Statistical versus Musical Significance:
Commentary on Leigh VanHandel's
'National Metrical Types in Nineteenth Century Art Song'

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ABSTRACT: In "National Metrical Types in Nineteenth Century Art Song" Leigh Van Handel gives a sympathetic critique of William Rothstein's claim that in western classical music of the late 18th and 19th centuries there are discernable differences in the phrasing and metrical practice of German versus French and Italian composers. This commentary (a) examines just what Rothstein means in terms of his proposed metrical typology, (b) questions Van Handel on how she has applied it to a purely melodic framework, (c) amplifies Van Handel's critique of Rothstein, and then (d) concludes with a rumination on the reach of quantitative (i.e., statistically-driven) versus qualitative claims regarding such things as "national metrical types."

WHAT makes music by French composers sound distinctly "French," and music by German composers distinctly "German"? William Rothstein, in his article on "National metrical types in music of the eighteenth and early nineteenth centuries" (2008), claims that at least one feature that marks this distinction is the relationship between rhythmic groups and meter at phrase beginnings and endings. In her current article, Leigh VanHandel (2009) both tests Rothstein's hypothesis and extends it by applying it to a somewhat later repertoire. VanHandel provides support for some of Rothstein's claims (at least in her chosen analytic corpus), as well as casting doubt on others. I found VanHandel's article to be provocative in the best sense, as it raised questions not just about her method and results, but about the presumptions that lie at the root of our understanding of musical style(s). I will start my comments with some specific theoretical and methodological concerns, and then conclude with these broader presumptions.

For starters, neither Rothstein nor VanHandel are really talking about "national metrical types" in the way we might say 11/8 is a "Balkan" metrical type, or 3/4 is the metrical type characteristic of a waltz. For as VanHandel shows (c.f. her Table 2, p. 136), composers of both nationalities employ the same set of basic meters (simple triple, compound duple, simple duple, and simple quadruple) for most of their songs and in more or less the same distribution; the main difference being that French composers make more use of simple triple, while German composers rather less (and with the subsequent distribution of other meters affected as a result). So when Rothstein (and later, VanHandel) talks about "the structure and function of the musical bar" (2008, p. 112), he is not really talking about "types of meter." Rather, he is talking about the alignment between rhythmic grouping structure and metrical structure at phrase beginnings and endings. Which is to say, he is talking about the accentual status of the first and last notes of a melody.

This is made clear when Rothstein contrasts *German barring,* in which phrase beginnings are generally placed on downbeats or consist of a very short anacrusis, and whose phrase endings typically occur mid-measure, with *Italian barring*, in which "cadences are always placed just to the right of the barline, and whose phrases begin at least half a bar to the left of the barline" (Rothstein, 2008, pp. 115-117). Rothstein assumes his readers will know that what is being placed "mid-measure" or "just to the right of the barline" isn't just a note, but an entire rhythmic group. For him, a cadence or an anacrusis involves more than one note or chord. He is also well aware that the alignment of these rhythmic groups may vary relative to their metric contexts (Cooper & Meyer 1960; Lerdahl & Jackendoff, 1983). Thus if one or more notes in the initial rhythmic group occur before its primary accent, they will occur "to the left of the barline," whereas if a group ends with its primary accent, its last note will fall "just to the right of the barline." The most telling remark, however, is where Rothstein says that Italian phrases begin "at least

half a bar to the left [i.e., ahead of] the barline, for "at least half a bar" presumes that bars are themselves divisible; many instances of simple triple and simple duple (i.e., 3/4 and 2/4 comprised of only quarter notes) do not admit further division. To have half-measures, there must be at least three levels of hierarchic structure,[1] and this can occur in two ways. In the case of 6/8, for example, one has (a) a rapid sub-tactus level—the 8th notes, (b) the beat or tactus level—the dotted quarters, and (c) the level of the measure. Conversely in the case of 4/4 one has (a) the quarter-note tactus, (b) a "sub-cycle" equal to separate 2/4 measures, and (c) the level of the measure.[2]

A metric hierarchy that is rich enough to have half-bars will also have measures that contain both primary and secondary accents. And it is *this* that ultimately distinguishes German versus French/Italian barring practices— that is, what distinguishes their grouping-meter relationships. French melodies begin on a secondary accent (e.g., a figure that doesn't start on the downbeat but articulates beat 2 in 6/8 or beat 3 in 4/4) and end on a primary accent (i.e., the downbeat), while German melodies begin on a primary accent and end on a secondary accent, at least according to Rothstein.[3]

Nationality	Group Begins	Group Ends	Description
French/Italian	Secondary Accent	Primary Accent	Start with longer anacrusis; final note on the downbeat
German	Primary Accent	Secondary Accent	Start with shorter/no anacrusis; final note on a secondary accent

Table 1. Accentual properties of the first and last notes in the initial and final rhythmic groups, according to Rothstein's French/Italian versus German "metrical types" hypothesis.

