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articles

A Generative Textsetting Model

By John Halle and Fred Lerdahl

One aspect of musical practice that has received comparatively little attention in recent years is the system of intuitions operating when a composer assigns notes to words. In contrast to the extremely varied compositional techniques of Western music, composers' impulses are narrowly constrained by both musical and linguistic intuitions in textsetting. That this is the case can be seen by attempting to match the lines of poetry with their associated rhythmic settings:

(1a) Tell me not in mournful numbers.
—Longfellow, "A Psalm of Life," line 1

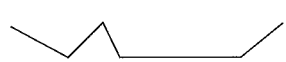
(1b) Through all the compass of the notes.
—Dryden, "A Song for St. Cecilia's Day," line 15

(1c) 

(1d) 

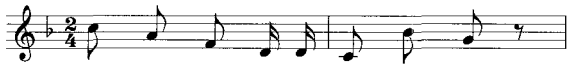
One need not have had much musical training to know to pair (1a) with (1c), and (1b) with (1d). While it may appear obvious that one's judgments are informed by intuitions in attempting to match "stressed" syllables with "strong" beats, the problem that confronts the theorist attempting to explain this system of intuitions is more complex than an initial formulation suggests.

Our approach to this problem makes a basic methodological simplification. As indicated by the absence of pitch notation in the above examples, we assume that on a local level, at least, the notion of the "strong beat" relevant to textsetting is predominantly a rhythmic and metrical phenomenon independent of pitch height. For example, a rising sequence of pitches might in principle seem a more natural setting for the rising intonational pattern between "bad" and "wolf" in the question:



Who's afraid of the big, bad wolf?

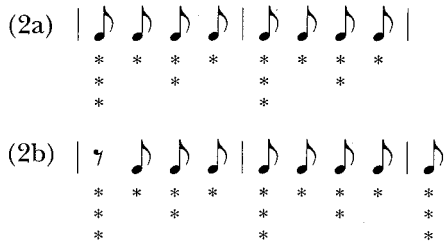
Yet most children know that "bad wolf" is set by a falling pair of pitches:



While the relationship of musical and phonological pitch contour is highly constrained in settings of tone languages such as Chinese,[1] as a rule the correspondence of musical and phonological pitch contours is a secondary consideration for textsetting in the idioms with which we shall concern ourselves. Much narrower constraints are imposed by the requirements, exemplified in (1), of assigning "strong" metrical positions to "stressed" syllables. Our notation will reflect this fact.

The notation in (1c) and (1d) indicates a series of attack points and durations without pitch. Rhythm, however, does not exist solely in the events themselves but is a structure that experienced listeners infer from particular sequences of events. Although the two settings indicate identical series of durations, they signify two fundamentally distinct metrical structures: (1c) represents a "weak-strong" pattern, while (1d) is "strong-weak." It is the inferred structure of strong and weak events that listeners assign to patterns, rather than their acoustic organization, which interests us here. To capture the former, we shall follow Fred Lerdahl and Ray Jackendoff's *A Generative Theory of Tonal Music* (hereafter *GTTM*)[2] in assigning grid representations beneath conventionally notated series of attacks and durations.

The "Metrical Well-Formedness and Preference" rule system outlined in *GTTM* assigns the following grid structures to the patterns in (1c) and (1d):



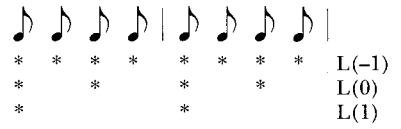
[1] Bell Yung, "The Relationship of Text and Tune in Chinese Opera," in *Music, Language, Speech, and Brain,* ed. Johan Sundberg, Lennart Nord, and Rolf Carlson (London: Macmillan, 1991), 408–18.

[2] Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music* (Cambridge: MIT Press, 1983), 68–104.

We shall not discuss the system of rules, outlined in *GTTM,* that motivate a listener's assignment of a grid to durational sequences.[3] It suffices to point out that intuitively based judgments are directly represented by (2a) and (2b), as opposed to the conventional notation in (1c) and (1d). There is no indication in (1c), for example, that the third eighth note of each measure is to be heard as stronger that the second and fourth.

A listener hears a musical surface as "having a beat" largely insofar as he can easily assign it a grid. Having done so, the listener will generally hear a single metrical level as most prominent. This level, defined in *GTTM* as the *tactus,* corresponds to what is informally spoken of as "the beat." It is in reference to this level that most activities carried out with musical accompaniment—such as dancing, jump-roping, and marching—are synchronized. A piece is heard as "in one," as opposed to "in two" or "in four," depending on where the tactus is located.

Given the perceptual prominence of the tactus, we suggest a notational refinement of the *GTTM* grid system by defining rhythmic levels in relation to it. The tactus will be considered level 0, or L(0), with levels above or below denoted by positive or negative integers. As shown in (3), smaller levels are assigned a numerically lower index, and larger levels are given a higher index:



Events that take place on multiple levels will be said to "occur on" or "be assigned to" the most prominent level on which they are situated. Thus, while the first and the second events in (3) both correspond to an L(–1) position, only the latter is assigned to level L(–1), for it is the largest level on which the second event occurs. The former is assigned to level L(1).

* * *

Having suggested a means for representing the hierarchy that a listener assigns to rhythmic events, we now turn to the corresponding problem of how to represent the linguistic hierarchy of strong and weak syllables embodied in the varying degrees of stress that a speaker assigns to words and phrases. In music, as pointed out above, metrically strong and weak

[3] Ibid.

beats are relative notions: an event may be strong in relation to a second event but weak in relation to a third. A similar situation obtains in language. While one tends to speak of a specific syllable of a word as being accented or strong, in practice most polysyllabic words or phrases are composed of two or more stressed syllables, some of which are more strongly accented than others. In the word "Ticonderoga," for example, the first syllable is weak compared to the fourth but strong relative to the third. As in the musical case, a grid representation accurately represents the stress hierarchy. Morris Halle and Jean-Roget Vergnaud present the following phonological grid for "Ticonderoga":[4]

			x		line (3)
x			x		line (2)
x	x		x		line (1)
x	x	x	x	x	line (0)
Ti	con	de	ro	ga	

The process by which a speaker derives a grid from phonological and morphological input is a subject of considerable discussion in the field of generative phonology,[5] and is therefore well beyond the scope of this paper. As with rhythmic settings, we are concerned not with how a grid is assigned but with the structure it represents. In the phonological grid, all syllables are assigned to a position on line(0) with unstressed syllables, realized in English by the reduced vowel sound "schwa," receiving an x only on this line. Stressed syllables receive x's above this level according to their degree of stress. Primary stressed syllables receive the highest column of x's on the grid.

Grid structures can be also be assigned, albeit less definitively, to larger linguistic units such as phrases, sentences and sequences of sentences. For example, a normal delivery of "Belgian farmers grow turnips" will manifest the following grid structure:[6]

					x		line (3)
		x			x		line (2)
x		x		x	x		line (1)
x	x	x	x	x	x	x	line (0)
Bel-	gian	farm-	ers	grow	tur-	nips.	

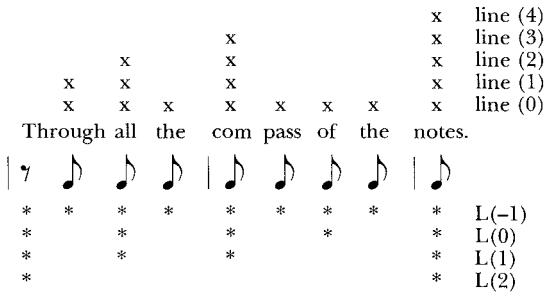
[4] Morris Halle and Jean-Roget Vergnaud, *An Essay on Stress* (Cambridge: MIT Press, 1987), 9.

[5] See, for example, Alan Prince, "Relating to the Grid" *Linguistic Inquiry* 14 (1983): 19–100, and Mark Liberman, *The Intonational System of English* (Dissertation at MIT, 1975).

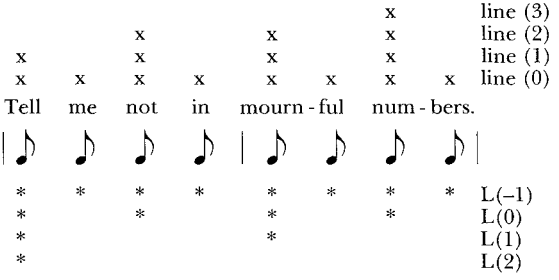
[6] Bruce Hayes, "The Phonology of Rhythm in English," *Linguistic Inquiry* 15 (1984): 35.

Within the limited idiom with which we are concerned at the moment, textsetting can be thought of as an attempt to achieve the best possible fit between the abstract structures representing rhythmic and linguistic surfaces.[7] We are now able to see precisely what this means. Plausible overlays of the phonological and metrical grids representing the poetic lines in (1) and their associated settings are shown in (4).

(4a)

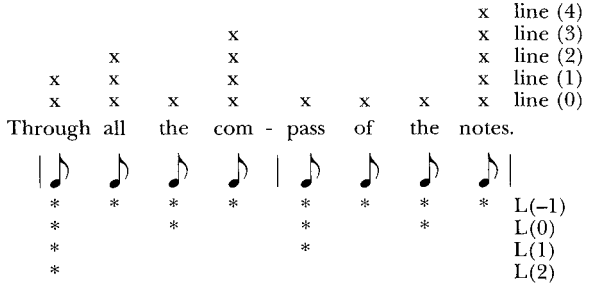


(4b)



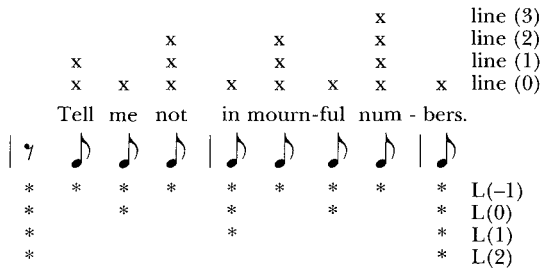
Next we present overlays corresponding to the unacceptable settings of the same utterances:

(5a)



[7] Fred Lerdahl and John Halle, "Some Lines of Poetry Viewed as Music" in *Music, Language, Speech*, 34–47.

(5b)



Our claim that acceptable settings match stressed syllables and strong beats is supported by (4) and (5). In detail, however, the prediction is not consistently borne out. For example, in (4a), the unstressed preposition "of" is assigned to a more prominent position in the metrical grid than the relatively stressed preposition "through." Similarly, the relatively stressed first syllable of "numbers" in (4b) is relegated to a weaker position than the relatively unstressed first syllable of "mournful."

To account for these discrepancies, we propose definitions limiting what is meant by a strong beat and a stressed syllable. Our definition of a strong beat follows from the observation that at larger metrical levels metrical intuitions become gradually attenuated (*GTTM*, 87). The "strong-weak" alternations at the eighth-note level L(–1) in (4) are perceptually more pronounced than at the half- or whole-note levels L(1) and L(2). The setting of "mournful numbers" to a strong-weak rhythmic sequence is acceptable because beats stronger than the tactus do not necessarily attract highly stressed syllables. We therefore adopt a binary classification of rhythmic positions into strong and weak beats, with strong beats defined as those falling on tactus level L(0) and larger, and weak beats as those falling on smaller levels.

The binary organization of metrical structure is reflected in the phonological grid by a distinction between two sorts of stressed syllables: those having primary or secondary stress, and those that are stressed but are not prominent in the phonological grid, such as "all" and "not" in (4). While stressed syllables can be assigned to relatively weak metrical positions, there is a pronounced tendency to situate relatively stressed syllables, specifically those receiving stress on line 2 or above, on strong metrical positions. We shall therefore refer to these relatively stressed syllables as accented. Relatively unstressed syllables, i.e. those receiving x's no higher than line 1, will be denoted as unaccented. We restate the relevant definitions:

Strong beats are those falling on level L(0) or larger on the metrical grid.

Accented syllables are those receiving stress on line 2 or above on the phonological grid.

The observation that in setting texts one tends to assign accented syllables to strong beats is now precisely defined: syllables are either accented or unaccented according to the height of their associated column on the phonological grid; metrical positions are either strong or weak according to their location in the metrical grid. This principle ignores the assignment of unaccented syllables, which may appear in either strong or weak musical positions, as evidenced by the placement of "of" in (4a). The prohibition against the appearance of certain types of stressed syllables in weak positions is mirrored in similar restrictions operative in poetic meters.[8]

* * *

Our inquiry might now continue in several directions. One possibility is to test and refine a system of textsetting rules based on compositional practice. We shall not explore this approach here, since in creating vocal music, composers are often interested in exploring unusual textsetting possibilities. Options that contradict basic impulses may be preferred by composers precisely because they are violations and hence are striking and unexpected. Given our empirical interest in an unambiguous application of basic textsetting principles, we prefer to examine a musical context in which the simplest solutions are encouraged, rather than rejected as too obvious.

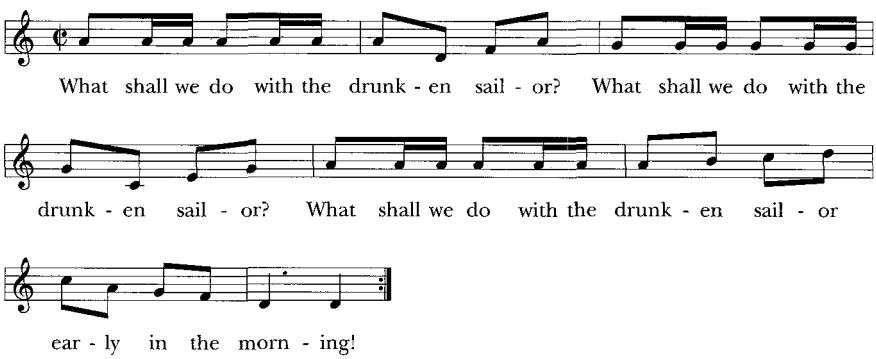
Group singing in church services, folk-song singalongs, jump-roping songs, work songs or marching chants offer controlled environments for studying basic textsetting intuitions. In such contexts, most of those present will know a tune and perhaps the first verse of the text, but often not the subsequent verses of the text, in which case they are listed beneath the first verse as if they were stanzas of poetry. Or, on occasion, new texts are shouted out by the leader immediately before the next verse is sung, with no specific indication as to how the music and text are to correspond. Quite frequently the "tune" that sets the first verse needs to be varied substantially from the original in order to accommodate successive verses. This essentially creative process can be left to the intuitions of even inexperienced singers, a group of whom can be relied on to produce settings that are sufficiently similar for the ensemble to sound together. The musi-

[8] Morris Halle and Jay Keyser, *English Stress: Its Form, Its Growth, and its Role in Verse* (New York: Harper and Row, 1968), 169.

cal variants created for successive stanzas are suggested by the structures of the texts, which, in conjunction with the maintenance of the structure of the tune, generate a preferred setting. All those singing have internalized the basic principles involved; otherwise the degree of uniformity would not be apparent.

The Anglo-American sea chanty *The Drunken Sailor*[9] is typical of the sort of material that might be performed in such contexts:

The Drunken Sailor



2. Put him in the guard room till he gets sober. (Three times.)
3. Keep him there an' make him bail her.
4. Trice him up in a runnin' bowline.
5. Tie him to the taffrail when she's yard-arm under.
6. Put him in the scuppers with a hose-pipe on him.
7. What shall we do with the Queen o' Sheba?
8. Keel-haul him 'til he's sober.
9. Give him a taste o' the bosun's rope-end.
10. Stick on his back a mustard plaster.
11. What'll we do with a Limejuice Skipper?
12. Soak him in oil till he sprouts a flipper.
13. Scrape the hair off his chest with hoop-iron razor.

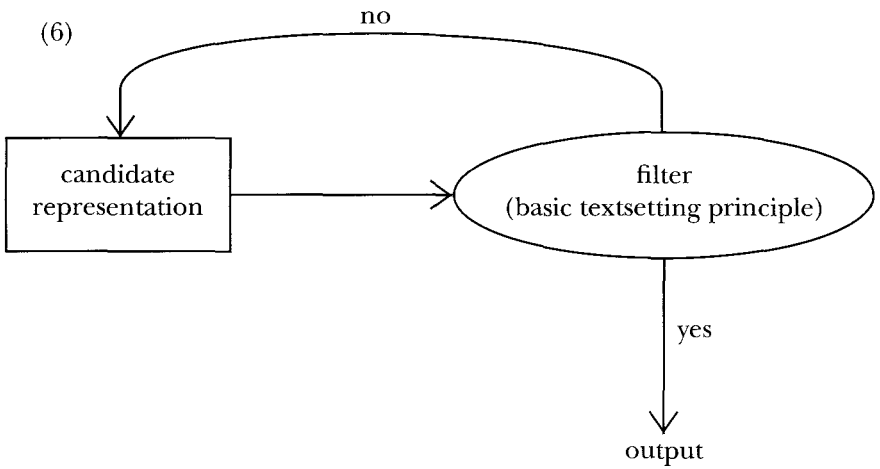
A basic component of this style is that each syllable must be set by one note. Thus, each of the verses having fewer than ten syllables must be set to melodies having fewer notes than the initial statement, while those with more than ten syllables can be accommodated only by settings having more than ten. The rhythm of the melody as initially presented must be altered substantially in order to accommodate the texts of ensuing verses.

---

[9] John Ashton, ed., *Real Sailor Songs* (London: Simpkin, Marshall, Hamilton and Kent, 1891).

As suggested in our previous discussion, however, only certain variants of the melody are judged as acceptable settings and are realized in performance. In a conventional textsetting environment like a sea-chanty, "accented syllables" (as defined above) must correspond with "strong beats" (as defined above). We shall refer to this procedure as "the basic textsetting principle." An explanation of the process by which singers generate tunes might take the form of (6): a candidate setting is generated, and then must pass through a filter which incorporates the intuitions defined by the basic textsetting principle.

(6)

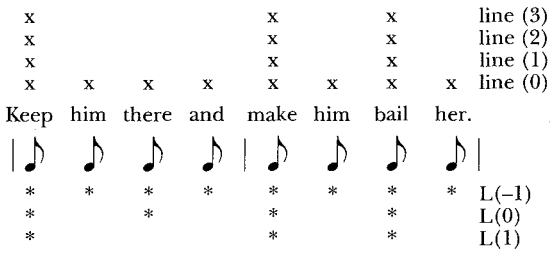


The filter passes through acceptable settings such as (7a) and (7b), but rejects unacceptable settings such as (7c).

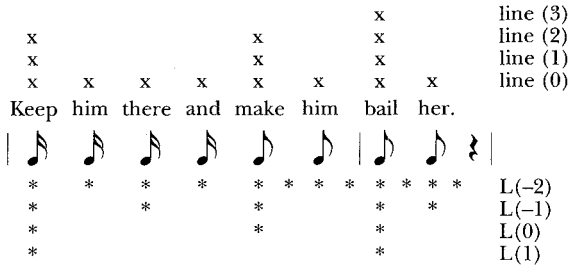
The theoretical framework implicit in (6) is flawed in two respects. First, as a constraint on the output it is inefficient: a class of inputs is generated and subsequently fed into the filter, which churns through the possibilities, rejecting most of them until an acceptable candidate is generated. The candidate (7c) is only one member of a large class that is rejected by the filter because of the assignment of "make" and "bail" to weak rhythmic positions. More serious, however, is that the filter also admits (7b), which is clearly an unnatural setting. A more effective approach is to devise constraints on the input to the filter, in addition to constraints on the output. Indeed, if sufficiently rigid constraints can be set on the generation of settings, the filter as represented in (6) will be unnecessary.

The most significant of these constraints derives from the paradigmatic tune that initially sets the opening stanza. As we have observed, literal maintenance of the rhythms of the paradigm makes it impossible to accommodate successive stanzas having different syllable counts from the

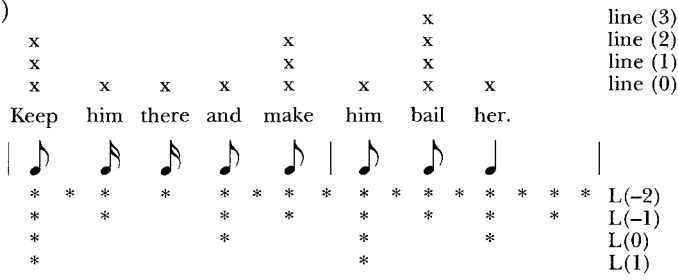
(7a)



(7b)



(7c)



initial stanza. The question is what specifically must be maintained from the paradigm. We propose that in hearing *The Drunken Sailor,* one derives a metrical grid that generates a finite repertoire of rhythmic sequences to which all settings are subsequently made to conform. The principal characteristics of this grid are defined by what will be referred to as Metrical Well-Formedness Rules (hereafter MWFRs).

The first two of such rules are general conditions that apply to the geometry of metrical grid structures. MWFR 1, which states that a beat on any level is also a beat on all smaller levels, prohibits structures such as the following which, while perhaps signifying the disposition of voices in a contrapuntal texture, do not represent a metrical hierarchy:

```
*   *           *   *   *   L(x)
    *       *               L(x+1)
        *           *       L(x+2)
```

MWFR 2, which requires equally spaced beats, assumes periodicity as a necessary condition for the perception of metrical structure. While acoustical events may not exhibit a perfect regularity, the beats to which they correspond must be understood as functionally equidistant.

MWFRs 3, 4, and 5 refer to specific characteristics of the paradigmatic grid for *The Drunken Sailor* settings. As remarked earlier, one level of the rhythmic hierarchy—the tactus level L(0)— defines a "beat," in reference to which physical activities tend to be choreographed. A basic characteristic of *The Drunken Sailor* is that each line is set by a sequence of durations containing four strong beats. The line is then repeated twice, maintaining intact the durational sequence and its associated four-beat grid. Subsequent settings of new stanzas, while departing significantly from the initial sequence, always maintain the framework of these four beats (as indicated in MWFR 3). The reader can confirm this by performing the song with all the verses and tapping at the intuitively most natural points.

The second constraint on *The Drunken Sailor* grids follows from the observation that triple rhythms (triplet-quarter or -eighth notes) are excluded from consideration as settings for these verses. While ternary subdivisions are of course possible in principle, we restrict ourselves to generating settings that contain exclusively binary subdivisions (as stated in MWFR 4): sixteenth, eighth, quarter, half notes—never triplets or dotted rhythms.

A final constraint on grids expresses the acoustical or physiological fact that the intonation of a syllable requires some minimal duration to be either understood by a listener or managed by the speaker (or singer). Hence MWFR 5 states that no event may be situated on a metrical level L(x) where x 2. This excludes settings that make use of units less than the sixteenth note in the above transcriptions. For convenience we restate MWFRs 1–5:

MWFR 1. A beat on any level is also a beat on all smaller levels.

MWFR 2. All levels consist of equally spaced beats

MWFR 3. All *Drunken Sailor* grids must contain exactly four L(0) beats.

MWFR 4. In *Drunken Sailor* grids, beats on L(x) are equally subdivided by one beat at L(x-1).

MWFR 5. No event may be situated on a metrical level L(x) where x 2.

MWFRs 1–5 combine to produce a paradigmatic grid (8) which constrains possible rhythmic settings.

(8) Paradigmatic Metrical Grid

```
* * * * * * * * * * * * * * * *   L(-2)
*   *   *   *   *   *   *   *   *   L(-1)
*       *       *       *       *   L(0)
```

The larger rhythmic levels L(1) and L(2) are omitted from (8) because these exert a negligible influence on normal textsetting, for reasons previously discussed. We claim that the paradigmatic metrical grid expresses the form in which relevant metric information derived from the initial statement of the tune is represented in the listener's memory. The possible class of rhythmic sequences generated from the paradigmatic grid constitutes the specifically musical input into the model.

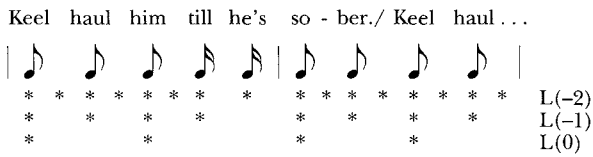
The other input comes from the phonological structure of the text as it is represented in the phonological grid. Our next group of well-formedness conditions consists of constraints on the mapping of phonological to rhythmic events. We shall refer to these as Textsetting Well-Formedness Rules (hereafter TWFRs). TWFR 1 expresses an observation made above, namely that in all settings, each syllable is associated with a beat on some level of the grid.

Although TWFR 1 prohibits parts of syllables from being associated with specific beats (a practice that exists in the Inuit idiom discussed by Jean-Jacques Nattiez and Bruce Bagemihl[10]), it does not prohibit more than one beat from being assigned to a given syllable. A syllable extends across subsequent beats until the next syllable is attacked, a process described by TWFR 2.

TWFRs 1 and 2 require that *The Drunken Sailor* settings are a continuous stream of musical events without rests. This mirrors normal human speech, which is in fact usually a continuum of sound, though represented both in the speaker's mind and in writing systems as discrete structures (i.e. words). In reality, the situation is somewhat more complicated: practical considerations such as the singer breathing, and aesthetic considerations such as accenting a particular syllable for a particular effect will lead to a disruption of the sonic continuum. These performance factors have a negligible influence on the relative acceptability of particular settings and need not concern us here.

[10] Jean-Jacques Nattiez, "Some Aspects of Inuit Vocal Games," *Ethnomusicology* 27 (1983) 457–75, and Bruce Bagemihl, "The Morphology and Phonology of Katajjait (Inuit Throat Games)," *Canadian Journal of Linguistics* 33 (1988), 1–58.

Finally, we state the requirement that, since each line of text is repeated twice, each repetition must be synchronized with the renewed onset of the four-beat grid. A setting that imposes a line boundary before the completion of the metrical grid is rejected as a violation of TWFR 3, which re-quires that each line of text occupy the full extent of the paradigmatic grid. One such case is the following:



This setting is a violation of TWFR 3. We restate all TWFRs in sequence:

TWFR 1. In all settings, each syllable is associated with a beat on some level of the grid.

TWFR 2. Each syllable occupies the entire time span up to, but not including, the beat corresponding to the onset of the successive syllable.

TWFR 3. Each line of text must occupy the full extent of the paradigmatic grid.

We now have at our disposal rules that constrain both acceptable rhythmic sequences and possible mappings between syllables and rhythms. Unlike the textsetting model invoked in (6), these constraints ensure a limited input. Next we propose an algorithm (9) that, in conjunction with well-formedness conditions, assigns a unique setting to texts.

(9) Textsetting Algorithm

Step 1. Assign all accented syllables to available L(0) beats from left to right.

Step 2. Assign syllables to L(–1) beats from left to right.

Step 3. Assign syllables to L(–2) beats from left to right.

Let us apply these three steps to the second stanza, "Stick on his back a mustard plaster." A natural rendition of the line admits of the following phonological grid representation:

```
                                x                       line (4)
                        x       x       x               line (3)
x                       x       x       x               line (2)
x                       x       x       x               line (1)
x   x   x   x   x   x   x   x   x   x   x               line (0)
Stick on his back a mus - tard plas - ter.
```

According to above definition 2 above, the phrase has four accented syllables. Step 1 mandates that each of these must be assigned an L(0) beat:

```
Stick ___ ___ back __ mus ___ plas ___.
  *           *       *       *        L(0)
```

MWFR 1 then requires each L(0) beat to be assigned a beat on L(–1):

```
Stick ___ ___ back __ mus ___ plas ___.
  *           *       *       *        L(–1)
  *           *       *       *        L(0)
```

The binary subdivision requirement, MWFR 4, mandates four additional L(–1) beats:

```
Stick ___ ___ back __ mus ___ plas ___.
  *   *       *   *   *   *   *   *    L(–1)
  *           *       *       *        L(0)
```

Step 2 in the algorithm instructs us to assign these beats to the remaining syllables from left to right. This means that we give the leftmost unassigned syllable a beat on this level:

```
Stick on___ back a mus - tard plas - ter.
  *   *       *   *   *   *   *   *    L(–1)
  *           *       *       *        L(0)
```

Finally, MWFR 1 requires L(–2) beats above all L(–1) beats:

```
Stick on ___ back a mus - tard plas - ter.
  *   *       *   *   *   *   *   *    L(–2)
  *   *       *   *   *   *   *   *    L(–1)
  *           *       *       *        L(0)
```

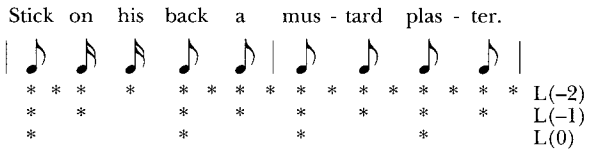
MWFR 4 requires eight additional L(–2) beats:

```
Stick on___ back a   mus - tard   plas - ter.
  *   *   *   *   *   *   *   *   *   *   *   *   L(–2)
  *   *       *   *   *       *       *       *   L(–1)
  *           *       *               *           L(0)
```

Step 3 assigns an L(–2) beat to the remaining syllable "his":

```
Stick on  his  back a   mus - tard  plas - ter.
 *  *  *   *    *  *  *  *  *  *    *  *    *  *  L(–2)
 *     *        *     *     *       *       *     L(–1)
 *              *           *       *             L(0)
```

Translation into conventional rhythmic notation completes our derivation, which is an appropriate setting of the text:



The above stanza is unproblematic because step 1 assigns four L(0) beats unambiguously to the four strong syllables. More problematic is the second verse, "Keep him there and make him bail her." To make the derivation more difficult, and hence produce a more demanding test for the algorithm, we take "there" to be unstressed, yielding the following stress grid:

```
                                  x        line (3)
x                       x         x        line (2)
x                       x         x        line (1)
x   x   x   x   x   x   x   x    line (0)
Keep him there and make him bail her.
```

Applying step 1 of the textsetting algorithm, we assign L(0) beats first to accented syllables:

```
Keep ___ ___ ___ make ___ bail ___.
 *                *       *        L(0)
```

MWFR 2 assigns L(–1) beats as follows:

```
Keep ___ ___ ___ make ___ bail ___.
 *                *       *        L(–1)
 *                *       *        L(0)
```

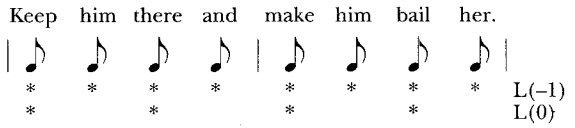
As there are no stressed syllables beyond these three, we proceed to step 2, which assigns L(–1) beats from left to right to the remaining syllables:

```
Keep him there and make him bail her.
 *    *    *   *    *    *    *    *   L(–1)
 *                *         *         L(0)
```

MWFR 3 requires four L(0) beats, which, according to MWFR 4, must be separated by one L(–1) beat. The only organization fulfilling this condition is:

Keep	him	there	and	make	him	bail	her.	
*	*	*	*	*	*	*	*	L(–1)
*		*		*		*		L(0)

Assigning appropriate durational values correctly completes the derivation:



Next we derive a setting for verse eight, a line having only two accented syllables:

					x		line (3)
x					x		line (2)
x	x				x		line (1)
x	x	x	x	x	x	x	line (0)
Keel -	haul	him	till	he's	so -	ber.	

