BEN JOHNSTON'S PITCH CHOICE IN *SUITE FOR MICROTONAL PIANO*

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Ben Johnston is often given the unfortunate distinction of being the best unknown American composer of the past half-century.[1] His credentials are certainly distinguished; between 1950 and 1959, Johnston studied with luminaries Harry Partch, Darius Milhaud, and John Cage.[2] Johnston's work has remained in relative obscurity throughout his life mostly due to his use of advanced microtonality that can make his compositions difficult to perform. A barrier, too, is the lack of commercial appeal of microtonal music, and while the esteemed Kronos Quartet has repeatedly offered to record all ten of his string quartets, their record label has refused as many times.[3] A few of his string quartets, especially *String Quartet No. 4* (1973), are now programmed, but the rest of his work remains in obscurity.

Written in proximity to *String Quartet No. 4*, Johnston's *Suite for Microtonal Piano* (1978) is a less-known composition but one that is equally representative of his mature style. The microtonal scale of the work features several rare and dissonant intervals, but to listen to the work is to hear a clarified and controlled harmonic vocabulary. Musicologist Heidi Van Gunden describes the *Suite*'s fourth movement as "a simple song."[4] That opinion is corroborated in a review of the work, which describes movement four as having a "down-home folksiness."[5] These are unexpected adjectives for a work that pushed the limits of harmony.

Through studying the unusual microtonal scale for the work, one can see how *Suite for Microtonal Piano*, and specifically its fourth movement, balances simplicity and complexity, and helps demonstrate Johnston's artistic goals at that time. It is my position in this paper that the

1. Mark R. Taylor, "Ben Johnston: Suite; Sonata; Saint Joan," *Tempo*, No. 220 (April 2002): 54.
2. Heidi Von Gunden, *The Music of Ben Johnston* (New Jersey: Scarecrow Press, 1986), 11-13.
3. Derek Bemel, "Paris Transatlantic: Johnston Interview,"Paris Transatlantic Magazine, http://www.paristransatlantic.com/magazine/interviews/johnston.html [accessed October 20, 2012].
4. Von Gunden, 152.
5. Taylor, 55.

Suite for Microtonal Piano is an undervalued work, a point of maturation for the composer, and an emergence of his own compositional voice.

First I will establish a context for the *Suite* by surveying Johnston's background in tuning, the influence of his teacher Harry Partch, and the contemporary just intonation piano literature of La Monte Young and Terry Riley. Then I hope to make connections between the harmonic characteristics of the scale and the music that Johnston composed with it. How did Johnston construct the scale, and why did he choose to include the intervals that he ultimately chose? Finally, I will attempt to shed some light on how Johnston's decision making reveals Johnston's evolving compositional voice.

Just Beginnings

Johnston's first major exposure to music in just intonation came when he travelled to Gualala, California, to become the apprentice of Harry Partch in 1950. Partch was building an arsenal of elaborate instruments in a custom 43-note scale of 11-limit just intonation (meaning that 11 is the highest prime number found anywhere in the pitch ratios). Johnston sought out Partch because of their shared interest in the sound of perfectly-tuned untempered intervals.[6] However, since Johnston had no interest in carpentry, he could not build his own instruments as Partch did. Instead, Johnston began the lifelong task of notating microtonal scales for performance by traditional instruments.

In 1960 Johnston introduced his nascent notation system for communicating just intonation practices to performers.[7] Through an extra set of symbols on the staff akin to modified

6. Von Gunden, 150.
7. Von Gunden, 64.

sharps and flats, Johnston was able to adjust pitches precisely enough to access 53 notes per octave that are in pure mathematical relationships to each other. The scale is 7-limit, using only products of the numbers 2, 3, 5 and 7, and Johnston used it as his default harmonic vocabulary from that point onward.[8] Furthermore, by combining any number of symbols per note, Johnston had what he called "extended just intonation," which, on a flexibly pitched instrument such as a violin or trombone, could theoretically access an infinite number of pitches within a 7-limit system.[9] This allowed him to tonicize any pitch within his original scale, to modulate and create a new 53-note scale around that pitch (albeit with some difficulty for the performer).

Of course, *Suite for Microtonal Piano* is not on a flexibly pitched instrument that can reorient itself in pitch space on the fly. Piano pieces are an anomaly in his catalogue for practical reasons.[10] "It's a tremendous amount of trouble to reach into the piano [to tune it] every time you change pieces," Johnston notes.[11] How would he adapt his advanced microtonality for this less flexible instrument? There is precedence for this adaptation in a previous work for microtonal piano, *Sonata for Microtonal Piano / Grindlemusic* (1965).