As one can see in Table 1, there is a reciprocal relationship between beginning and ending accent. This is because the phase relationship between rhythmic groups and meter is stable over the course of a phrase, almost without exception. Thus, for example, if a phrase starts with two unaccented notes followed by an accented note (i.e., an "anapestic" rhythm), the following measures will also be anapestic. In these contexts the cadential group will end with an accent - that is to say, on the downbeat. Conversely, if the initial group begins with an accented note (on the downbeat) and is followed by an unaccented note, then the analogous cadential group will end with an unaccented note. Thus Rothstein's characterization and linkage of phrase-initial and cadential barring practices isn't surprising - indeed, it would have been surprising had this *not* been the case.

In a nutshell, then, Rothstein claims that German music tends to avoid extended anacruses (and consequently has extended cadential figures) while French/Italian music is more likely to have extended anacruses (and short cadential figures). Given this reciprocal relationship, we should see a clear pattern of covariance between where phrases begin and end in VanHandel's data, but we do not. VanHandel has separated phrase beginnings and endings in her data and her discussion, so, for example, when she mentions Beethoven's tendencies for phrase endings in 6/8 versus 4/4, we don't know if these are commensurate with the analogous beginnings *for those particular phrases* (though we can make some inferences by comparing Beethoven's data in Tables 9 and 10). More broadly we can see this by an examination of VanHandel's overall percentages for beginning and ending beats in 6/8.

Nationality	6/8 Begin 1	6/8 End 2	6/8 Begin 2	6/8 End 1
French	29.12	29.39	22.76	54.84
German	19.13	39.51	10.08	43.15

Table 2. Lack of covariance for downbeat (beat 1) phrase beginnings versus phrase endings (VanHandel, 2009, after Tables 9 and 10).

Table 2 is set up to show whether or not Strong-Weak (begin on 1 and end on 2) and Weak-Strong (begin on 2 and end on 1) rhythmic groups are commensurate; aside from French 6/8 "Begin on 1/End on 2" they seem not to be - far more songs in 6/8 end on 1 then they ought to. I can see two reasons for this. VanHandel coded her data for these percentages strictly as to whether the first note of a group occurs on beat 1 versus begins on 2. Thus, for example, a group with an eighth-note anacrusis would *not* count as "on beat one" even though its primary accent is on 1. By cutting her categories too finely, VanHandel has obscured Rothstein's main hypothesis regarding rhythm-meter accent relationships in her own data. This also perhaps created the problem that she then "solved" by giving distributions for all cases, and then a separate distribution for those with downbeats beginnings or endings removed. A second problem has to do with VanHandel's method of coding endings. A phrase that ends with a short note on the downbeat and a phrase that ends with a sustained note on the downbeat will both be coded the same way (see her note [3]). While the former allows anacrustic grouping to persist, the latter does not; indeed, the latter is a common way of ending a phrase that consists of strong-weak groups: |S-W|S-W|S-W|S |. In this case, the last group does "extend" through beat 2, and whether or not there is any harmonic activity in the second half of the phrase, there is clear rhythmic persistence.

        I have several other methodological quibbles for VanHandel. First, just what counts as a phrase? A two bar unit? Four bars (as one presumes)? What about 8 bars in a fast tempo, or 8 bars of notated 3/8 that might be just as aptly regarded as four bars of 6/8? More details here would have been helpful. Second, as she makes clear in her Table 1, a small number of composers are heavily represented within the corpus (the "large N club" here includes Fauré, Gounod, Schubert and Schumann, and might also include Massenet, Brahms, Franz, Hensel, Mendelssohn, and Wolf). I wondered if the distribution of meters and phrasing habits within some of these composers' repertoires was the same as the entire corpus. We receive a partial answer in Tables 9 and 10 (at least with respect to some metric categories). Finally, given that notes must fall in discrete metric locations, I would have preferred to see histograms of the distribution of notes (i.e., for every possible metrical location for each metrical type) rather than the average locations for beginnings and endings given in Tables 3, 5, 6, 8, 9, and 10.

