

TOWARDS A PEDAGOGY OF GESTURAL RHYTHM

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Let us imagine the following scenario in a freshman sight-singing class: the instructor asks a student to intone a rhythm written on the blackboard and the student responds by speaking the rhythm on “tah” with metronomically correct placement of attack points, but with virtually no dynamic inflection. The teacher then responds, “Good, the rhythm is correct. Now try it again, this time with expression; make it musical!” There are two unspoken assumptions in this scenario that merit critical consideration. First, the student’s performance is clearly based on the idea that the secret to performing a rhythm correctly is paying close attention to the attack points and durations of the individual notes within a strictly metronomic framework. Second, in requesting the student to inject musicality into the passage, the teacher implies that rhythm in itself is neutral in some sense and only gains its vitality through the addition of something external (e.g., “musicality,” or “expression”).

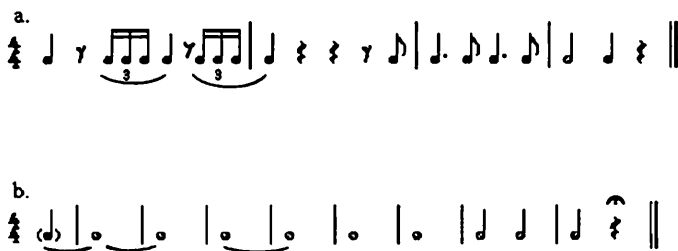
While this concept of rhythm as a neutral series of attack points and durations may be appropriate in certain contexts, it does not accord very well with our experience of rhythm in its fullest sense. When we respond to rhythm as listeners or feel a rhythm as performers, we experience something vital and dynamic—a flow of energy through time, one might say. This flow is not uniform and undifferentiated, but is rather characterized by a dynamic interplay of ebb and flow, of intensification and relaxation.¹ Since this kind of rhythm is often associated with physical movement, I will call it *gestural rhythm*; I will designate the more limited concept of our opening scenario as *attack-point rhythm*.

Attack-point rhythm is essentially a succession of durations either abstracted from, or implying the presence of *discrete* elements (most typically pitches, but also chords, phrase units, etc.). For instance, the *rhythm* of the opening to Mozart’s Jupiter Symphony (Figure 1a) refers to the abstract temporal relationships between the individual pitches of the melody. Similarly, the harmonic rhythm of the opening to Beethoven’s Op. 2, no. 1 (Figure 1b) measures the temporal distance between the initiation points of successive harmonies. Gestural rhythm, on the other hand, is broader in

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scope than attack-point rhythm, and includes the latter within its domain. It is concerned not merely with the *measurement* of discrete musical elements, but also with the continuous dynamic *flow* through these elements. The quality of this flow depends on a whole series of factors not normally regarded as directly relevant to the pedagogy of rhythm. For instance, two different melodic contours can project different gestural rhythms even with an identical durational series; similarly, two different phrasing schemes for a given melody can create two different gestural rhythms. In other words, the study of gestural rhythm ultimately involves not just durations but all musical dimensions, including pitch, dynamics, articulation, etc.

Figure 1.



I believe it is possible and desirable to teach a gestural concept of rhythm in the undergraduate sightsinging class. This paper will outline such a program, whose primary objective will be to train the student to interpret any written rhythm or melody as a rhythmically vital entity. The approach reflects the influence of two specialties not normally brought together. First, it draws its theoretical underpinnings from recent work in rhythmic theory, particularly on concepts of meter, grouping, and phenomenal accent. A second and equally important influence is a pedagogical system commonly referred to as *eurhythmics*, developed in the early part of the century by the Swiss music educator Emile Jaques-Dalcroze (1865-1950). Jaques-Dalcroze saw the human body as an indispensable tool for instruction in rhythm, and this study will follow his lead by utilizing *physical gesture* to heighten the student's sensitivity to gestural rhythm.²

At present no sightsinging or rhythm textbook clearly reflects the principles put forward here. This is not to say that all texts are completely indifferent to dynamic rhythmic principles; not infrequently one reads exhortations about the importance of phrasing and musicality—issues that

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certainly are closely associated with a dynamic concept of rhythm. And the melodies in most sightsinging texts include diacritical marks to help students achieve that desired end. A student, however, may carefully follow the performance markings in a score and still fail to convey the shape of a phrase in a rhythmically vital way; the musical impulse must arise from *within* the student and not from the diacritical marks themselves. A guiding principle will be that the student can be trained to see and perform the gestural shape of a written durational series or melody *without* the aid of performance markings.

