

*Feldman's Use of  
Silence and  
Recorded Sounds in  
"Intersection for  
Magnetic Tape"*

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## History and Context

Morton Feldman (1926-1987) was a composer associated with the American Avant-Garde. Feldman was born in New York and spent most of his life in or near this city. This geographical location would prove to be an incredibly important influence on his life, music, and overall thought processes. While young, Feldman studied with followers of Schoenberg and Webern. As such, his music was within that tradition. This Second-Viennese school of thought shaped his early musical thinking. Even if these aesthetics would be abandoned later in his life, this early shaping can still be seen throughout his music.

Feldman did not go to college. Right out of high school, he went into the family textile business. He still continued to study music with Stephan Wolpe, however. At the age of twenty-four Feldman attended a concert of a Webern symphony at Carnegie Hall. This experience was said to have had a profound impact on young Feldman. Even more significant, though, would be the acquaintance Feldman would meet. Standing in the lobby, Feldman met John Cage. Upon approaching Cage, Feldman expressed that he was a composer and would like to show Cage his music. Cage agreed, and the two set up an appointment to meet at Cages apartment. This meeting is where everything would change for young Feldman.<sup>1</sup>

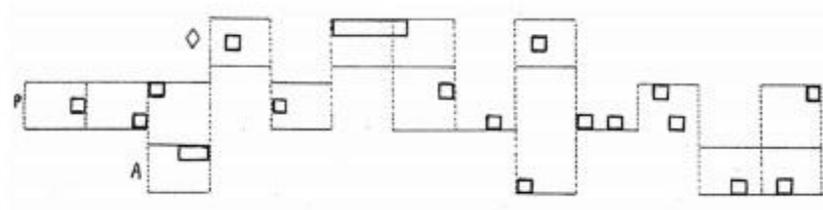
Cage was about a generation older than Feldman. His influence on Feldman would come in a variety of forms, but perhaps one of the most important was the element of indeterminacy. Cage was interested in Chinese philosophy, and using books (primarily the *I-Ching*) as a source for creating the elements of a musical work. Though while Cage's music was both indeterminate and aleatoric, Feldman used only an indeterminate approach. The distinction is important. A piece of music that is composed through aleatoric means is composed using chance operations. However,

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<sup>1</sup> Alan Beckett, and Morton Feldman. "Morton Feldman in Interview 1966." *Tempo* 60, no. 235 (2006): 15-20.

a piece of music with indeterminate elements simply leaves much of the musical content up to the performer. No two performances will be the same. These indeterminate elements can be seen in much of Feldman's work, such as his series of *Durations*.

Feldman began to experiment with other parameters of music, including graphical scores. Some of the most significant of the graphical scores are his series of *Projections* and his series of *Intersections*. Most of these are for acoustic instruments. These scores were often in the form of a grid, simply showing what elements need to occur when, and gave some other parameter about those elements. See example 1.



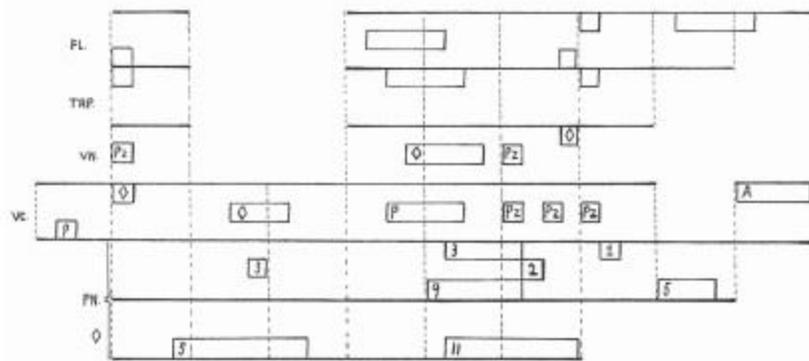
example 1. *Projection I*, page 1

*Projection I*, for solo cello, shows various elements for articulation. “P” is for pizzicato, “A” is for arco, and the diamond is for a harmonic. The vertical position of these elements shows how high or low the pitch of those elements should be performed.<sup>2</sup>

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<sup>2</sup> David Cline. "Allover Method and Holism in Morton Feldman's Graphs." *Perspectives of New Music* 51, no. 1 (2013): 56-98.

