Tempo Melodies in the Johanna Beyer Clarinet Suites
(Fourth Movements)

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[Note: Some of this material appeared in "Sticky Melodies," liner notes to the New World double CD of the music of Johana Madgalena Beyer, Spring 2008]

Clarinet Suite I **and** *Clarinet Suite Ib* **(1932)**
Since there are currently no manuscript examples of Beyer's work before around 1930, it is impossible to speculate about what her earlier work, prior to meeting the Seegers and Cowell, might have been like. These two clarinet suites are perhaps Beyer's earliest extant works, and strongly show the influence of Charles and Ruth Crawford Seeger in the exploration of dissonant counterpoint. Beyer's use of "phrase structure" notation suggested by Seeger in the *Treatise…,* with different numbers of measures per line, is especially interesting in the fourth movements. Each of the four-movement suites uses palindromic forms and employ what Boland refers to as "chromatic completion."[1]

The two clarinet suites are closely related musically, and the manuscript sources suggest that they were written together. Quite difficult to play, they are perhaps some of the clearest explorations of the dissonant counterpoint idea — as much so as any piece by Ruth Crawford Seeger or Carl Ruggles. Although they bear a superficial resemblance to works like Ruth Crawford Seeger's *Diaphonic Suites*, *Piano Study in Mixed Accents*, or even the fourth movement of her *String Quartet*, Beyer's dissonant counterpoint pieces (most of her work until about 1936) have their own style —abstract, yet redolent of a sophisticated melodist's instinct. Rigorously composed, they are gems of what might be called the 1930s New York City dissonant counterpoint "school."

Tempo Melodies
The fourth movements of these suites are especially intriguing and historically important. They are among the earliest and most salient examples of what Cowell calls, in *New Musical Resources*, "tempo melody" [Cowell, pp. 98–108].[2] Beyer's notation of this technique, however, comes directly from Seeger's *Treatise….* ["Melodic Order Number 2," [Seeger, p. 179]).[3] Both movements are composed entirely of running eighth notes

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[1] See [Boland] for more analysis of these suites. This article is also indebted to Daniel Goode, for his early analysis of the first suite.

[2] The program for those concerts is at [Polansky].

[3] At the bottom of one of the manuscripts, Beyer wrote: "m = m is an abbreviation for measure = measure. This indicates that the measure so marked is equal to the previous measure. eighth note = eighth note indicates that not the entire measure but the 8th note is the unit of measurement." There are some additional pencil indications on some of the manuscript sources, which appear to be an attempt to calculate the tempi, but we believe that they are not in Beyer's hand, and they appear to be incorrect [Boland, 2007a].

without rests. At the end of each phrase (and actual system line) in the score, Beyer specifies "m = m" ("measure = measure"), indicating that the tempo of the next measure is equal to the number of beats in the previous. In other words, if there are two eighths in the last measure of one line, and three in the first measure of the next, the tempo becomes 3:2 faster than the previous tempo.

INSERT FOURTH MOVEMENT OF THE TWO SUITES HERE

The fourth movement of the second suite is an accelerando using this technique, starting at *eighth note = 56*, and gradually accelerating to *eighth note = 957* (!). The first suite moves in the opposite direction (creating a tempo arch form for the two pieces together), beginning at *eighth note = 132* and slowing drastically towards the end. Both of these movements, if the modulations are followed exactly, end in extreme, not quite practical, tempi. The ideal tempi for the eighth note on each line (system) of the score, rounded to integer values, for the two fourth movements, are:

Line	1	2	3	4	5	6	7	8	9	10	11	12
Suite I ratio	1:1	2:3	2:5	5:2	4:3	2:3	2:3	4:2	2:5	2:3	2:3	2:3
Suite I tempo	132	88	35	88	117	78	52	104	42	28	19	12
Suite Ib ratio	1:1	3:2	3:2	2:6	3:2	3:2	3:2	4:2	3:4	4:2	3:2	4:2
Suite Ib tempo	56	84	126	42	63	95	142	284	213	425	638	1276