I do not claim originality in positing this objective, nor is the idea particularly new: the pedagogical writings of Lussy (1874), Matthay (1913), and Jaques-Dalcroze (1906-17) reflect the same attitude, as do more recent sources such as Thurmond (1982) and Barra (1983). I personally have been particularly inspired in this respect by Robert Abramson, a leading authority on Jaques-Dalcroze and the pedagogy of eurhythmics.³ This pedagogical stance, however, cannot be discerned in present-day sightsinging texts, at least in any systematic form. I might add that some texts do place considerable emphasis on physical activities, and to that extent share features with the approach offered here. The types of gestures used in those texts, however, differ considerably from mine, as do the underlying pedagogical objectives.⁴

Any pedagogical approach must be supported by a solid and broad theoretical foundation as with Roman-numeral analysis; a necessary prerequisite for its present-day use in theory instruction was the work of theorists like Rameau, Weber, and others. Now, rhythm is a notoriously difficult and elusive topic for theoretical inquiry, especially if we attempt to account for its *dynamic* quality, a consideration that tends to attract difficult philosophical issues like musical motion and continuity. It is possible, nevertheless, to broadly discuss a theoretical basis for a gestural approach to rhythm without confronting and resolving all the thorny issues (especially philosophical ones). As noted above, several concepts examined and developed in recent theoretical literature, most notably grouping, phenomenal accent, and meter, will provide adequate tools for building such a foundation. After this theoretical background, the remainder of the study will introduce the pedagogical approach itself. In addition to outlining an overall program for the freshman year, I will discuss some specific activities and exercises.

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A THEORETICAL FOUNDATION

The forthcoming discussion will assume a monophonic context. Such a limitation is, of course, theoretically advantageous, but it is also appropriate for our immediate purpose, since most of the musical materials in a sightsinging class are single-line melodies or exercises. To be sure, textures of more than one part are often included (particularly duets), but the issues that arise in single-line textures also operate in multi-voice textures.

Gesture and grouping

As noted earlier, a dynamic concept of musical rhythm is fundamentally gestural. One of the most characteristic features of a physical gesture is its continuity; the image, therefore, fits well with viewing musical rhythm as a flow of energy. At the same time, however, the term *gesture* implies more tangibility than "flow of energy"; the former needs to be articulated to be recognized, while the latter suggests something more fluid. What, then, is a musical gesture? We will define it as any meaningful musical unit conceived as having continuity and dynamic shape. This definition, for the most part, accords with musicians' parlance: a phrase or subphrase, for instance, is commonly referred to as a gesture if the speaker intends to emphasize its dynamic quality.

The idea of gesture has much in common with the notion of *group*, a concept that figures prominently in the pioneering rhythmic text by Cooper and Meyer (1960), and has been explored more recently by Lerdahl and Jackendoff (1983) and Benjamin (1984). *Grouping* is essentially the segmentation of a musical surface. Lerdahl and Jackendoff express it in psychological terms: "The process of grouping is common to many areas of human cognition. If confronted with a series of elements or a sequence of events, a person spontaneously segments or 'chunks' the elements or events into groups of some kind" (13). Lerdahl and Jackendoff provide criteria for determining appropriate segmentations, invoking factors such as durational pattern, pitch contour, dynamics, and articulation. There is considerable overlap between grouping analysis and traditional formal analysis; for instance, both would view a phrase as a significant entity. Grouping analysis, however, also recognizes very brief musical units (as short as a few notes, or in rare cases, even one note) that would not be included in a traditional phrase analysis.