Proceeding from left to right, we assign next L(0) beats as follows:

Keel -	___	___	___	___	so -	___.	
*					*		L(0)

Next we distribute L(–1) beats from left to right to the remaining syllables:

Keel -	haul	him	till	he's	so -	ber.	
*	*	*	*	*	*	*	L(–1)
*					*		L(0)

Now we assign the remaining L(0) beats required by MWFR 3. No possible assignment of L(0) beats can be derived that respects the binary spacing condition MWFR 4, as can be seen in (10).

(10a)

Keel -	haul	him	till	he's	so -	ber.	
*	*	*	*	*	*	*	L(–1)
*	*		*		*		L(0)

(10b)

Keel -	haul	him	till	he's	so -	ber.	
*	*	*	*	*	*	*	L(–1)
*		*		*	*		L(0)

An L(–1) beat must be interposed to achieve metrical well-formedness. We need to propose a rule that allows for the interposition of an additional L(–1) beat in particular environments. As has been noted by phonologists for some time,[11] two adjacent, or nearly adjacent, stressed syllables present a "stress clash," which tends to be resolved by the speaker's application of the "rhythm rule": primary stress is deleted from the first of the two adjacent stressed syllables and shifted leftwards to a previous stressed syllable. Well-known examples of this phenomenon are shown in (11).

(11) The Rhythm Rule

		x			x	line (3)
	x	x		x	x	line (2)
x	x	x		x	x x	line (1)
x	x	x		x	x x	line (0)
thirteen	+	men	*becomes*	thirteen	men	

		x			x	line (3)
	x	x		x	x	line (2)
x	x	x		x	x x	line (1)
x x x x		x		x x x x	x	line (0)
Mississippi	+	Mike	*becomes*	Mississippi	Mike	

In textsetting, stress clashes may be reduced in certain contexts by application of the rhythm rule. That is, the stress grid is altered and a setting is derived based on the altered stress grid. More common, however, is the alleviation of the clash by actual temporal separation of the two adjacent stressed units. In (10b), the stress clash between "keel" and "haul" provides the opportunity of achieving a well-formed grid by the insertion of an additional L(–1) beat between the two syllables. We therefore propose the following:

Beat Addition Rule: An L(–1) beat may be interposed between two stressed syllables in order to achieve a well-formed grid.

The parenthesized asterisk at level L(–1) is interposed in the environment specified in the Beat Addition Rule, achieving the desired setting:

Keel	-	haul	him	till	he's	so	- ber.	
*(*)		*	*	*	*	*	*	L(–1)
*		*		*		*		L(0)

[11] Morris Halle and Noam Chomsky, *The Sound Pattern of English* (New York: Harper and Row, 1968), 117.

It is worth noting in passing that the Beat Addition Rule needs to be expanded to deal with lines that lack adjacent stressed syllables, such as the construct:

Sha - ckle him till he's so - ber.
* * * (*) * * * * L(–1)

Another expansion of the rule would account for lines having three consecutive stressed syllables, such as:

Keel - haul John till he's so - ber.
* * * (*) * * * * L(–1)

While the Beat Addition Rule, as we have formulated it, makes no prediction, in these cases, L(–1) beats are interposed after the direct objects "him" and "John." This appears to indicate a preference for dividing the sentence into what linguists refer to as major *syntactic units*—in this case, the *verb phrases* ("Shackle him" and "Keel-haul John") and the *prepositional phrase* ("till he's sober").[12]

* * *

The above rule system generates acceptable settings for most verses of *The Drunken Sailor* texts. Two verses, however, remain problematic. We turn first to verse thirteen with its associated stress grid:

								x											x					line (4)
								x											x					line (3)
				x				x					x						x					line (2)
	x			x				x					x		x				x					line (1)
	x		x		x		x		x		x	x		x		x		x		x		x		line (0)
Scrape	the	hair	off	his	chest	with	a	hoop	i	-	ron	ra	-	zor										

Step 1 assigns L(0) beats to accented syllables:

Scrape the hair off his chest with a hoop i-ron ra-zor.
* * * * L(0)

Having exhausted the four L(0) beats, we assign L(–1) beats from left to right in accordance with MWFRs as follows:

Scrape the hair off his chest with a hoop i-ron ra-zor.
* * * * * * * * L(–1)
* * * * L(0)

[12] Hayes, "The Phonology of Rhythm," 69.

Assigning musical notation, we achieve the following setting:

MWFR 3 has not been violated: the setting contains four L(0) beats, and each L(0) beat is appropriately separated in accordance with RWFR 4. But our statement of their being a single paradigmatic grid in (8) was oversimplified; the MWFRs permit three additional paradigmatic grids:

(12a)

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	L(–2)
	*		*		*		*		*		*		*		L(–1)
			*				*				*				L(0)

(12b)

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	L(–2)
*		*		*		*		*		*		*			L(–1)
		*				*				*					L(0)

(12c)

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	L(–2)
	*		*		*		*		*		*		*		L(–1)
	*				*				*				*		L(0)

These alternate forms of the paradigm are employed in cases where the first syllable is unstressed, followed by a stressed but unaccented syllable (12a); a stressed but unaccented syllable (12b); or an unstressed followed by an accented syllable (12c). Each requires that following the final strong beat, there is either (a) no syllable, (b) one syllable or (c) two syllables.

With the exception of verse thirteen, "Scrape the hair off his chest with a hoop iron razor," all verses begin with an accented syllable and hence are not assigned any of the alternate paradigmatic grids in (12). It is easy, however, to construct texts that must be set by one of the alternate forms, with (13a) corresponding to (12a), and (13b) to (12c):

(13a)

														x	line (4)
							x							x	line (3)
				x			x				x			x	line (2)
		x		x			x				x		x	x	line (1)
x		x		x		x	x		x	x	x		x	x	line (0)
We'll		scrape		the		hair	off		his		chest		with	a	hoop

							x			line (3)
		x				x		x		line (2)
		x				x		x		line (1)
	x	x	x	x	x	x	x	x	x	line (0)
	Re -	lease	him	there	and	make	him	bail	her.	

Finally, we turn our attention to verse two, which, while having four stressed syllables, is not assigned the appropriate setting by the algorithm. We assume the stress grid:

```
                                        x       line (3)
x               x               x   x       line (2)
x               x       x       x   x       line (1)
x   x   x   x   x       x   x   x   x   x   line (0)
Put him in the guard room till he gets so - ber.
```

Step 1 assigns the L(0) beats:

```
Put him in the guard room till he gets so-ber.
 *               *               *   *    L(0)
```

Yet the preferred setting is:

```
Put him in the guard room till he gets so-ber.
 *               *               *       *    L(0)
```

The probable solution involves stress retraction effected by the rhythm rule referred to above. In the first setting, a clash is produced by the adjacent stressed syllables "gets" and "sob-," but the rule shifts the main stress to "he":

```
                                        x       line (3)
x               x               x       x       line (2)
x               x       x       x   x   x       line (1)
x   x   x   x   x       x   x   x   x   x   x   line (0)
Put him in the guard room till he gets so - ber.
```

This grid will be seen to result in the acceptable setting is notated as follows:

Put him in the guard room till he gets so - ber.

Under normal linguistic circumstances indicated in the assumed phonological grid for the above line, the rhythm rule would not be invoked. Textsetting, as a rhythmicization and melodicization of normal speech, is not a normal linguistic environment. More flexibility in the application of particular phonological rules, particularly those producing "euphony," is to be expected.

* * *

The textsetting algorithm that we have used to generate settings for the verses of one song has a far wider range of application than may appear at first sight. In particular, for those idioms referred to by R.T. Oerhle as

"metrically rigid"[13]—whether specifically poetic as in the case of nursery rhymes and jump-roping songs, or musical as in the case of rap music—modified versions of the algorithm can be advanced that generate more or less plausible normative settings. Also worth investigation is the role of these normative settings in constraining the choices of composers, either positively or negatively, in confirming or overturning listeners' expectations for the "most natural" correspondence of text and tune.

Appropriately extended versions of the algorithm can assign metrical structure to texts that are not normally intoned in a metrically rigid fashion. This inquiry may therefore shed light on prosodic idioms that have remained problematic from the standpoint of traditional prosodic theory. Foremost among these are blank verse as practiced by Donne, Milton and Shakespeare, as well as Hopkins' highly abstruse Sprung Rhythm, discussed recently by Paul Kiparsky.[14] A further expansion might involve an application to the intonational structure of phrases within normal speech, in order to explain a speaker's highly subtle intuitions with respect to the "rhythms of speech" that form a significant component of his unconscious knowledge of his language.

ABSTRACT

Formalisms borrowed from generative music theory and generative phonology are employed to represent abstract structures underlying textsetting. An algorithm is then advanced which is shown to produce appropriate settings for a well-known strophic song.

[13] R.T. Oerhle, "Temporal Structures in Verse Design," in *Phonetics and Phonology, Rhythm and Meter*, ed. Paul Kiparsky and Gilbert Youmans (San Diego: Academic Press, 1989), 87–119.

[14] Paul Kiparsky, "Sprung Rhythm," in *Phonetics and Phonology*, 305–40.

Critical Perception and the Woman Composer: The Early Reception of Piano Concertos by Clara Wieck Schumann and Amy Beach*

By Claudia Macdonald

In 1835–38 Clara Wieck played her Piano Concerto in A minor, Op. 7 in all the major German-speaking music centers. In 1900–17 Amy Marcy Cheney (Mrs. H.H.A.) Beach played her Piano Concerto in C♯ minor, Op. 45 throughout Germany and the United States. Audience reaction to the early performances of both works was favorable, but the critics were not sympathetic. Each composer was keenly aware of the factors contributing to this dichotomy in reception and wrote or spoke revealingly about it. For each, her concerto was an important vehicle for performance: Wieck saw herself primarily as a performer; Beach, as both performer and composer. Clearly, the two works occupy different historical positions: Wieck's is decidedly avant-garde, particularly with regard to form and motivic development; Beach's, while using a modern harmonic language and piano technique, relies more heavily on received tradition. But they are alike in that each incorporates what I shall call performance-oriented gestures, a harmonic freedom and thematic richness that allow the soloist to project a sense of the improvisatory. Each composer was aware of the disfavor with which these gestures were viewed by critics, who, as we shall see, demanded in large genres a traditional sort of overarching, rational control. Nevertheless, the diffuseness that may result from such performance-engendered gestures is not a compositional weakness, but a potential strength that both Wieck and Beach exploited. Audiences responded favorably, yet plaudits from critics were forthcoming only when Wieck and Beach were considered primarily in their roles as performers, the more traditional vocation for women, rather than as composers.

Wieck and Beach were not alone in their exploitation of performance-oriented gestures. Such gestures abound in concertos by Liszt and Rachmaninov, to mention just one illustrious contemporary of Wieck and Beach, respectively. But even recent critics, while apparently accepting the aes-

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thetic validity of such gestures in concertos by these male counterparts,[1] as we shall see, tend to deny it in those by Wieck and Beach. Compositional decisions by male composers are for the most part accounted for as conscious intellectual decisions (despite whatever absolute worth is imputed to the particular work in question), whereas for Wieck or Beach, as is often the case with female composers of the nineteenth or early twentieth century, they are more often attributed to natural ability rather than developed skill. For illustrations of this point we need only turn to *The New Grove Dictionary*. Pamela Susskind characterizes Wieck's Concerto as "remarkably effective for a 15-year old," which suggests to me that the effectiveness is an anomaly rather than an expectation based on the girl's thorough musical training and broad exposure to the musical world. There is no reference to the work's remarkable novelty. On the other hand, Wieck's contemporary Henri Litolff (1818–91), who also performed his own concertos (works that, like hers, have long since fallen out of the repertory), is cited by Ted M. Blair for his "*concerto symphonique* conception," a "term [representing] a new attitude towards the broadening of the Classical keyboard concerto form." Blair emphasizes the novelty of Litolff's music rather than evaluating it, though to this listener his music seems rather pedestrian and at times, especially in the Third and Fourth Symphonic Concertos, even trivial. Beach's style is described by Judith Tick as "elaborate and inventive rather than concise, relying on a natural gift for melody," which suggests that Beach relies on a native inventiveness rather than any intellectual discipline that is, I believe, associated with the word "concise." By contrast, Margery Morgen Lowens claims that Beach's contemporary Edward MacDowell (1861–1908) "worked most comfortably with homophonic textures," not because of a natural gift but "in spite of his thorough schooling in counterpoint."[2]

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[1] On Liszt, see György Kroó, "Gemeinsame Formprobleme in den Klavierkonzerten von Schumann und Liszt," in *Robert Schumann. Aus Anlass seines 100. Todestages*, ed. Hans Joachim Moser and Eberhard Rebling (Leipzig: Breitkopf and Härtel, 1956), 140–43; on Rachmaninov, David Brown, "The Concerto in Pre-Revolutionary Russia," in *A Companion to the Concerto*, ed. Robert Layton (New York: Macmillan, 1989), 197–201 ("Rachmaninov"). Kroó discusses only motivic variation in Liszt's concertos. Without exploring any other aspects of these works Kroó concludes they provided a solution to problems presented by new forms calling for a "new type of connection of the individual movements to each other." Brown, while admitting Rachmaninov's compositions are "bluntly sectional," argues on the basis of primarily one parameter, motivic content, that his finest works nevertheless display "an expressive totality."

[2] *The New Grove Dictionary of Music and Musicians*, s.v. "Schumann, Clara (Josephine)," by Pamela Susskind, vol. 16, 828; s.v. "Litolff, Henri (Charles)," by Ted M. Blair, vol. 11, 82; s.v. "Beach, Amy Marcy Cheney," by Judith Tick, vol. 2, 318; s.v. "MacDowell, Edward," by Margery Morgen Lowens, vol. 11, 420.

Within the discipline of its larger design the concerto admits a quasi-improvisatory freedom in the brilliant technical writing for the solo instrument. In this study I shall defend the performance-oriented gestures that embody this freedom as essential parts of the design in Wieck's and Beach's concertos, even though these gestures may well have been born of an instinctive sense gained through experience of what is effective before an audience. Both women pointed to the audience appeal of their pieces—due arguably to these performance-oriented gestures—whenever defending them. The socialization of Wieck and Beach as proper middle or upper-middle class (albeit professional) women of the last century seemed to have impressed upon them that their strengths lay not in the intellectual challenge of composition, but in the talent of performance. Wieck wrote in 1839, "A woman must not desire to compose. . . . It would be arrogance."[3] Three generations later, Beach was more secure than Wieck in her role as a composer. Still, when interviewed she usually spoke of her work not merely as a composer but also as a pianist. In her own words, "I am a dual personality and lead a double musical life."[4]

The concertos I have chosen for this study are among the best composed by women in the nineteenth century. I have excluded a Concertstück (1888) by Cécile Chaminade because its reception was primarily in France and hence involved a tradition different than the German or German-based one that Wieck and Beach faced. There are, however, a number of underlying similarities in the reception history of the three concertos. Chaminade had great success performing her Concertstück at the turn of the century in French-speaking Europe, England, then in America, even though today it is no longer heard on the concert stage. Initial critical reception was favorable overall, but reviewers from at least as early as 1908 to the present have contemptuously associated Chaminade's music with the drawing room. The matter of her sex was ever-present in evaluations of her music and at times related to a perception that her compositions were superficial, a prejudice she decried.[5]

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[3] Susskind, "Schumann, Clara," 829. The citation is a diary entry from 1839.

[4] Harriette Brower, "A Personal Interview with Mrs. H.H.A. Beach, American Composer-Pianist," *The Musical Observer* 12 (May 1915), 273.

[5] See Marcia J. Citron, *Cécile Chaminade: A Bio-Bibliography* (New York: Greenwood Press, 1988), 7–10, 21–25. In *New Grove* Chaminade's entire oeuvre is summed up in one sentence, "Notwithstanding the real charm and clever writing of many of Chaminade's pieces they do not rise above drawing-room music" (Gustave Ferrari and Jean Mongrédien, s.v. "Chaminade, Cécile [Louise Stéphanie]," vol. 4, 125).

Clara Wieck gave the first complete performance of her Concerto on 9 November 1835 in Leipzig.[6] Robert Schumann reported on the concert in one of his "*Schwärmbriefe*" ["Musing Letters"] that appeared in the *Neue Zeitschrift für Musik*. The letter begins with a poetic description of the first movement:

> The first strains that we heard flew before us like a young phoenix fluttering upwards. Passionate white roses and pearl lily cups leaned down, orange blossoms and myrtle nodded above, and between them, alders and weeping willows threw their melancholy shadows. In their midst, however, a girl's radiant face bobbed and searched for flowers to make a wreath.[7]

The movement transports Schumann to another world. He sees a girl, wandering in a dream landscape, plucking flowers to form a floral wreath. The flowers seem to represent individual musical ideas, perhaps the immediate products of the imagination, and the wreath the mastery of form necessary to weave these into a complete musical composition. Elsewhere, for example in the "Musikalische Haus- und Lebensregeln," Schumann similarly distinguished between "poetic fancies" produced by a lively imagination alone, and "mastery of form" that must be acquired. He writes:

> If heaven has conferred upon you a lively imagination, likely in solitary hours you will often sit at the piano as if spellbound. . . . Beware, though, lest you give yourself over too often to a talent that will tempt you to waste time and energy, as it were, on poetic fancies [*Schattenbilder*]. You will gain mastery of form [*Form*], force of clear formulation [*Gestaltung*] only through the permanent testimony of writing.[8]

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[6] The closing movement, which was completed earlier, was performed by Wieck on 5 May and 11 September 1834 in Leipzig and on 26 November 1834 in Magdeburg. For a brief history of the Concerto, including Robert Schumann's involvement in its composition, see Nancy B. Reich, *Clara Schumann: The Artist and the Woman* (Ithaca: Cornell University Press, 1985), 239–41.

[7] *Neue Zeitschrift für Musik* (hereafter *NZfM*) 3, no. 46 (8 December 1835): 182. All translations are my own.

[8] *Gesammelte Schriften über Musik und Musiker*, 2nd ed. (Leipzig: Georg Wigand, 1854; rpt., Leipzig: Brietkopf & Härtel, 1985), IV, 302–03.

Schumann thereafter becomes more critical in his description of the first movement of the Concerto:

> Often I saw skiffs floating boldly over the waves, and only a master hand at the tiller—a tautened sail was lacking that they might cut across the waves as quickly and victoriously as they did safely. Thus I heard here ideas that often had not chosen the proper interpreter [*Dolmetscher*] so as to shine in their complete splendor, but the fiery spirit that drove them on, and the longing that directed them, finally carried them securely towards their goal.

The individual musical ideas are no longer flowers but skiffs sailing toward a goal. The emphasis is no longer on the individual sounding of these ideas, but the directing of them. Musical ideas, even those that evoke pastoral scenes, cannot just exist; they must be purposefully pulled into place. Musical content needs to be shaped forcibly into proper form. Ideas or content needs, as Schumann writes when he drops the metaphors, a "proper interpreter," or to express it more accurately in this context, an exegete. That Wieck did not propel her fiery musical inspiration toward a clearly discernable goal was, for Schumann, a shortcoming of her composition.

One feature that may account for Schumann's discomfort is the harmonic flux of the passagework areas in the exposition. The modulation toward the key of the second subject is not prepared, but comes suddenly at the end of the transition; the closing group does not confirm the key of the second subject, but instead leaves it immediately and moves toward the key opening the development (see table 1). Both passages have a wonderfully improvisatory quality. Neither prepares the listener for the ultimate point of harmonic arrival until the very moment of that arrival. Though Schumann's poetic review gives no technical details about the Concerto, it seems that his taste was too conservative to bear such uncertainty. The quality he seems to have missed in Wieck's composition was the "beauty of form" that he found so "admirable" in the compositions of Mozart and Johann Nepomuk Hummel, and which only a few months after he heard Wieck's Concerto he praised in the young E. Hermann Schornstein's Concerto in F minor, Op. 1. Schornstein, he said, possessed a "native sense of proportion [*Verhältniß*] and unity."[9]

When the Concerto appeared in print just over a year later, in January 1837, Schumann turned over the task of reviewing the publication to Carl

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[9] "*Pianoforte. Concerte,*" review of first Concerto, by E. Hermann Schornstein, *NZfM* 4, no. 17 (26 February 1836): 71. Schornstein (1811–82) was a pupil of Hummel.

Table 1
Outline of Wieck, Piano Concerto, first movement

Tutti		principal theme twice (1–8, 9–16)	A minor
Solo	Introduction	free cadenza, with tutti interjections (17–37), derived from principal theme	A minor, cadence on V
	First group	*risoluto*, principal theme variant (38–45)	A minor, cadence on v
		second theme foreshadowed (46–57)	A minor, cadence on V
	Transition	arpeggio passagework (57–65)	over V & I $\frac{6}{4}$ of A minor, ending on C major (64–65)
	Second group	second theme (66–74)	F major
	Closing group	scalar passagework (75–91)	F major, A minor (77), C major (80), E minor (82), G major (85), V of A♭ (90)
Solo	Development	principal theme variants (92–111)	modulatory
		retransition (112–29)	over V of E
Tutti	First group (truncated)	derived from principal theme (130–37, comparable to 28-31); principal theme variant (138–41)	E major
	Bridge	derived from principal theme, ending with piano solo (142–46)	modulation to V of A♭

Ferdinand Becker, a regular contributor to the *Neue Zeitschrift* who was normally assigned to review organ music.[10] He explained to Becker that his own position in the matter was awkward, due to the violent opposition of Wieck's father, Friedrich, to the romantic attachment that had developed between Wieck and himself since late 1835.[11]

Becker's review was complimentary but superficial. He wrote that to his knowledge Wieck was the first young woman to have composed a piano concerto.[12] She acquitted herself well, for the Concerto entertains the music lover, satisfies the connoisseur, and displays the performer's virtuosity. "If the name of the female composer were not on the title," he continued, "one would never think that it was written by a woman." Curiously, however, his review emphasizes that it is by a woman, since the beginning expounds on recent attempts by women musicians to equal or surpass men. Asked by an imaginary reader whether astonishment at the sex of the composer is "really the way to judge a work," Becker responded "of course, since in this case there can be no question of a review [*Recension*, which is to say, critique]" because the composer is a woman, it is her first work in the genre, and it is excellent. Only within the nicety of quotation marks did Becker allow his imagined reader, not himself, to venture more specific criticism in the form of a query:

> But will you . . . say nothing at all about the oft-used diminished seventh chords, about the finale—which, by its measure count, is longer than the two preceding movements—about the singular connection in writing the Allegro in A minor, the Romanze in A♭ major and the finale again in A minor?[13]

Becker assured his putative reader that there was nothing further on which to remark, adding only that "perhaps many people would like to know how fast the [long] last movement must be played."

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[10] On Becker, see Leon B. Plantinga, *Schumann as Critic* (New Haven: Yale University Press, 1967, rpt, New York: Da Capo, 1976), 39n., 55, 58, 84.

[11] Letter of 10 February 1837. See *Robert Schumanns Briefe. Neue Folge*, ed. F. Gustav Jansen, 2nd ed. (Leipzig: Breitkopf & Härtel, 1904), 85.

[12] Among Wieck's predecessors is Joseph Czeny's student Léopoldine Blahetka (1811–87), who performed two piano concertos of her own composition in Vienna, one in B minor (first movement) on 6 March 1825, and another in E minor on 29 March 1829 (*Allgemeine musikalische Zeitung* 27, no. 15 [13 April 1825]: col. 240; and 31, no. 20 [20 May 1829]: col. 328). I have no information showing that either concerto was published, but she did publish a Concertstück for piano and orchestra, Op. 25 in about 1835.

[13] Carl Ferdinand Becker, "*Concerte für das Pianoforte*," review of first Concerto by Clara Wieck, *NZfM* 6, no. 14 (17 February 1837): 56–57.

Becker pointed out but did not evaluate Wieck's "singular" use of A♭ major for the second movement. In this he was not alone. A critic writing for the Viennese *Allgemeiner musikalische Anzeiger*, like Becker, noted that the key of the middle movement was "bound to cause surprise" [*befremden muß*]. But, he reasoned, "Women are moody." Further, "if in their cherished domestic and matrimonial circumstance the daughters of Eve would make no other, larger leaps [*Sprünge*], deviations or evasions [*Ab- oder Ausweichungen*] than such a teensy half step, then everything would be just fine."[14] Both Becker and the Viennese critic approached the score with the preconceptions of learned critics rather than with the ears of receptive listeners more attuned to the musical experience itself.[15] To register shock alone at the appearance of A♭ major within the context of A minor is to miss Wieck's point, which is in fact highly original in its exploitation of that very shock value.

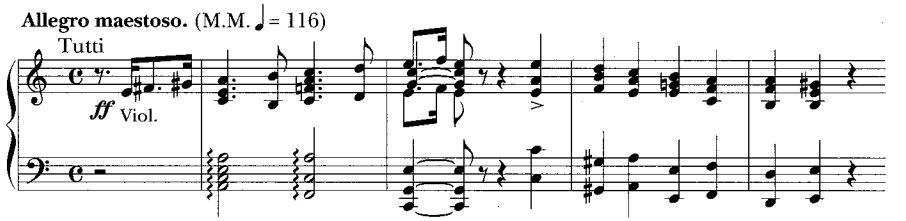
Wieck uses A♭ major not only in the middle movement, but also at the beginning of the development section of the first movement (m. 92). Significantly, in both instances this unusual key signals the reappearance of thematic material derived from the principal theme of the first movement, given in example 1a. In the development an easily recognizable transformation of the principal theme in the tenor is accompanied in the discant by its own further transformation (example 1b); in turn, a transformation of the discant melody begins the second movement (example 1c). The principal theme of the finale, which was composed before the other two movements, is yet another transformation of the very same melody (example 1d). It is thus clear that neither the thematic connection between the first two movements, nor the unorthodox key used to highlight it, is the product of the young female composer's moods alone. The thematic connection is one that is certain to appeal to an audience and, therefore, help them register the formal significance of the unorthodox key, a key that the Viennese critic rejected out of hand. On this purely auditory basis, and not just in theory alone, the lengthy rondo, with no departure from A minor/major until the tutti beginning in m. 154 of a 356-measure movement, can be heard as rounding out the first movement, whose principal theme is never recapitulated in the tonic key. The

[14] Review of first Piano Concerto, by Clara Wieck, signed "0," *Allgemeiner musikalische Anzeiger* 10 (1838): 143. See also Janina Klassen, *Clara Wieck-Schumann. Die Virtuosin als Komponistin*, Kieler Schriften zu Musikwissenschaft 37 (Kassel: Bärenreiter, 1990), 114.

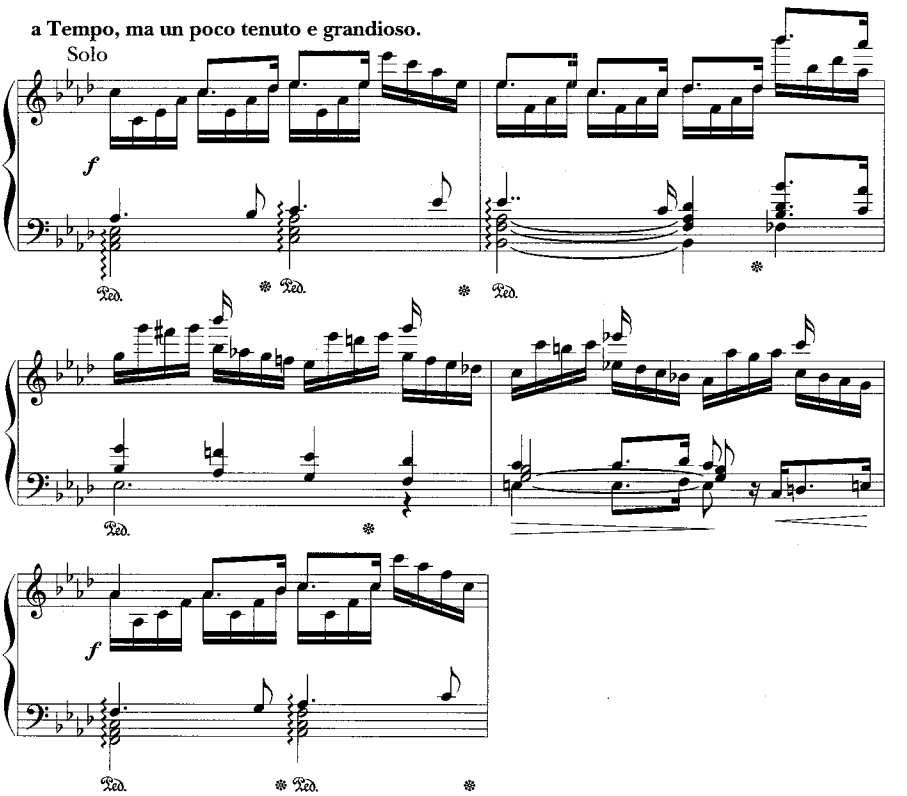
[15] On "discrepancies between aural experience and analytical description," see Nicholas Cook, *Musical Analysis and the Listener* (New York and London: Garland, 1989), 4–13. Cook suggests that, "Even in the case of those popularizing analyses intended to reach a wider audience . . . the relationship between technical exposition and ordinary aesthetic response can seem strained " (p. 6).