This type of graphical notation with grids and boxes is present in Feldman's piece for tape *Intersection for Magnetic Tape*. This is composed similarly to his other *Intersections*, though the distinction is that this piece is not for an acoustic instrument. This piece, as the title suggests, is for magnetic tape. This would make its process of composition more akin to that of his *Projection 2*, which is scored for flute, trumpet, violin, cello, and piano. The reason for this greater similarity is Feldman's freedom to score for more than one object or vehicle for sound production. That is to say, with *Intersection for Magnetic Tape*, Feldman is able to score for more than one sound at once. Therefore, the score for this piece would look more like the score for *Projection 2*. See example 2.



example 2. *Projection 2*, page 6

This score gives specific instructions, though the result could differ each time. In this way, the score is not the final version of the music. Specifically, with a piece like *Intersection for Magnetic Tape* or Cage's *Williams Mix* or *Fontana Mix*, there has only been one true realization for each piece. Each of these realizations has been done by the respective composers themselves. For this reason, my analysis will focus more on the purely auditory aspects of *Intersection for*

*Magnetic Tape*. While scores can be useful in determining the type of sound that is instructed to be played, it is not entirely necessary when discussing elements of temporality, pitch contour, timbre, and texture. In some ways, these scores serve more as a type of tablature than anything else.<sup>3</sup>

### **Analysis**

*Intersection for Magnetic Tape* follows a continuous form of ABA'. These sections are divided by their overall dynamics and timbral content. This content essentially creates a rounded binary form. Much like the rounded binary forms from the Baroque and Classical eras, the A section is a shorter section that is more self-contained with its content. The B section is a bit longer and exploratory, using different sounds more freely with each other. A' serves as a short recapitulation.

The gestures in this piece are quite similar to Feldman's acoustic music. They are sparse, often soft blurbs with much space in between. Feldman begins this piece with gestures such as this. Feldman seems to be making liberal use of reversing sounds. This creates an almost watery sounding texture, with transients being blurred and masked. This is used in both synthetic and recorded sounds. Because of this, however, these synthetic and recorded sounds blend together, and it can become difficult to tell which is which. By synthetic sounds, of course, I am referring to electronically generated sounds.

I label the beginning of the piece, 0:00, to 1:07 the A section. The A section of *Intersection for Magnetic Tape* shows its own contour. It acts a bit as a microcosm of the entire piece. This is done through increased activity and increased variety of sounds. From the very

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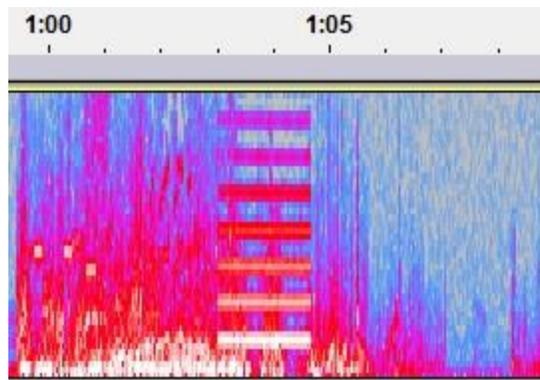
<sup>3</sup> You Nakai. "How to Imitate Nature in Her Manner of Operation: Between What John Cage Did and What He Said He Did." *Perspectives of New Music* 52, no. 3 (2014): 141-60.

beginning, we already hear an equal mix of synthetic and recorded sounds. The variance comes from Feldman's treatment of these sounds. The beginning of this section, and of the piece as a whole, shows the synthetic sounds serving as a background. Feldman is using a small number of synthetic sounds. One of these sounds is similar to a beep, and he treats this sound in one of two ways. It either serves exactly as a beep, or it is a string of beeps layered on top of each other with the transients reversed. Both of these treatments are in the low to middle register. This allows the recorded sounds to come to the foreground. These are generally higher both in frequency and in dynamic. Feldman also uses a pure waveform, but sparingly. These are very striking when used.

The A section is generally the loudest. While the other sections have points which are higher in dynamic, the A section uses these higher dynamics with greater frequency and with fewer breaks in between. This also helps contribute to this rounded binary form. The A section is declarative and firm. This helps to set up a strong framework off of which the B section can develop. The A section also sets up the hierarchy of sounds that will be used throughout the piece. True to Feldman's style, many sounds come in short bursts followed and preceded by silence. In the A section, these bursts are generally initiated and ended by a mid-range rumble of heavily modified sounds, which sound synthetic. As these enter, recorded sounds gradually enter on top of them at higher dynamics to establish the foreground. Once this has been established, these bursts gradually become louder and more active. The silences in between become shorter, fewer, and farther between. Eventually these silences evolve into breaks. These are no longer strictly silence, but rather are a textural break and serve to connect the various temporal ideas.