Sonata involves an elaborate tuning scheme of 81 *different unique ratios* over the piano's 88 keys. In other words, all but 7 notes have no octave equivalent anywhere else on the keyboard. The work is composed in a serial style, which was common of Johnston's music during the 1960s.[12] *Sonata* is the musical synthesis of ideas he wrote in 1965 in "Scalar Order as a Compositional Resource," which calls for many parameters of a composition—note duration,

8. Von Gunden, 78.
9. Bob Gilmore,"Changing the Metaphor: Ratio Models of Musical Pitch in the Work of Harry Partch, Ben Johnston, and James Tenney."*Perspectives of New Music* 33, No. 1/2 (Winter - Summer, 1995): 480.
10. Bob Gilmore,"The Climate Since Harry Partch,"*Contemporary Music Review* 22, No. 1/2 (2003): 23.
11. Bemel.
12. Von Gunden, 85.

dynamic, overall structure—to be dictated by the ratios of the scale, similar to ideas proposed by Elliot Carter, Karlheinz Stockhausen, and Milton Babbitt.[13]

Johnston spent five years completing *Sonata / Grindelmusic,* largely due to the complexity of the tuning system.[14] The tuning includes several different paths into his extended just intonation, creating multiple overlapping harmonic systems.[15] Johnston notes that each path is triadic, so he ends up with a tuning that has consonance within each path, but dissonance between one path and the next.[16] During this time, Johnston's music shows an excitement with being able to access the infinity of pitch space, as he throws as many notes as possible into his work.

There was some precedence for tuning pianos to just intonation at that time. La Monte Young's *The Well-Tuned Piano* (1964) is the most prominent example, although Young kept his scale secret for almost thirty years, so it is uncertain whether or not Johnston would have had it as a reference and influence. If he did figure out the scale on his own, he found a quirky, 7-limit scale with a few very strong consonances and several overtones of the tonic Eb, creating the composition's signature bright and resonant sound (see Table 1).[17]

Table 1. La Monte Young's scale for *The Well-Tuned Piano*

1	567	9	147	21	1323	189	3	49	7	441	63
1	512	8	128	16	1024	128	2	32	4	246	32

13. Ben Johnston,"Scalar Order as a Compositional Resource,"*Perspectives of New Music* 2, No. 2 (Spring – Summer 1964): 72.

14. Ben Johnston,"On Bridge Building,"Maximum Clarity *and Other Writings on Music* (Urbana: University of Illinois Press, 2006), 146.

15. Julia Werntz,"Adding Pitches: Some New Thoughts, Ten Years After Perspectives of New Music's 'Forum: Microtonality Today,' *Perspectives of New Music* 39, No. 2 (Summer 2001): 171.

16. Van Gunden, 87.

17. Kyle Gann,"La Monte Young's *The Well-Tuned Piano*,"*Perspectives of New Music* 31, No. 1 (Winter, 1993): 137.

Eb	E	F	F#	G	G#	A	Bb	B	C	C#	D

Terry Riley, too, wrote in just intonation as a contemporary of Johnston. Riley's first work for just-tuned piano, *The Harp of New Albion* (1984) came six years after Johnston's *Suite*, but it still demonstrates an approach to just intonation on the piano from a similar time to Johnston. The scale is 5-limit, simpler than most of Johnston's work, and Riley appears to pick and choose the most consonant possible ratios to create his scale, indicated by the small numbers that make up the ratios (see Table 2). The music consists of several movements improvised modally within different keys, so this initial consonance becomes a platform for exploring more dissonant tonicizations. For example, in one movement, Riley specifically explores the three "wolf fifths" that exist in his scale. The initially extreme consonance of the scale is turned on its head, but in both situations, the tuning scheme is the center of the work from which the music is derived.[18]

Table 2. Terry Riley's scale for *The Harp of New Albion*

1	16	9	6	5	4	64	3	8	5	16	15
1	15	8	5	4	3	45	2	5	3	9	8
C#	D	D#	E	E#	F#	G	G#	A	A#	B	B#

Unusual Sonorities

Johnston's scale for *Suite for Microtonal Piano* departs from the scale of his *Sonata* and the scales of his contemporaries in several ways. The most obvious departure from Johnston's pitch choice for *Sonata for Microtonal Piano* is the number of notes. There were 81 unique notes in *Sonata*; for *Suite*, Johnston chooses a repeating octave of only 12 (see Table 3).[19] There is an