Example 1. Wieck, Piano Concerto, solo-piano edition.

1a. First movement: Principal theme, mm. 1–4.



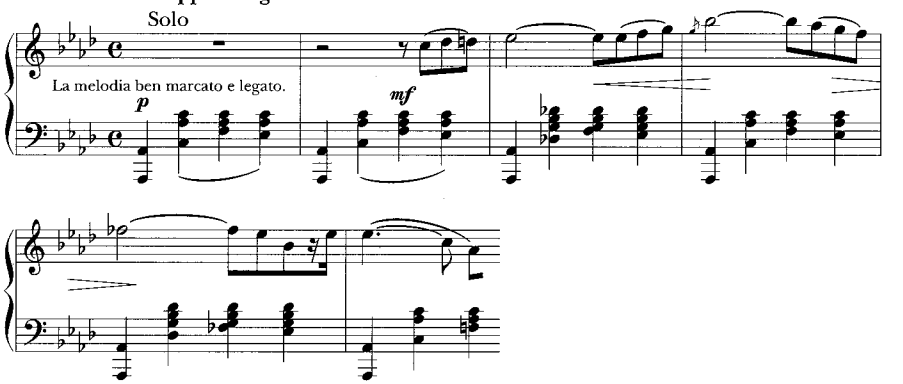
1b. First movement: Development, mm. 92–96, variant of principal theme.



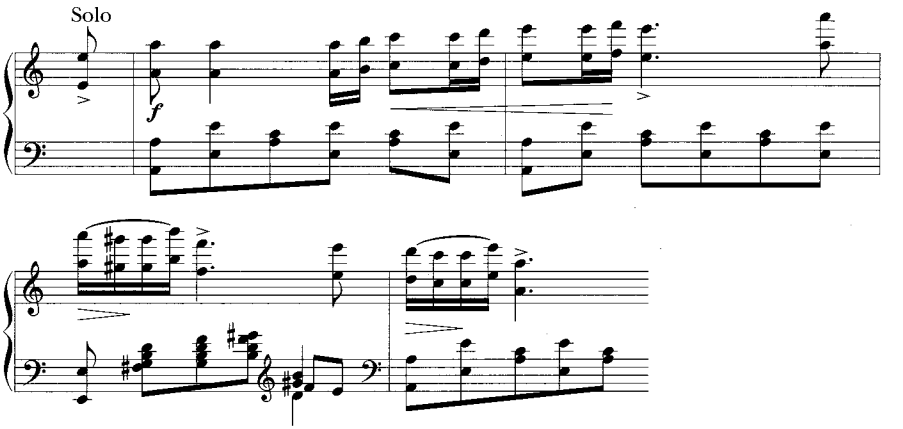
unusual length of this last movement and its tonal stability are also heard as balancing the unorthodox turn to the key of A♭ major in the second movement.[16]

[16] On the role of A♭ major in the finale, see Helen Walker-Hill, "Neglected Treasure: The Piano Concerto of Clara Wieck Schumann," *Women of Note Quarterly* 1, no. 2 (August 1993): 26.

1c. Second movement: mm. 1–6.



1d. Third movement: mm. 5–8.



Wieck was later to take Schumann to task for not writing the review of her Concerto himself. She held up Becker's carping over the diminished-seventh chords as an example of trivia in an article that did not give her Concerto the "critical examination" [*Beurtheilung*] it deserved.[17] Her annoyance seems justified, in that Becker's cursory viewing of the score applies mostly paper criteria. The thematic and harmonic interrelationships that are significant and, I believe, audible because of their double coding are passed over, perhaps not recognized as legitimate.

The thematic interrelationships mark Wieck's Concerto as part of the formal experimentation that emerged in the genre in the 1830s. One example, with which Wieck was probably familiar before beginning to compose the first movement of her Concerto in June 1834, is Mendelssohn's Piano Concerto in G minor, Op. 22 (published in London, 1832, by Mori and Lavenu, and in Leipzig, 1833, by Breitkopf & Härtel).[18] Two other examples are Moscheles's Piano Concerto no. 6 in B♭ major, *Fantastique*, Op. 90 (1833) and Piano Concerto no. 7 in C minor, *Pathétique*, Op. 96 (1835-36). On 9 October 1835 Moscheles performed the *Fantastique* and the first movement of the *Pathétique* in Leipzig. The Moscheles concertos do not completely reject the traditional outlines of concerto form, but they introduce certain departures from it, especially in their first movements. These two concertos also break down the usual divisions between movements by linking them, as does Wieck, through bridges and thematic recalls. As a result they sacrifice the autonomy of the individual movements or parts of the concerto for the greater integration of the whole. With respect to this type of construction Wieck's thinking is among the most advanced of her time.

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[17] Letter of 15 December 1837. See Clara and Robert Schumann, *Briefwechsel. Kritische Gesamtausgabe*, ed. Eva Weissweiler, Vol. 1, *1832–38* (Frankfurt am Main: Sternfeld/Roter Stern, 1984), 57. Clara misquotes Becker as writing "Decimenaccorde" rather than "verminderte Septimenaccorden." See also Berthold Litzmann, *Clara Schumann. Ein Künstlerleben nach Tagebüchern und Briefen*, Vol. 1, *Mädchenjahre, 1819–1840*, 8th ed. (Leipzig: Breitkopf & Härtel, 1925; rpt., Hildesheim, New York: Georg Olms Verlag/Wiesbaden: Breitkopf & Härtel, 1971), 113.

[18] Mendelssohn did not perform his Concerto in Leipzig until 29 October 1835, but a report by Schumann suggests that he and Wieck may have known the piece already from the published score. See Schumann, "*Schwärmbriefe. An Chiara* [Clara Wieck]," *NZfM* 3, no. 38 (10 November 1835): 151. It reads in part, "You remember that we never thought the mere piano part to be something unusually original [*etwas Selten-Originelles*]."

Two years after his initial review of the Concerto, Schumann remarked in a letter to Wieck on 29 November 1837:

> Do you always play your Concerto of your own initiative? There are stellar ideas in the first movement—yet it did not make a complete impression [*keinen ganzen Eindruck*] on me.[19]

By this point Wieck had already performed the Concerto in Berlin (16 February 1837), Hamburg (1 April 1837), Leipzig (8 October 1837), and Prague (23 November 1837). She received the letter in Vienna, where ultimately she would play the Concerto three times (21 December 1837; 18 February and 5 April 1838). Forbidden by her father to have any contact with Schumann, she corresponded with him in secret. Believing that her father prevented their marriage for selfish, exploitative reasons, Schumann worried that under pressure she would not remain faithful to him. Under the circumstances, Schumann's question as to whether she continued to play the Concerto of her own initiative may reflect concern that her father was forcing her to exhibit it as a kind of curiosity piece—a young female performing a concerto of her own composition was precisely the unheard of fête Becker drew attention to in his review.[20]

Wieck's reply to Schumann's letter forcefully defended the decision to play the Concerto as her own, based on the enthusiastic response of the public to it:

> Today was my second concert, and once again a triumph. Of the many things on the program my Concerto had the best reception. You ask if I play it of my own initiative—certainly! I play it because everywhere it has so pleased, and satisfied connoisseurs [*Kenner*] as well as the general public [*Nichtkenner*]. But, whether it satisfies me is still very much the [i.e., your] question. Do you think that I am so weak that I do not know exactly what the faults of the Concerto are? I know precisely, but the audience does not, and furthermore does not need to know.[21]

Wieck is reiterating a point made earlier in the same letter: even though she would compose the Concerto differently, she played it often because it satisfied her public.

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[19] Clara and Robert Schumann, *Briefwechsel*, I, 53.

[20] Letters of 8, 29 November 1837. See Clara and Robert Schumann, *Briefwechsel*, I, 38–39, 52; Reich, *Clara Schumann*, 76–83.

[21] Letter of 21 December 1837. See Clara and Robert Schumann, *Briefwechsel*, I, 58.

The nature of Schumann's dissatisfaction may be surmised from his reviews of other piano concertos. He believed that each of the movements of a concerto should be complete. When writing of Moscheles's *Fantastique* Schumann warned of the "aesthetic peril" inherent in a concerto of four movements played without interruption, namely, that it will not result in a "satisfying whole." Like Wieck's Concerto, the *Fantastique* lacks a balancing return in the first movement. Schumann wrote, "We already declared ourselves against the form earlier. While it also does not seem impossible to create a pleasant whole from it, the aesthetic hazards are too great compared to what might be gained." Schumann commended, instead, the amateur composer Carl Kaskel (pseud. Lasekk) for composing a concertino in which each movement, though joined to the others, is a complete, closed unit. About this piece he remarked, "But therefore we must call it a concerto, because it consists of three movements separated by caesuras. If these are quite short, that is to their advantage. Indeed, it seems to me that this form is much more artful than the usual one for concertinos, which is concocted from various parts in changing tempos all running into each other, and which for the most part results in an aesthetic disaster."[22]

Schumann expected a concerto (or concertino) to adhere to a particular harmonic structure and formal pattern. His review and letter make clear that Wieck's Concerto did not fulfill his expectations regarding either matter, but they also show that he was struck by the work's beauty. Dissatisfied with the work's lack of formal control and unity, he nevertheless reacted favorably to its content. The same dichotomy is apparent in a review by a correspondent for the *Allgemeine musikalische Zeitung* who heard Wieck play in Prague. He wrote, "The Concertino is somewhat lacking in unity, yet [it is] fashioned with imagination and spirit."[23]

Although Wieck was aware of the Concerto's faults, for her the central issue was its success with the public, which was unaware of the shortcomings. Her success with the public was indeed remarkable: the second of her three Vienna performances of the Concerto was advertised as by demand. At this point, as through most of her life, Wieck thought of herself

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[22] "*Pianoforte. Concerte,*" review of a Concertino for Pianoforte by Carl Lasekk, and the fifth and Sixth Concertos of Ignaz Moscheles, *NZfM* 4, nos. 18 and 29 (1 March and 8 April 1836): 77 and 123. For Schumann's views on concerto form, see my "'*Mit einer eignen außerordentlichen Composition*': The Genesis of Schumann's *Phantasie* in A Minor," *Journal of Musicology* (forthcoming).

[23] "*Nachrichten. Prag,*" *Allgemeine musikalische Zeitung,* 39, no. 52 (27 December 1837): col. 858.

primarily as a performer not a composer. As Nancy B. Reich puts it, "she composed because all professional performers of her time did so."[24] Though her musical thinking was in the forefront of its time, apparently she was less than fully satisfied with her creative efforts. She may even have concurred with Schumann, for whom her radical experiment in the concerto genre did not have a completely satisfactory outcome. But she also knew that her Concerto was well received, even demanded by her public. It seems the public, unlike the critics, was not concerned with its logical structure, harmonic instability, or any supposed lack of formal balance. Instead, like Schumann and the correspondent from Prague, they were enthralled by its beauty and struck by its imagination and spirit. It is this immediate appeal on which Wieck placed such a high valuation in her letter to Schumann. A year after the Viennese tour of 1837–38 she wrote him from Paris, asking him to compose "just once something brilliant, easily understood and with no titles, but a completely continuous piece that is neither too long nor too short? I would like so much to have something by you to play publicly that is for the public."[25] This description—a continuous piece with no titles, neither too long nor too short, brilliant and, according to her own testimony, easily understood—fits Wieck's Concerto exactly.

* * *

In the initial period of its reception history (1900–06), Beach's Concerto, like Wieck's, was favorably received by audiences but not by critics. In the case of Beach, though, circumstances did not conspire to remove her Concerto from the stage permanently soon after its premiere. The work instead became an important vehicle for her as both composer and performer when, after the loss of her husband in 1910 and her mother in 1911, she resumed the concert career she had abandoned upon her marriage in 1885. Three European performances of the Concerto in 1913 proved to be a turning point. By then the critics no longer condescended to Beach as a dilettante, but came to recognize her as a celebrity and respect her as the grande dame of American music. The Concerto benefited from the improved stature of its composer, with the strange result that when she returned home a new group of American critics praised some of the very features their predecessors had damned in 1900. Like the

[24] Reich, *Clara Schumann*, 229.

[25] Letter of 4 April 1839. See Clara and Robert Schumann, *Briefwechsel. Kritische Gesamtausgabe*, ed. Eva Weissweiler, Vol. 2, *1839* (Frankfurt am Main: Sternfeld/Roter Stern, 1987), 469.

more modest success of Wieck's Concerto, the Beach Concerto owed its considerable success to the exceptional ability of its performer who, as such, was able to exploit its performance-oriented gestures.

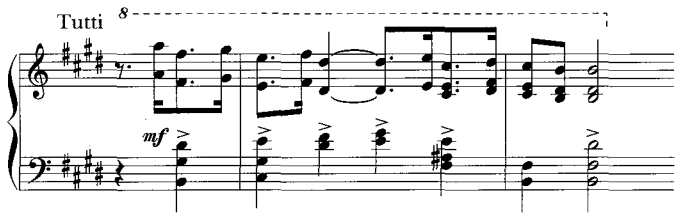
To understand fully the critics' reactions, it is first necessary to identify the various style traditions invoked in the first movement. The construction shares much with concertos dating from 1820–40 that Beach performed in her teens, by Moscheles, Mendelssohn and, in particular, Chopin.[26] The use of separate thematic content for the transitional passagework, the change to a new key for the close of the second group, the lengthy working out of the principal theme in the development, and the cursory treatment of that theme in the reprise all recall the Chopin F-minor Concerto, Op. 21, which Beach played at age eighteen (28 March 1885). Like Chopin's Concerto, Beach's draws on a tradition in which passagework (primarily the closing groups but also transitional sections) is not integral. In classical piano concertos (for example Beethoven's third, fourth and fifth concertos, and most of Mozart's concertos) the closing group and usually the transition sections may be said to be integral to the whole in two ways. First, the thematic material derives from motives and characteristic rhythmic figures of the principal themes. Second and more important, the construction of these sections takes the form of full phrases. However florid the figuration of these phrases, and however great their internal or cadential extensions, the classical closing group (or bridge, or other transitional passagework sections) carries the movement forward towards its various intermediate goals in much the same way as do the principal thematic sections, albeit at a different pace. In contrast, passagework areas and particularly closing groups in the Chopin Concerto, or in Moscheles's Concerto in G minor, Op. 60 (performed by Beach at her orchestral debut concert on 24 October 1883) tend to strike the listener as isolated moments. In the Moscheles the material is etude-like. In the Chopin, though the closing group takes a thematic shape, its material is unrelated to the preceding themes. In Mendelssohn's D-minor Concerto, Op. 40 (performed by Beach on 29 April 1885) the closing group consists of filigree passagework for the piano, with accompanying rhythmic motives in the orchestra that are derived from the first group. Yet in construction the closing group is like those of the Chopin and Moscheles concertos—a series of cadential extensions involving colorful sequential and modulatory units, all appended to the preceding thematic statement rather than to any full phrase within the closing group itself. All of these closing

[26] Other piano concertos Beach performed before she composed her own were by Mozart, in D Minor, K. 466 (20 February 1886); Beethoven, in C Minor, Op. 37 (21 April 1888); and Saint-Saëns, in G Minor, Op. 22 (16 February 1895).

groups, as episodic and harmonically active, provide contrast to the lengthy full periods and harmonic stability of the thematic areas.

In Beach's Concerto this same kind of contrast is provided by the intriguing harmonic and melodic richness of both the long transition and the shorter closing group of the exposition (see table 2). The transition is first over the dominant of E major (mm. 93–100) but then continues with new, subsidiary motives in a series of short, sequentially shifting cadential gestures that lead to the dominant of A (mm. 101–20, example 2). The closing group (Animato, m. 166) incorporates familiar motives derived from the principal theme and subsidiary theme of the transition, all repeated in one-, two- and even half-bar units, and each part of a cadential gesture. Harmonic surprise, matching the unexpected shift from E major to A major in the transition, is produced by the sudden switch from the dominant of A major to a half-diminished seventh chord on the fourth degree of A major (mm. 165, 166), then move toward a long dominant preparation of G♯ minor (mm. 174–91).

Example 2. Beach, Piano Concerto, first movement exposition, two-piano edition. Transition, mm. 100–02, subsidiary theme.



While the structure of the first movement of Beach's Concerto relates to models from the earlier part of the nineteenth century, the piano writing is associated with a style that, though dating from mid-century, continued to be in use through the end of the century. Its double octaves, full chords, and expansive melodies sound somewhat like Liszt (see, for example, the opening measures of his First Concerto in E♭), even more like Anton Rubinstein (the opening octaves or the *con espressione* second theme statement of his Concerto No. 4 in D minor, Op. 70 [1864]), or Rachmaninov (Concerto No. 2 in C minor [1900–01]). And although the harmonic shifts described earlier owe a debt to Chopin, the manner of their execution brings to mind even more the practice of a younger composer, Brahms, for whom Beach's advocacy was still exceptional in Boston, even among musicians, as late as the 1880s.[27] The Concerto at times shows

[27] Burnet C. Tuthill, "Mrs. H.H.A. Beach," *Musical Quarterly* 26 (1940): 300–01.

Table 2
Outline of Beach, Piano Concerto, first movement

Tutti		principal theme twice (1–20, 21–35)	C♯ minor
Solo	Introduction	free cadenza derived from principal theme (36–68)	C♯ minor, cadence on V
	First group	*Poco più tranquillo,* variant of principal theme in tutti, countertheme in solo (69–86)	C♯ minor
	Transition	variant of principal theme in solo then tutti (87–100); subsidiary theme in dotted rhythms, ending with allusions to principal theme (101–31)	V of E reached at 93; traversing B major (102), D major (104), F major (108), V of A (115)
	Second group	*espressivo,* second theme by piano solo (132–46); second theme by violin solo (147–54) then violins tutti (155–61); then again violin solo, accompanied by piano (162–65)	A major; beginning on C♯ minor, modulating to A major, ending on V of A
	Closing group	*Animato,* variant of principal theme with counter-theme and subsidiary theme (166–92)	modulatory but centered around and ending in G♯ minor
Tutti		principal theme (192-200); second theme (201–15)	modulatory
Solo	Development	principal theme in tutti, accompanied by piano (215–66); second theme in piano, accompanied by tutti (267–73); principal theme in tutti (274–77) and retransition (278–85)	modulatory, leading at the end to F♯ minor
Solo	First group	principal theme in tutti, accompanied by piano (286–303)	beginning in F♯ minor, ending with a modulation toward D♭ major
	Second group	second theme in piano, accompanied by tutti (304–20) second theme in tutti, accompanied by piano (321–49)	D♭ major beginning in F, modulating to C♯ minor
	Cadenza	(350–406)	
Tutti with solo		subsidiary theme and principal theme (407–39)	C♯ minor

Brahms's tendency to obscure lines of demarcation, apparent, for example, in the first movement of his Piano Sonata, Op. 5 (1853), where the theme and texture signaling the recapitulation are heard a full twelve measures before the tonic key is reached. In Beach's Concerto there is no textural separation between the end of the development and beginning of the recapitulation—both piano and orchestra play through the end of the development into the first theme area of the recapitulation. Nor is the recapitulation signaled by a clear arrival on the tonic—the dominant preparation of C♯ minor, begun in the retransition, turns to F♯ minor just as the recapitulation opens with the principal theme (m. 286). Thereafter the tonic key, C♯ minor, is touched on only briefly (and ambiguously) in the first group. It is this type of harmonic freedom that lends much of the movement an improvisatory aura.

While certain expected tonal goals and formal divisions are obscured in the first movement of Beach's Concerto, an important aspect of its accessibility, especially for a general audience, is the repetition and transformation of the well-profiled and easily remembered principal theme. The movement opens with a threefold presentation of the principal theme, first in a series of exchanges between the piano and orchestra in mm. 1–68 (example 3a); second, in a varied form in the orchestra to a new countertheme in the piano at mm. 69–86 (example 3b); then third, again varied, in the piano at mm. 87–93 (example 3c). Other allusions to this theme appear in the transition at mm. 93–100, 115–18, and 127–31 (example 3d), in the closing passagework in mm. 166–92 (example 3e), then considerably worked over in the development.

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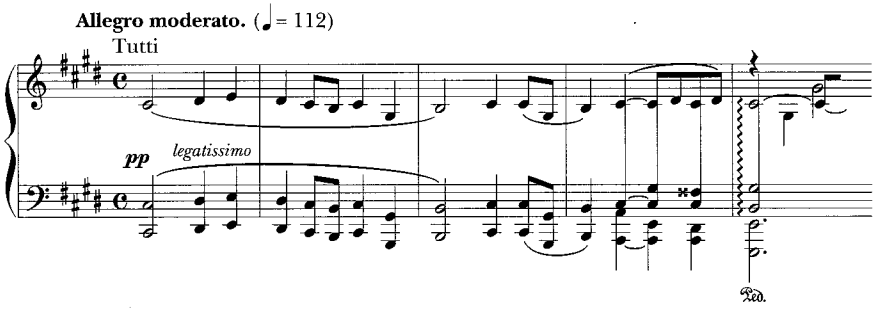
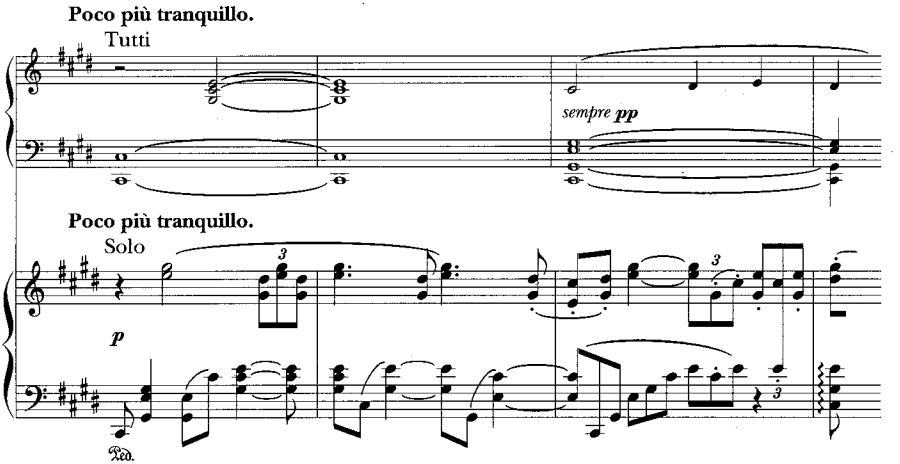
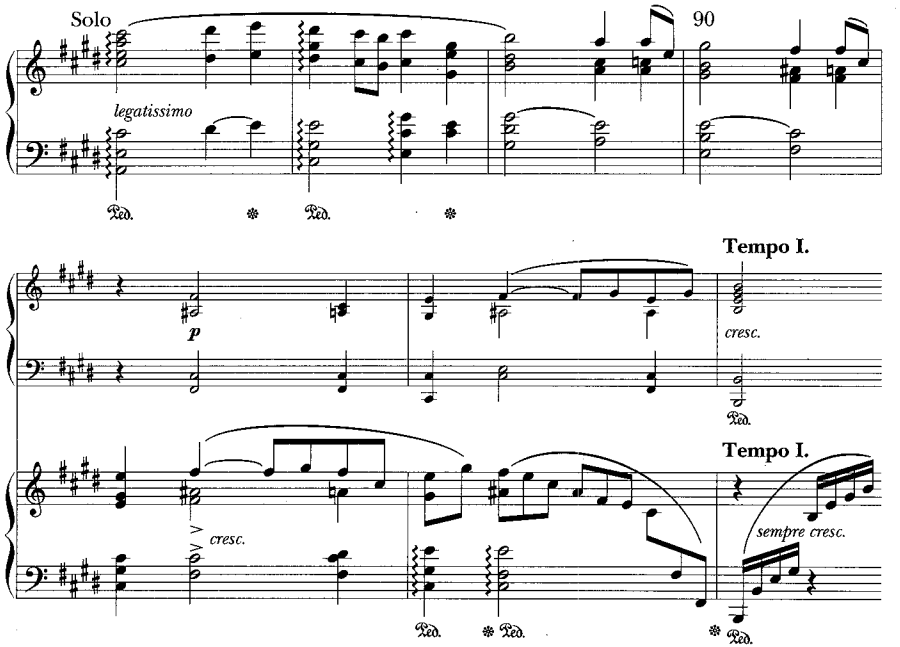
Example 3. Beach, Piano Concerto, first movement exposition, two-piano edition.
3a. Tutti, mm. 1–5, principal theme.



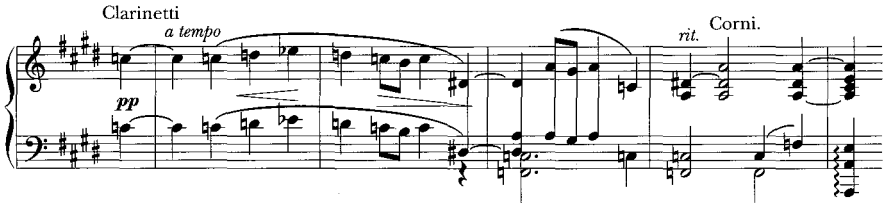
3b. First group, mm. 69–72, principal theme (tutti) with solo countertheme.



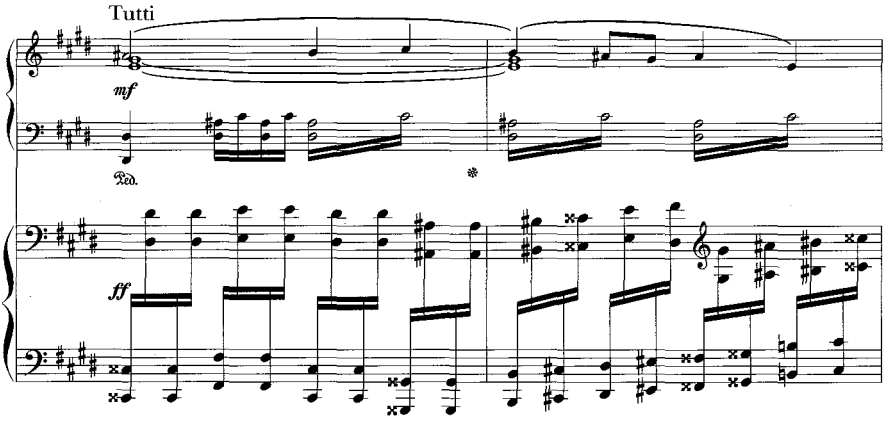
3c. Transition, mm. 87–93, variant of principal theme.



3d. Mm. 127–31, allusion to principal theme.



3e. Closing group, mm. 174–75, variant of principal theme.



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After the first performance of her Concerto on 7 April 1900 Beach saved eight reviews in a scrapbook of clippings.[28] Only one of these, by Howard M. Ticknor, offered unmixed (if somewhat routine) praise in an article that is primarily a neutral description of the Concerto derived from program notes for the concert.[29] None of the other seven critics warmed to the Concerto. Their attitudes ranged from undisguised disappointment (Louis C. Elson, *Boston Daily Advertiser*, 9 April; *Boston Globe*, 8 April, unsigned; *Boston Gazette*, 8 April, unsigned) and condescension (*Boston Transcript*, 10 April, unsigned) to condemnation (*Boston Herald*, 8 April, unsigned; W.D. Quint, *Boston Traveller*, 9 April) and even thorough nastiness (Philip Hale, *Boston Journal*, [15 April?]).

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[28] Unless otherwise indicated, all ensuing reviews are cited from clippings in the Amy Beach Scrapbooks, Special Collections, University of New Hampshire Library, Durham.

[29] Ticknor introduces the description by noting, "This composition displays in dignified, scholarly[,] impressive and gratifying ways that advance upon herself and that perfecting in art of which Mrs. Beach's later writings have given proof." Ticknor's review may be based on the open rehearsal on 6 April, as the article appeared in the *Boston Courier* on 7 April, the same day as the performance.

All seven critics were dissatisfied with the balance between the orchestra and soloist. According to the *Herald*, "The orchestration is steadily thick and noisy, and too frequently so massive that the solo instrument does not and cannot loom through it." The *Transcript* called the orchestral writing "heavily laden"; the *Gazette* said "the instruments . . . are not combined in the most effective manner;" and Quint described a "storm of instruments" overwhelming the piano. The *Globe* judged that Beach, "like nearly all her sex, lacked the power of coping with an orchestra like the Boston symphony, especially where so many fortissimo passages occur, and the consequence was an obscuration of some of the piano score." Elson expressed surprise that unlike Chopin, Rubinstein and Liszt, who "all put their especial instrument too much in the foreground when combining it with the orchestra . . . the fault of [this] concerto [is] in exactly the opposite direction." He then ascribed an obbligato character to the solo, a criticism he could also have leveled at Brahms's two piano concertos: "The orchestration swallows up the piano in many passages and the solo instrument is not employed in sounding forth bold themes in its own definite style, but in giving constant fioriture, scales and ornate passages against rather vague themes in the orchestra."[30]

The other main complaint was the lack of clarity, sometimes specified as thematic clarity. The critics wrote, for example, that the Concerto "is not always clear [in its] passage work" (*Herald*); that it is "seemingly not very clear in some of the theme developments" (*Globe*); and that it lacks "grace, fascination and clearness" (Quint). More extensive comments by Hale and Elson, both well-known and respected critics,[31] suggest that thematic clarity was not judged solely on the basis of the orchestra/solo balance, but also according to the critics' expectations of an orderly display of successive themes and orthodox resolution of harmonies. Hale writes, "The first movement was long drawn out, and when there was the thought of the end [i.e., when the movement seemed to draw to its con-

[30] It is possible that after playing the Concerto, Beach also heard an imbalance between the orchestra and solo and made some changes to the score to correct it. Two rehearsals (one private, and the other on 6 April, public) and the performance with the Boston Symphony were apparently the first opportunities she had to hear it with an orchestra. Brian Mann reports that a copy of the piece sent to its dedicatee Teresa Carreño shows paste-overs in both the full score and parts, but gives no indication of what or how extensive these changes were ("The Carreño Collection at Vassar College," *Notes: Quarterly Journal of the Music Library Association* 47 [1991]: 1081). It is unknown whether Beach sent the score before or after the premiere; Carreño received it before 25 May 1900. See letters in the Amy Beach Correspondence Collection, Special Collections, University of New Hampshire, Durham.