The boundaries of any particular gesture of two or more notes will also necessarily mark the boundaries of a group. *Group* and *gesture*, however, should not be regarded as equivalent. A group is essentially a neutral

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musical segment; in undertaking a grouping analysis, one necessarily focuses analytical attention on the boundaries of the group rather than its internal continuity or dynamic shape.⁵ A gesture, however, is more defined than just a delimited musical segment; it has by definition a dynamic shape of more intrinsic interest than the gestural boundaries per se. Our concept of gesture differs from group in another important respect. If a gesture may be “any meaningful musical unit” as stated in our definition, the term applies to single pitches just as naturally as to a group; in contrast, grouping analysis by its very nature considers single pitches to be significant only under extraordinary circumstances (Lerdahl and Jackendoff, 43). The possibility of describing individual pitches as gestural is corroborated by musical experience. For instance, often a vocal or instrumental instructor will ask a student to perform a particular tone with more “life” or “energy.” A tone of any duration, no matter how small, may be technically considered as gestural; the shorter the pitch, however, the more negligible its gestural effect.

Dynamic Shape

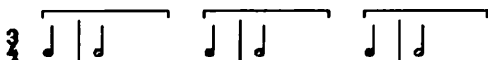
Since dynamic shape is one of the defining characteristics of a gesture, we must yet elucidate its nature. Musicians typically associate the idea of *shape* with pitch contour, a connection that arises quite naturally from our tendency to conceive pitch material in spatial terms; indeed, our notational system reflects this by indicating pitch level within a spatial frame—the staff. While pitch contour certainly has an impact on dynamic shape, however, the two concepts should not be confused; the latter is fundamentally an *intensity* profile, a notion that accords well with rhythm as a dynamic ebb and flow. Defined thus broadly, a dynamic shape can arise from any musical element (or combination of elements) that is able to produce varying degrees of intensity, such as dynamics (i.e., loud, soft); timbre; articulation; pitch contour; or durational pattern. The first three of these elements may operate for both single-note and multi-note gestures,⁶ while the last two (durational pattern and pitch contour) by definition are associated only with multi-note gestures.

It may not be immediately obvious how durational pattern and pitch contour can produce an *intensity profile* and thus affect the dynamic shape of gesture. Let us consider duration first. Earlier we saw that a durational pattern like Figure 1a or 1b is abstracted from a series of discrete elements and therefore depicts attack-point rhythm rather than gestural rhythm. But a durational series need not be interpreted only abstractly; we may view the series itself as having gestural implications. For instance, the pattern in

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Figure 2 features durational differentiation, which in turn creates groupings (shown with brackets) according to a very important and well-established principle: a relatively long note in immediate context will tend to be the last of a group.⁷ This grouping, moreover, is normally projected by the performer through a differentiation in energy flow. Thus the quarter note, which initiates the gesture, will seem to move towards the attack of the half note with momentum and intensification; the half note itself will undergo a gradual relaxation towards its end, allowing a gathering of energy for the opening surge of the next gesture.⁸ In short, the effect of durational pattern on dynamic shape is somewhat indirect: grouping arises from durational differentiation, and these groups in turn are typically expressed in performance through an ebb and flow of gestural energy.

Figure 2.



Pitch contour contributes two factors to dynamic shape: a) the direction of the line (i.e., up, down) and b) the interval between notes or group of notes (for instance, a five-note arpeggiation spanning a tenth from beginning to end). First, upward and downward motions are experienced differently. For instance, we tend to associate an ascending motion with an increase of energy or intensity and a descending motion with a decrease—an association that undoubtedly arises mainly from the experience of singing. In other words, tonal space is not a neutral vacuum but rather a dynamic field in which a motion up is qualitatively different from a motion down.⁹ (It is true that this difference cannot always be characterized as intensification and relaxation, but that does not really invalidate our qualitative conception. Later we will reconsider this objection.)

With regard to distance, if one conceives of tonal space as suggested above, an upward interval would typically be felt as an intensification of energy proportional to its size. For instance, ascending 5ths seem intuitively more intense than seconds—again, probably because we must expend more energy in singing such intervals. Similarly, an arpeggiated gesture conveys a greater surge of energy than a stepwise ascent. A similar set of observations would apply to descending intervals, if we substitute the concept of relaxation for intensification.