The most intense part of this section, and therefore the piece as a whole, occurs around 0:33. Here we see the highest continuous dynamic, as well as a continued sound which is consistently articulated at around 3,500 hertz. This sound is similar to a croak. Such a loud,

continued sound in that range is unprecedented in this piece and does not occur with such frequency again in the piece. From that point, the A section begins to unwind a bit. These “breaks” begin to occur with slightly more frequency again. 00:51 to 00:59 serves as a slight repeat of 00:34 to 00:41. The recorded sounds used are strikingly similar, though they are used at a softer dynamic and there are fewer layers. Therefore, 00:34 to 00:59 is a bit like a nested rounded binary form within the A section. 00:59 to 1:07 serves as closing material for this section. This is marked by a pure square wave. This is significant because this is the only point in the piece in which such a pure waveform is played. We can see in the spectrogram that only the fundamental and odd harmonics are sounding in example 3.



example 3, ending A section in *Intersection for Magnetic Tape*

The B section sees larger silences and breaks and uses different sounds for its foreground material. I argue that the B section consists of the material between 1:07 and 2:43. Quite a bit longer than A, B moves through its material rather slowly. Up until 1:45, B consists only of swells in the background material. This background material is the same as the background material used in A. These swells are only occasionally interrupted by various bells and chirps. These bells and chirps are rarely heard alone, however. Whenever there are interruptions from

the foreground material, the sounds come in groups. It is never just one recorded sound, but several sounding at once. This leaves greater space for the background material to bubble on its own and makes the interruptions more marked.

Beginning at 1:45 is the second half of B. This is a slightly louder and more active version of the first half. It is still distinguishable from a return of A in several ways, however. The first being that there is still a greater frequency of breaks in the sound. The second is that the sounds being employed are still different from those we heard in A. The third is that the recorded sounds seem to be less manipulated than what was presented in A. Most of these recorded sounds are played forwards, and merely clipped in strange places to mask their original source. The A section made use of reversed sounds (with the exception of a few, such as a crying baby).

The second half of B consists of three phrases. These are from 1:45 to 2:09, 2:09 to 2:19, and 2:19 to 2:42. These are generally marked by a break in the texture or by a sudden change in material. With the beginning of the second phrase, it is primarily the latter. A sudden entrance of many noises, indistinguishable from each other, has no slow build like most of the other material. This is not insignificant. These recorded noises all fade together back into the bubbling of the background material. After a brief break, the third phrase begins.

This phrase is less obvious as its own unit. However, the sounds used here are unique, occurring only once in the piece. The most significant of which being a short recording of a piano, unaltered. This piano recording merges almost seamlessly into a buzz, and this shows the last of the recorded sounds we hear in the B section. This section closes with synthetic sounds as its foreground. Several occurrences of beeps and chirps emerge from the background rumbles, signaling the end of the B section.

2:42 to the end sees the A' section of the piece. It is labeled as such because of the recorded sounds used and the overall dynamic content. Dynamically it is much more active and present than the B section, and sees the same higher dynamics that A had. It also makes use of similar recorded sounds, the croak being the most significant. A' does differ from A in enough ways to mark it as a separate section, rather than just a repeat of the A material. The most significant change of which is the inclusion of greater and more complete silences. The interruptions of these silences feel less like phrases, as in B, and more like, well, interruptions. A' seems to be *about* the silences, and interrupts these silences with material from A.

3:10 to the end shows the greatest dynamic contrast in the piece. This section is quite loud, reminiscent to the climax of A. However, silences are inserted into this climax often, and for short periods of time. When the recorded sounds enter again, they are sudden and without build from the background rumbles. This increasing tension is met with a final silence at 3:19, only to be met with a final exclamation at 3:21.5. This exclamation, which sounds like a modified recording of a man shouting, is the final sound of the piece.

### **Concluding Thoughts**

*Intersection for Magnetic Tape* by Morton Feldman uses a combination of synthetic sounds and recorded sounds to create foreground and background material. The specific sounds he uses, the ways in which he uses them, and his use of silence shape the piece into an ABA' form. Much like his acoustic music, this piece is spacious and not overly complex. The role of texture in Feldman's music is still apparent in this piece, and it is still recognizable as a piece that is uniquely Feldman, and uniquely part of the American avant-garde.

## Works Cited

- Beckett, Alan, and Morton Feldman. "Morton Feldman in Interview 1966." *Tempo* 60, no. 235 (2006): 15-20.
- Cline, David. "Allover Method and Holism in Morton Feldman's Graphs." *Perspectives of New Music* 51, no. 1 (2013): 56-98.
- Nakai, You. "How to Imitate Nature in Her Manner of Operation: Between What John Cage Did and What He Said He Did." *Perspectives of New Music* 52, no. 3 (2014): 141-60.