[31] On the reputations of Hale and Elson, see *New Grove*, s.v."Hale, Philip." vol. 8, 43, by Wayne D. Shirley, and "Elson, Louis Charles," vol. 6, 145, by Karl Kroeger.

clusion], there was a curiously unexpected and meaningless appendix." The appendix is "unexpected" because it comes after the orchestral coda following the cadenza, and turns the piece away from a cadence on C♯ minor (in the type of harmonic surprise already discussed in connection with the transition and close of the exposition). "Meaningless" it may be to a guardian of traditional form in the concerto, but not for a listener who appreciates the return of the soloist to complete the movement *forte* (and louder) with the orchestra. Elson writes, "The whole first movement seemed rather indefinite, at a first hearing; although there were many individual passages of much charm, there did not seem to be that coherency and clear scheme that one finds in the masterpieces." Elson seems to reject the aesthetic framework that I have associated with Brahms, that is, Beach's obscuring of expected formal divisions between large sections of the Concerto, for example, between the development and recapitulation. That at the same time he heard "many pasages of individual charm" suggests Elson may have considered the separate, episodic areas of the movement—for example, the long transition with its own motives and surprising change of harmonic direction—as failing to form a "clear scheme."

Elson's judgment sounds much like Schumann's criticism of Wieck's Concerto: the content (individual passages of much charm) is fine; the form (coherency and clear scheme) is weak. Such opposed assessments of details and form also appear with critics who appraise Beach's music from broader aesthetic and historical perspectives. In his 1906 book on Beach, Percy Goetschius wrote, "In the 'Pianoforte Concerto' [Beach] has produced a highly interesting work—possibly weakened slightly by its length and technical exertions, but full of brilliant and impressive details."[32] Goetschius does not specify how length weakens the piece, but one can only surmise that it does so by attenuating the form, despite (or perhaps because of the distraction of) the "brilliant and impressive details" or content. More recently, Peter Dickinson has written of the Concerto:

> The music is full-blooded virile . . . the passagework is sometimes merely conventional rather than integral. But this does not detract from the accumulating power of the long first movement that, although diffuse, eventually reaches a higher level. Greater concentration throughout would have been an advantage.[33]

Dickinson values concentration above so-called diffuseness, such as in, presumably, the non-integral passagework.

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[32] Percy Goetschius, *Mrs. H.H.A. Beach* (Boston: Arthur P. Schmidt), 13.

[33] Peter Dickinson, "The American Concerto," in *A Companion to the Concerto*, 307.

The fact that Beach's loosening of received form worked in conjunction with multifarious thematic connections was apparently lost on the critics at the premiere, just as it was on Becker when he reviewed Wieck's Concerto. They failed to consider that thematic repetition and transformation are the principal means of tying together the various parts of the long first movement. Typical in this respect is the critic for the*Gazette* who charged Beach with repeating her ideas "to the point of monotony." Not until four years later, in 1904, did a critic—who not coincidentally was a woman—come to Beach's defense in this matter. In a series of three articles in the *Washington Post,* Bernice Thompson gave an overview of Beach's works. Thompson's main purpose was to illustrate the great and undervalued contributions of women musicians in order to counter what she considered the "absurd" opinion of the critics George Upton, Henry Finck, James Huneker and others, that women lack creative ability. Her brief comments on the Concerto point to the merit of Beach's strategy: "One of the favorable features of this work is the richness and variety in the treatment of its principal theme. Every time this theme appears it has an entirely different harmonic setting from that in any of its previous announcements." Thompson attributed much of the divergence in listeners' viewpoints to gender. Concerning Beach's songs she wrote, "If [they] do not find more men admirers it is not the fault of the music but of the men themselves." It was among women that Thompson expected to find admirers for the music of Beach and other women, music that she conjectured may be "vastly different from the accustomed style" because of the difference in "thoughts and feelings" of women from men.[34] Thus, thematic and motive repetition, even if condemned by the *Gazette* critic, had an appeal to certain members of Beach's audience.

The appeal of Beach's Concerto to her audience at the premiere is undeniable. The Boston critics reported a "large audience" (*Gazette*) and "three to four stormy recalls" (*Herald*), an enthusiastic reception at odds with their own evaluation (the very situation that Wieck perceived in the reception of her own Concerto). Not one of Beach's critics seemed to have found this fact curious. They may have felt that her audience was roused solely by the familiarity of the composer in her home town; that the audience was uncritical in its judgment; or that it was simply carried away by Beach's accomplished playing, which seven of the eight Boston reviewers noted. They took this talent as a matter of course. In Europe

[34] *Music and Musicians: Quotations from The Washington Post for January 10th, 17th, and 24th, 1904* (published separately), 6, 8, 10. Thompson claimed in January 1904 that the Concerto received "a number of notable performances," but I have as yet found no record of any early performances other than the Boston premiere.

women had been playing the piano in public since at least the 1820s, and by the end of the century their American sisters were, not unnaturally, following their lead.[35] Mention of Beach's talent as a performer was, invariably, *pro forma* at the end of the review.

It cannot be overlooked that the early critics of Beach's Concerto may have sharpened their barbs or, as with Becker reviewing Wieck's Concerto, adopted a patronizing stance because the composition in question was by a woman, and one they considered an amateur composer as well. The writer for the *Transcript* compared Beach to a "beginner" in that she had a "tendency . . . to do all she can at once," then gave her some fatherly advice. "What Mrs. Beach most needs is experience in listening to her own works; and while occasionally producing compositions of such extravagant dimensions, instead of frequently producing shorter things, she has thus remained longer at the tentative stage than she ought; she ought by this time to have acquired more maturity of conception, a more trustworthy skill in execution." The patronizing tone of the critic for the *Transcript* was echoed in other reviews. Elson wrote, "This lady has no desire to shine in the smaller forms of music, but constantly essays the highest flights; she has composed some excellent songs and piano works, but her vaulting ambition has recently led her to create a large mass, a long symphony, and now a four-movement piano concerto." Hale stated flatly, "It is a pity she has never had a thorough, severe drill in theory and orchestration." She had in fact studied orchestration extensively from the age of fifteen.[36]

* * *

In September 1911 Beach left for Europe. A letter to her publisher Arthur P. Schmidt reveals a plan, according to Adrienne Fried Block, "to rest and then embark on a European concert tour in which her works could be played, with herself at the piano wherever possible. The purpose was to establish a European reputation that would help her build up her public in the United States."[37] Essentially the European tour signaled the

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[35] Nancy Reich, "European Composers and Musicians, 1800–1900," in *Women and Music: A History*, ed. Karin Pendle (Bloomington and Indianapolis: Indiana University Press, 1991), 116–17; Adrienne Fried Block, "Women in American Music, 1800–1918," in *Women and Music*, 153–54.

[36] Block, "Women in American Music," 167–68.

[37] Adrienne Fried Block, "Arthur P. Schmidt, Music Publisher and Champion of American Women Composers," in *The Musical Woman: An International Perspective*, Vol. 2. *1984–85*, ed. Judith Lang Zaimont (New York: Greenwood Press, 1987), 162–63.

[38] It should be noted, though, that Beach had a considerable reputation as a composer, and to some extent as a performer, before she went to Europe. See Adrienne Fried Block, "Why Amy Beach Succeeded as a Composer: The Early Years," *Current Musicology* 36 (1983): 54.

beginning of a new life for Beach.[38] In 1929 John Tasker Howard recalled, "She once wrote me that it seems as if a century must separate the present from her earlier life, devoted mostly to composition in her own home, with only occasional concert appearances. In recent years she has been much 'on the road,' with only brief periods for writing."[39] Not until she was past sixty did Beach give up performing to turn exclusively to composing. "I am . . . too fond of my audiences to give them up," she told an interviewer at age fifty.[40]

The Concerto was central to Beach's repertory in Europe and later when she began her tours of the United States. In 1913 she played it in Leipzig on 22 November, Hamburg on 2 December, and Berlin on 18 December, each time with the American conductor Theodore Spiering.[41] Five critics in Leipzig praised Beach's work and her performance.[42] In Hamburg the instrumentation, the very feature the Boston critics condemned, was commended by Ferdinand Pfohl (*Hamburger Nachrichten*, 3 December 1913): "This work finds its highest point in the opening allegro—a surpassing movement, rich in ideas, in the romantic element, and marked by its refined treatment not only of the solo instrument, but of the orchestra."[43] As seen in the following excerpts from the Berlin reviews, even the construction and thematic structure of the Concerto were applauded:

> The concerto is very cleverly written, and most effective in its musical construction. . . . The themes are worked out in a most artistic style.[44]

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[39] John Tasker Howard, *Our American Music* (New York: Thomas Y. Crowell, 1929), 346.

[40] H.F.P., "Believes Women Composers Will Rise to Greater Heights in World Democracy," *Musical America* 25, no. 25 (21 April 1917): 3.

[41] Concerning these concerts I have consulted only the translated excerpts of German reviews that were sent to the *Musical Courier*, along with those reviews that were either written or translated for *The Berlin Continental Times* or *Musical America*. As these excerpts were used as publicity, they are more favorable than the complete reviews that I examined in connection with the Boston premiere. Nevertheless, the consensus among historians is that the German critics were indeed more positive than their Boston contemporaries. See, for example, Howard, *American Music*, 346; Block, "Amy Beach," 54.

[42] "Mrs. H.H.A. Beach's Leipsic Tributes," *Musical Courier* 68, no. 5 (4 February 1914): 38

[43] Quoted in "Amy Beach (Mrs. H.H.A. Beach) in Hamburg," advertisement in *The Musical Courier* 67, no. 27 (31 December 1913): 50. A reviewer for the *Berlin Continental Times* attributed to Spiering's "reliable guiding-hand . . . the splendid balance maintained between soloist and orchestra" (undated clipping).

[44] From the *Berlin Norddeutsche Allgemeine Zeitung*, [no date]. Quoted in "Berlin's Praise of Mrs. Beach," *Musical Courier* 68, no. 13 (25 February 1914): 13.

> While exhibiting extraordinary melodic fertility, the author here [in the first movement] spins her themes to happy, logical and well-tempered issues.[45]
>
> Particularly noteworthy were the skilfully [*sic*] wrought technical figures and the general thematic structure of the first two movements (*Continental Times*, [n.d.]).

Critics at the European premiere of the Concerto were won over by Beach's performance. A review in the *Neue Hamburger Zeitung* (3 December 1913) reads, "she had a decided success with her concerto—a success largely due to the composer's presentation."[46] According to Beach, too, it was personal presentation that swung the critics in favor of the Concerto. In 1917 she told *Musical America* about the Hamburg performance:

> I was summarily warned of the fate that awaited me when my 'Gaelic' Symphony and my piano concerto were played in Hamburg. The audience would be cold, the critics hostile. At best I could anticipate nothing better than a show of politeness. And when Theodore Spiering, who conducted, came to me after the performance, he was not in a cheerful frame of mind. Immediately thereafter, I was to play the piano part of my Concerto. But I rejected the invitation to discouragement, 'got my mad up,' as we put it in New England, and determined to force the audience to like it. My resolve won the victory and a considerable one. The critics wrote well, and even the worst bear of them, Dr. Ferdinand Pfohl, was eulogistic.[47]

It is not surprising that European critics reacted favorably when Beach began to perform the Concerto in Germany in 1913: their attention was directed away from her as the work's composer to her as its performer, the more usual role for a woman. She seems to have had full confidence in her own supreme qualifications for this role. A remark made at a later date, namely that "the concerto requires tremendous aptitude, I might say genius, to give the right meaning to all its phrases," appears to summarize fairly Beach's beliefs in her own abilities.[48] As the success in Germany shows,

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[45] O.P. Jacob, "Mrs. Beach's New Concerto Played: Berlin Audience Hears Ambitious Work by American Woman Who Appears a Pianist," European Bureau, 20 December 1913, *Musical America* 19, no. 10 (10 January 1914): 35.

[46] Quoted in "Amy Beach in Hamburg," 50.

[47] H.F.P., "Women Composers," 3.

[48] Mrs. Crosby Adams, "An American Genius of World Renown: Mrs. H.H.A. Beach," *Etude* 46, no. 1 (January 1928): 34, 61. The comment was made with reference to a performance of the Concerto by the seventeen-year-old Helen Pugh. Beach loaned out the orches-

the part of the strategy she outlined to Schmidt that cast her into the role of performer was working well. The other part, concerning the help she would derive from her established European reputation in building a similar one in the United States, seems also to have been successful. On her return to the United States, detailed discussion of either the Concerto or her performances of it, whether positive or negative, took second place to unquestioned promotion of her as the greatest American woman musician.

When Beach returned from Europe she began a cross-country tour that took her as far as the West Coast. She played the Concerto in Los Angeles for the National Federation of Musical Clubs Festival of American Music on 26 June 1915 and in San Francisco for the Panama-Pacific International Exposition on 1 August. During successive seasons she played it in Chicago on 4 February 1916, St. Louis on 12 and 13 January 1917, Boston on 2 and 3 March 1917, and Minneapolis in late 1917. Reviews of these concerts reveal Beach as a special presence—the foremost woman composer of her day. The reviews from Los Angeles are representative. The *Musical Courier* reported, "Much applause followed the close of each movement and at the close of the entire concerto there were several prolonged recalls and cries of 'bravo!' with waving of handkerchiefs." The next paragraph notes that "Monday, June 28, was named 'The Mrs. H.H.A. Beach Day' by the officials of the Panama-California Exposition at San Diego, and Mrs. Beach was the guest on the grounds all day." The *Courier* also printed excerpts from a report of the concert in the *Los Angeles Examiner* (27 June 1915) that began, "Mrs. H.H.A. Beach, one of America's leading women composers," and from an unidentified Los Angeles paper that similarly introduced Beach as "one of America's greatest women composers."[49] Another paper summed up her Los Angeles appearance on a program that included works by her American contemporaries, Arne Oldberg, Arthur Foote, and Arthur Farwell, "Needless to say that she received the ovation of the evening" (unidentified clipping).

The Chicago reviews were less favorable. Karleton Hackett, for example, felt that both the structure and instrumentation of the Concerto were weak: "It was not apparently conceived as an organic whole in which the piano formed but one of the essential elements, but it took form rather as a series of soli for the piano about which the orchestra was written [*sic*]. This gave it a somewhat disjointed effect, with the orchestra appearing

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tral score for Pugh's performance under the direction of Henry Hadley at the 1923 Biennial of the National Federation of Music Clubs in Asheville, North Carolina. According to Adams, Beach read the tributes from the press and then heard Pugh play the Concerto (privately?) in April 1926.

[49] "Californians Fête Mrs. H.H.A. Beach," *Musical Courier* 71, no. 2 (14 July 1915): 7.

and disappearing in a rather confusing manner" (*Evening Post,* 5 February 1916). This perception would suggest that in Chicago Beach may have tried out some cuts that she had been contemplating in the first movement.[50] But Edward C. Moore disagreed with Hackett:

> The composer evidently gave much care and thought to the construction of the work. Its working out is painstaking, its balance between solo instrument and orchestra is excellent; it is not too long, it is perfectly clear. From a structural point of view it is entirely praiseworthy (*Chicago Journal,* 5 February 1916).

All the Chicago reviews (Hackett's included) nevertheless stressed the importance of Beach's presence as a woman composer in America. Her reputation clearly preceded her. Eric de Lamarter (*Chicago Tribune,* 5 February 1916) introduced Beach as "the foremost feminist composer of the country." In St. Louis the interest also centered on Beach's reputation as the "World's Most Noted Woman Composer," to quote the headline of a pre-concert interview with Richard L. Stokes (*St. Louis Post-Dispatch,* 9 January 1917). There is little variation in the opening words of the reviews of her 12 January 1917 concert. They herald Beach as "America's most distinguished woman composer and pianist" (Richard Spamer, *St. Louis Daily Globe-Democrat,* 13 January); "the most notable woman composer in musical history" (Stokes); and the "leading American woman composer" (Homer Moore). There were nonetheless differences in opinion as to the merit of the Concerto. Stokes, for example, viewed Beach's brilliant playing as an integral part of the Concerto's admirable design: "One's first impression was that here was one of the most amazing bravura displays ever conceived. . . . But soon it was borne in upon the mind that every one of these dazzling notes had its inevitable place and meaning; that not one of them was introduced for mere ornament or parade." But in Homer Moore's opinion, the Concerto "demanded great digital dexterity and exhibited more of that than of musical euphony" (*St. Louis Republic,* 13 January).

When Beach returned to Boston for performances of the Concerto on 2 and 3 March 1917 the headlines of her concert reviews were given over to the Boston premiere of a symphony by Charles Loeffler. Her contribution to the program received more cursory treatment, even though the Concerto had not been heard in Boston with an orchestra since 1900. Attention was directed toward her return to the city where she had long resided (she was then living in New York) and her performance. It was

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[50] See the report in *The Musical Courier* 71, no. 1 (7 July 1915): 24.

widely held that since her return from Europe in 1914, Beach had matured and gained greater command of her instrument than in her pre-war appearances. For example, one critic wrote about a recital Beach gave in December 1914 in Boston: "Her playing now, after appearances with orchestra and in recital in Berlin, Leipsic and Dresden, has more emotional variety, more authority. There is unquestionably a gain in fluency of technic."[51] This enthusiasm for Beach's playing is reflected in the reviews of her performance of the Concerto in Boston three years later:

> Mrs. Beach played the piano part of her concerto with astonishing authority and virtuosity (Olin Downes, *Boston Post,* 3 March).
>
> Since her residence abroad, and appearances in German cities, Mrs. Beach has grown in breadth and authority as a pianist, and played yesterday with fine command, at times with brilliancy (*Boston Globe,* 3 March 1917).
>
> Its spirit, its clean-cut harmonies and delightfully open orchestration, are still refreshing and Mrs. Beach herself never played more brilliantly, or with more command (F. Esposito, *Boston Journal,* 3 March 1917).

To some extent change in opinion in 1917 about Beach's orchestration reflects a new perspective on what the relationship between orchestra and soloist ought to be and what constitutes clarity of formal structure. The *Boston Daily Advertiser* (no date) reported, "Mrs. Beach has seen to it that the orchestra properly occupies the foreground," and "Mrs. Beach's piano concerto is what a concerto ought to be, an orchestral work with solo work interwoven."[52] The *Christian Science Monitor* (3 March) called the Concerto "a piano piece set in an orchestral background, rather than a work in which themes are developed on a scheme of conversational exchange between solo instrument and orchestra." The *Boston Transcript* (3 March) placed it "at the golden mean that treats a concerto neither as a virtuoso piece for the solo instrument with accompanying band or as a symphonic piece that happens to add a piano to the other instrumental voices." Only Esposito offered a dissenting opinion. What he heard was exactly the opposite of what the critics reported in 1900: "The regard for the piano as a solo instrument subdues the orchestra so that the beautiful cantilene [*sic*] melody which it sings against the piano accompaniment is hardly to be heard at all." But ultimately, concentration on Beach's presence in the

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[51] *Boston Globe* (17 December 1919); quoted in "Mrs. H.H.A. Beach in Boston," advertisement in *The Musical Courier* 69, no. 26 (30 December 1914), 9.

[52] Quoted from a clipping in the Amy Beach file, New York Public Library.

city, her "splendid" reputation (Fred J. McIsaac, *Boston American*, 3 March) and "warm" reception (Hale, *Boston Herald*, 3 March) meant that the balance of piano and orchestra and the formal structure were no longer pressing issues for critics.

* * *

If the concertos by Wieck and Beach were so appealing to audiences and even came to be accepted by some critics, why haven't they survived in the repertory? In the case of Wieck's Concerto, that an early work by a woman who never became a career composer is absent from the repertory is hardly surprising. But this explanation does not hold for Beach's Concerto. In her case an explanation can be provided only on the basis of a surmise. It seems, paradoxically, that it was Beach's unique position as America's foremost woman musician that caused the later neglect of her Concerto. The piece became so closely associated with Beach's composer-cum-performer persona that other established pianists shied away from taking it up immediately.[53] That is perhaps also why a full score and parts were never printed. Subsequently, performers' interest gravitated to more recent works written in the idiom of the 1920s, leaving Rachmaninov's piano concertos as the sole survivors of Beach's generation. Thus the future of both Beach's and Wieck's concertos has depended on the interests of recent performers with an antiquarian interest.[54]

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[53] Beach dedicated the Concerto to Teresa Carreño and hoped she would perform it in Europe. Carreño never played it in public, but she was excited about the piece. See her letters to Beach from Berlin, 16 March and 17 December 1899, 25 May 1900, in the Amy Beach Correspondence Collection, Special Collections, University of New Hampshire Library, Durham; and Mann, "The Carreño Collection," 1073–75. Shortly after she performed the Concerto in Boston on 17 February 1909 with Carl Faelton playing a second piano (*Boston Globe*, 18 February), Beach sent a copy to the pianist Ernesto Consolo who, although he was impressed, apparently never played the piece in public (letter from Consolo to Beach, Lugano, Switzerland, 23 May 1909, in the Amy Beach Correspondence Collection).

[54] Mary Louis Boehm brought attention to Beach's Concerto through her recording of May 1976 (Vox, Turnabout, QTV-S 344665) and performances (the first on 4 April 1976 in Hempstead, L.I.), but no one else seems to have taken up the work. See Dean Elder, "Where Was Amy Beach All These Years? An Interview with Mary Louise Boehm," *Clavier* 15 (December 1976): 16. The Wieck Concerto has received much attention recently. The solo piano edition was first reprinted by A.J. Heuwkemeijer in 1970; a manuscript copy of the full score was produced by Ries and Erler, c. 1987; and a new edition of the full score, edited by Janina Klassen, was issued by Breitkopf & Härtel in 1990. Recent recordings have been made by Susanne Launhardt (1990, Bayer Records, 100 096) and Angela Cheng (1992, Koch International Classics, 3-7169-2 H1). The Concerto is one of several choices listed for entrants in the First International Clara Schumann Piano Competition, held on 23–30 May 1994 in Düsseldorf.

I have suggested that the dual roles of Wieck and Beach as performers and composers influenced how they fashioned their concertos. That the intertwining of the roles of composer and performer affects a concerto comes as no surprise, whether the composers are women or men. Yet the interplay of the two roles seems to surface more prominently in these two concertos by women composers than in similar works by their male counterparts. Women musicians who entered the public arena in the nineteenth century were categorized as performers. That they could also compose astonished their public, and among this public particularly the critics, who seemed less inclined than audiences to warm to women's achievements as creators of music.

As the judgments of critics rather than audiences have come down to us today, those who study the works of women musicians often find themselves, of necessity, writing a revisionist history. We know that Wieck and Beach were seen by others as performers and considered themselves as such. We must also be aware of the consequences thereof, namely, that their concerns as performers came more to the fore when they wrote and spoke of their compositions than in any discussions I have read by or about their male counterparts who, like them, were composing serious works for their own performance (as opposed to more ephemeral ones solely intended for virtuosic display). I believe that underlying this disparity is a societal perception—perhaps internalized by nineteenth-century male composers—that great music by male composers, the music about which history is primarily written, bends little toward the tastes of the general public. Significantly, in his excellent biography of Franz Liszt, Alan Walker expends considerable energy justifying Liszt's decision to compose twenty-eight transcriptions of Schubert's songs, works that became successes overnight. Walker writes that these transcriptions served a triple purpose: to promote the name of Schubert, advance the field of piano technique, and widen Liszt's repertory. In his discussion of the compositions, Walker omits any reference to the fact that the transcriptions were clearly crowd-pleasers. Further, in answering the question, "Was Liszt to blame for the unrestrained conduct of his audiences?" Walker concentrates on Liszt's appearance and manner of playing. Yet clearly Liszt would not have had the same effect on his audiences had he chosen to play a different, more staid repertory.[55]

An inquiry free from this double standard might show that serious male composers like Liszt also gave knowing consideration to popular taste

[55] Alan Walker, *Franz Liszt*, Vol. 1, *The Virtuoso Years, 1811–1847*, rev. ed. (Ithaca: Cornell University Press, 1987), 257–58, 289–90.

when they wrote music for their own performance. We would then have one more reason for no longer considering works by women at a disadvantage because they make happy use of this necessity.

ABSTRACT

Though lauded by contemporaneous audiences, neither Clara Wieck Schumann's Piano Concerto in A Minor, Op. 7 (1833–35), nor Amy Beach's Piano Concerto in C♯ Minor, Op. 45 (1900) is among the standard repertory today. Both pieces were closely associated with the women who composed and performed them; and, while women then enjoyed acceptance as performers, critics tended to view women composers with reservations and judged their work accordingly.

In 1835–38 Wieck performed her Concerto to enthusiastic audiences in Germany and Austria. Reviewers, by contrast, criticized the work's design, blaming its unusual harmonic movement on the capriciousness of the female sex. Although elements of its experimental design lend the Concerto an improvisatory quality, closer examination shows that it is tightly structured harmonically, thematically, and formally. Its innovations, far from being dictated by Wieck's gender, are found in concertos by Mendelssohn and Moscheles. Wieck defended her Concerto saying that it appealed to her audiences, who well may have warmed to the very improvisatory quality the critics condemned.

Audience reception of Beach's Concerto was also favorable when she gave its premiere in 1900, but reviewers were patronizing, suggesting she had overreached the bounds of her sex and needed tutoring in her craft. On grounds that later became irrelevant, they faulted the form and the balance between soloist and orchestra, and passed over the thematic cohesiveness and harmonic richness that likely attracted her audiences. Critical opinion changed when Beach played the Concerto in Germany and throughout the United States in 1913–17, but this was more an acknowledgment of her growing fame than a reappraisal of the work itself.

Is There an Observation/Theory Distinction in Music?*

By Mark DeBellis

In a now-classic discussion of the role of observation in science, Norwood Russell Hanson asked us to imagine Tycho Brahe and Johannes Kepler looking out from a hill, watching the sunrise. Tycho believed that the sun moved around a fixed earth; Kepler held a heliocentric conception. Hanson wanted to know: "Do Kepler and Tycho see the same thing in the east at dawn?"[1]

Hanson argued that there is an important sense of 'see' in which Kepler and Tycho may see different things. It would be a mistake, according to Hanson, to assume that Kepler and Tycho must have exactly the same visual data, and differ at most in the interpretations they place on them. For, Hanson urged, "seeing is a 'theory-laden' undertaking."[2] Kepler and Tycho, he maintained, are apt to make different observations corresponding to their different theoretical commitments: one sees the descent of the horizon with respect to the sun, the other the sun's rising above the horizon.[3] In much the same way, the physicist sees an X-ray tube, the child "a complicated lamp bulb"; one microbiologist sees a Golgi body, another a cluster of staining material.[4]

One writer who has drawn out the implications of this conception of observation is Thomas Kuhn. Like Hanson, Kuhn believed that scientific disagreement is not simply a matter of coming to different interpretations of the same "individual and stable data."[5] There is often no theory-neutral, Archimedean standpoint from which to adjudicate scientific disputes, Kuhn maintained: competing scientific theories can be "incommensurable," and, when one theory supplants another, a scientist "see[s] a new gestalt" and

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1 Norwood Russell Hanson, *Patterns of Discovery* (Cambridge: Cambridge University Press, 1958), 5, italics omitted.

2 Hanson, *Patterns,* 19.

3 Hanson, *Patterns,* 182n.

4 Hanson, *Patterns,* 17 and 4.

5 Thomas S. Kuhn, *The Structure of Scientific Revolutions,* 2nd ed. (Chicago: University of Chicago Press, 1970), 121; citation to Hanson, *Patterns,* 113.

"respond[s] to a different world."[6] Kuhn's critics have charged him with portraying theory change as irrational, or at least with failing to provide an adequate account of what is rational in it.[7]

These issues arise with full force for—and go to the heart of our understanding of—musical perception and theory. Hanson himself sees the relevance of music to his claims: "[T]he interpretation of a piece of music is there in the music. Where else could it be? It is not something superimposed on pure, unadulterated sound."[8] But does it follow that no distinction is possible between what we hear, and what we think about what we hear? If we interpret a piece in a certain way, does it automatically follow that we can *hear* it in that way? Can we (with suitable training) hear any music-theoretic structure we like? And if it is meaningful at all to speak of rationality in connection with the evaluation and acceptance of theories of music, what role, if any, does observation play in accounting for what is rational in them?

In this article, I will approach these issues by way of a recent exchange between Paul Churchland and Jerry Fodor. Churchland has for some time maintained a version of the claim that observation is theory-laden, arguing that perception is highly plastic in response to the theories one holds. Seeking to resist the irrationalism that allegedly follows from such a picture, Fodor has put forth a conception of observation, drawn from modularity theory, for which he claims theory-neutrality. Their exchange is particularly relevant in that Churchland holds up trained musical perception as a clear and important instance of plasticity, and Fodor denies that it is.