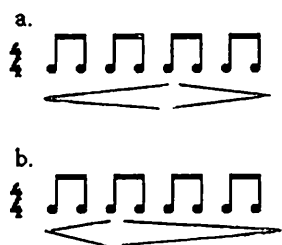
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Dynamic shape, then, is created by different musical variables in interaction. It is, moreover, inherently *rhythmic*, since any factor that contributes to a gesture's dynamic shape exerts its influence within the flow of time. Thus the melodic contours in Figures 3a and 3b progress towards and from the point of greatest intensity at different speeds. In this respect, the two passages have different rhythms, despite using the same duration series. Figures 4a and 4b demonstrate the same principles with dynamics. For clarity, both Figures 3 and 4 contain only one variable; in real musical contexts, the rhythm of a gestural shape will typically result from the complex interaction of various factors. While these factors may reinforce each other, they often do not. In such cases the rhythm of the shape as a whole could be analyzed as a composite of the various components.

Figure 3.



Figure 4.



Given the inherent rhythm of any musical dimension, it is striking that we tend to ascribe rhythmic significance to certain dimensions more than others. Thus it is commonly asserted that a succession of pitches (or series of phrases or harmonies) projects a certain rhythm; we rarely refer, however, to the rhythm of a crescendo or of a timbral change. This situation

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seems to arise from the attack-point concept of rhythm described earlier: neither a crescendo nor a gradual timbral change can be easily described by the attack-point model, since they both are continuous and therefore resist any kind of segmentation. Our natural gravitation towards quantifiable precision can in turn give rise to an unfortunate discrepancy between our *experience* of rhythm as a dynamic and fluid force, and our *conceptualization* of rhythm as something that can be described with exact numbers. For whatever reason, the latter is typically emphasized in our theory instruction at the expense of the former, but that need not be the case. The pedagogical approach proposed in this study assumes that all musical dimensions contribute to rhythm, whether measurable or not, and also assumes that a sensitivity to these various dimensions can be taught.

Gestural focal points

The dynamic shape of any gesture *leads to* and /or *comes from* a primary point of accent.¹⁰ *Accent* here corresponds closely to Lerdaahl and Jackendoff's *phenomenal accent*, which they define as "any event at the musical surface that gives emphasis or stress to the moment in musical flow" (17). Such accents may include "attack points of pitch-events, local stresses such as sforzandi, sudden changes in dynamics of timbre, long notes, leaps to relatively high or low notes, harmonic changes, and so forth" (17). By definition, then, a phenomenal accent is always produced by an audible event in the music; in this respect it differs from metrical accent (to be discussed later).

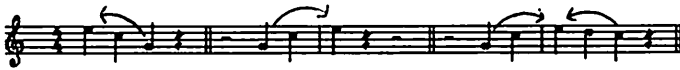
Earlier we noted that continuity is one of the characteristic attributes of gesture. What function does the primary accent of the gesture play relative to this continuity? Recently several theorists have argued that an accent should be conceived as a durationless moment in time, an attitude I share.¹¹ Since an accent has no duration, it cannot contribute to the continuity of the gesture; it is to be understood rather as a point of focus that helps to shape that continuity; or looking from the opposite direction, one might say it is created by the particular dynamic profile of the gestural unit. In any case, a point of accent is inconceivable without a contextual continuum; the two concepts go hand in hand.

The accentual focus of a gestural group may occur on any note within that gesture, whether at the beginning, middle, or end. (Strictly speaking, the accent would fall at the attack point of that note, but from a pedagogical perspective the distinction between that attack point and the note itself becomes significant only if the note is relatively long.) Figure 5 demonstrates several possibilities. The placement of the accent strongly affects

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gestural quality; the arrows in Figure 5 indicate how the gestural flow is shaped by the accent. In Figure 5a the gesture seems to move from an accentual focal point, while the gesture in 5b moves towards it; in 5c, the gesture flows both towards and from the accent. At this point, the reader may be reminded of Cooper and Meyer's grouping categories (p. 6), which are either beginning accented (trochee, dactyl), end-accented (iamb, anapest), or middle-accented (amphibrach). But the overt continuity of the gestural shapes in Figure 5 recalls even more vividly Wallace Berry's impulses, described in his *Structural Functions in Music* (1976). His initiative impulse is the moment of accent, towards which or from which the other impulses move. A reactive impulse will "carry forward . . . accent-delineated thrust (motion, energy), in a sense absorbing the force of the initiative impulse, reacting to its accentual 'energy' and predominance" (327). He also describes an anticipative impulse, which "direct[s] energy toward an initiative." Berry's use of *motion* and *energy* reflects a dynamic and gestural conception of rhythm, akin to the approach taken here.¹²

Figure 5.



