger’s fierce attack of the harmonic outburst creates the canvas for Reynolds’s editing, which is particularly evident in Episode 1 and Section 4. The first attack is followed by a long sustained pitch, which is varied with the use of whistle tones. The whistle tones are notated with a drawn shape to indicate the range of the “ghostly” pitches that the performer should produce. The use of this technique creates a contradiction of static horizontal motion, but arcing vertical motion. Following this opening gesture, there are four attacks with similar, but shorter sustained motion, so that these four attacks combined total the same duration as the first gesture. However, the fourth attack provides a development which continues throughout the proposal. This four-pronged repetition, as shown in Example 1 is a formal characteristic that surfaces throughout the piece.

Example 1, mm. 7-10

10 Reynolds, “Transfigured Wind IV.”
11 As notated in the score.
12 Reynolds defines editing as “the proliferation and recasting of materials, done in a certain way.” He also specifies that it is not the removal of unwanted sounds, but the process of producing new sounds. In A Searcher’s Path: A Composer’s Ways (Brooklyn, NY: Institute for Studies in American Music, 1987), 12-15.
Following these opening gestures, he continues his development, first through notated pitches and harmonics instead of the whistle tones. Reynolds also uses quick, ascending runs that act as a reversal of the attack shape. Where in the original attack, the highest amplitude and frequency occur at the start of the pitch, the runs exhibit the highest frequency and amplitude at the end of the gesture. The aggressive nature of the “overblown shriek” in the very first gesture sets the character which is retained throughout the development of the proposal.

Proposal two exhibits a more fluid character. Most phrases resemble a more melodic character and are juxtaposed with sweeping runs and mixed articulations. As the rhythms become more complicated, the pitch F-sharp continues to reappear. Sollberger does an excellent job of using a tone color that pulls the listener’s ear toward this pitch. He tends to produce a blooming sound on each of the F-sharps and recreates this effect and color on each F-sharp as the surrounding pitches change in register and timbre. This blooming sound resembles the sounds produced in proposal one as a result of the development of the original sustained gesture. Proposal two ends with the rhythm grinding to a halt, evidenced by the use of rests. The displacement of pitches also settles to end on a long held F-sharp in the lower octave, which gives cause for the repeated F-sharps in the middle of the proposal. This settling of pitch and rhythm are used as a model for subsequent proposals and episodes, with the exception of the final and electronic episodes.

To emphasize the character, the composer describes proposal three as “antic, eccentric.” This characterization is achieved through rhythmic structures and dynamics, which combines and extends the characters of the first two sections. Since the tape fades out at the start of the section and remains silent for the duration, extended techniques add to the playful and unconventional ambiance. The rhythms become separated by rests, and pitches are repeated and returned to, such
as the E-flats and Ds in measure 85, and the Es and Cs in measure 87. Example 2 illustrates this repetition, along with some of the extended techniques which portray an unsettled and eccentric feeling.

**Example 2: mm. 82-87**

![Example 2 image]

Trills are also introduced in this proposal to aid the characterization, but also to predict the final section, in which multiple trills are sounded. Key clicks and throat flutter are essential to the percussive, playful nature, which becomes more calm and innocent towards the fermata at the end of the proposal.

The final proposal grows substantially in length and complexity. As the flute re-enters, the tempo is slower, with a description of “floating.” At first glance, a performer may interpret this to be played lighter, as if floating upward. However as Sollberger begins to cascade down in the following measure, the darker, heavier character is apparent, until the composer indicates “delicato”. The composer seems to be portraying an object that floats upward, descends rapidly and furiously until it hits the bottom, and then rises up once again, in a cyclical motion, suspending the listener in a temporal vortex. The tape motif accentuates Sollberger’s articulation, providing percussive attacks from previous material (motif 5) that provide a sense of rhythm and forward motion. The object seems to stop descending at measure 164, as the runs begin to ascend to the end of the proposal. This turning point is evidenced in Example 3.