18. Riley, Terry, *The Harp of New Albion*, Celestial Harmonies, CD liner notes, CEL 018/19, 1986.
19. Kyle Gann,"Key Eccentricity in Ben Johnston's Suite for Microtonal Piano,"*Thirty-One* 1 (Summer

equally important departure in the type of notes involved. *Suite for Microtonal Piano* has a scale of even larger prime dissonance than the *Sonata*, using ratios that include prime numbers 13, 17, and 19. This is unusual, since Johnston didn't know of any music at that time that used 13, 17, or 19-limit intervals.[20] Even his teacher, Partch, had not ventured beyond 11-limit intervals in his music.

Table 3. Ben Johnston's scale for *Suite for Microtonal Piano*

1	17	9	19	5	21	11	3	13	27	7	15
1	16	8	16	4	16	8	2	8	16	4	8
C	C#	D	Eb	E	F	F#	G	Ab	A	Bb	B

His choice of notes is not whimsical, but highly ordered. The scale consists of a select group of overtones between the 16th and 32nd partials of a fundamental C frequency. Specifically, the 12-note scale consists of overtones 16-22, 24, 26-28, 30, and 32 (the octave). Johnston points out that you can tune the scale by ear by listening to the overtones of the lowest C on the piano (although it would take a rather precise ear to do so, to say the least).

We can sort the tones Johnston uses into three categories: ratios used in a common 12-note diatonic scale similar to those used by Young and Riley (1/1, 9/8, 5/4, 3/2), slightly more unusual ratios that Johnston inherited from the 43-note scale of his teacher Harry Partch (21/16, 11/8, 7/4, 15/8)[21], and higher-limit ratios that are new to Johnston in this work (17/16, 19/16, 13/8). Where did these new notes come from?

The addition of higher-limit ratios into Johnston's work can at first appear to be a byproduct of his concept to use high overtones as a musical scale. This explanation leaves some unanswered questions, such as why did he include the 26th overtone (which at 13/8 is a 13-limit

2009): 42.

20. Van Gunden, 150.

21. Harry Partch, *Genesis of a Music* (Madison: University of Wisconsin Press, 1949), 133.

interval) while omitting the 25th overtone (a 5-limit interval)? What looks at first like the byproduct of a conceptual venture to use overtones turns out to be a premeditated expansion into more complex ratios.

While Johnston's early tuning decisions bear the overwhelming influence of Partch, by 1976 Johnston had undertaken a series of experiments to expand upon Partch's microtonal scale to more complex intervals. In 1971, in collaboration with computer programmers using the programming language Fortran, Johnston began expanding his tuning systems outward in several dimensions, incorporating more and more complex intervals. Where his previous scales used only 7-limit ratios, he began to contemplate ratios with prime numbers 11, 13, 17, and 19.[22] But with these new and highly complex ratios available to him, Johnston does not journey off into compositional complexity. Instead the opposite happens, and Johnston's first work—as well as one of the first American works of any kind—to include these high-limit intervals, uses them with a clarity of language.

Musically, *Suite* is eclectic. Modality, tonality, and serialism all appear over the course of the five movements. It is neo-classical in form, using the fast-slow-fast-slow-fast format of a baroque suite, echoing Johnston's early neoclassical period.[23] It also follows an ABACA form in terms of key. While the first, third, and fifth movements are in C—the center key of the tuning system—movements two and four are in modes of D and E respectively, adopting entirely new moods because of the varying size of intervals in the original scale. Gann notes that "the scale 'speaks' differently through different tonalities, as an actor might speak through different characters but still reveal a unifying sensibility."[24]

22. Ben Johnston,"Rational Structure in Music,"Maximum Clarity *and other writings on music* (Urbana: University of Illinois Press, 2006), 65-66.
23. Von Gunden, 150.
24. Gann, 48.

I was curious about what the ratios of Johnston's scale would look like relative to D or E instead of to C, so I made a chart that shows the ratio between each pitch of the scale and each other pitch. The columns in this case represent a scale starting from a certain scale degree. Column 1 shows the scale in the key of C, while column 2 shows the scale in the key of C#, column 3 in the key of D, and so on (see Figure 1). Looking at the top row, a B is ratio 15/8 relative to C (first column), but is a 5/3 harmony relative to the key of D (third column) and a 3/2 perfect fifth relative to E (fifth row).