The main question I will address in this article is whether trained musical perception—of more or less the kind Churchland invokes—is both theory-laden and observational in Fodor's sense, and hence a counterexample to his view. Much of the task will consist in spelling out just what it *is* for something to be observational in his sense. A second question, which I shall take up toward the end of the article, is whether the example of trained musical perception should lead to worries about relativism or irrationality in theory choice. The present agenda, therefore, is twofold: to examine the implications of musical perception for a theory of mental organization on the one hand, and for epistemology on the other.

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[6] Kuhn, *Scientific Revolutions,* 111–12.

[7] See, for example, Dudley Shapere, "Meaning and Scientific Change," in R. Colodny, ed., *Mind and Cosmos: Essays in Contemporary Science and Philosophy* (Pittsburgh: University of Pittsburgh, 1966), and essays by Karl Popper and Imre Lakatos in Imre Lakatos and Alan Musgrave, eds., *Criticism and the Growth of Knowledge* (Cambridge: Cambridge University Press, 1970), cited in Kuhn, *Scientific Revolutions,* 186.

[8] Hanson, *Patterns,* 23; see also 17.

Modularity theory, and allied issues about the relation between perception and cognition, are of much interest in current music theory and music psychology.[9] As we will see, Fodor puts much weight on a distinction akin to that between perception and cognition, and insists that trained musical perception falls on the latter side of the divide. My goal is to show what is at stake in locating a given kind of mental activity on one side or the other of such a dichotomy, and hence what a debate over whether musical hearing is perception or cognition is a disagreement *about*. With this goal in mind, I will first recount the exchange between Fodor and Churchland in general terms and then turn to the specific case of musical hearing in an attempt to get to the bottom of the disagreement, and to resolve it.

I

Churchland gives the plasticity thesis a full, spirited exposition and defense in *Scientific Realism and the Plasticity of Mind* (hereafter, *SRPM*).[10] He begins from the premise that "perception consists in the conceptual exploitation of the natural information contained in our sensations or sensory states" (*SRPM*, 7). The plasticity thesis is the claim that the terms in which one perceives the world are highly dependent on one's conceptual framework or theory. Churchland imagines what it would be like if our perceptual states were laden with a comprehensive scientific theory. People so endowed, he explains,

> do not sit on the beach and listen to the steady roar of the pounding surf. They sit on the beach and listen to the aperiodic atmospheric compression waves produced as the coherent energy of the ocean waves is audibly redistributed in the chaotic turbulence of the shallows. . . . They do not observe the western sky redden as the Sun sets. They observe the wavelength distribution of incoming solar radiation shift towards the longer wavelengths (about 0.7×10^{-6} m) as the

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[9] See, for example, Eugene Narmour, *The Analysis and Cognition of Basic Melodic Structure: The Implication–Realization Model* (Chicago: University of Chicago Press, 1990), 4; Lelio Camilleri, "A Modular Approach to Music Cognition," *Interface* 18 (1989): 33–44; Ray Jackendoff, *Consciousness and the Computational Mind* (Cambridge, Mass.: MIT Press, 1987), 247–72; and idem, "Musical Parsing and Musical Affect," *Music Perception* 9 (1991): 221. For an overview and discussion of the role of modularity in several music theories, see Naomi Cumming, "Music Analysis and the Perceiver: A Perspective from Functionalist Philosophy," this journal 54 (1993): 38–53.

[10] Paul M. Churchland, *Scientific Realism and the Plasticity of Mind* (Cambridge: Cambridge University Press, 1979).

> shorter are increasingly scattered away from the lengthening atmospheric path they must take as terrestrial rotation turns us slowly away from their source.[11]

It is important to see that, on Churchland's view, perception is not the same as sensation, but is the "conceptual exploitation" of sensation. Since perception involves the use or application of concepts, perceptual states have a semantic content: they are *about* something, *viz.*, things or states of affairs in the world to which those concepts apply.

Churchland holds, unsurprisingly, that perceptual plasticity has important implications for epistemology. Plasticity illustrates that—as he writes in a later article—"observational knowledge always and inevitably involves some theoretical presuppositions or prejudicial processing."[12] Because observation is theory-laden, Churchland believes, the traditional foundationalist account of our "epistemic adventure"—which asserts that theoretical knowledge rests on epistemically privileged, theory-neutral data—cannot be maintained. We must turn instead to "a more global story of the nature of theoretical justification and rational belief" (such as one in terms of coherence).[13]

In arguing for perceptual plasticity's existence and epistemological import, Churchland is expressing a view along much the same lines as that of Hanson and Kuhn, and shared in broad terms by many other philosophers. One of them, Nelson Goodman, states the position vividly:

> [T]here is no innocent eye. . . . Not only how but what it sees is regulated by need and prejudice. It selects, rejects, organizes, discriminates, associates, classifies, analyzes, constructs. It does not so much mirror as take and make; and what it takes and makes it sees not bare . . . but as things, as food, as people, as enemies, as stars, as weapons.[14]

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[11] Churchland, *SRPM,* 29, quoted in Jerry A. Fodor, "Observation Reconsidered," *Philosophy of Science* 51 (1984), reprinted in idem, A *Theory of Content and Other Essays* (Cambridge, Mass.: MIT Press, 1990), 236–37.

[12] Paul M. Churchland, "Perceptual Plasticity and Theoretical Neutrality: A Reply to Jerry Fodor," *Philosophy of Science* 55 (1988): 167.

[13] On foundationalism and coherentism, see Roderick M. Chisholm, *Theory of Knowledge,* 2nd ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1977), 63.

[14] Nelson Goodman, *Languages of Art,* 2nd ed. (Indianapolis: Hackett, 1976), 7–8. Connections to Hanson, Kuhn, Goodman, and (as I am about to make) to Bruner are all drawn by Fodor ("OR," 241–43), to whose exposition I am indebted.

Goodman has claimed empirical support, in turn, from the "New Look" psychology of Jerome Bruner and others, which emphasizes the dependence of perceptual processes on beliefs and values.[15]

Claims for the existence of perceptual plasticity can, in fact, be traced at least as far back as Locke. According to Locke,

> the *Ideas we receive by sensation, are often* in grown People *alter'd by the Judgment,* without our taking notice of it. When we set before our Eyes a round Globe, of any uniform colour . . . 'tis certain, that the *Idea* thereby imprinted in our Mind, is of a flat Circle variously shadow'd. . . . But we having by use been accustomed to perceive, what kind of appearance convex Bodies are wont to make in us . . . the Judgment . . . alters the Appearances into their Causes . . . and frames to it self the perception of a convex Figure, and an uniform Colour; when the *Idea* we receive from thence, is only a Plain variously colour'd, as is evident in Painting.[16]

It is evident in this passage that Locke thinks of perceptual appearances as laden in some way with concepts and knowledge.

In "Observation Reconsidered" (hereafter "OR"), Fodor seeks to counter the plasticity view by pointing to a kind of observation that is theory-neutral. Fodor sees this as important because

> part of the story about scientific consensus turns crucially on the theory-neutrality of observation. Because the way one sees the world is largely independent of one's theoretical attachments, it is possible to see that the predictions—even of theories that one likes a lot—aren't coming out. . . . [I]t is often possible for scientists whose theoretical attachments differ to agree on what experiments would be relevant to deciding between their views, and to agree on how to describe the outcomes of the experiments once they've been run. . . .
>
> The thing is: if you don't think that theory-neutral observation can settle scientific disputes, you're likely to think that they are settled by appeals to coherence, or convention or—worse yet—by mere consensus. And . . . a Realist . . . doesn't see how any of those could compel *rational* belief ("OR," 250-51).

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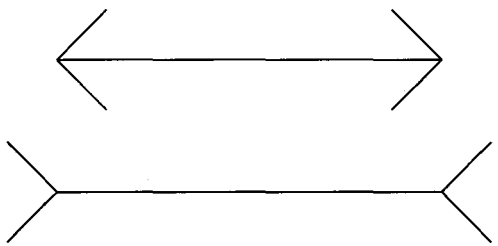
[15] Jerome S. Bruner, "On Perceptual Readiness," *Psychological Review* 64 (1957): 123–52, cited in Goodman, *Languages of Art,* 7.

[16] John Locke, *Essay Concerning Human Understanding* [1690], II.ix.8 (Oxford: Clarendon Press, 1975), 145.

Fodor draws his notion of observation from the conception of the mind set forth in *The Modularity of Mind* (*MM*).[17] Fodor's modularity theory is a computationalist one, on which mental processes are thought of as computational processes on mental representations (*MM*, 39). In Fodor's theory, the mind contains distinct kinds of systems: input systems and central systems. Input systems consist of "the perceptual systems plus language."[18] It is the function of perceptual systems "to so represent the world as to make it accessible to thought."[19] The central idea of modularity psychology is that input systems—and hence perceptual systems—are modules (*MM*, 46). This means that input systems have "most or all" of a certain cluster of properties: domain specificity, fast and mandatory operation, limited central access, fixed neural architecture, characteristic breakdown patterns, characteristic ontogenic development, "shallow" outputs, and informational encapsulation.[20] The last two features are most relevant for us; we will consider encapsulation here, and return to the level of outputs later.

That input systems are encapsulated means that their mechanisms of information processing are isolated from the background beliefs, goals, desires, etc., of the subject (*MM*, 64). As an example of encapsulation, Fodor cites the Müller-Lyer illusion. The lines look different in length, although we believe that they are the same length:



Fodor takes this to illustrate the way in which computations in the visual system are insensitive to background beliefs (*MM*, 66; "OR," 242).

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[17] Fodor, "OR," 245–46, citing idem, *The Modularity of Mind* (Cambridge, Mass.: MIT Press, 1983).

[18] Fodor, *MM*, 44, italics omitted.

[19] Fodor, *MM*, 40. In a way this quotation expresses the essence of Fodor's idea of perception, and I am indebted to Cumming for pointing out its centrality ("Music Analysis and the Perceiver," 42).

[20] Fodor, *MM*, 47–101 passim.

Unlike input systems, central systems are general purpose in nature, serving thought about a variety of domains (*MM*, 101–03). Central systems include mechanisms of belief fixation: it is in such systems that one arrives at beliefs (*MM*, 102). The most important contrast between central systems and input systems is in respect of encapsulation. In central systems, beliefs are revised in a more-or-less holistic fashion: holding a particular belief may depend on having background beliefs that are (intuitively speaking) quite remote from, or only indirectly connected to, the given belief. For example, your belief about whether it is really Jones you see coming out of the train station will depend on your views about whether Jones could have travelled here by train, whether the trains are running, and so on.

Fodor asserts a distinction between the "fixation of perceptual belief" and the operation of a perceptual system per se (*MM*, 136n). The former is a job of central systems, and consists in evaluating the output of a perceptual system "in light of background information" (*MM*, 46). What it is to be a perceptual belief thus arrived at should not be conflated with what it is to be the output of the perceptual system proper, which is a *hypothesis* (*MM*, 136n). A hypothesis that is the output of a perceptual system—which I shall call a "perceptual hypothesis," though Fodor does not use precisely this term—may or may not, on Fodor's view, survive the process of belief fixation and come to serve as a belief.[21] In pointing to the distinction between perceptual beliefs and perceptual hypotheses, Fodor in effect acknowledges, as by rights he must, that not *all* mental processes that begin with sensory stimulation are encapsulated; his contention is simply that the production of perceptual hypotheses is encapsulated. And it is these hypotheses that he enlists to play the role of theory-neutral observations.[22]

In calling the output of a perceptual system a "hypothesis," Fodor implies that it has a semantic content: it is about features of, or states of

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[21] What I am speaking of here is the content of the relevant representation, not the representation itself: I want to leave it open whether we should think of perceptual belief and perceptual hypothesis as distinct representations, or think of a perceptual belief as a certain kind of representation, *viz.*, a perceptual hypothesis that functions as a belief. As far as I can see, Fodor himself leaves this open. The latter idea is derived from Gilbert Harman, *Thought* (Princeton: Princeton University Press, 1973), 182.

Though Fodor speaks of hypotheses rather than perceptual hypotheses, the latter term distinguishes the relevant kind from hypotheses in general, and is less cumbersome than "output of a perceptual system."

[22] Fodor, "OR," 248. Note that Fodor does not simply identify observation with perception: he seeks to explicate one useful notion of observation in terms of perception.

affairs in, the world.[23] Since such outputs have semantic values, it is meaningful to speak, as Fodor does, of "the vocabulary in which [perceptual] hypotheses are couched" (*MM,* 136n). Fodor and Churchland are thus agreed on what perception is, in one fundamental respect: perception has a semantic content having to do with the world external to the perceiver.[24]

A point of clarification about the meaning of "perceptual belief." One might think—given the way the distinction between perceptual hypothesis and perceptual belief was drawn above—that Fodor takes the class of perceptual beliefs to consist *only* of the perceptual hypotheses that survive belief revision. But by perceptual beliefs I understand him to mean, generally, beliefs that are the upshot of perceptual processes, or perceptual hypotheses *plus* products of subsequent inference. (I say "subsequent" because, on Fodor's view, perceptual processes are themselves inferential ["OR," 244].) Fodor remarks that the output of modules is in a "restricted conceptual repertoire" whereas perceptual belief fixation is performed "in light of the totality of background theory" ("OR," 249). This suggests that the "conceptual repertoire" of perceptual beliefs is wider than that of perceptual hypotheses, from which it follows that perceptual beliefs are not merely a subset of perceptual hypotheses. (Although it is convenient to decide this terminological issue as I have done, nothing crucial hangs on it; points I shall make later in terms of perceptual belief might be recast without reference to that notion.)

Fodor usefully distinguishes between encapsulation on different time scales, synchronic and diachronic ("OR," 247–48). Synchronic encapsulation is a matter of the short term, diachronic the long term. An example of synchronic encapsulation would be where someone puts on inverting spectacles, and things look upside down to her even though she believes that they are right side up. But suppose that as she continues to wear the lenses things eventually come to look right side up, and that their looking this way comes about in part because of her beliefs about how they are. That would be a failure of *diachronic* encapsulation. A failure of diachronic encapsulation is a change, over time, of how things look to a person in a way that is informationally sensitive to the beliefs she holds. (It is com-

[23] Foder, *MM,* 136n. Elsewhere, Fodor calls the output of a perceptual module a "judgment" (albeit one correctable by higher cognition), again implying that it has a semantic content. See Jerry A. Fodor, "A Reply to Churchland's 'Perceptual Plasticity and Theoretical Neutrality'," *Philosophy of Science* 55 (1988), reprinted in Fodor, *A Theory of Content* (hereafter "Reply"), 262.

[24] Like Churchland, Fodor distinguishes perception from lower-level processes more aptly termed sensation: this is the level of the transducer (Fodor, *MM,* 41). In contrast with Churchland, however, Fodor assigns a semantic value to this level also.

monly said that things come to look right side up to a wearer of inverting spectacles, although Fodor disputes whether this depends on the perceiver's beliefs in a way that would mean failure of encapsulation.)[25] Clearly, synchronic encapsulation does not entail diachronic encapsulation: for the wearer of inverting lenses, visual perception might at any given time be automatic and insusceptible to present influence by background belief, though over the longer time span adaptation occurs.

We are now in a position to see how the debate over plasticity and theory-neutrality may be formulated in Fodor's terms. The issue is one of the "vocabulary in which [perceptual] hypotheses are couched." Is that vocabulary radically malleable, in response to the theories we hold? If it is, then we have a certain kind of failure of diachronic encapsulation: the terms in which one perceives the world are changed by the theory to which one subscribes.[26] That is, in essence, the plasticity thesis (stated in Fodor's terms; I do not say that Churchland would accept all of the presuppositions of this formulation). If, on the other hand, the perceptual vocabulary is substantially fixed or restricted, then Fodor has, in the perceptual hypothesis, a viable candidate for the role of theory-neutral observation.

Plasticity, on this construal, is one kind of (supposed) failure of diachronic encapsulation. It is this kind of encapsulation on which, most crucially, Fodor's conception of theory-neutral observation depends; for one cannot appeal to perceptual hypotheses for a neutral observation language if their vocabulary is theory-dependent.

II

I want to turn now to the main phenomenon of interest, trained musical perception. Although Churchland's discussion of the example is brief, he clearly takes it to be important. It is worth quoting him at length:

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[25] Fodor, "Reply," 258–59; see also Churchland, "Perceptual Plasticity," 174–75. For studies of inverting lenses, see Hubert Dolezal, *Living in a World Transformed* (New York: Academic Press, 1982). Diverging from the usual story, Dolezal insists that adaptation to the lenses does not result in experiences indistinguishable from those prior to adopting the spectacles (228).

[26] Churchland, "Perceptual Plasticity," 176–77. I shall later explain that, for purposes of theory neutrality, it does not matter whether the malleability of the perceptual vocabulary is an instance of diachronic encapsulation in as strict a sense as given here, i.e., on which informational sensitivity to background beliefs is required. Nevertheless, both Fodor and Churchland cast the issues in terms of diachronic encapsulation, and I shall follow their exposition.

> Consider the conceptual framework used for describing pitch in musical theory . . . . [T]he chromatic scale and its various properties form the foundation of musical theory. Clearly, however, this conceptual framework is not innate to our auditory processing, nor is it part of ordinary language. But people are regularly trained to use it in auditory perception. . . .
>
> More intricately yet, there is the domain of musical chords, and of harmonious sequences of chords. . . . These also can be directly recognized, by ear, by one suitably practiced in the relevant theory and vocabulary. Such a person perceives, in any composition whether great or mundane, a structure, development, and rationale that is lost on the untrained ear.
>
> We are contemplating a musical example not because it is the only empirical example one can cite, but because it is an unproblematic example. Everyone knows that the "ear" can be "trained," as we say, to sustain these remarkable and nonstandard perceptual capabilities. But the example of trained musical perception is a straightforward existence proof for the possibility of theoretically-transformed perception in general.[27]

A few remarks are in order. First, we need not be distracted by reservations we might have concerning Churchland's ideas about what is foundational in music theory, or what is important in aural training. His point is that musicians receive a certain perceptual training that brings with it a certain theoretical framework, and that is, I think, unexceptionable. There is fairly common agreement on what aural training in music amounts to, at least at an elementary level: it confers, for example, the ability to distinguish major from minor triads, to identify intervals, and to label the pitches of a tonal melody according to scale degree. By "trained musical perception" I shall mean perception that results from training of this elementary sort, and my purpose is to ask whether this sort of elementary, trained musical perception supports Churchland's contention. (Parallel questions may be asked about the effects of other kinds or levels of musical training, but that is not the present project.)

Second, it should be stressed that the example pertains to the *trained* listener. Much recent work in music theory and cognitive psychology has been concerned with the cognitive capacities of untrained listeners, and it is independently interesting to ask what light is shed by such capacities on the issues of plasticity and theory-neutrality. But the present example is a

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[27] Churchland, "Perceptual Plasticity," 179.

different one, having to do with certain *extra*-ordinary perceptual abilities, *viz.*, discriminations and identifications of the sort one typically learns to make in elementary ear training, in a context that is explicitly theoretical.

Fodor has this to say about Churchland's example of musical perception:

> This merely begs the question, which is whether the effects of musical training are, in fact, perceptual. Churchland adds that one can "just as easily learn to recognize sounds under their dominant *frequency* description," . . . but again no argument is provided that someone who has learned this has learned to perceive differently (as opposed to having learned a different way of labelling his perceptions and a different theory about what his perceptions are perceptions *of*. . .).
>
> What Churchland has to show is, first, that *perceptual* capacities are altered by learning musical theory (as opposed to the truism that learning musical theory alters what you know about music); second, that it's learning the theory (as opposed to just listening to lots of music) that alters the perception; and third that perception is altered in some different way if you learn not musical theory but acoustics. . . . [Y]ou don't refuse modularity theory by the unsupported assertion that it is contrary to the facts.[28]

At this point in the discussion the reader is apt to have something of a sense of vertigo. What is hard to get a grip on is just what is at issue here, and who has the burden of proof. To put the matter in terms of a concrete example: suppose that, as a result of musical training, you hear a given pitch as a dominant. Churchland will want to point to this as an instance of perceptual plasticity. Fodor, on the other hand, will argue that it is precisely the question of whether this mental state is *perceptual* that Churchland leaves open, and which he would answer in the negative. But what exactly does Fodor think Churchland has to establish, in order to show that the given state is *perceptual*? And if it is not clear what has to be established (as I think it is not), who has the burden of spelling it out, Churchland or Fodor?[29]

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[28] Fodor, "Reply," 260.

[29] I take it that, of the three questions Fodor raises, it is the first—whether "*perceptual* capacities are altered by learning musical theory"—that is fundamentally at issue. As to the second—whether "it's learning the theory (as opposed to just listening to lots of music) that alters the perception"—I think it is plausible to respond that, typically, knowledge of music theory does—as a matter of psychological fact—enter essentially into ear training. Perhaps it is possible to acquire the relevant discriminative capacities through another route, one that

An interesting twist to the argument is provided by the fact that there is an asymmetry between Churchland's and Fodor's positions. In order to argue for theory-neutrality, Fodor is concerned to draw a distinction between cognitive states that arise from sensory stimulation: those that are *echt* perceptual, and those that are not. Churchland does not need to draw any such distinction.[30]

To get a grip on the issue, we must recognize that Fodor's ultimate goal is to show that Churchland's argument poses no threat to his conception of theory-neutrality. Since that conception is based on modularity theory, the interesting and relevant question then becomes whether by Fodor's own lights the musical case is perceptual. In terms of our example: is your hearing the pitch as a dominant a perceptual hypothesis, or a perceptual belief resulting from subsequent inference? If the former, then (at least prima facie) we have a change of perceptual vocabulary, a failure of diachronic encapsulation, and an instance of a theory-laden perceptual hypothesis; if the latter, not. Perhaps Churchland has, for his part, begged the question by failing to demonstrate that trained musical perception is a perceptual hypothesis in Fodor's sense; but surely there is a fact of the matter about this, one we might well explore.

Our main task, then, is to determine whether trained musical perception is perceptual in Fodor's sense. If it is, then it is a (prima facie) counterexample to the thesis that perception, in his sense, is diachronically encapsulated, and to the thesis that perception, in his sense, is theory-neutral. And refutation of the latter would spell doom for Fodor's epistemological aims.

Let me say that in formulating the task in this way, I am taking Fodor's own response to the example as a cue. It is clear that Fodor takes the example to purport to be an instance of unencapsulated perception; he responds by saying it is not such an instance, or that it has not been shown

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does not involve explicit knowledge of theory, but I do not see why such perceptual learning would be any more palatable to Fodor, given his epistemological aim (*viz.*, delimiting a theory-neutral observation language). There would still be a change of perceptual vocabulary, and the relevant perceptual hypotheses would still be theory-laden, though the theory would be tacit for those perceivers. We will return to this point later.

To forestall a possible confusion: Fodor is *not* saying that Churchland has to show that simply learning music theory is enough to give someone a trained ear. I think it is agreed on all hands that, on the plasticity thesis, practice in making observations may be necessary (but see Churchland, "Perceptual Plasticity," 175).

[30] That is the common wisdom (Fodor, "OR," 238), although I am not altogether sure it is correct. Perhaps, ultimately, appreciating the full force and value of the plasticity thesis—or Hanson's insight that Kepler and Tycho may *see* different things—does require one to make a serious distinction between the perceptual and the non-perceptual. And I do not think it is obligatory to predicate this distinction on theory neutrality (cf. Fodor, "OR," 237).

to be. A different response would be to grant that it is such an instance, but to contend that this holds no peril for theory-neutrality. This different way of responding is, I think, open to Fodor. He writes at one point, "the epistemologically relevant question is not whether modules are perfectly encapsulated, but whether they are encapsulated enough to permit theory-neutral, observational resolution of scientific disputes" ("Reply," 255). This suggests a different way of responding to the example of trained musical perception: to admit failure of encapsulation, but not of a sort that would be worrisome for the rationality of theory choice. Later I will consider a version of this alternative response. At any rate, it is not Fodor's actual response; he accepts the worry about encapsulation as real, and I will follow his lead in this.

One last remark before proceeding. In current discourse about music and modularity, not much weight has been placed on the distinction between synchronic and diachronic encapsulation, if indeed it has been recognized at all. Eugene Narmour, for example, stipulates that the "bottom-up" system in his theory is both "innate" and "automatic."[31] But there is no need to insist that what is automatic must be innate, i.e., that what is synchronically encapsulated must be diachronically so. These questions should be separated more than they have been. Diachronic encapsulation—in particular the malleability of the perceptual output vocabulary—is far more interesting than synchronic, because it has the greater implications for epistemology.

III

Let us turn now to the task of seeing whether the music-perceptual case is an example of a theory-laden perceptual hypothesis, and hence a counterexample to Fodor. The question is whether perceptual training in music brings about a change in the "vocabulary" of perceptual hypotheses, i.e., whether one's perceptual system comes to generate hypotheses in music-theoretical terms.

At this juncture, the distinction between perceptual hypotheses, and perceptual beliefs that are the product of subsequent inference, is crucial. It is not at issue whether a trained listener comes to have *beliefs* at some level or other about the sounding of minor or major triads, perfect fifths, and so on, in the course of hearing music; that is granted. The question is whether the *hypotheses* themselves, the output of perceptual systems, are couched in that vocabulary.

The decisive issue is how, on modularity theory, the boundaries of a perceptual system are drawn. In particular, what, if anything, determines

[31] Narmour, *Basic Melodic Structure,* 55.

where a perceptual system ends—and therefore what its output is—and where what counts as being outside of it begins?

One possible answer would be that the diachronic encapsulation condition itself largely determines that boundary. It would follow that musically trained hearing is not perceptual in the relevant sense simply because there is a failure of diachronic encapsulation. This would motivate a response that the reader has perhaps been wanting to make for some time: "How *could* the musical example be perceptual by Fodor's lights? By 'perceptual' he just *means* whatever is modular; and that implies, among other things, diachronic encapsulation."

But this way of reading Fodor would, I think, be a mistake. It would render more or less tautological the claim that perceptual systems are modules. And Fodor explicitly states that "modularity is an *empirical* thesis" ("Reply," 255). I take it, moreover, that what this says is empirical is not just the fairly weak claim that, somewhere in the mind or brain, *there are modules*, but the more substantive one that *perceptual systems* are modules. But if the latter thesis has genuine empirical content, then there must be some independent constraint on what is to count as a perceptual system—independent of modularity—enabling us to say that systems satisfying *that* constraint are modular and, in particular, diachronically encapsulated.[32] This reading of Fodor is supported by the fact that he says much to provide such independent constraint. (Actually, a notion of perceptual system independent of *diachronic* encapsulation is all I need for my purposes here; it would not affect the argument if we assumed synchronic encapsulation to be a constitutive feature of a perceptual system.)

We will turn our attention in a moment to the way in which Fodor limns the notion of a perceptual system. But first a word about why this matter should be regarded as problematic in the first place. After all, the output of a perceptual system is just how things look (or sound, etc.). What could be clearer than that? Of course, we need to have a distinction between how things look and how we believe them to be, as the Müller-Lyer example shows. But when we understand that distinction, don't we

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[32] Camilleri claims that experiments with interleaved melodies should be seen as confirmation, rather than disconfirmation, of "the thesis that no background information is accessed in what we call primary perception" ("Modular Approach," 38, citing experiments in W. Jay Dowling and Dane L. Harwood, *Music Cognition* [San Diego: Academic Press, 1986], 127). Camilleri argues that since we are able to isolate the individual melodies on the basis of background knowledge and sufficient attention, our hearing of those melodies cannot be "primary perception." We should be suspicious of the ease of this argument: without more of an independent constraint on what is to count as primary perception, it is hard to see what prevents us from ruling out any potential counterexample to the given thesis. But if the thesis is immune to disconfirmation, it lacks empirical content.

have a perfectly adequate grasp of the notion of "looks," and hence of "perceptual"?

Things are not so simple, I believe. As Fodor points out, "The question where to draw the line between observation and inference (in the psychological version, between perception and cognition) is one of the most vexed, and most pregnant, in the philosophy of science"; there is a wide diversity of opinion on the matter.[33] The real question is why this *should* be a vexed issue, or why a disagreement over where to draw the line between observation and inference (or perception and cognition) is more than a mere terminological dispute. I view this question with some trepidation, since it seems to me to point to a central puzzle in the philosophy of perception. But it is relevant that our intuitions about appearance are slippery and unstable. We unreflectively assign certain semantic values to appearance—we say what the appearances are *of*—but when we reflect and try to distinguish appearance proper from what we infer from it, we tend to retreat from our initial assignments. On the one hand, it seems correct to say that a room can look empty, a brooch expensive, a car new, a defendant guilty.[34] On the other hand, it seems doubtful to claim that guilt is a visible property, that it is *seen* rather than inferred.[35] But these intuitions do not converge on any stable, core notion of appearance, something that would dictate in a clear and natural way what a purely observational language would be. We are left, instead, with a cluster of conflicting intuitions.

It is partly because there is no unique and stable intuitive conception of appearance, I think, that it has been so difficult to draw a principled distinction between appearance and inference. Since conflicting intuitions are at work, it is incumbent on Fodor to indicate which of them, if any, his own version of the distinction is meant to capture.

The Müller-Lyer example—which is prominent in Fodor's treatment—bears less weight for this purpose than one might think. Fodor uses the example to illustrate the distinction between appearance and belief. But that distinction should not be identified with the distinction between ap-

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[33] Fodor, *MM,* 86. For a historical survey and discussion of the issues, see D. W. Hamlyn, *Sensation and Perception* (London: Routledge, 1961); see also John Heil, *Perception and Cognition* (Berkeley: University of California Press, 1983), 33, and Robert J. Swartz, ed., *Perceiving, Sensing, and Knowing* (Garden City, N.Y.: Doubleday, 1965).

[34] The last example is drawn from Harman, *Thought,* 180.