        What I found most engaging about VanHandel's paper and her data was to imagine what Rothstein (or other theorists, critics, and musicologists) might make of it. Rothstein is not an empiricist; he is a fine musician and gifted Schenkerian analyst. Like most traditionally trained musicians and music theorists, his sense of style, and the basis for his intuitions on "German" versus "French/Italian" phrasing, comes from his own experience and his own music-theoretic beliefs, shaped by his personal performance, listening, and analytic histories. VanHandel ultimately finds only weak support for Rothstein's broad characterizations of national musical styles; she generously allows in her conclusion that "results that do not agree with Rothstein's characteristics are not a refutation of Rothstein's national metrical types; rather, such a refutation simply means that in this genre and time period, composers may have had other constraints (such as poetic meter) or, most likely, that the conception of meter continued to change throughout the 19th century" (VanHandel, 2009, p. 134). I am less generous; I believe Rothstein's thesis regarding national metrical types are a result of biased sampling, but the bias is telling. First, as VanHandel admits, in many instances the differences between German versus French composers are not statistically significant. Even when they are, they might not be that meaningful. Note the large whiskers in Figure 1.
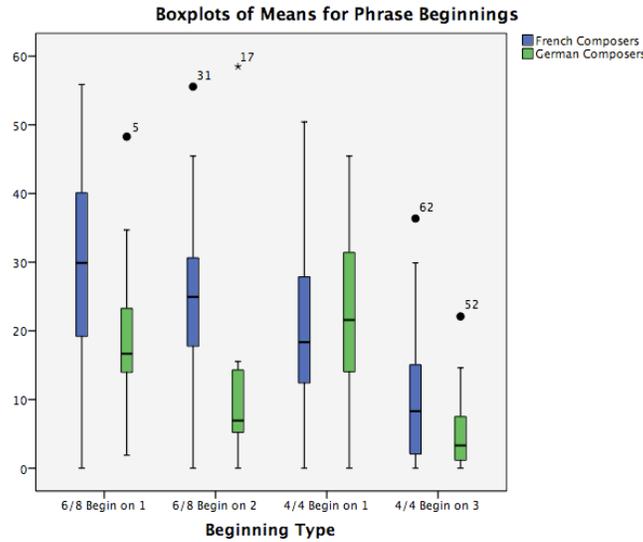
Fig. 1. Boxplot of the grand means for phrase beginnings in 6/8 and 4/4, based on VanHandel's Table 9.
It is hard to see from Figure 1 how Rothstein would have arrived at his hypothesis based on a random sampling of music French, Italian, and German composers. But I am fairly certain that Rothstein's hypothesis was not based on a random sample. Rather, his intuitions, like those of most music theorists and analysts, come from our encounters with the music we study and valorize the most—that is, the music by composers we feel are influential and whose music is of high aesthetic value. Not every composer in VanHandel's corpus is equally influential and/or valued (though note that if these are truly national metrical types, this should not matter). Here is my categorization of VanHandel's composers:
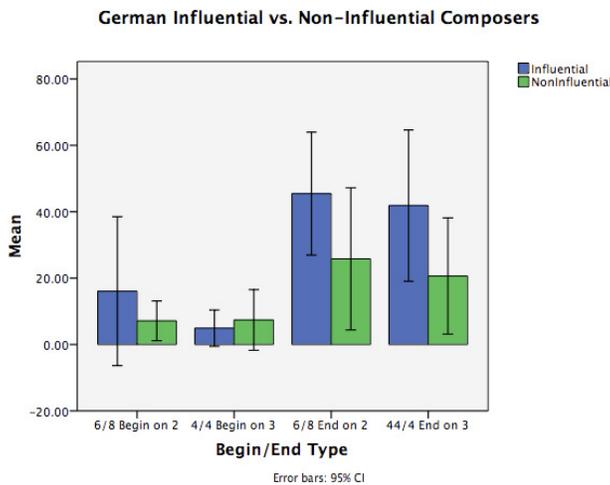
	Influential		**Not So Influential**	
	<u>FRENCH</u>	<u>GERMAN</u>	<u>FRENCH</u>	<u>GERMAN</u>
	Bizet	Beethoven	Chabrier	Franz
	Debussy	Brahms	Chaminade	Hensel
	Faure	Mahler	Chausson	Lang
	Gounod	Mendelssohn	David	Loewe
	Massenet	Schubert	Duparc	C. Schumann
	Saint-Saens	R. Schumann	Holmes	Wolf*
		Strauss	Lalo	
			Masse	
			Reber	
			Reyer	

Table 3. Categorization of relative influence of French and German Composers in VanHandel's Corpus.