**Example 3, mm 162-166**
The timbral trills throughout this proposal, marked trir, grow in intensity and are very effective in extending the sense of pitch spectrum and creating a furious atmosphere. Sollberger also adds rubato to the descending lines, particularly to the articulated notes, extending the temporal space.

Measure 157 returns the listener to the descent into the bottom of the vortex with descending runs. The climax of the section seems to occur at measure 169 with the ascending hum and timbral trill and following gestures, illustrated in Example 4.

**Example 4, mm. 167-179**

Soon after this arrival point, motif 1 can be faintly heard, signaling the approach of closing material. All material following this measure calms as the end of the piece approaches. With the layering of additional motifs, (1, 2, 7, 5), a harmonic texture is created, which eventually fades into the harmonic hiss and electronic episode. Through proposal four, the flute combines the lyrical, fragmented, and shape-like elements heard during the course of the piece.
MOTIFS

As previously mentioned, all of the tape transformations are created from the material in the proposals. Phrases are taken from the proposals and placed in the background to create formal unity throughout the piece. These phrases are labeled as “motifs” in the order of their appearance in the tape accompaniment. Figure 2 lists a description of each motif with the point of occurrence in the flute and tape.

Figure 2: Motifs and their characteristics, original source location, and location in the tape.

<table>
<thead>
<tr>
<th>Motif</th>
<th>Source occurrence</th>
<th>Tape occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Undulating shape, but ascending overall</td>
<td>P1, m. 14</td>
<td>E1, P2, EE2, P4</td>
</tr>
<tr>
<td>2: Slower rhythm, ascending</td>
<td>P1, mm. 11-13</td>
<td>P2, EE2, P3, P4</td>
</tr>
<tr>
<td>3: Rhythmic, oscillating, descending</td>
<td>P2, mm. 68-74</td>
<td>EE2</td>
</tr>
<tr>
<td>4: Sustain, oscillating dynamics, ascending at end</td>
<td>P1, mm. 4-5</td>
<td>P3</td>
</tr>
<tr>
<td>5: Smaller wave-like gestures, descending, sustain, ascending</td>
<td>P3, mm. 91-96</td>
<td>P4</td>
</tr>
<tr>
<td>6: F-sharp center, more step-wise runs</td>
<td>P2, mm. 53-62</td>
<td>P4</td>
</tr>
<tr>
<td>7: Sustained pitch with whistle tones</td>
<td>P1, mm. 3</td>
<td>P4</td>
</tr>
<tr>
<td>8: Longer rhythmic durations with higher punctuations, ascending</td>
<td>P4, mm. 169-179</td>
<td>EE4</td>
</tr>
<tr>
<td>9: Descending step-wise with trills</td>
<td>P4, mm. 163-4</td>
<td>E4</td>
</tr>
<tr>
<td>10: High trill with low, ascending hum</td>
<td>P4, mm. 161-3</td>
<td>E4</td>
</tr>
<tr>
<td>11: Ascending pitch, increasing rhythmic duration</td>
<td>P4, mm. 164-5</td>
<td>E4</td>
</tr>
</tbody>
</table>

The use of these motifs is one of Reynolds’s experimental techniques of creating a formal anchor without repetition in the primary figure of the flute. One common technique that Reynolds uses is taking the last gesture or phrase of the proposal and using it in the tape as a motif in the following episode. This occurs in every proposal, except the third. Motifs one, three, and eight are examples of this. These figures are used as a transition to the following section. They aurally link the proposal to the following episode. Motif five is also an example of the use of material from the end of a section. However, motif five is taken from a transition within proposal three.
rather than the end, including the reiterated tonguing, as seen in Example 9B. Motifs three and eight only occur once, possibly due to their length and complexity.

The most commonly recurring motifs are one and two, as illustrated in Example 5.

**Example 5, mm. 11-14**

They share the same ascending shape, and similar pitch quantities of eleven and thirteen, respectively. Motif one exhibits several functions throughout the piece. Primarily, it is used to remind the listener of the first proposal, but it also can provide a textual contrast to the flute line, as in proposal two, or serve as a transition signal as in proposal four. Motif two is another recollection from proposal one, but is not as audibly recognizable. The ascending run provides more material for editing, and as a result, the rhythmic durations of the electronic motif are lengthened, providing a harmonic texture.