[35] Cf. Berkeley's example of the coach: "in truth and strictness, nothing can be *heard* but *sound:* and the coach is not then properly perceived by sense, but suggested from experience" (George Berkeley, *Three Dialogues between Hylas and Philonous* [1734], in *Works,* ed. A. A. Luce and T. E. Jessop [London: Thomas Nelson, 1948–51], vol. 2, 204, cited in D. M. Armstrong, *Perception and the Physical World* [London: Routledge, 1961], 19).

pearance and subsequent inference. Consider, for example, a situation in which you are perceptually presented with a defendant who looks guilty, but you are inclined to think that the entire perceptual presentation is illusory—you think you are hallucinating, for example. It seems open to say that in this case "guilty" is a term implicated neither in belief nor in perceptual hypothesis, but in some third thing: a non-perceptual hypothesis at work in central systems, something that is inferred from a perceptual hypothesis but does not survive as a belief. This third category should have a more prominent role in Fodor's account. It is important because if we neglect it, we are in danger of mistakenly collapsing the appearance/subsequent inference distinction into the appearance/belief distinction; and it is the former, not the latter, that is at issue.

IV

Much of what Fodor says that is relevant to determining the boundaries of perceptual systems is contained in the section entitled "Input analyzers have 'shallow' outputs" (*MM*, 86-99). Despite the title, Fodor wants to give a notion of perceptual hypothesis that is not *too* shallow, or too close to raw sensory stimulation. Examples of levels that are "too shallow" include early stages of visual processing such as Marr's "3 D" sketch.[36] In explaining why he wants to avoid levels that are too shallow, Fodor invokes a criterion of "phenomenological accessibility" for perceptual hypotheses:

> It may be thought Pickwickian, after all that we've been through together, for me to cleave to phenomenological accessibility as a criterion of the output of the visual processor. I must confess to being influenced, in part, by ulterior—specifically, epistemological—motives. It seems to me that we want a notion of perceptual process that makes the deliverances of perception available as the premises of *conscious* decisions and inferences; for it seems to me indubitable that, e.g., it sometimes happens that I look out the window, see that it is raining, and decide, in light of what I see, to carry my umbrella.
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> . . . [B]arring evidence to the contrary, it would be convenient if the output vocabulary of the perceptual analyzers overlapped the vocabulary of such (prima facie) perceptual premises as figure in conscious inference and decision-making (so that such remarks as "I see that it's raining" could be taken as literally true and not just enthymemic). Why shouldn't one assume what it is convenient to assume? (*MM*, 136n)

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[36] Fodor, *MM*, 94. See David Marr, *Vision* (San Francisco: W. H. Freeman, 1982).

This passage states some important constraints on Fodor's conception of a perceptual system. Perceptual hypotheses are consciously available to one. They are at a non-shallow enough level that they may enter, without processing into some new vocabulary, into ordinary reasoning about what the environment is like and how one should act in it. The content of perceptual hypotheses will enter more or less directly, then, into common-sense intentional explanations, ones that advert to what people see in order to account for what they do. Fodor's notion of the perceptual is specified, therefore, by reference to its role in (one kind of) psychological explanation.

Fodor expands on this notion of the perceptual by appeal to a construct of some currency in cognitive psychology, that of "basic" categories.[37] A category is to be understood in this context as an element of an implicational hierarchy, whereby anything that satisfies one element of the chain satisfies all the higher ones as well: Fodor's example is *poodle, dog, mammal, animal, physical object, thing* (*MM,* 94). A category is basic, according to Fodor, if it satisfies most or all of a certain set of conditions; the categories that turn out to be basic by these criteria are, intuitively, "middle-level" categories—*dog,* rather than *poodle* or *thing.* These, Fodor suggests, are typically the terms in which perceptual hypotheses are framed.

One of the conditions Fodor states is that words for basic categories occur with higher frequency, and are learned earlier, than words for other levels (*MM,* 95). Another is that basic categories are ones we naturally use in describing what we perceive (*MM,* 96). Fodor takes this to point to something important: "Basic categorizations are phenomenologically *given.*" They have, according to Fodor, a certain "phenomenological salience." A third condition Fodor gives seems to me the most substantive, so let me quote him at length:

> Basic categories are typically the most abstract members of their implication hierarchies which subtend individuals of approximately similar appearance. So, roughly, you can draw something that is just a dog, but you can't draw something that is just an animal; you can draw something that is just a chair, but you can't draw something that is just furniture.
>
> This observation suggests that, to a first approximation, basic categorizations (unlike categorizations that are more abstract) can be made, with reasonable reliability, on the basis of the visual properties of objects . . . . [T]he categorizations [input] systems effect must be

[37] R. Brown, "How Shall a Thing Be Called?" *Psychological Review* 65 (1958): 14–21, and E. Rosch et al., "Basic Objects in Natural Categories," *Cognitive Psychology* 8 (1976): 382–439, cited in Fodor, *MM,* 94.

> comprehensively determined by properties that the visual transducers can detect: shape, color, local motion, or whatever. Input systems aren't, of course, confined to encoding properties like shape and color, but they *are* confined—in virtue of their informational encapsulation—to categorizations which can be inferred, with reasonable accuracy, from such "purely visual" properties of the stimulus . . . .
>
> Putting it all together, then: basic categorizations are typically the most abstract members of their inferential hierarchies that *could* be assigned by an informationally encapsulated visual-input analyzer; more abstract categorizations are not reliably predicted by *visual* properties of the distal stimulus. (*MM*, 96–97)

There is an aspect of this account I do not understand. In appealing to the notion of "purely visual" properties, and in suggesting that more abstract categories are not predicted by those properties, Fodor is motivated by a concern to limit the vocabulary of perceptual hypotheses: he wants to say that such hypotheses ordinarily take the form, "There's a dog before me," rather than "There's a mammal before me." What is perplexing is how he thinks this restriction should be formulated in terms of what can reliably be inferred or predicted, in the context of an account that invokes implicational hierarchies. For there *is* a reliable inference, from the premise that a dog is before you, to the conclusion that a mammal is before you; or, a visual state that bears the information that a dog is before you also bears the information that a mammal is before you. That is just what it is for a hierarchy to be implicational: things that satisfy less abstract categories will necessarily satisfy more abstract categories to which the less abstract categories are hierarchically related. Hence, if *dog* can be reliably inferred from a certain set of visual properties, so can *mammal*. The account then provides no basis on which to say that *dog*, but not *mammal*, is an element of the vocabulary of perceptual hypotheses.[38]

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[38] It seems to me that Fodor needs a notion of covariation here, rather than indication in one direction. Whether or not something is a mammal can be inferred from its visual properties (indication), but it does not follow that there is some visual property a thing has just in case it is a mammal (covariation). The relevance of covariation is implied in Fodor's remarks about pictures, although in the subsequent discussion the operative notion seems to be indication instead.

I wonder whether Fodor's motivation for excluding higher hierarchical levels from the perceptual vocabulary may not be based on an equivocation over senses of "abstract." Fodor says that it follows from the basic-category account that "dogs but not protons count as observed" (*MM*, 97). But it is not clear that *proton* is more abstract than *dog* in the same sense of "abstract" as is relevant to position in an implicational hierarchy.

At any rate, notwithstanding this perplexity, the question we still have before us is what notion of perceptual hypothesis is determined by Fodor's account. I believe that there are different kinds of possible accounts here, corresponding to different senses in which a notion may be specified. One kind of account would be an *analysis* of the concept of perception: a specification that does not itself invoke that concept or something equivalent to it. An example of this sort of account would be a functionalistic characterization, specifying the functional role of perceptual hypotheses with respect to discriminations and other behaviors.[39]

A second kind of account would be more modest: it would not try to analyze intuitive notions, or replace them with something more explicit, but simply focus on and appeal to certain intuitions. For example, one might point to the Müller-Lyer lines, and say "*that* instance of lines looking different in length points to the sense of 'looks' I am appealing to here." The example would serve as an "intuition pump," in Dennett's phrase.[40]

It seems to me that Fodor's story is of the second kind. He says that "Basic categories are typically the most abstract members of their implication hierarchies which subtend individuals of approximately similar *appearance*" (emphasis mine). Now this statement cannot be plausibly seen as functioning in a non-circular account of what it is to be perceptual, since appearance is precisely the notion the account would be trying to define: how things appear is just what a perceptual hypothesis is supposed to capture.

Fodor's account, then, relies on rather than explicates an intuitive notion of appearance. But for all this, his account does much to specify the relevant notion. To go back to his story: you can draw a picture of a dog, but not a picture of a mammal. His observation points to a real and important phenomenon: dogs look alike in a way mammals do not. Fodor, as I read him, is saying that the reason why you can draw a picture of a dog, though not a picture of a mammal, is that you can draw something that reproduces the common appearance that dogs have, whereas there is no common appearance among mammals to be conveyed pictorially.[41] Fodor is appealing here to a notion of phenomenal similarity, i.e., similarity in

[39] A functionalistic characterization would advert to other mental states, including beliefs and desires, so it would not be reductionistic; but it would still make some explanatory progress, rather than being circular or tautological.

[40] Daniel C. Dennett, "Quining Qualia," reprinted in William G. Lycan, ed., *Mind and Cognition: A Reader* (Cambridge, Mass.: Basil Blackwell, 1990), 521.

[41] Of course, conventionalist worries arise here: the fact that there can be dog-pictures but not mammal-pictures might have more to do with our conventions of pictorial representation than anything else. But I think Fodor is right to resist such worries.

how things look or sound. And judgments of phenomenal similarity are, at least to some degree, detachable from our judgments about similarity *tout court.* It is reasonably clear what it means to say that many of Vivaldi's concertos sound alike, but that not all church music sounds alike.[42]

That we have some capacity to distinguish phenomenal similarity from other kinds of similarity is shown by Goodman's well-known example:[43]

a *d* A
m *w* M

Inscriptions of the same letter are certainly similar in an important respect, but they do not always *look* alike (or resemble one another more than they do other letters). But we could not make this judgment if we did not have a notion of phenomenal similarity distinct from that of similarity in other respects. So although Fodor relies on the notion of phenomenal similarity rather than eliminating or analyzing it, he is pointing to something real.

V

I want to summarize now the main aspects of Fodor's notion of a perceptual hypothesis. First, a perceptual hypothesis has a prominent role in conscious decision-making and inference. Second, its terms are ones we naturally use to describe what we see or hear; they are phenomenologically salient. Third, it captures judgments of phenomenal similarity, of looking or sounding alike.

We are left with an inescapable conclusion. By the criteria stated, the effects of musical training are perceptual. A trained musician, listening in an appropriate way, will be conscious of whether he is hearing a tonic pitch or a dominant, a major triad or minor. A composer will make choices predicated on constraints he conceives of, and hears, in music-theoretic terms. Asked to describe how she hears a piece or passage, an analyst will produce an analytic description under which she hears the music. The elements of such a description will typically be phenomenologically salient, for trained listeners. Passages with similar descriptions will sound alike to such

[42] An amusing sketch some years back on a popular late-night television comedy show purported to be a commercial for an album by Gordon Lightfoot. Though the titles and words of the excerpts varied, the music was always the same. The point of the sketch, of course, was that everything this singer does sounds alike. Phenomenal similarity with a vengeance.

[43] Nelson Goodman, "Seven Strictures on Similarity," in *Problems and Projects* (Indianapolis: Bobbs-Merrill, 1972), 438.

listeners. The latter will be able to reliably discriminate, by ear, passages that satisfy a description from ones that do not.[44] The criteria that allow *dog* and *rain* to enter into perceptual hypotheses for you and me, then, allow *dominant* to enter into perceptual hypotheses for trained listeners.

It follows in short order that trained musical perception is a counterexample to the claim that perception is diachronically encapsulated, for the relevant effects of musical training constitute an augmentation of one's perceptual vocabulary, and hence a failure of diachronic encapsulation.

Of course, there are any number of moves Fodor could make to resist the conclusion that trained musical hearing is perceptual in his sense. But it is hard to think of any that will not seem, at this stage in the argument, artificial. He might point to the requirement that words for basic categories are learned early and have a high frequency count. But among what population? To insist that it must be the general population would be an instance, if there ever was one, of begging the question; it would simply rule out the possibility—which seems entirely conceivable—that a subpopulation can have extraordinary perceptual capacities. And how early must the words for basic categories be learned? To insist strongly on very early acquisition is again to beg the question, in this case that of plasticity. Likewise, Fodor might contend that the level of music-theoretic description is not "natural," or that the kind of listening appropriate for producing such descriptions is excessively inferential. But all of the behavior I have described is natural for a trained listener, or as natural, at any rate, as its counterpart in everyday visual perception. A trained listener, when asked to describe what she hears, will spontaneously and without much ratiocination answer by using theoretical terminology: she hears a piece under a certain music-theoretic description, and will give that description in describing what she hears.[45] There is simply no principled basis on which to say that trained listeners do not hear chords as tonics and dominants in as full-blooded a sense as that in which ordinary perceivers see tables and chairs; or, at any rate, no such basis has been given by Fodor.

Hence, to return to a point that troubled us at the outset, it is of course open to Fodor to insist that whatever is perceptual *must* be diachronically encapsulated, and thus to rule any potential counterexample out of court.

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[44] I take discrimination to be a necessary condition for phenomenal similarity, although this is not explicit in Fodor as far as I can see.

[45] There may be a mismatch between the scale of detail the describer uses and what she perceives—e.g., she may say "I am hearing a recapitulation" instead of "I am hearing a minor triad." But this point affects ordinary perception as well: though (to borrow Fodor's example) I may say "I see a lady walking a dog," it does not follow that I do not see the color of her gloves (Fodor, *MM*, 96).

But by now that stipulation will seem artificial. For the requirements on the explanatory role that he wants a notion of perception to fill—phenomenologically salient, entering into decision-making, and so on—are satisfied by trained musical perception. Trained musical perception plays that theoretical role, but is not diachronically encapsulated. Modularity is an empirical thesis because (among other reasons) a counterexample is conceivable, and we have seen that trained musical perception is such a counterexample. And although Fodor is certainly free to tailor some other notion of perception (and observation) in such a way as to be immune to this counterexample, it is hard to see, given the motivations for the modularity account, what independent interest such a notion would have.

I want to consider one other line of response open to Fodor. This response would take the form of denying that the musical case involves a failure of diachronic encapsulation, because the effects of musical training are a development *within* a perceptual module rather than penetration from without. Fodor does allow that there may be growth, and a certain limited amount of plasticity, internal to modules.[46] A limiting case of this response would be that musical training activates a vocabulary already endogenously specified, or innate, in the listener.

What is difficult to see is how such responses would be of any comfort to one looking to perception as a source of theory-neutrality. If a perceptual module can develop internally in such a way as to generate a music-theoretical vocabulary, what reason do we have to think it cannot generate arbitrarily many other vocabularies? It is hard to see what useful notion of theory-neutrality then remains. And the situation is no better if we suppose the relevant vocabulary to be innate: if certain elementary music-theoretical terms are already specified somehow in the perceptual modules of untrained listeners, what else may be lurking there? Atonal set theory? Quantum physics?

The strategy of denying diachronic penetration is thus of little help to Fodor. It does not explain away the basic phenomenon: the richness of perceptual vocabulary exemplified by musical hearing. If a module gets to be, or is seen to be, too knowledgeable or too smart—regardless of whether this is understood as an encapsulation failure—the module's output loses any viability it might have had as a candidate for theory-neutral observation. Even if Fodor salvages the thesis that perception is diachronically en-

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[46] I am indebted to David Temperley for pressing the point that on Fodor's view modules can grow or "learn" (personal communication). It should be noted, however, that in some cases Fodor considers such learning to involve intramodular plasticity, e.g., the inverting-lens case ("Reply," 258–59), whereas he takes others to be instances of diachronic penetration, e.g., language acquisition ("OR," 248).

capsulated, he does not thereby salvage the thesis that perception is theory-neutral: trained musical perception is still a counterexample to the latter. There should be no solace, for Fodor, in the idea that a perceptual module learns music theory on its own, or always knew it: it knows it now, and it knows too much.

VI

Having based the preceding argument on what I hope has been a close and reasonably sympathetic reading of *The Modularity of Mind*, I want to express some doubt about whether that account should, after all, be looked to as a source of anything decisive for the debate over plasticity and theory-neutral observation. My reservations stem from Fodor's reply to Churchland on the topic of reading. I give first the relevant passage from Churchland, and then Fodor's reply:

> *Churchland:* In recent centuries [we] have learned to perceive speech not just auditorally but visually: we have learned to read. . . . [T]he eyes . . . were [not] evolved for the instantaneous perception of those complex structures and organizations originally found in auditory phenomena, but their acquired mastery here illustrates the highly sophisticated and decidedly supernormal capacities that learning can produce in them.[47]

> *Fodor:* In recent centuries we have learned to perceive automobiles (not just aurally, but visually). Now the eyes were not evolved for the instantaneous perception of those complex structures. So doesn't their acquired mastery illustrate the highly sophisticated and supernormal capacities that learning can produce in perception?
> . . . Churchland needs, and doesn't have, an argument that the visual perceptual capacities of people who can read (or, mutatis mutandis, people who can automobile-spot) differ in any interesting way from the visual perceptual capacities of people who can't. In precisely what respects does he suppose illiterates to be *visually* incapacitated?
>
> The old story is: you read (spot automobiles) by making educated inferences from properties of things that your visual system *was* evolved to detect; shape, form, color, sequence, and the like. Churchland offers no evidence that educating the inferences alters the perceptual apparatus.[48]

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[47] Churchland, "Perceptual Plasticity," 177; quoted in Fodor, "Reply," 259.
[48] Fodor, "Reply," 259.

It is difficult to reconcile this estimation of the perceptual contents we actually enjoy with the position taken in *The Modularity of Mind.* There, the view is that "input systems aren't confined to encoding properties like shape and color," but can encode categorizations at the level of ordinary objects such as dogs and rain.[49] The "old story" Fodor invokes in "Reply," then, is quite different from the modularity story. They differ on the crucial point of where ordinary objects are located relative to the distinction between observation and subsequent inference. In the modularity account, the level of ordinary objects is observational; in "Reply," it is post-observationally inferential.

How shall we interpret Fodor at this point? Perhaps he has changed his mind about perceptual systems. Or perhaps in his response to Churchland, Fodor is not talking about perceptual hypotheses at all, but has some other notion in mind. Either way, it is now difficult to see what we are entitled to draw from the modularity account as relevant to the plasticity debate. For on either alternative, the question is not whether perceptual hypotheses as outlined in that account can be theory-laden, but whether states that are perceptual in some stronger or narrower sense can be theory-laden.

The problem with this interpretation is that an alternative or revised account would seem to be demanded here, but in "Reply" Fodor does not give, or even hint at a need for, such an account. He says nothing that would in any way retract his invocation of the modularity story as the psychological foundation for the argument for theory-neutrality.[50]

We must conclude, then, that Fodor has simply stated an inconsistent position. He is driven to do so because he wants a notion of perception robust (i.e., non-shallow) enough to enter into psychological explanations of decision-making and action, but shallow enough to serve as a basis for a theory-neutral conception of observation. When Fodor sees that plausible candidates for the former will not do for the latter, he retreats to a narrower estimation of what is perceptual; but, on pain of inconsistency, he cannot do so while maintaining allegiance to his earlier account.

The question is what we should now say Fodor must give up in order to avoid inconsistency. We will preserve more, I think, if we discount the narrower estimation of the perceptual given in "Reply" than if we reject the modularity account, since there is no independent basis for the former. The argument of the preceding sections, based on the modularity account, then stands.

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[49] Fodor, *MM,* 97 and 136n. Of course, it would not be plausible for Fodor to maintain that the examples should be treated differently, that *dog* is perceptual in a way that *automobile* is not. Where dogs go, automobiles follow; or the other way around, actually.

[50] Fodor, "OR," 244–45. Perhaps he gives a revised account elsewhere, although I am not aware of it.

VII

In the remainder of this article, I want to return to the role of observation in rational theory choice and consider the way trained musical perception impinges on that issue. I have pursued the questions about perception because I think that Hanson and his followers were on to something deep and important in asserting that seeing is theory-laden. And I have argued that modularity theory does not refute that insight.

Nevertheless, on the issue of theory-neutrality, it does seem open to Fodor to argue as follows. *Some* process in the brain, beginning with sensory stimulation, is modular (where this includes being diachronically encapsulated), whether or not it is what we ordinarily mean by perception, i.e., whether or not it is linked in appropriate ways to decision-making and action, exhibits phenomenological salience, and so on. This module's output is semantically evaluable, and is just what is necessary for a satisfactory account of rational theory choice in science. Moreover, this output is *all* that is necessary: we do not need to advert to anything inferred from those premises, anything more theory-laden, in an account of scientific confirmation. This, Fodor might contend, would provide just the desired notion of theory-neutral observation. And trained musical perception would not constitute a counterexample to this account, since—he would argue—it is not the sort of observation that would enter, ineliminably, into an account of rational theory choice.[51]

The specific issue raised by this argument is whether trained musical observations ever play an ineliminable role in theory confirmation in music. A more general question is whether theory-laden observations relevantly similar to trained musical observations ever play such a role outside of music.

Fodor is mainly interested, of course, in the confirmation of *scientific* theories. And trained musical perception does not, as far as I am aware, play a confirmatory role in any scientific context outside of music theory—if, indeed, the latter is to count as science at all. Hence, as to the more specific of the two questions: even if trained musical perception does play a crucial and ineliminable role in music theory confirmation, it would not constitute a counterexample to Fodor's view if music theory, in the relevant instances, is not science. Nevertheless, Fodor would still have to contend with the more general consideration that observations *like* those

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[51] This response exploits Fodor's stipulation that a module need not be "perfectly encapsulated," so long as it is "encapsulated enough to permit theory-neutral, observational resolution of scientific disputes" ("Reply," 255). But I do not know whether Fodor would countenance this response (cf. "Reply," 257).

of trained musical perception may sometimes enter ineliminably into rational theory choice in science.

I shall not try to decide here whether music theory is science.[52] I want to argue, rather, that theory choice in music does sometimes depend on theory-laden observation, but that this fact poses no obstacle to seeing such choice as rational. To make the argument as relevant as possible to science, I shall frame it with respect to music theory construed along realist lines. I shall then turn to consider briefly the analogy to (other) scientific contexts.

Let me say, first of all, what I mean by a realist construal of music theory. There are different stances that we can take toward the nature and perception of music-theoretical properties and toward theory acceptance. We might, for example, think of musical properties as subjective, and theoretical statements about musical works as neither true nor false, but accepted or rejected simply on the basis of interest, usefulness, or fashion. On this kind of stance, it is problematic whether rationality is an applicable notion, or at least whether a sense of rationality that would apply here would be strong enough for scientific contexts.

But to keep the discussion as close as possible to Fodor's (and Churchland's) concerns, I want to maintain a different kind of stance toward musical perception and theory, one I call realist. On this stance, we think of the properties detailed in theories of music as belonging to musical passages and their sounded instances—rather than, say, to experiences or subjective states.[53] On this view, theories of music are empirical theories about structures or other properties of musical works, and musical perception is a matter of mentally representing sound events as having such properties—in the case of veridical perception, detecting them.[54]

This stance is at least tenable. We might think of tonality, for example, as a structural property of a passage analogous to the way a physical object

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[52] On the claim of music theory to scientific status, see my "Theoretically Informed Listening," in Michael Krausz, ed., *The Interpretation of Music: Philosophical Essays* (Oxford: Clarendon Press, 1993), 271–81.

[53] I have discussed perceptual realism and related issues in "The Representational Content of Musical Experience," *Philosophy and Phenomenological Research* 51 (1991): 303–24, and in "Conceptions of Musical Structure," *Midwest Studies in Philosophy* 16 (1991): 378–93. There is a parallel with realist theories of color: see David R. Hilbert, *Color and Color Perception: A Study in Anthropocentric Realism* (Stanford: Center for the Study of Language and Information, 1987).

[54] A music-perceptual state thus has a truth value: it is true or false depending on whether it represents the sounded passage as it is. On a realist stance, a semantics for ascriptions of music-perceptual states presupposes a semantics for music-theoretical terms. I investigate issues of mental content and content attribution in my forthcoming *Music and Conceptualization* (Cambridge: Cambridge University Press).

has a center of gravity.[55] And we might think of training in Schenkerian analysis, for example, as entailing the acquisition of certain observational powers—of detecting prolongations, diminutions, and certain other structural features that inhere in passages of music.[56] Let us adopt this stance in what follows.

Do theories of music actually rely for their evidential support on theory-laden observations? I maintain that the answer is "Often, yes." Claims about musical structure are commonly supported by the fact that the relevant structures can be heard in the music by trained listeners. Listeners' acceptance of such claims—and the rationality of that acceptance—depends on their being able to detect such structures. And higher-level generalizations or theoretical claims derive their evidential support in this way as well. For example, Schenker's theory of the *Ursatz* as a source of coherence for tonal music may be regarded as making predictions about observable structures in the music, predictions that can be confirmed or disconfirmed by trained listeners.[57]

What is absent from this account of confirmation in music theory is any counterpart to a condition Fodor apparently takes to be important for rationality, *viz.*, that it is possible for scientists with differing theoretical commitments to agree on what would be relevant deciding experiments ("OR," 250). I shall call this the condition of intertheoretic agreement. Trained listeners are the measuring instruments in the case of music, and directly perceive auditory events under music-theoretic concepts. Untrained listeners do not have those observational concepts. Moreover, they typically do not have any alternative, non-observational conceptions of the relevant properties (except, perhaps, under the description "the properties that trained listeners are detecting"). Hence there is an important sense in which they do not know what those properties are. The only way an untrained listener can fully understand and evaluate the relevant theory is to "go native": to study the theory, become trained, and learn to hear music under the relevant description.[58] This may be part of the reason why there is less consensus and communication in music theory than in the physical

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[55] I have in mind Beardsley's discussion of tonality here, although I do not know whether he would accept the realist picture precisely as I have sketched it. See Monroe Beardsley, *Aesthetics: Problems in the Philosophy of Criticism*, 2nd ed. (Indianapolis: Hackett, 1981), xxix and 105.

[56] I am indebted to Naomi Cumming for a discussion of this point.

[57] Not to say that this is precisely what Schenker intended, but merely that it is a useful way of looking at his theory. See Heinrich Schenker, *Free Composition (Der freie Satz)*, trans. and ed. Ernst Oster (New York: Longman, 1979), 5.

[58] Kuhn, *Scientific Revolutions*, 204.

sciences: different theories or paradigms within music theory may require different sorts of perceptual training. Such training is apt to be lengthy and difficult, and different sorts of training may well be incompatible.

Of course, *some* observational properties are common to different theoretical perspectives in this sort of case. No one would deny that different listeners hearing Brahms's Fourth Symphony typically hear many of the same things. But those common observational properties are not by themselves decisive for theory choice. We should not underestimate the lack of commonality here. It is not as if different music theories can generally be understood as trying to explicate some theory-neutral, observational property such as coherence, in a way analogous to that in which different theories of English syntax attempt to explicate grammaticality, a property neutral to those theories. (Rival theories in linguistics may be tested against intuitions about grammaticality, which—presumably—do not themselves import notions specific to one theory or another.) Different music theories import very different notions of coherence; so the observations concerning coherence made from one theoretical perspective will often be incommensurable with those made from another perspective.

The condition of intertheoretic agreement, I take it, expresses the essence of Fodor's conception of theory-neutrality. The question that arises in reading Fodor is just what the force of that condition vis-à-vis rationality is supposed to be. Perhaps he thinks of it as a necessary condition on rational theory choice, or perhaps he merely thinks of it as helping to explain what is rational in certain actual cases of theory choice. These postures should be distinguished. It may well be that the reasons we typically have for choosing one theory over another are based on data from experiments that adherents of either theory would agree to be relevant. If this is true, but insufficiently recognized—as Fodor seems to think—then he is right to point it out. It is certainly helpful to correct mistaken views about actual cases. However, it does not follow that the condition of intertheoretic agreement *must* be satisfied if theory choice is to be rational.

But I do think Fodor takes the condition of intertheoretic agreement to be a necessary condition on rational theory choice. He says that "the story about scientific consensus turns crucially on . . . theory-neutrality," and suggests that an account of scientific controversy that does not advert to theory-neutral observation is likely to appeal to notions unable to capture the rationality of belief change, such as coherence or consensus ("OR," 250–51). This implies that theory-neutrality is needed to explain rationality.

What is difficult to see is why Fodor puts as much emphasis as he does on theory-neutrality, as distinct from observationality per se. Fodor is "moved by the idea that belief in the best science is rational because it is objective, and that it is objective because the predictions of our best theo-

ries can be *observed to be true*" ("OR," 251). Sure enough, but this points to the importance of observationality, not theory-neutrality. It points to the need for a distinction between the observational and the nonobservational, not between what is theory-neutral and what is theory-laden. There is no need to think that these distinctions are the same, i.e., to suppose that what is observational, in a sense relevant to explaining rationality and objectivity, has to be theory-neutral.[59]

We may encounter a theory with certain observation terms that have no translation into our language. Observations in those terms, made by us (once we have "gone native") or others, may well enter into a correct explanation of why we are rational in coming to believe that theory. Music provides such a case: the fact that we can *hear* dominant-tonic relationships may well be a crucial part of our reason for thinking that there *are* dominant-tonic relationships in the music. But it is observationality, not theory-neutrality, that is doing the work in such an explanation.

I want to turn now to the scientific case, and ask whether these considerations about music theory have implications for scientific confirmation. Of course, even if music theory is science in some sense it operates at a different explanatory level than physics, and descriptions of musical structures do not occur in physics any more than color terms do.[60] If a realist conception of music-theoretical properties is correct, then such properties will at most supervene on, rather than being reducible to, physical properties. One might question whether the present argument carries over to the physical sciences, for which the issue of rationality arises with the greatest force.

Again, we have to distinguish the claim that theory-neutrality *must* obtain from the claim that it often *does* obtain, in actual and important cases. The latter may well be true: it may well be that theory-neutral observation often does play an essential role in actual cases of rational theory choice in physical science. If so, and if we have been misled on this point, then Fodor is right to correct this mistake.