One can (and should) take issue with this categorization (I was especially vexed by Wolf), but in the end I deemed a composer influential if s/he were known for a body of work beyond art songs (especially symphonic works or operas). We can then look at VanHandel's data for 6/8 and 4/4, now sorted in terms of influence.
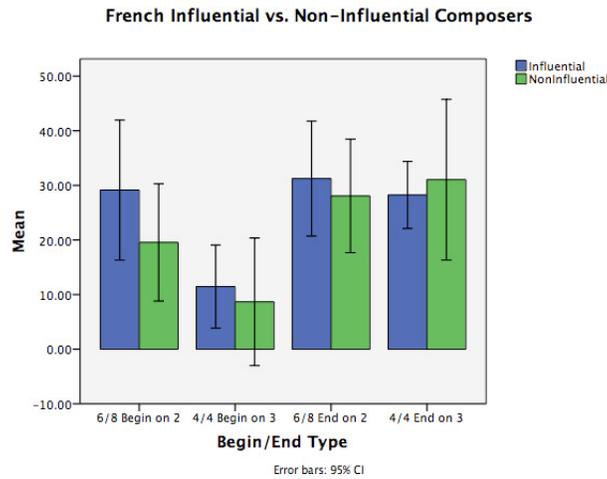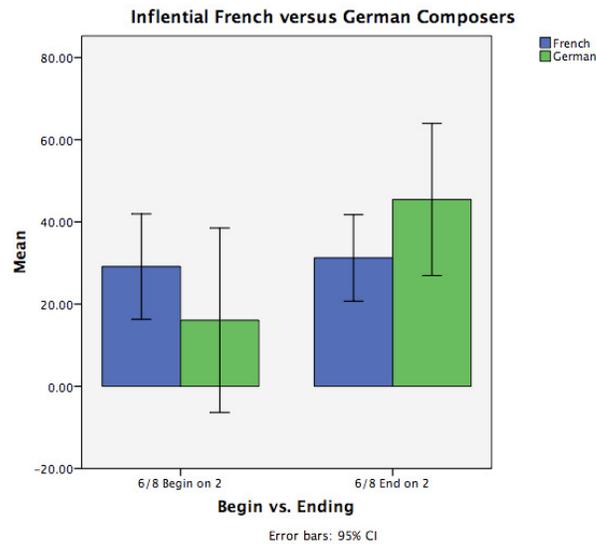
Fig. 2. French influential vs. non-influential composers, percentages for 6/8 and 4/4 beginnings and endings, after VanHandel Tables 9 & 10.

Fig. 3. German influential vs. non-influential composers, percentages for 6/8 and 4/4 beginnings and endings, after VanHandel Tables 9 & 10.

We can see in Figure 2 that there is a difference in French influential/non-influential composers in 6/8; in Figure 3 we can especially see the difference re phrase endings for influential vs. non-influential German composers, as the former more strongly tend to end on weak beat (as per Rothstein's hypothesis). Finally, consider in Figure 4 a comparison between influential German and influential French composers.

Fig. 4. Influential French vs. German composers, percentages for weak beat beginnings vs. endings in 6/8, after VanHandel Tables 9 & 10.

Here in Figure 4 we see the clear distinction at the center of Rothstein's accentual hypothesis: German composers don't tend to begin on a weak beat, but do tend to end on a weak beat in 6/8. The means for French composers are not very different, but the interaction between French and German influential composers is quite clear, or at least would be if the distinctions in Figures 2, 3, and 4 were statistically significant. They are not. But they are more suggestive than Figure 1. Finally, consider Beethoven. In 6/8, only 1.86% of his songs begin on beat 1, while 58.49% begin on beat 2. Conversely, 60.38% of his songs end on beat 1, while only 26.42% end on beat 2. Here the covariance is quite robust, but it is French. I hasten to add that in 4/4 time, Beethoven begins on beat 1 in 45.45% of his songs, and never on beat 3; again the covariance is near perfect, as he ends on beat 1 in 8.3% of the songs, but on beat 3 83.33%, quite properly German.

Can one, then, really talk of "National Metrical Types?" After reading VanHandel's article I am not so sure. Like Rothstein, we can and often do make these sorts of distinctions in our own listening histories and backgrounds. But we do so from samples that are selective, and on the basis of individual works that are particularly striking. And this seems right and proper - certain Beethoven Sonatas or Robert Johnson Blues songs (to pick two examples from my own history) have paradigmatic status for my knowledge and understanding of a large number of related pieces. Their status in my history stems in large part from their status in our larger musical culture, which is why I know them and why they have played central roles in my experience. What VanHandel's critique of Rothstein shows us, however, is that when Rothstein and his music-theoretic sources speak of a "German barring practice," they are more precisely talking about "Beethoven's barring practice," just as when I talk about "Delta Blues text-music relationships" I am really talking about "Robert Johnson's text-music relationships." VanHandel reminds us that while influential figures necessarily play a central role in a style or genre, they do not define it. Likewise, we must take care not to let such figures shape our musical prejudices too strongly, either as listeners or researchers.

NOTES

[1] For more details on metrical hierarchies see: London, 2001; 2004.

[2] Rothstein's "half a bar" also implies that there is a symmetrical division of the measure, though this is not explicitly specified.

[3] Rothstein's need for sufficiently rich metrical hierarchies to support his thesis also means that some examples in simple duple and simple triple meter may not be relevant; it is not clear if and how VanHandel would have sorted/excluded these examples in her analysis.

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