Motifs four and seven are very similar. They include material from proposal one, but do not occur until proposals three and four, respectively. The composer probably included these motifs as a more subtle recollection, in contrast to motif one. Motif six is unique in that it features the repetition of the F-sharp and ascending runs throughout the piece. It occurs in the fourth proposal to link episode one (F-sharp), proposal two (original source), and proposal three (pitch repetition and rhythm). The final motifs in section four (9-11) seem to add to the intensity and complexity of the final section. Reynolds chooses motifs that feature trills, extended techniques such as pitch bends, and multiple runs to create a furious character. At this point in the piece, the motifs are not used to remind the listener of a previous section (unless motif one is heard), but to create textural layers. The trills and pitch bends extend the pitch-spectrum as is
characteristic of the composer. Most of the motifs include a large amount of ascending motion. The constantly rising motion in the flute followed by a return of similar motion in the tape is what propels the piece forward, and is evident in the character of proposal four, as previously discussed.

**EPISODE TECHNIQUES**

The episodes are used as a response or development of the proposals. Episode one exhibits a distinct change in character from proposal one. Here, Reynolds uses one of his computer algorithms, *spirlz* in the flute line to respond to the proposal without repetition. Reynolds defines an algorithm as a reshuffling procedure, and relates *spirlz* to a descriptive analogy:

Imagine a distinctive crystal goblet; it can be repeatedly broken and the resulting fragments saved; and, yet that it regenerates—instantaneously and flawlessly whole—each time it surrenders its parts. We smash it into myriad sparkling shards and, spontaneously, they arrange themselves in order from smallest to largest, forming themselves into a kind of line “drawing” that retains schematically the form of the original. (In effect, the shards draw the goblet.) The regenerated glass is shattered again, but this time the pieces are less tiny. The process is repeated—through as many graduated cycles as we wish—until perhaps no more than three symmetrical chunks result from the final break. The collection of fragments resulting from each shattering is size-ordered and still manages to evoke the form and the function of the original in some way. These collections pass in review before us, and their succession has a cyclical feel. The variation in size of the fragments and the variation in the manner and degree to which each collection remains reminiscent of the original both trend in an orderly way.\(^{13}\)

The result of this algorithm in a compositional procedure produces a sense of pointillism as the episode contains harsh attacks, large leaps, and short rhythmic values. The tape recalls memories of the past through repetitions and echoed segments of motif one layered with a sustained low pitch, (heard in the opening measures), and eventually the “shh” articulation from the harmonic outbursts. The pitch structure of motif one is retained in the tape, while the shape of the

\(^{13}\) Reynolds, *A Searcher’s Path*, 16-17.
dynamics is mirrored in the pitch structure of the flute in episode one. In extracting the upper notes of the section, four phrases appear. These phrases are marked by the arc of the pitches F-sharp’, A’’, D’’’, G’’’, A’’’’, and B’’’’. The return of F-sharp’ marks the end of the phrase, as evidenced in Example 6.

**Example 6, mm. 15-22**

It is interesting to note that there are four proposals, four attacks in the second gesture of proposal two, and now four phrases in episode one. Because this F-sharp is important to the phrase structure, the flute continues to return to an F-sharp, which surfaces as an important pitch throughout the piece, especially in section three. Although episode one occurs before proposal three, episode one was composed after episode three, and therefore acts as a precursor as well as a development of proposal one. The rhythmic gestures closely resemble episode one and motif two, but the pitches and intervals are different. Specifically, the dotted rhythm similar to motif two occurs in measure 27 and 110, as shown in Example 7 A and B.