But *must* it play such a role, if scientific theory choice is to be rational? Consider a case such as the following—which is, in essential respects, no different from that of trained musical observation. A measuring device is developed, in the context of a new paradigm, that detects some property inexpressible, or which we do not know how to express, in the old theory.

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[59] Yet aspects of modularity theory, minus the requirement of diachronic encapsulation, may well be relevant to explaining the observational/nonobservational distinction. An account of the distinctive epistemic role of observations may well advert to mandatory and fast operation, synchronic encapsulation, and so on.

[63] Hilbert, *Color*, 10.

One might develop a gamma-ray detector, for example, a device that detects a phenomenon that cannot be described, or which we do not know how to describe, in terms of Newtonian mechanics. We may well be rational in adopting the new theory on the basis of observations made with that device, although Fodor's condition of intertheoretic agreement is not satisfied.

I expect Fodor would respond that his position does not mean to deny the (rather unexceptionable) point that new measuring devices can be developed, and that things or events that were formerly unobservable can come to be observable. But that is just what the condition of intertheoretic agreement denies. Or, rather, an insistence on that condition as a necessary constraint on rational theory choice amounts to a denial that new observations of this sort can play an ineliminable role in explaining why the acceptance of a new theory is rational. And it is hard to see why that denial is at all plausible.

The condition of intertheoretic agreement, understood as a necessary condition, is just too strong a constraint on rational theory choice. Perhaps, of course, I am wrong in reading Fodor as intending it to be a necessary condition. But if he does not intend it as a necessary condition, then it is hard to see what the force of his insistence on the importance of theory-neutral observation amounts to: its role in an account of scientific agreement turns out to be much less "crucial" than he makes it sound. We may treat as a false dichotomy, then, the choice Fodor offers us between scientists' "fudging, smoothing over, brow beating, false advertising, self-deception, and outright rat painting," and experiments that can be evaluated from some theory-neutral perspective ("OR," 251).

* * *

For all I have said, modularity remains a fertile thesis about mental organization. But we should remember that there are many ways the story can go. We should be open to the possibility that mental faculties are modular in certain respects but not others. If what I have been arguing is correct, a perceptual system may be diachronically unencapsulated even if it is synchronically encapsulated. The kinds of semantic values had by the outputs of such systems may change, and we may come to perceive the world in new and expanded terms. Such a change in one's perceptual "vocabulary" may be brought about through exposure to and practice in a theory. Churchland is correct to point out a salient and important example of this phenomenon in music perception.

Much recent work in music theory and psychology has looked to modularity theory for a foundation. Although there is much to be said for

exploring the relevance of modularity theory to music, the foregoing discussion shows that modularity theory is underspecified in important ways and hence that its status as a foundation for music theory is not as secure as one might initially think. If Fodor can be indecisive about whether ordinary objects, as opposed to lower-level color and shape properties, constitute the vocabulary of perceptual hypotheses, then the very notion of a perceptual system is far from determinate. It may be that modularity theory should not be thought of as grounding music theory, so much as depending on the latter for constraints on the notion of a perceptual hypothesis.

Fodor is concerned to argue for a conception of theory-neutral observation because he thinks it necessary to account for rationality in theory choice. His insistence on the importance of theory-neutrality is, I believe, misplaced. It is observationality, not theory-neutrality, that bears the weight here, and it is not necessary to understand the former notion in terms of the latter. Rational theory choice in music supports this contention. Theory confirmation in music depends on theory-laden observations, and even if scientific confirmation often does not, there is no reason why it cannot.

What is at stake in a debate over whether a given kind of musical hearing is perception or cognition? I have maintained that the debate between Churchland and Fodor derives its substance from the explanatory purposes to which the notion of perception is put to work. Fodor's modularity theory specifies one such set of requirements on perception: that it enter into the explanation of thought, decision-making, and action at much the same level as ordinary talk of seeing and hearing. These requirements are amply satisfied by elementary, trained musical hearing, refuting the thesis that one's perceptual vocabulary is insusceptible to enlargement from new theoretical perspectives. Trained listeners *hear* tonics and dominants, and perhaps even prolongations and diminutions, in as full and rich a sense as Fodor's modularity theory, not to mention ordinary discourse, could want. For such listeners the appearance of music becomes, in Locke's phrase, "alter'd by the Judgment"; and there is no reason to suppose that this is not a pervasive and important feature of perception in general. Perhaps it would be too much to say that music is a central part of humanity's "epistemic adventure," but it would be a mistake to ignore what music can tell us about it.

ABSTRACT

The thesis that observation is theory-laden, long an important issue in epistemology and the philosophy of science, bears centrally on the perception of music. Paul Churchland has argued that trained musical perception is an instance of perceptual plasticity, or theory-laden observation.

Jerry Fodor disputes this; but by the criteria of Fodor's own modularity theory the effects of musical training are perceptual. The epistemological consequences are less dire than Fodor suggests, however: even if theory confirmation in music and science depends essentially on theory-laden observation, it does not follow that such confirmation is irrational.

Response from Paul Churchland in forthcoming issue.

Elaine R. Sisman, ***Haydn and the Classical Variation.*** Cambridge, Mass.: Harvard University Press, 1993. xii, 311 pp.

The Classical variation would seem to be an attractive subject, to judge from the quantity, artistic merit, and historical significance of the music in question. As tabulated in Elaine Sisman's path-breaking study, the repertory is vast (more than 150 variation forms by Haydn, more than fifty by Mozart, more than sixty by Beethoven), and it includes movements of many important works in the major genres: dozens of Haydn symphonies and string quartets, no fewer than five of Mozart's most cherished piano concertos, and six Beethoven symphony movements. Nevertheless, most of this music is ignored in scholarly writings on the period, in books on the principal composers, and in critical studies of the instrumental genres.

What causes writers to become tongue-tied, evasive, or (at best) resort to uninformative generalization when confronting variation forms? Some of the blame can fall on the deficiency of our analytic tools. Whether demonstrating a Classical composer's stature or expounding on stylistic developments of the age, scholars gravitate toward music that lends itself to description in terms of elegant hierarchies, seamless structural logic, long-range developmental strategies, and large-scale resolution of tonal tensions. In this context, the architectonic limitations, repetitive structure, and ubiquitous embellishments of a variation form resist criticism in any but the most mechanical and simplistic terms.

Mired in thickets of decorative figuration, the analyst of variations finds little assistance from eighteenth-century theorists. Discussions of variation concentrate on execution more than composition; distinctions between improvised and written variation are blurred; and even Heinrich Christoph Koch, otherwise helpfully systematic and detailed, offers little more than rudimentary description and categorization. One suspects that he, not unlike present-day writers, found other kinds of music more rewarding to discuss. Such reticence may well have been encouraged by the enduring vogue of popular keyboard variations: the mercenary incentive for such music, its paucity of expression, and its limited artistic aspirations tended to evoke contempt rather than sympathetic critical discourse.

Perhaps the most insidious deterrent to the appreciation of Classical variations ensues from long-standing assumptions about historical periodization and stylistic evolution. The standard Baroque-Classical dichotomy hypothesizes a precipitous decline of the former style and a gradual emergence of the latter from technically primitive foundations. To be sure, this model assists in describing contrasts between the music of J. S. Bach's generation and that of Mozart's, and in evaluating the idiosyncrasies of much that falls in between. Yet it may be detrimental to our understanding of late eighteenth-century variations, whose typically simple binary themes, spontaneous figural embellishments, and patterns of linear accumulation suggest stylistic continuity more than any break with the past.

It has certainly not helped that the member of the Classical triumvirate who did most to elevate the stature of variation form was the one whose reputation has always been somewhat clouded by ambiguity. Everyone celebrates Haydn's developmental resourcefulness, inspired play on conventional expectation, and gift for musical wit; but scholars have been reluctant to grant him the emotional profundity, transcendent expressive power, and spiritual complexity that they bestow so generously on Mozart and Beethoven. This problem is compounded by the paradoxical circumstance that Haydn, master of whimsy elsewhere, adopts an unaccountably sober mien when composing the slow variation movements of his quartets, symphonies, and music for keyboard.

A fresh assessment of the Classical variation has long been overdue, and Haydn's contribution is surely the right place to begin. Sisman's doctoral dissertation on the topic, *Haydn's Variations* (Princeton University, 1978), is an exemplary effort of its kind. It furnishes a coherent division of Haydn's variations into principal types, strophic and "hybrid" (Sisman's term for forms that incorporate varied recurrence within a ternary, rondo, or alternating-theme design). It explores pertinent questions of genre and procedure, and traces aspects of chronological change and evolution over the half-century of Haydn's career as an instrumental composer.

Sisman anchors this study to eighteenth-century perspectives by surveying the contemporary theoretical literature, such as it is, and examining the relationship between small and expanded forms as discussed in Koch's *Versuch einer Anleitung zur Composition* (1782–93). Koch explains the grammatical logic of a large, hierarchically organized structure, such as a first-movement allegro, by showing its theoretical origin in simple relationships that govern phrases and small binary designs. Sisman draws the connection between Koch's lesson and Haydn's procedure in his own expansions of themes from variation-form movements; and on the strength of this connection, she proceeds to locate Haydn's variations within the constellation of forms as classified by this late eighteenth-century authority.

One expects to find a certain sharpening of focus and maturation of insight between dissertation and book, and in this instance the transformation is especially profound. Much of the material on Koch and the eighteenth-century theoretical background is incorporated more or less directly, but the approach to categorization and style evolution is refined, and the scope of the inquiry is broadened. As the altered title suggests, the whole field of the Classical variation is now appropriated (though of course not comprehensively) as a backdrop for the study of Haydn's accomplishment. His early strophic variations are viewed in the light of works by contemporaries such as Gassmann, Albrechtsberger, and Ordonez, while his later alternating variations are compared with related structures in music of Steffan, Vanhal, and Kozeluch (in addition to instances in C.P.E. Bach, Martini, and in the *Nannerl Notenbuch* compiled by Leopold Mozart). Extensive discussions of Mozart and Beethoven help restore the balance of critical assessment to the Classical masters in light of the author's sweeping reappraisal of Haydn's contribution.

Whereas the dissertation concentrates on identifying characteristic, felicitous, or novel procedures that affect the relationship of a variation to its theme, to other variations, or to a movement as a whole, the book confronts more basic issues of coherence and expressive significance in ways that reframe the explication of variation form and redefine the source of its attraction for the Classical composers and their audience. In a pair of introductory chapters, Sisman explores aesthetic ramifications of repetition and decoration, and proposes points of connection between these musical processes and the traditional discipline of rhetoric. Stepping lightly through the present-day morass of rhetorical criticism, she argues the case for analogies by citing eighteenth-century music theorists and critics for whom the use of rhetorical language to describe compositional resources was not only appropriate but self-evident. She then clears the way for the application of rhetoric to variation form. Abbé Vogler's eccentric but insightful essay *Verbesserung der Forkel'schen Veränderungen über 'God Save the King'* (Frankfurt am Main, 1793) obliges by actually designating variation in music as a species of rhetoric in which the same thought appears in different guises. Passages from the traditional literature on rhetoric help reinforce the parallels she draws between rhetorical discourse and variation-form procedures in music. The medieval *ars praedicandi,* for example, involves a series of exegeses on a scriptural theme; according to Erasmus's art of "copious language," one strives to say the same thing in many different ways. And in Cicero's style of epideictic oration, "the ornamentation is done of set purpose, with no attempt at concealment, but openly and avowedly" (cited on p. 29).

Having established such connections, Sisman calls up a resonant vo-

cabulary of rhetorical figures similar to that presented in Leonard Ratner's *Classic Music.*[1] An *abruptio* suddenly breaks a pattern; *anadiplosis* designates repetition of a figure after a punctuation; *gradatio* applies to sequential change or progressive rhythmic intensification; and *periphrasis* elaborates a simple idea with many notes. To such terms as these, which may be found in eighteenth-century writings on music, Sisman adds others culled from such sources as George Puttenham's *The Arte of English Poesie* (1589), which makes the felicitous distinction between figures that serve the ear and those that address the intellect, and the *[Rhetorica] Ad Herrenium* (formerly attributed to Cicero), where the art of refining (*expolitio*) is described as "dwelling on the same topic and yet seeming to say something ever new" (quoted on p. 36).

The aim of this exercise in rhetorical analogy is not so much to discover a hidden key to Haydn's compositional process as to establish a vital link with eighteenth-century attitudes and habits of thought—those of the listener as well as the composer—and to describe musical events in ways that not only clarify relationships of pitch, rhythm, and timbre, but also underscore the potential urgency of those relationships and explain their claim to our attention and emotional involvement.

Braced for some heavy-handed, rhetorically saturated analyses by the density and ardor of this introduction (which constitutes some of the best recent writing on the subject), one finds the analogies pursued with unexpected restraint. This Haydnesque surprise may work to the author's advantage as well as the reader's: for the uninitiated, paragraphs congested with instances of *exsuscitatio, similitudo, anadiplosis, commoratio, epanalepsis, polyptoton,* and the like, can acquire a prickly texture, and the connotations of these terms are not always easy to sort out. Distinguishing with confidence between musical *pleonasm* and *periphrasis,* for example, can take considerable practice. However, even in passages of criticism that abstain from the vocabulary of rhetorical figures, the reader senses what might be described as a rhetorical point of view, an approach to analysis that eschews models of hierarchic structure and reductive analysis in the search for musically significant processes involving proximate as well as remote interrelationships among motives, gestures, and phrases.

In point of fact, the breadth of material to be covered leaves little room for detailed analysis of any kind. Haydn is a composer whose predictable mode is unpredictability, and his inventive thrusts subvert the constraints that variation forms otherwise impose. For the analyst of style, this means

[1] Leonard Ratner, *Classic Music: Expression, Form, and Style* (New York: Schirmer, 1980), 91–92.

that categories and subcategories proliferate, and that generalizations become difficult to sustain. Such is the dilemma of the Haydn scholar: to give an authentic account of the composer's stylistic diversity means citing many works, explaining unique and exceptional procedures, and also resisting the temptation to invest in the detailed critique of a particular composition on the strength of its authority as a characteristic example or representative of a class.

The attempt, within limited space, to resolve conflicting imperatives of stylistic generalization and rhetorical explanation leads to analyses that are sometimes dense and elliptical, however revealing their insights into the composer's style as well as special aspects of musical significance in the work under consideration. The typically compressed discussions of individual works rarely extend to more than one and a half pages (not counting the generous music examples and copious footnotes), and even such a landmark as the famous Andante in F minor (Hob. XVII:6), identified by Sisman as "one of [Haydn's] greatest works in any genre" (p. 192), earns no more than two pages of text, some of which is consumed by documentary and historical issues concerning the work's genesis.

Two brilliant, final chapters, one on Mozart, the other on Beethoven, might be better understood as peroration than appendix. Both are memorable for their clarity and freshness of insight into areas that have defied previous critical efforts, and together they open a tantalizing window on the possibilities of rhetorical analysis. After offering a persuasive theory on Mozart's intention behind the original five-variation design for the slow movement of his A-major string quartet, K. 464, Sisman turns to the slow- and final-movement variations of the piano concertos. This discussion features a remarkable analysis of the manner in which the Andante of Mozart's B-flat concerto, K. 450, appears to have drawn on the slow movement of Haydn's Symphony No. 75 as a model, and an ingenious interpretation of the extraordinarily long peroration to the finale of the G-major concerto, K. 453.

The final chapter, "Conclusion: Beethoven and the Transformation of the Classical Variation," narrows the focus even further. Here the author's concern is neither the Haydn-influenced variation movements in Beethoven's symphonies, nor such matters as his preoccupation with variation in late quartets and keyboard music or his fondness, even in such profound works as the F-minor sonata, Op. 57 (*Appassionata*) or the *Archduke* Trio, Op. 97, for an overtly mechanical, strophic-variation format. Instead, Sisman invokes the rhetorical notions of decorum and propriety as concepts that serve to clarify Beethoven's understanding of the Classical variation and the originality of his accomplishment in transforming its premises. After demonstrating his invention of a new decorum in two works

that have resisted coherent analysis (the variation movements of the string quartets Op. 18, no. 5 and Op. 74), she concludes with a reassessment of the "wirklich gantz neue Manier" of the piano variations, Opp. 34 and 35, and a novel critique that unmasks the last movement of the Third Symphony as a reinvention of the Haydnesque alternating variation.

It is to the author's credit that the reader comes away from this relatively slim volume (scarcely more than 300 pages from cover to cover, including a detailed index, extensive bibliography, and comprehensive lists of the major composers' variation repertory) hungering for more. As the questions Sisman raises make abundantly clear, much remains to be said regarding the structure and significance of individual variation movements, their integration within the instrumental cycles to which they belong, and their place within the larger picture of eighteenth- and early nineteenth-century musical practice. Her study not only sheds new light on these issues but also constitutes an indispensable point of departure for future scholarly work in the field. Yet perhaps its most significant accomplishment is the demonstration of how the limits of conventional analytical discourse can be extended into a previously inaccessible realm of variation, where significance resides less in syntactic complexity and long-range continuity than in textural finesse, eloquence of gesture, and expressive figurations that conceal the most sophisticated artifice with an illusion of guileless spontaneity.

—Floyd Grave

Richard Strauss. New Perspectives on the Composer and His Work, ed. Bryan Gilliam. Durham: Duke University, 1992. 290pp. cloth, $34.95

Richard Strauss and His World, ed. Bryan Gilliam. Princeton: Princeton University Press, 1992. 425pp. cloth, $60.00; paper, $22.96

In 1932 Paul Bekker opened his *Briefe an zeitgenössische Musiker* (hereafter *BzM*)[1] with a letter to Richard Strauss. It contains a familiar portrait of the composer as a one-time champion of progress whose retreat into artifice and routine disillusioned a generation, a Strauss whose world had crumbled with the Great War but who nevertheless continued to reign over his vanished realm like the emperor turned to stone in *Die Frau ohne Schatten*, lifeless save for his eternal gaze. And yet, as if mesmerized by the persistence of that gaze, Bekker offered no premature post mortem but an apostrophe to "the first among the living": the first in genius, success, and above all in the skill with which he mastered life and the world through his art (*BzM*, 7). "How insignificant those objections seem to us today, objections with which we believed back then we had to oppose you," Bekker reflected (*BzM*, 16). "You were right in everything, because you have been right all along" (*BzM*, 17).

What makes Bekker's letter so disconcerting, its contrasting themes of disenchantment and veneration so discordant, is the candor of his apparent critical capitulation. But Bekker's point is that he is describing a phenomenon that to a certain extent resists critical categories. His letter is a celebration of Strauss's triumph of will and personality, of the calm, self-assured mastery that characterized both the composer and the conductor whose understated gestures and imperturbable mien could achieve results of such extraordinary power: "Here is someone who has formed himself through sheer willpower, formed himself so completely that he has been able, as it were, to step outside himself and with no more than the merest touch make a work, a personality come alive most intensely" (*BzM*, 17).

Bekker was not only acknowledging the perseverance of a personality through a particularly tumultuous chapter in German cultural history; he no doubt sensed as well the renewed authority that Strauss, a "personality

[1] Berlin: Max Hesses Verlag, 1932. All translations are mine.

above all tendencies" (*BzM*, 16), would enjoy in the next chapter already then being written. Though Bekker left Germany with the arrival of the new order, one suspects that his admiration for Strauss would only have increased had he lived to see the composer's final flowering in the post-war years.

Bekker's letter illuminates a central quandary in any critical assessment of Strauss. No twentieth-century composer is so securely entrenched in both the concert and opera repertoire, and even if his music seems to engage more admiration than affection, more enthusiasm than passion, it is nonetheless a part of us, our cultural landscape unthinkable without it. There is, however, a disquieting disparity between the omnipresence of that music and the absence of any cultural mythology (*pace* Stanley Kubrick) to explain or justify it. That nineteenth-century propensity for handy clichés to define a composer's popular identity—Mozart's "sublime genius," Beethoven's "titanic fury," Brahms's "autumnal classicism"—has lived on in the twentieth as an instrument for marketing composers as diverse as Mahler (*fin-de-siècle* prophet), Stravinsky (protean primitivist), Schoenberg (conservative revolutionary), Copland (American populist), or Glass (post-modernist icon). Such labels are notable less for their accuracy than as evidence of interaction between a creative persona and the public imagination. To be sure, the composer of *Don Juan* and *Elektra* makes a heroic appearance at the beginning of modernism, but he is almost immediately reduced to an object lesson of "reaction" ("modernist sell-out"?) and a footnote to neoclassicism. Although there is no dearth of biographies, picture books, and special studies, the significance of the trajectory of Strauss's career has remained elusive. Where is the metanarrative of twentieth-century culture—at least for those people who think about such things—that accounts for a figure at once so seminal and so marginal?

Two collections of essays, published in the same year and both edited by Bryan Gilliam, are evidence of construction underway. The sea change in Strauss scholarship reflects, and has helped inspire, a dramatic expansion of the corpus of Strauss's performed music to include lesser-known concert works, the early and later operas, and the entire range of his songs. This new interest in Strauss can be seen as part of a larger project of cultural reevaluation that has rehabilitated any number of post-Romantic casualties of modernism, including Reger, Pfitzner, Zemlinsky, Schreker, Korngold, and Berthold Goldschmidt. It is also an attempt to reformulate aesthetic priorities according to the conditions of our own cultural experience.

Richard Strauss. New Perspectives on the Composer and His Work is the fruit of a Strauss conference held at Duke University in the spring of 1990. The eleven essays of the book are grouped into studies of specific works or larger contextual issues. One is immediately struck by the inclination to

adjudge the coordinates of Strauss's achievement by comparing him with other "great" composers, historical or contemporary. R. Larry Todd identifies stylistic reminiscences of Schumann, Mendelssohn, and Brahms in Strauss's early pre-Wagnerian style; the motivic and harmonic similarities he cites are less compelling than the affinities in scoring, texture, rhythm, and structure. Stephen E. Hefling explores the relationship of Strauss and Mahler to program music, while Kofi Agawu examines their respective extended tonal practices; in both studies Mahler emerges as the more "forward-looking" of the two composers. Agawu's stimulating analysis of several representative passages deepens our understanding of their differences. Strauss's harmonic interpolations, Agawu concludes, seldom undermine vertical supports; his chromaticism is concordant. Mahler's discordant chromaticism, by contrast, derives from a contrapuntal urgency that challenges diatonic foundations. Although such conclusions affirm insights reaching back to the earliest commentary upon the composers' works (including Schoenberg's *Harmonielehre*), Agawu's detailed analyses offer a refreshing model for combining the concerns of Schenkerian voice-leading and chromatic inflection of diatonic harmony with a sensitivity to extramusical stimuli and rhetorical gesture. It is convenient to use Mahler as Strauss's aesthetic and stylistic antithesis since the two composers were near contemporaries, conducting rivals, and the leading practitioners of large-scale symphonic form. Yet it is troubling that important contemporaries such as Pfitzner, Reger, and Schillings are entirely absent from stylistic and aesthetic discussions in this volume.

Three articles seek to deepen our contextual understanding of Strauss through the investigation of stylistic, institutional, and political perspectives. In his account of the role of ironic allusion to Italian opera in Strauss's musical comedies, Reinhold Schlötterer describes the relevant passages of parody or citation and the musical and textual clichés that served as the composer's targets. Unfortunately, Schlötterer fails to provide a larger context beyond a "critical attitude toward Italian opera" shared by such disparate artists as Arthur Sullivan, Hans Pfitzner, Goethe, and Mozart (p. 83). The relationship between German and Italian opera is complex, and to explore the particular resonance of Strauss's allusions one would have to consider a range of issues, including the role of Italian opera in the German repertoire and vocal pedagogy of Strauss's day (which fueled an ongoing debate over lyric versus declamatory vocal style and the evils of orchestral polyphony), the neoclassical revival of eighteenth-century opera, and the nostalgic vision of Italian opera culture as a community of naive rapport between composer and audience (a vision of special relevance to Strauss and his librettists). There is more substance to Barbara A. Petersen's discussion of Strauss's pioneering contributions to publishing and copy-

right law, despite problems in organization. The focus shifts erratically from larger issues of copyright to Strauss's own business practices and song output, and the article bristles with superfluous footnotes (what is the relevance of details regarding the failures of *Guntram* and *Feuersnot*?). By far the most successful attempt at contextualizing Strauss is Pamela M. Potter's chapter on the debate over Strauss and National Socialism. No question has so vexed Strauss scholars as the composer's role in the Third Reich, which included service as the president of the *Reichsmusikkammer* from November 1933 to July 1935. Potter presents an excellent critical survey of the relevant literature on the subject and argues cogently that only a better understanding of the mechanisms of cultural and political institutions can allow for a measured evaluation of any individual's actions. Part of the problem, Potter observes, has been our reluctance to acknowledge the twelve years of National Socialism as a legitimate period of music history and the tendency to reduce a complex issue to a simplistic debate over "Was or wasn't he?". One hopes that Potter will extend her inquiry into pre-1933 musical culture as well, since Strauss's extraordinarily close relationships to Jewish patrons of the arts (such as the Bodenheim family in Mannheim or the Breisach family in Vienna) significantly complicate the picture of his post-1933 actions.

Even in discussions of individual works in the book's second half these biographical issues are never far from the surface. Günter Brosche's report on a new sketch source for the Oboe Concerto pointedly characterizes Strauss's dealings with the National Socialists as "evasive tactics" made necessary by concern for his Jewish daughter-in-law. Timothy L. Jackson's discussion of *Metamorphosen* attempts to reconfigure that work from a symbol of "German anguish and suffering" (p. 194) inspired by the destruction of Munich (as asserted in Brosche's essay) to a philosophical meditation on "the bestial in man" (p. 195). His principal object is to prove that *Metamorphosen* was an outgrowth of sketches for an unfinished choral setting of Goethe's poem, "Niemand wird sich selber kennen." Despite a heavy-handed barrage of source study, poetic exegesis, and conventional and Schenkerian score analysis, his thesis remains unconvincing. The two works are linked largely through a "*Metamorphosenmotiv*" representing "the elusiveness of the 'Self-I'" and consisting of "any two diatonic triads a third apart" (p. 209). Jackson produces charts and sketches to demonstrate how the middleground and background of *Metamorphosen* are shot through with this *Metamorphosenmotiv*—not a difficult task since the progression is a commonplace of nineteenth-century harmonic language.

The most stimulating article of the collection is James Hepokoski's wide-ranging reflection on "a network of processes—structural, generic, aesthetic, [and] social" (p. 135) at work in program music. It is in the na-

ture of the symphonic poem, Hepokoski argues, that the composer gives the receiver instructions for the reception of the work, which must function both musically and as narrative. Using the example of *Don Juan,* with its interplay of rondo and sonata structures, Hepokoski develops a language of analytical description that can accomodate both the work's dialogue with generic traditions (resulting in what he calls deformational structures) and its receiver-oriented, text-related narrative structure. *Don Juan,* Hepokoski maintains, exemplifies the historical tensions within the neo-Romantic ideology of the metaphysics of instrumental music, its desacralization in realism, and modernism's attempt at resacralization through new structural processes.

Lewis Lockwood and Gilliam conclude the volume with essays that establish progressive credentials for two of Strauss's post-*Elektra* operas. In the musical and literary collage of styles in *Der Rosenkavalier* Lockwood finds a subtle interplay of nostalgia, paradox, and anachronism that is "thoroughly modern" (p. 255), while Gilliam demonstrates how in style and content *Intermezzo* participates in the preoccupations of the Weimar years in ways (including musical and scenic adaptation of cinematic techniques and the deromanticization of opera) that anticipate the *Zeitoper.*

In *Richard Strauss: New Perspectives on the Composer and His Works* the new perspectives on Strauss are challenging but tentative. It is an uneven collection that could have benefited from rigorous editing, including paring away many gratuitous footnotes, charts, and musical examples. Similar goals are pursued in *Richard Strauss and His World,* which emerged in tandem with plans for a Strauss festival at Bard College, but this collection is considerably stronger and more self-assured. In addition to six original contributions, this second volume includes valuable selections from Strauss's correspondence to his boyhood friend, the composer and theorist Ludwig Thuille (1861–1907) in 1877–79 and with the librettist Joseph Gregor (1888–1960) during the genesis of *Daphne* (1935–37); impressions by contemporaries (including Alfred Kalisch, Percy Grainger, Willi Schuh, and Rudolf Hartmann); a valuable cross-section of Viennese Strauss criticism (1896–1924); and essays by Rudolf Louis (on the Tone Poems), Paul Bekker (on *Elektra*), and Theodor W. Adorno (on the occasion of Strauss's sixtieth birthday), all fluently translated by Susan Gillespie.