15/8	30/17	5/3	30/19	3/2	10/7	15/11	5/4	15/13	10/9	15/14	
7/4	28/17	14/9	28/19	7/5	4/3	14/11	7/6	14/13	28/27		28/15
27/16	27/17	3/2	27/19	27/20	9/7	27/22	9/8	27/26		27/14	9/5
13/8	26/17	13/9	26/19	13/10	26/21	13/11	13/12		52/27	13/7	26/15
3/2	24/17	4/3	24/19	6/5	8/7	12/11		24/13	16/9	12/7	8/5
11/8	22/17	11/9	22/19	11/10	22/21		11/6	22/13	44/27	11/7	22/15
21/16	21/17	7/6	21/19	21/20		21/11	7/4	21/13	14/9	3/2	7/5
5/4	20/17	10/9	20/19		40/21	20/11	5/3	20/13	40/27	10/7	4/3
19/16	19/17	19/18		19/10	38/21	19/11	19/12	19/13	38/27	19/14	19/15
9/8	18/17		36/19	9/5	12/7	18/11	3/2	18/13	4/3	9/7	6/5
17/16		17/9	34/19	17/10	34/21	17/11	17/12	17/13	34/27	17/14	17/15
	32/17	16/9	32/19	8/5	32/21	16/11	4/3	16/13	32/27	8/7	16/15

Figure 1. An illustration of ratios relative to each possible key in *Suite for Microtonal Piano*, with denominator simplicity highlighted.

Above I have chosen an unusual highlighting scheme that colors each ratio based on the prime limit of its denominator, so that a ratio with a 7-limit denominator (12/7) will be lighter in color than a ratio with a 3-limit denominator (10/9).

This does not measure consonance, but it reveals a certain aspect of Johnston's scale and modulation choices that is important. Each key (column) has a strong individuality and internal uniformity regarding the prime of its denominator. This is not usually the case. For comparison, here is a graph of the 22-note scale Johnston uses in his *String Quartet No. 4*, written 5 years

prior (see Figure 2).[25] This older scale emphasizes a parity between the different keys of the scale, with modulations to almost every key having points of harmonic stability (pure 4ths or 5ths, and strong triadic relationships).