The ending tempi are thus eleven and 22 times slower/faster than the beginning tempi.
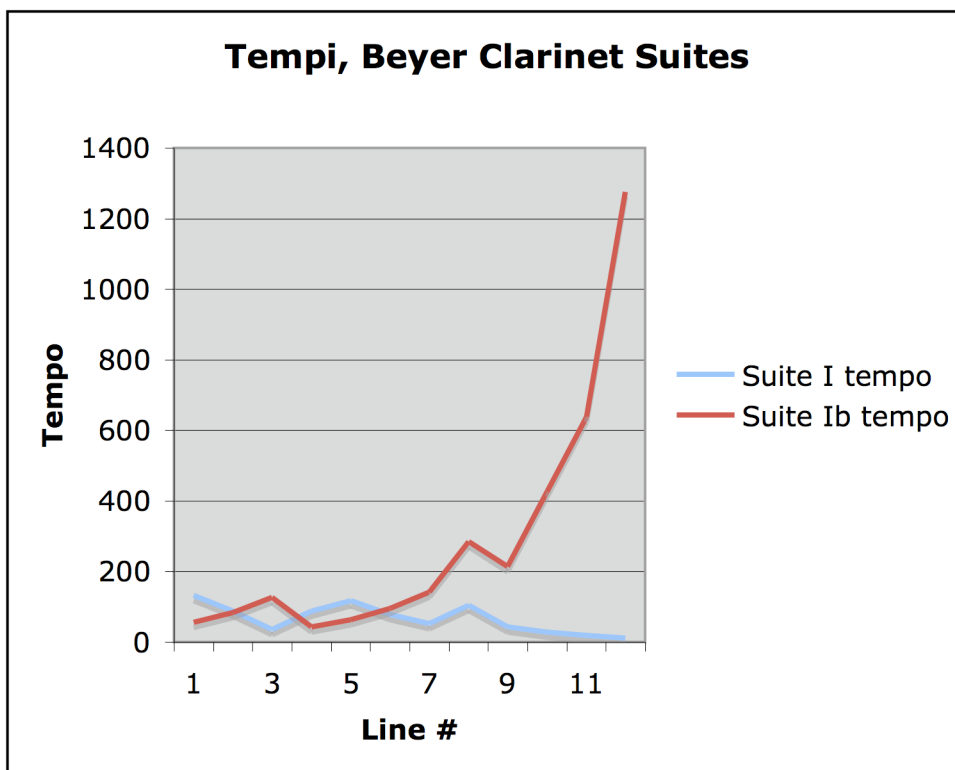
The ultimate tempi are not likely to be realized precisely in performance — one eighth note every five seconds for the first suite, and a tempo of 957 for the eighth in the second

(nearly impossible even *without* the final three-octave leap). Beyer was not interested, we think, in this kind of mathematical precision, nor in making a conceptual statement regarding extreme tempi. The notation, which stresses relative, not absolute tempi, allows the performers to make slight adjustments along the way.

If Beyer intended these two movements to be what Cowell called "tempo melodies," they may be among the first (and finest) examples. In *New Musical Resources* Cowell suggests that tempi can be composed using a simple analogy to, or perhaps mapping of pitch: using simple integer ratios. Assuming an arbitrary starting pitch of C, the tempi of the fourth movement of the second suite can be seen as a melody (C-G-D-G-D-A-E-E-B-B-F#-F#, ignoring octaves, for the sake of simplicity), which travels from the root (1/1) to the tritone (729/32, or, octave simplified, 729/512) in a slightly meandering Pythagorean path (tempo ratios are absolute, taken to the starting tempo):

Line	Tempo Scalar	Tempo Ratio	"Note Name"
1	1/1	---	C
2	3/2	3/2	G
3	3/2	9/4	D
4	1/3	3/4	G
5	3/2	9/8	D
6	3/2	27/16	A
7	3/2	81/32	E
8	2/1	81/16	E
9	3/4	243/64	B
10	2/1	243/32	B
11	3/2	729/64	F#
12	2/1	729/32	F#

(The order of intervals are (when not specified, they are ascending): P5th, P5th, P5th (down), P5th, P5th, P5th, P4th (down), octave, P5th, octave).

Line	Tempo Scalar	Interval Name	Pitch (octave reduced)
1	1/1	C	
2	3/2	P5th	G
3	3/2	P5th	D
4	1/3	P5th (down)	G
5	3/2	P5th	D
6	3/2	P5th	A
7	3/2	P5th	E
8	2/1	Octave	E
9	3/4	P4th (down)	B
10	2/1	Octave	B
11	3/2	P5th	F#
12	2	Octave	F#

These two (paired) movements are a concise, early example of the ideas of "tempo modulation" that later fascinated composers such as Conlon Nancarrow, Ben Johnston,

and Elliott Carter (who first used his technique of "metric modulation" in 1949). They seem to be two of the earliest pieces that explicitly used the idea of "modulation" between integer-related tempi as a formal, organizational technique.

References

Boland, Marguerite. 2007. "Experimentation and Process in the Music of Johanna Beyer." *VivaVoce* No. 86, *Journal of the Internationaler Arbeitskreis Frau and Musik* (in German). www.archiv-frau-musik.de. (English version on Polansky, website)

— 2007a. (ed.) *Suite for Clarinet Ib.* Annotated performance edition. Frog Peak/Johanna Beyer Project #17. Series editor: Polansky, Larry. Hanover: Frog Peak Music (A Composers' Collective)

Cowell, Henry. 1930. *New Musical Resources.* Republished by Something Else Press, 1969.

Goode, Daniel. 2007. *Suite for Clarinet I .* Annotated performance edition. Frog Peak/Johanna Beyer Project #16. Kitsz, Dennis, copyist and co-editor. Series editor: Polansky, Larry. Hanover: Frog Peak Music (A Composers' Collective

Polansky, Larry. "johanna Magdalena beyer: miscellaneous materials": http://eamusic.dartmouth.edu/~larry/misc_writings/talks/beyer.index.html

1930. Seeger, Charles. *Tradition and Experiment in the New Music*, in *Studies in Musicology II*, (ed.) Ann Pescatello, University of California Press. Berkeley, CA. 1994.