**Example 7A, m. 27-28**

**Example 7B, m. 110-111**
In addition to the techniques of rhythmic variation and recollection, Reynolds uses Sollberger’s nuances to inspire the editing process of the tape. There are three main aspects of his playing that are highlighted throughout electronic transformation. Specifically, electronic episode one features his blooming tone quality of the repeated F-sharp, his wide and expressive vibrato, which often decreases in speed at the end of a long held note, and his sharp, percussive articulation. In the brief electronic episode, the performer drops out and Reynolds slows down the speed of the tape to create what sounds like a bass flute. Because of this editing technique, Sollberger’s vibrato during the sustained pitches creates a distinct undulation, similar to the dynamic shapes of proposal one. Each of the pitches featured in motif three create a swelling shape; the shape of the amplitude grows toward the end of the duration of the pitch. Also, Reynolds creates a new edited sound created by the algorithm *spirlz*. The use of the algorithm creates a fragmented, rhythmic texture. Even at this slower rate, Sollberger’s articulation is crisp, which creates unity to the fragments and recalls the pointillism of episode one.

The final electronic episode is similarly inspired. The “shh” articulation of proposal one serves as the transition to the transformed sound of the tape. Motif eight is transformed material heard at the end of proposal four and sneaks into the texture recalling the previous section. The only editing done to the original material of motif eight is in volume and reverberation. The rhythm is not affected, which creates a stronger bond to proposal four. The reverberation adds an effect similar to Sollberger’s pulsing vibrato, and creates a very effective extension of the pitch-spectrum with the final descending glissando.

Episode three and its corresponding transformations have yet to be discussed as it is unique to the entire piece. As proposal three comes to a close, the performer is instructed to hold the last pitch until the tape is heard. This is important because in the following episode the tape
becomes an equal duet partner. Very little editing was done to the original sound source to retain the quality of a live performer, and the flutist is instructed to balance with the tape. Episode three is also unique in that the tape source is not from TWI. The tape produces material from the current episode, right before the performer plays it. Illustrated in Example 8. Very few pitches are used in this episode, as the line hovers around the pitches E and C-sharp. This is reminiscent of the previous eccentric character heard in the previous proposal. Also, Reynolds displays his ability to extend the pitch spectrum with glissandi, grace notes, and trills that fill the gap between the two original pitches. This episode also serves to predict the frantic character of proposal four.

**Example 8, mm. 115-120**

Another of Reynolds’s characteristic techniques, a reiterated pitch, occurs several times in this piece as a transitional figure. The repeated articulated G in measure 46 is the transition between two gestural figures: sustain and ascending run followed by descending run and sustain. This figure occurs again on an A-sharp in measure 95, right before a change of character and time signature. Example 9 A and B illustrates these two transitional figures.

**Example 9A, mm. 46-51**
Reynolds also uses repeated pitches as a technique of recollection and prediction. The importance of the F-sharp in episode one and proposal two has already been discussed. Another pitch prediction occurs in measure 29 with the repeated B-flat, which occurs at the beginning of proposal three. Again, the number four is emphasized. Pitches continue to repeat in groups of four throughout proposal three. This technique is evident first in the B-flats in measure 75. Additional examples of these grouping occur in measure 78 (D''), 103(D-sharp''), and 105 (D-flat''). The last two of these are shown in Example 10.\textsuperscript{14}

**Example 10, mm. 102-105**

Most of the electronic transformations have been discussed as recollections; however, as the first electronic episode fades to conclude the second section, there is a faint beacon of a B-natural, which is the second note of proposal three. Although it is notated with a smaller note head in the score, Sollberger leans into it, possibly giving the composer cause to include this

\textsuperscript{14} Refer to Example 11 for measures 75 and 78.
anticipation in the episode. We also hear the repeated B-flat that was predicted in the first episode. Example 11 represents these predictions.

Example 11, mm. 75-80

CONCLUSION

Reynolds’s goal was to captivate the listener through extending the musical experience. In *Transfigured Winds IV*, he achieves this through the use of the four-channel tape to recall, predict, and sustain musical gestures. He employs characteristic techniques such as reiterated pitches, glissandi and timbral trills, and formal anchors. The four sections within TWIV each provide different characters and temporal functions, which serve to fulfil his goal.
Bibliography