27/14	729/392	405/224	243/140	27/16	81/49	45/28	54/35	3/2	72/49	10/7	48/35	4/3	9/7	243/196	135/112	81/70	9/8	54/49	15/14	36/35	1/1
15/8	405/224	225/128	27/16	105/64	45/28	25/16	3/2	35/24	10/7	25/18	4/3	35/27	5/4	135/112	75/64	9/8	35/32	15/14	25/24	1/1	35/18
9/5	243/140	27/16	81/50	63/40	54/35	3/2	36/25	7/5	48/35	4/3	32/25	56/45	6/5	81/70	9/8	27/25	21/20	36/35	1/1	48/25	28/15
7/4	27/16	105/64	63/40	49/32	3/2	35/24	7/5	49/36	4/3	35/27	56/45	98/81	7/6	9/8	35/32	21/20	49/48	1/1	35/18	28/15	49/27
12/7	81/49	45/28	54/35	3/2	72/49	10/7	48/35	4/3	64/49	80/63	128/105	32/27	8/7	54/49	15/14	36/35	1/1	96/49	40/21	64/35	16/9
5/3	45/28	25/16	3/2	35/24	10/7	25/18	4/3	35/27	80/63	100/81	32/27	280/243	10/9	15/14	25/24	1/1	35/18	40/21	50/27	16/9	140/81
8/5	54/35	3/2	36/25	7/5	48/35	4/3	32/25	56/45	128/105	32/27	256/225	448/405	16/15	36/35	1/1	48/25	28/15	64/35	16/9	128/75	224/135
14/9	3/2	35/24	7/5	49/36	4/3	35/27	56/45	98/81	32/27	280/243	448/405	784/729	28/27	1/1	35/18	28/15	49/27	16/9	140/81	224/135	392/243
3/2	81/56	45/32	27/20	21/16	9/7	5/4	6/5	7/6	8/7	10/9	16/15	28/27	1/1	27/14	15/8	9/5	7/4	12/7	5/3	8/5	14/9
81/56	2187/15	1215/89	729/560	81/64	243/196	135/112	81/70	9/8	54/49	15/14	36/35	1/1	27/14	729/392	405/224	243/140	27/16	81/49	45/28	54/35	3/2
45/32	1215/89	675/512	81/64	315/256	135/112	75/64	9/8	35/32	15/14	25/24	1/1	35/18	15/8	405/224	225/128	27/16	105/64	45/28	25/16	3/2	35/24
27/20	729/560	81/64	243/200	189/160	81/70	9/8	27/25	21/20	36/35	1/1	48/25	28/15	9/5	243/140	27/16	81/50	63/40	54/35	3/2	36/25	7/5
21/16	81/64	315/256	189/160	147/128	9/8	35/32	21/20	49/48	1/1	35/18	28/15	49/27	7/4	27/16	105/64	63/40	49/32	3/2	35/24	7/5	49/36
9/7	243/196	135/112	81/70	9/8	54/49	15/14	36/35	1/1	96/49	40/21	64/35	16/9	12/7	81/49	45/28	54/35	3/2	72/49	10/7	48/35	4/3
5/4	135/112	75/64	9/8	35/32	15/14	25/24	1/1	35/18	40/21	50/27	16/9	140/81	5/3	45/28	25/16	3/2	35/24	10/7	25/18	4/3	35/27
6/5	81/70	9/8	27/25	21/20	36/35	1/1	48/25	28/15	64/35	16/9	128/75	224/135	8/5	54/35	3/2	36/25	7/5	48/35	4/3	32/25	56/45
7/6	9/8	35/32	21/20	49/48	1/1	35/18	28/15	49/27	16/9	140/81	224/135	392/243	14/9	3/2	35/24	7/5	49/36	4/3	35/27	56/45	98/81
8/7	54/49	15/14	36/35	1/1	96/49	40/21	64/35	16/9	256/147	320/189	512/315	128/81	32/21	72/49	10/7	48/35	4/3	64/49	80/63	128/105	32/27
10/9	15/14	25/24	1/1	35/18	40/21	50/27	16/9	140/81	320/189	400/243	128/81	1120/72	40/27	10/7	25/18	4/3	35/27	80/63	100/81	32/27	280/243
16/15	36/35	1/1	48/25	28/15	64/35	16/9	128/75	224/135	512/315	128/81	1024/67	1792/12	64/45	48/35	4/3	32/25	56/45	128/105	32/27	256/225	448/405
28/27	1/1	35/18	28/15	49/27	16/9	140/81	224/135	392/243	128/81	1120/72	1792/12	3136/21	112/81	4/3	35/27	56/45	98/81	32/27	280/243	448/405	784/729
1/1	27/14	15/8	9/5	7/4	12/7	5/3	8/5	14/9	32/21	40/27	64/45	112/81	4/3	9/7	5/4	6/5	7/6	8/7	10/9	16/15	28/27

Figure 2: Denominator consistency within each key of *String Quartet No. 4*.

Returning to the graph for Johnston's *Suite*, the keys of D and E—the third and fifth columns from the left—which Johnston uses as key centers in the *Suite*, have certain important traits in common. Both have perfect 5ths (ratio 3/2), an essential interval for Johnston, an often neoclassical composer, to establish key centricity. The score corroborates this, as the first harmony of both movements is a lone perfect 5th in the tonic key. Two other scales that also contain perfect 5ths are G and Bb. Johnston does modulate to G in the middle of the 4th movement. Johnston never modulates to Bb, but that is probably because the rest of the Bb scale is in a weaker language of 7-limit intervals. The keys of D and E have simpler denominator complexity of 3 and 5, respectively.

25. Gilmore,"Changing the Metaphor,"482.

The chart also illustrates the key of E, used in the fourth and penultimate movement, as a somewhat distant harmonic region from C. Other than the perfect fifth, the scale consists of entirely ratios with prime limits of 5 and over relative to the tonic E. It represents a prolonged tension before the final movement in C. Just as classical composers often travelled to distant keys in moments of macro-scale tension before returning to their original tonic, Johnston has done the same, not with a distant key (E minor is a close relative of C), but with a distant tuning language.