Gilliam's persuasive introduction to the volume stakes out a revisionist terrain that seeks to rescue Strauss from what Glenn Gould once called the "time-style equation"[2] that, as Gilliam explains, "sees progress in music in harmonic terms and views musical style as an inevitable, evolutionary

[2] Quoted by Gilliam (vii) from an unpublished letter of 13 December 1961 to Leonard Bernstein (National Library of Canada, Glenn Gould Collection).

process" (p. vii). To move beyond the tonal-atonal axis is to open up new areas of inquiry into questions of historicism, aesthetic fragmentation, desacralization of art—all themes adumbrated by Hepokoski, Lockwood, and Gilliam himself in the first collection. In his analysis of Strauss's first symphonic poem, *Macbeth* (1888), Hepokoski seeks to show how "The essence of a symphonic poem as a genre lies in our individual efforts to imbricate the given musical text and the implications of a poetic paratext, and the procedure involved is clearly that of a historically informed, dialogical hermeneutics, not that of objective knowledge" (p. 71). Jackson's argument for inserting "Ruhe, meine Seele" (1894; orchestrated 1948) between "Beim Schlafengehen" and "Im Abendrot" in the cycle of the Four Last Songs brings new sources to light and provides evidence for Strauss's ability to "recall and reactivate" compositional ideas. This argument, however, is overwhelmed by the author's penchant here for contingent conjecture, selective use of sources, and circular arguments. Jackson postulates that in the postwar period Strauss's consciousness of his "personal *Not* and the larger *Not* of Europe" (p. 94) drew him to the text for his 1894 song "Ruhe, meine Seele!" (Henckell), whose final verse about a soul's yearning for peace contains the word *Not.* He then identifies a *Notmotiv,* an enharmonic G♭–F♯ ("uncertainty of tonal identity") over a descending half-step E♭–D ("disconcerting semitonal displacement"), in "Ruhe meine Seele," (p. 113), which he locates at various levels (including "deep middleground") in "Im Abendrot" (p. 121). Analytical arguments such as this offer slight support for Jackson's sweeping conclusion: "In spite of serious political mistakes, the picture emerges of a man who did not lose either his self-dignity or his artistic sensitivity. Moved by suffering, not just his own, but the *Not* of Europe, which he represented through recomposition of the *Notmotiv* in the *Letzte Orchesterlieder*—Strauss the composer reacted to the times and circumstances with great compassion and sincerity" (p. 130).

Derrick Puffett's amusing and not uncritical examination of Strauss's use of "pitch-specific" motives continues Gilliam's and Hepokoski's discussions of the composer's sensitivity to key relationships and expressive use of tonality. Puffett observes that Strauss's use of themes as a "succession of pitches, without harmony or rhythm" is closer to the diastematic bias of Schoenberg's twelve-tone idea than to Wagnerian practice. Gilliam discusses the genesis of *Daphne,* the best of Strauss's three operas with the least of his librettists, Joseph Gregor, to illustrate how the composer shaped the libretto to musical needs that were predominantly instrumental in inspiration.

Tackling the same issues as Potter in *New Perspectives on Strauss,* Michael Steinberg addresses the dilemma of confronting works whose claims of

aesthetic autonomy are historically compromised. With Jacques Derrida's 1987 study on Martin Heidegger's "politics of the spirit" as his starting point, Steinberg searches for "the political sensibility of music" (p. 165). There can be no doubt, Steinberg asserts, that it was the twenty-year collaboration with Hofmannsthal that redirected Strauss's sense of modernism as ego-assertion toward a Baroque culture of form, images, political self-representation, and "cultural correctness." In the works after Hofmannsthal's death Steinberg notes a narrowing ideological focus that is more "neo-Biedermeier" than neoclassical. He argues that *Friedenstag* (1938)—a tale of the Thirty Years' War in which the citizens of a town under siege, exhorted by their leader to fight to the death, instead embrace the enemy as peace is declared—is not the pacifist tract claimed by its defenders, but a bumbling allegory of *Anschluss.* And in *Daphne* the protagonist's transformation into a tree implies a renunciation of the "burdens of consciousness" (p. 181). As for *Metamorphosen,* Steinberg seems to address both Brosche and Jackson when he asks:

> Is this last work truly a work of summational wisdom and cultural mourning? If so, on what terms does consciousness return to a music where previously it had been bound up with ideology and then released altogether? Or, where does kitsch end and music begin? (pp. 182–83)

Strauss, Steinberg concludes, does not ask the central question of musical modernism: "whether a musical subject can engage in dialogue with the world legitimately." Instead he remains in a mode of restless interaction with the world, "in which self and world remain ill-defined and dynamic, distant from the aesthetic and political temptations of cultural myths" (p. 186).

Steinberg's essay is well complemented by Leon Botstein's revisionist treatment of Strauss (amplified further in his excellent introduction to the selections of Viennese critics on Strauss). This essay might serve as a capstone for both collections, a point at which many of the disparate arguments seem to converge. Botstein shifts the locus of Straussian aesthetics from the tone poems, *Salome* and *Elektra,* and the popular late works, to the problematic operas of 1910–41, whose core—*Ariadne auf Naxos, Die Frau ohne Schatten, Intermezzo, Die ägyptische Helena,* and *Die Liebe der Danae*—represents the "center and apogee of Strauss as a modernist and innovator" (p. 13). To be sure, this is not the modernism of Schoenberg or Stravinsky, and Strauss's Vienna is not the crisis-ridden *fin-de-siècle* world of Mahler. Rather, through Hofmannsthal, Strauss came to embrace a nostalgic never-never land of Baroque spectacle that provided the visually oriented composer with the means to "sustain novel possibilities within a tradition of realism"

(p. 26) and maintain an unruptured relationship with his audience. If Schoenberg conceived of art as rigorously confrontational, didactic, and ultimately redemptive, Botstein asserts, Strauss and Hofmannsthal, beginning with *Der Rosenkavalier* and *Ariadne*, coaxed their audience into cultural participation through a profusely ornamented art of shared ironic detachment and self-conscious historicism, thus anticipating postmodernist strategies of ornament and allusion, historical fragmentation, distortion, and reordering, and blurred boundaries between fantasy and fiction. The result, Botstein concludes, was a uniquely twentieth-century "redefinition of artistic originality" from stylistic novelty to "an irreverent surrender to the past, one that dismembers any coherent sense of history" (p. 20)—and, one might argue, individual responsibility. The increasing popularity of Strauss's music forces us to probe the enigma of the composer's opaque, self-protective personality and its relationship to actions that at best bespeak a "thoughtless complicity with radical evil" (p. 9).

These two collections are documents of a nascent Strauss mythology that will affect subsequent reception through its influence upon repertoire selection, staging, and performance style. It should be clear, however, that the proponents of a new Strauss-*Bild* reinsert the composer into the mainstream of twentieth-century music history by rewriting the narrative of that history. It is a Strauss whose embrace of his audiences through operatic convention is aesthetically closer to Rossini than Wagner (and in any event closer to the *Meistersinger* than *Tristan*). And just as recent research has reestablished Rossini's central role in the narrative of early nineteenth-century music history, a new generation of scholars has proposed a cultural relevance for the whole of Strauss's oeuvre that has profound implications for twentieth-century historiography; two fatal blows, as it were, to the hallowed "time-style equation."

Sixty years ago Bekker was content to acknowledge the Strauss phenomenon without attempting any reconciliation with his own critical opinions or earlier misgivings. Today's revisionists run the risk of begging the question by filtering that same phenomenon through tortured analyses and anachronistic cultural theory. The momentum of revisionism can easily mask blind reaction; a facilely defined postmodernism can become a convenient catchall "other" to a two-dimensionalized modernism, and aesthetic relativism can undermine our capacity for independent artistic judgment. Yet such risks are necessary if we are to ask important questions about the larger and still shifting patterns of twentieth-century culture. These two collections of essays, informed by fresh sources and widening perspectives, are a healthy and welcome contribution to that inquiry.

—*Christopher Hailey*

Alexander L. Ringer. ***Arnold Schoenberg: The Composer as Jew.*** Oxford: Clarendon Press, 1990, xvi, 260 pp. $58.00 bound; $17.95 paper.

The Jews who contributed to fin-de-siècle high Modernism usually effaced any reference to race from their works. Anti-Semites such as Eliot, Pound, and Hans Johst showed in their own work why this was necessary. High Modernism, as with all of the cultural traditions of the turn of the century, was permeated with notions of race and the concomitant notions of the limits or advantages of race for the creative process. Acknowledging one's "inferior" racial status in an art work was the same as showing that it was not universal and could not make claim to the discourse of the Modern.

The exceptions to this rule are of interest. Certainly the most striking exception, at least in music, was Arnold Schoenberg. Of all of the claims for a form of art separate from the daily concerns, the rise of dodecaphonic Modernism was the most aestheticized and elitist. But Schoenberg positioned himself to link the "Jewish Question" and the "Musical Question" in a complex and meaningful manner.

Alexander Ringer has provided a comprehensive and well-written collection of his essays on Schoenberg's Jewish identity. While bits and pieces of this volume have appeared earlier in various forms, the presentation of this material is new, and all of the bits and pieces fit together with an elegance that shows Ringer's command of both the Schoenberg literature and the cultural history of the early twentieth century.

Schoenberg was a key figure in the rising resistance of Jewish cultural figures to public and sanctioned anti-Semitism in Germany and Austria. Yet as Ringer carefully and ably shows, Schoenberg constantly measured his own position against his limitations and the overall goals of the Jewish people. As early as 1921 Schoenberg experienced the sort of hostile anti-Semitism directed against his own person that triggered an awareness of his own vulnerability as a Jew, when he was forced out of a resort by anti-Semites who declared the town "Jew-free." One can compare this incident with Freud's experiences at the same time. When Freud's children were attacked by anti-Semitic bullies in a similar resort town in Austria he responded by going at them with his walking stick. This awareness was heightened by a series of attacks on Schoenberg as the prime representative of the destructive forces of Jewish musical Modernism. Ringer provides a translation of an extraordinary attack on Schoenberg from the *Neue Zeitschrift für Musik* from the mid 1920s that could have easily come from any of the anti-Semitic publications on the far right. It is atypical of the

scholarly literature of the time in its bluntness. Like Mahler before him, Schoenberg came to represent the "Jewishness" ascribed to the high Modernism by its opponents. But unlike Mahler, Schoenberg responded by accepting the anti-Semitic label as a "Jew" and turning this into a badge of honor and a true identity rather than a hidden blemish.

An essential portion of Ringer's monograph traces how the anti-Semitic image of the Jew shaped Schoenberg's acceptance of Zionism (as it did for many Jews, including Herzl). But Schoenberg's major "Jewish" works—the oratorio *Die Jakobsleiter*, his drama *Der biblische Weg*, and his last great opera *Moses und Aron*—all remained fragments and are, finally, inarticulate answers to complex questions of Jewish identity in the early twentieth century. Mocked as modern, superficial and Jewish by his opponents, Schoenberg's creativity was clearly limited by his internalized notion of what it meant to be Jewish. One could add that this question of cultural competency extended to Schoenberg's painting. There the Jewish component, at least thematically, is repressed, and the bow toward the Modern is clearest.

Building on Ringer's work, Bluma Goldstein has examined how the idea of Moses interacts with a specific understanding of Jewish culture in the works of Heine, Freud, and Schoenberg.[1] But Goldstein limited her study of Schoenberg to the libretti. Ringer's book opens up the possibility that the music itself, both the non-dodecaphonic as well as the dodecaphonic, was shaped by the same forces as was the text. Here the work of Marc Weiner on Wagner is of help.[2] Because music has meaning ascribed to it, it should not be surprising that the High Moderns, for whom race and creativity were linked concepts, also understood the musical production of "Jews" as inherently "Jewish" (read: flawed or superficial). Jews, in racial terms, could never be original; they could only mimic true art. Hence, Jewish composers at the turn of the century (who also understood their work as "Jewish") felt it necessary to prove the validity of their undertaking. This issue is explosive when we confront the work of Mahler or Zemlinsky. Why should it not be quite correct when we listen to Schoenberg? For Schoenberg's anxiety about his Jewishness, even the self-awareness of his identity, is present on the composed page. Is high Modern music universal or is it parochial? Are Jews part of the world of this new music or have they abdicated their position in the world of real music (read: neoclassicism) because they were unable to compete in this world

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[1] Bluma Goldstein, *Reinscribing Moses: Heine, Kafka, Freud, and Schoenberg in a European Wilderness* (Cambridge: Harvard University Press, 1992).

[2] Marc A. Weiner, "Wagner's Nose and the Ideology of Perception," *Monatshefte* 81 (1989): 62–78.

of "real" German culture? Such questions confronted the composer and inscribed themselves in the very notes of his composition, down to the silences in *Moses und Aron.* Ringer makes this conflict come alive as he fills in the day-to-day meaning, for Shoenberg, of being Jewish in the first half of this century.

Ringer provides the late twentieth-century reader with a view of the complexity of the time. Being "Jewish" is not a universal—neither in religious nor in philosophical terms. While there may be constants over time, these constants provide ever changing means for the representation of Jewishness by the shifts in emphasis and interrelationships within and among the Jews in the Diaspora. With Ringer's book we have an excellent case study of a major creative individual whose understanding of his own world and his own creativity was strongly affected by specific ideas of what being Jewish meant. Ringer's book is valuable in that Schoenberg's music—not just the subjects but the form of the music itself—comes to be understood as Jewish. The importance of Ringer's study for the reception and the structuring of this music cannot be underestimated.

—*Sander L. Gilman*

James L. Zychowicz, ed. *The Seventh Symphony of Gustav Mahler: A Symposium.* Cincinnati: University of Cincinnati College-Conservatory of Music, 1990. vi; 148 pp.

James L. Zychowicz notes in his preface to this volume, "It is rare, indeed, when an international symposium is devoted to a controversial—and sometimes castigated—work, such as the Seventh Symphony of Gustav Mahler" (p. v). The publication of proceedings of the conference, held at the Sorbonne in March 1989, gives access to a variety of perspectives on the work. In most of these contributions one encounters discomfort arising from the effort to make sense of the composition. This very discomfort suggests that the Seventh Symphony was a good topic for a Mahler symposium, since it prompted questions and doubts that might not have emerged in relation to any of the composer's other works.

The contributions fall into two broad categories: the history of the work, and the music itself. In the first category are papers that survey Mahler's relation to Romanticism, the place of the work in the composer's oeuvre, and the reaction of critics and of the composers of the Second Viennese School. In the second category are papers on individual movements: the music is discussed in light of harmony, genre, Schenkerian principles, narrative, and programmatic elements. Despite this wealth, several significant topics were overlooked. Given the surviving material, it seems odd that no study of the sources—sketches, drafts, revisions—was undertaken. Likewise, more consideration of the performance tradition, or lack thereof, would have been welcome. In 1905, Ida Dehmel reported his statement: "Even the conductors who can decipher [one of my symphonies], present it to the public soaked in their own interpretations. For that reason there must be a tradition, and no one can create it but I."[2] Mahler conducted the premiere of the Seventh in 1909, but thereafter he relied on his followers to establish a tradition for it. Mahler often expressed concern about establishing a performing tradition for his works. Mahler wrote Guido Adler about the premiere of the Seventh Symphony in Vienna on 3 November 1909:

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[1] Edward R. Reilly, *Gustav Mahler and Guido Adler: Records of a Friendship* (Cambridge: Cambridge University Press, 1982), 108.

[2] Dehmel's diary entry is included in Alma Mahler, *Gustav Mahler: Memories and Letters,* 3d ed., ed. Donald Mitchell and Knud Martner, tr. Basil Creighton (Seattle: University of Washington Press, 1975), 93. See Zoltan Roman, *Gustav Mahler's American Years 1907–1911: A Documentary History* (Stuyvesant, NY: Pendragon Press, 1989), 41.

> That kind-hearted (or actually unkind) Löwe did not know what to make of my symphony did not surprise me. It is part of the biography of such a work that in the beginning it is trampled to death by four-square interpreters.[1]

Willem Mengelberg took the Seventh on tour in 1910, but the Symphony was not performed in the United States during Mahler's lifetime; Bruno Walter, who spoke well of the work,[3] seldom performed it and never recorded it.

Throughout the volume, contributors remark on the composer's apparent detachment from the music in a way that makes the Seventh Symphony stand alone among his works. Herta Blaukopf describes the Symphony, and the fourth movement in particular, as a nostalgic return to Romanticism. Distinguishing between several stages and regional responses to the Romantic movement, she points out that in the school readers that Mahler may well have used in Iglau, the emphasis was on Goethe, Schiller, and Rückert, whereas works by writers of high and late Romanticism—Jean Paul, Eichendorff, and the "folk" poems disseminated by Arnim and Brentano—were barely represented. Mahler apparently became acquainted with these later Romantics only around 1880, and much of his early work took inspiration from them. After 1900, Mahler turned to the poetry of Rückert, signaling a return to the conservative literature of his school days. Blaukopf interprets Alma Mahler's remark that "Eichendorff-ish visions, murmuring springs, and German Romanticism" inspired the fourth movement,[4] to mean that Mahler was commenting on Romanticism from a distance, rather than embracing it. Indeed, the opening refrain in effect creates a colon, as if to suggest that what follows is the telling of the past (p. 5).

Alma's comment about *Eichendorff-ish* visions, and the extraneous musical associations (*e.g.* cowbells, distant horns, bird calls), led Peter Davison to a descriptive passage in Eichendorff's novella, "Ahnung und Gegenwart," which he believes parallels the narrative, psychological journey of the second movement. The first *Nachtmusik* movement, he argues, begins the "psychological transformation that culminates in the ironic detachment

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[3] Bruno Walter, *Gustav Mahler,* tr. Lotte Walter Lindt (New York: Alfred A. Knopf, 1957; rpt New York: Schocken, 1974), 137–38; and ibid, "Mahlers Weg, ein Erinnerungsblatt," in *Der Merker* 3, no. 5 (March 1912), 166–71, trans. in Norman Lebrecht, *Mahler Remembered* (New York: W. W. Norton, 1987), 127–30.

[4] Mahler, *Gustav Mahler,* 89. Walter also commented in 1936 on the reappearance of the seemingly long-buried Romanticism in the central three movements. See Walter, *Mahler,* 138.

and witty game playing of the Symphony's Finale" (p. 73). He finds connections between the second movement, with its night march, and Mahler's military *Wunderhorn* songs as well as the third act of *Carmen*. The musical examples, which are poorly and erroneously labelled, make it difficult to follow his argument. Interpreting the cowbells, Davison claims that offstage, "their significance is more apposite to the bell in religious ritual than the keeping of cattle" (p. 71), while onstage they become "an ironic disappointment" (p. 72). Davison does not elaborate on these remarks, nor are they supported by quoted statements from Mahler.

In "L'Énigme de la Septième," Henry-Louis de La Grange makes a virtue of Mahler's detachment. The indefatigable biographer is forced to admit that no biographical details or program offers help in attempting to explain the Seventh's frequent ruptures and intrusions. One senses that Mahler is speaking in the third person, with an impassibility and an objectivity that are new to him (p. 14). The detachment, irony and ambiguity make it the most modern of the composer's works, foreshadowing the objectivity of Stravinsky and others in the wake of the first World War.

Peter Davison, in his essay on the fourth movement, describes the composer as a detached narrator of a love-idyll, unlike Wagner in the *Siegfried Idyll* and Strauss in his *Sinfonia domestica,* where the composer speaks with his own voice. Mahler, by contrast, self-consciously adapted conventional, old-fashioned phrases, harmony and orchestration, differing from Strauss and Wagner "in avoiding autobiography and managing to universalize intimate experiences while preserving their essentially private nature" (p. 96). Once again the composer is a distant narrator, a voyeur composing a critique that is "not cynical, but rather an expression of Mahler's longing to overcome the limitations of convention" (p. 95).

In her discussion of the Scherzo movement, Talia Pecker Berio considers the question of detachment as a consequence of Mahler's Jewishness. It is not in the inclusion of actual sounds of Eastern European Jewish music but precisely the composer's ironic commentary and detachment, traits embedded in Jewish culture, which mark Mahler as a Jew. She maintains that "this distance allows him to turn the individual elements of his world into concrete objects for inquiry, commentary and transformation" (p. 74). Mahler consciously tested the limits of Scherzo conventions, as Berio's formal and melodic analysis of the third movement attempts to show. She argues that "his music may not be 'Jewish,' but only an assimilated Jew of his time could have written it" (p. 80).

Speculation over Mahler's intent in the Finale and debate over its success or failure have dominated much of the critical writing about the work for many decades. It is therefore disappointing that Zychowicz's essay on the last movement, "Ein schlechter Jasager: Considerations on the Finale

to Mahler's Seventh Symphony," is the weakest in the volume. His discussion lacks focus: he deals briefly with sketch materials, hints at a large-scale tonal analysis of the whole work that is problematic, and surveys critical opinions on the movement from Paul Bekker to Adorno and Donald Mitchell, without offering significant conclusions.[5] The title borrows a phrase from Adorno, whose position is discussed at some length. Zychowicz's faulty understanding of Adorno's critique begins with details, such as the translation of the title phrase as "a bad yes-man" (p. 104), a term with quite different connotations from those of the more accurate translation by Edmund Jephcott, a "poor yea-sayer."[6] Yet Zychowicz does make the important suggestion that "If the Finale does not fit some of the analytic models with which it is compared, it may be that methods of analysis rather than the music fail" (p. 104). But his attempts to defend the movement against critics—Adorno, Deryck Cooke, Mitchell and others—merely by blaming them for misinterpreting the Finale are in vain.

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Hermann Danuser, in his study of contemporary reception of the symphony by both detractors and admirers, found the critical reaction to be more favorable than the work's current status would lead us to suspect. It is significant, he argues, that certain moments and features of the music were described by nearly all the critics, whether in positive or negative terms. That the B-major episode in the first movement (mm. 317–38) was discussed by critics in nearly identical metaphoric terms—streaming light, heavenly rays, radiance—reveals its special meaning for the listeners of Mahler's day. Danuser counsels those who undertake musical analysis today to account for the features early audiences heard and responded to in the music (p. 116). To illustrate the usefulness of early reception, he dissects two reviews: one by the apologist Richard Specht, the other by Mahler's harshest critic, Robert Hirschfeld.

The reactions of the Schoenberg circle to the Seventh Symphony form the subject of Dominique Jameux's essay. Only Berg attended the premiere in Prague in 1908; Schoenberg first became acquainted with it in November 1909; and Webern did not hear it until 1911. With the exception of a

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[5] A stronger analysis of the critical reaction to the finale is found in La Grange's essay in this volume (pp. 18–23). See also John G. Williamson, "Deceptive Cadences in the Last Movement of Mahler's Seventh Symphony," *Soundings* 9 (1982): 87–96.

[6] See Theodor W. Adorno, *Mahler: A Musical Physiognomy*, tr. Edmund Jephcott (Chicago: The University of Chicago Press, 1992): 136–38.

letter to Mahler, in which Schoenberg praises the work in the strongest terms, virtually no evidence survives to indicate the response of the three Viennese while Mahler was still alive. Webern later conducted the two *Nachtmusik* movements, and Schoenberg defended the Symphony to Olin Downes in 1947. In the face of such scant written evidence, Jameux turns to analysis to detect possible influences on the younger composers, arguing that while one cannot speak of direct influence, there is perhaps a network of relations. He presents a good case for the sound of Mahler's fourth movement affecting the fourth movement of Webern's Op. 10—composed shortly after his first hearing of the Seventh—in the use of mandolin, intimate orchestration and harmonic stability. Yet to see a parallel between Schoenberg's *Farben* (the third movement of Op. 16) and Mahler's third movement stretches the point. Both resemble, Jameux claims, Loos's characterization of Vienna's Ringstrasse as the "petrification of the waltz" (p. 130). Likewise, the conjecture that around 1909 Schoenberg, Berg and Webern turned away from large-scale orchestral composition because of the impact of Mahler's Seventh Symphony is surely exaggeration (p. 132).

Susan M. Filler discusses Alfredo Casella's four-hand piano arrangement of the Symphony, made during Mahler's lifetime. She provides considerable detail on the brief relationship between the two men, as well as on the publishing history of the symphony and the piano arrangement, concluding that there is no direct evidence to show that Mahler suggested or approved of Casella as the arranger for the work.

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The renowned first movement warranted closer analysis, from quite different perspectives, in two essays. Serge Gut's discussion of consonance and dissonance scrutinizes the harmonic vocabulary of the movement, famous for its motives based on successive fourths deployed both horizontally and vertically. Using six extensive examples Gut shows that, despite a frequent dissonant surface, the underlying basis remains the triad; dissonance arises from superimposed melodic lines which proceed according to their own logic. In spite of the chords and motives comprised of fourths and the critical attention paid to them, the Seventh is fundamentally no different from Mahler's other works in its harmonic language.

In the most provocative contribution in the volume, John G. Williamson probes the structure of the first movement. He accepts sonata form, albeit modified, as the basis for the movement but cautions us to note the "constant intersection of genre" (p. 32): funeral dirge, quick march, song, and so forth. After considering the role each plays in the larger structure and whether each forms a closed or open unit, he claims that bird-song, re-

lated natural phenomenon, chorales, and trumpet fanfares are "overlay" (pp. 34–35) but does not indicate why chorales should not be granted the same status as the dirge. Williamson argues that the movement cannot be satisfactorily explained by the metaphor of organic development so commonly encountered in nineteenth-century composition. Instead, he sees Mahler's episodic and climactic moments as embodiments of Nietzsche's description of aphorism:

> In the mountains the shortest route is from peak to peak, but for that you must have long legs. Aphorisms should be peaks, and those to whom they are spoken should be big and tall of stature.[7]

According to Williamson, we might view "Mahler's encapsulating climaxes as the flash of aphoristic lightning that illuminates the often contorted sentences and rhetoric that lie in between" (p. 30).

Williamson describes how foreground detail in the movement "challenges the coherence of the Schenkerian system" (p. 36). Another area he cites as posing problems for a Schenkerian analysis is the appearance of cycles of major thirds at several levels: "Such cycles of major thirds are difficult to accommodate because they may obscure the question of which pitch is truly structural, and which merely prolongational" (p. 36).[8] Williamson graphs the entire movement, in part to illustrate the difficulties and tensions produced by applying Schenkerian principles to Mahler's music. Yet the graph itself does little to elucidate or even accommodate the perceptive observations the author makes throughout his paper. Williamson concludes that "Such areas of doubt within the analytical method itself suggest that the Seventh Symphony represents a very carefully composed ambiguity" (p. 36). Might it not be more helpful to conclude, with Zychowicz, that Mahler's music may demand a different analytical method?

It is surprising that in this volume and, indeed, in most studies of Mahler's music, there is no attempt to consider his use of tonality as if it were central to the conception rather than the accidental result of the progression of themes. In setting up his discussion, Williamson dismisses one paradigm used to study Mahler's treatment of tonality that has gained

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[7] Friedrich Nietzsche, *Thus spoke Zarathustra*, tr. R. J. Hollingdale, rev. ed. (Harmondsworth, England: Penguin, 1969), 67; quoted by Williamson, p. 30.

[8] On Schenkerian analysis in music using symmetrical divisions of the octave, see Gregory Proctor, *Technical Bases of Nineteenth-Century Chromatic Tonality: A Study in Chromaticism* (Dissertation at Princeton University, 1978).

some currency, the double-tonic complex.[9] Under this paradigm, the work employs two tonics, E and C, in such a way that one of them will emerge and be confirmed as the final tonic of the symphony. Williamson rejects the double-tonic paradigm by saying that, as a reflection of the "biological" metaphor used in works from Mahler's time, it does not satisfactorily explain this symphony (p. 28). Nevertheless, studying Mahler's music—and much of late nineteenth-century composition—with the double-tonic complex as a paradigm has the advantage of allowing an overarching view of the whole work, something that falls outside the realm of a strict Schenkerian analysis, while admitting other tonal complexes for individual movements. It also recognizes and accommodates many surface details, precisely those moments Danuser describes which are most audible to the listener (p. 116), rather than reducing them "out of existence," a danger Williamson acknowledges in his Schenkerian graph (p. 36). Perhaps most importantly, it allows us to think of the entire symphony as a dynamic process in which the balance of the tonal forces is constantly in flux and unique to each work.

While it made perfect sense in the context of a symposium to allot the five movements to different authors, we are nonetheless left with no analysis of the work as a whole. La Grange gives an overview, but it is an unsystematic attempt to raise questions about the symphony's meaning without much reference to specific musical matters. (Indeed, perhaps it is reflective of the state of musicology that, for the most part, the essays dealing with broad cultural and musical issues are in French and German, while those which scrutinize the music are largely in English.) Each writer comments on the piece, but no one has been charged with considering the entire work as a musical entity.

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The presentation of the essays warrants a brief comment. Three of the papers are in French, two in German, with the remaining six and the editor's remarks in English. Unfortunately, the English abstracts appended to the French and German contributions are not always clear or even reflec-

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[9] For analyses of Mahler's music which use the double-tonic complex, see Christopher Lewis, *Tonal Coherence in Mahler's Ninth Symphony* (Ann Arbor: UMI Research Press, 1984), and Nadine Sine, *The Evolution of Symphonic Worlds: Tonality in the Symphonies of Gustav Mahler, with Emphasis on the First, Third, and Fifth* (Dissertation at New York University, 1983). A discussion and bibliography of analyses using this model appear in Christopher Lewis, "Into the Foothills: New Directions in Nineteenth-Century Analysis," *Music Theory Spectrum* 11 (1989): 17, 19–23.

tive of their main theses; in one case the abstract ends with an incomplete sentence (p. 134). Such editorial problems plague the volume as a whole. Musical examples are not always clearly labelled or explained (*e.g.*, pp. 71, 82), and many typographical errors or omissions produce confusion, such as the missing sharp next to a G (Figure 4, p. 85). By far the most distracting error is the missing *l* in "public rhetoric" (p. 93).

In the end, perhaps the main drawback to the proceedings is the lack of focus and vision for the whole work: the Seventh remains problematic. Unlike with the Third and Fifth Symphony, for instance, it is hard to draw the inner movements of the Seventh into the orbit of the first and last in any sense, and nothing in the volume helps in that attempt. Zychowicz characterizes the Seventh as a *Janus-faced* work: it looks forward to the tonal and thematic processes of later composers while looking back on the *Wunderhorn* compositions (p. 147). Indeed, this may be the crux of the matter. Throughout the Mahler literature, one reads about how the Seventh resembles the other symphonies in sound and technique, but the reverse does not apply: no one talks about the Fifth Symphony or the Third Symphony looking forward to the Seventh, just as no one speaks of the Eighth or Ninth drawing from it. The Seventh seems to look forward and backward but has no distinctive profile of its own. The symposium provided a number of scholars the opportunity to wrestle with this problematic work, and the published proceedings render a service by raising questions and proffering insightful observations. Still, the final verdict is out on Mahler's Seventh Symphony.

—*Nadine Sine*