As if to highlight the remoteness of the E sonorities, Johnston gives us a moment of respite in the middle of the 4th movement, and the overwhelming contrast of harmonies is a highlight of the piece. Amid the darkness of a dissonant E minor, Johnston transitions to G major for a dozen or so measures, adding a pedal arpeggiation in the bass of G's most consonant harmonies: 4/3, 1/1, 3/2, 9/8 (m. 34). In the middle of a movement where virtually every interval is 5-limit and higher relative to the tonic E, Johnston abruptly switches to a chord in which no prime is higher than 3. When, in the stronger key of G, Johnston elevates the melody to a prominent minor seventh of ratio 7/4 relative to G (m. 36), the fragility of its 7-limit nature is rich, and the note feels as if it might crumble under its own weakness before resolving downward to a stronger 5/3 ratio.

The new 13, 17, and 19-limit rations that Johnston has included in his scale are used occasionally in the fourth movement. Most often, they are in a recurring descending motive that punctuates certain sections of the piece. The motive is a jazz or blues descent, a chromatic 8-7-6-5 lament that lends finality and closure to the prior phrase. Johnston does not use the intervals to

make his music obtuse; instead he opts to include them into an established and coherent musical gesture.

Maximum Clarity

Johnston's writings express different goals with just intonation than Young and Riley, and evolving goals within his own catalogue. Riley and Young, as part of the minimalist movement, were concerned more with the spiritual evocation of a chugging, pure harmony than with the controlled dissonances of classicism. Johnston was a neoclassical and serialist composer by training, and he explains that "unlike Partch, I wanted to transform European traditions rather than to search out other ethnic heritages."[26] He expresses a nostalgia for the past, not a rebellious attitude towards it.

His writings express a more personal agenda from studying with Partch as well, and an evolution of this agenda between writing his *Sonata* and his *Suite* helps explain the vastly different approaches to choosing a scale. In 1963, as he was developing his extended notation system and composing his complex *Sonata*, he wrote that "to extend musical order further into the jungle of . . . complexity . . . that is perhaps the fundamental aim of contemporary serious music."[27] About 10 years later, though, he wrote about his work in terms that are somewhat at odds with the previous statement, commenting, "I felt that my eventual task would be to alter attitudes, especially theoretical currents within the mainstream" and "it would be my role to

26. Johnston,"Bridge Building" 145

27. Ben Johnston, 1963 Festival of Contemporary Arts program booklet, University of Illinois at Urbana Champaign, quoted in Bob Gilmore,"Changing the Metaphor: Ratio Models of Musical Pitch in the Work of Harry Partch, Ben Johnston, and James Tenney."*Perspectives of New Music* 33, No. 1/2 (Winter - Summer, 1995): 474.

bring [Partch's] work into relation with accepted traditions and recognized challenges to tradition."[28]

Which of these approaches was more on his mind during the writing of *Suite for Microtonal Piano*? Fortunately, Johnston wrote a short article in 1976, where he mentions composing *Suite* and which is a statement of purpose of sorts. Its climax is a reconciliation of the previous two positions: "…it seems to me the most important contribution art can make today is to help make complexity intelligible."[29] Here, I think, is the mature Johnston, not simply throwing in as many notes as possible, like in the *Sonata*, but ready to define a clearer, personal harmonic style from the vast pitch space that he opened up to himself.

That Johnston uses his new dissonant intervals in a familiar jazz pattern, not in an expanded serialism like in *Sonata*, is as telling as his writings. The newness in the work is shared by the new intervals and his willingness to exercise his own voice, to involve his nostalgia, to borrow American idioms, ideas that he explored in his popular *String Quartet No. 4* and which he continues to use in *Suite for Microtonal Piano.* His choice of a scale which is limited, with distinct harmonic properties within each key, allows him to create a "simple song" out of intervals that are at first perplexing, furthering his goal of bringing intelligibility to his advanced harmonic systems.

When Johnston was asked what Partch thought of Johnston's music, he recalls Partch telling him, "in trying to develop it, be your own man."[30] Johnston cites this as being an important lesson for him, and the *Suite* demonstrates one of the moments, along with *String Quartet No. 4*, in which Johnston becomes his own man, attending to his own unique voice

28. Ben Johnston,"The Corporealism of Harry Partch,"*Perspectives of New Music* 13, No. 2 (1975): 93-94.
29. Johnston,"Bridge Building,"145.
30. Bemel.

which can boil extremely complex ratios into inviting compositions. The fourth movement of the *Suite* is a moment of clarity in that quest, with a scale that later became the framework for two other works, *Twelve Partials* and *String Quartet No. 9*.[31] We are lucky to have it.

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