In attempting to determine the accentual focal point of single-pitch gestures, we encounter a conceptual difficulty. In one sense, this accentual moment necessarily occurs at the point of attack, since there is no articulated event during the sounding of the pitch that could qualify as accentual. It is also true, however, that the dynamic profile of a pitch will often have a moment of greatest intensity during its tenure, even if that moment is difficult to fix precisely. While not technically in accordance with our definition of accent, such a point may well be the true analogue to the accentual focal point of a gestural group. The conceptual difficulty lies in determining the relative weight of an initiative accent against a moment of accent or climax *within* a gesture. Both types of emphasis are very strong but in fundamentally different ways. Fortunately, we do not need to resolve this issue; pedagogically, we would only need to demonstrate that a single-pitch gesture does indeed have both a point of attack as well as a gestural shape after that moment of attack.

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Gestural hierarchy

Thus far we have treated gestures as if they were uncomplicated and indivisible. In reality, they very frequently approach or recede from their primary accent by subgestures that constellate about secondary accent points, as shown in Figure 6.¹³ In this example slurs indicate the gestural units, with the lower-level gestures appearing at the bottom; the primary accentual point within each unit is also shown. Typically the very lowest gestural level will be those individual pitches of relatively long duration; this level is also present in Figure 6, though it is not represented by any special symbol. (The accent marks on the longer durations do not represent gestural levels per se, but rather focal points within the larger slurred gesture.) When several levels of gestures coexist, a *gestural hierarchy* results.¹⁴

Virtually any passage of music will contain gestural shapes at several levels. A convincing performance of such a passage entails the careful balancing of the various levels, so each unit, along with its focal accentual point, receives its proper emphasis within the overall hierarchy. In performing Figure 6, for instance, the singer should be careful not to inflect the individual pitches so much that they undermine the unity of the gestural shapes at the next level (shown as the lowest level in the example); similarly, if the singer makes too much of these gestural groups at the lower levels—say, through excessive separation between them, or an overemphasis on the subsidiary accents—the higher-level gestures will lack cohesion and direction. On the other hand, no inflection would be just as unsatisfactory, resulting in a lifeless and uninteresting line. A satisfying gestural whole, then, is created by striking an appropriate balance between the hierarchical levels.¹⁵

Figure 6.



We can see a danger in schematically depicting a gestural hierarchy as in Figure 6. At all levels, the slurs indicate discrete groups, each one distinct. We have just asserted, however, that the lower-level gestures should not be

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delineated *too* strongly, since that would hinder a projection of the larger gestures. The low-level slurs by themselves cannot visually convey this idea; indeed, insofar as they indicate distinct and discrete gestures, they seem to give the opposite impression. In other words, our hierarchical arrangement of slurs only crudely conveys the rhythmically subtle effect of a true gestural hierarchy. Such a structure is best thought of as single energy flow, in which the intensity level tends to ebb—sometimes dramatically, sometimes not—at the transitions between lower-level gestures. (As suggested earlier, any such subsiding of energy also allows a gathering of potential energy for an upcoming surge.) It should also be noted that many musical structures are less clear than Figure 6. Even at a single level, the connection between gestures can be so smooth we are more aware of a ripple in the musical flow than of the grouping *per se*. In addition, the gestural grouping at lower levels is often ambiguous.¹⁶ Here a schematic depiction of gestural subgroups with slurs would almost be more misleading than revealing. In short, gestural rhythm is essentially fluid—especially important to remember for pedagogy.

Gesture and meter

The preceding discussion has focused on gesture as a purely phenomenal entity (i.e., as being composed purely of tangible musical elements). The character of a gesture, however, does not derive merely from phenomenal elements. Our experience of a gesture is affected to a large extent by its specific position within a meter. We therefore need to consider briefly the concept of meter so we can evaluate its effect on gestural shape.

Much recent theoretical literature on rhythm has focused on meter. While the various sources are not in complete agreement about the attributes of meter or even its definition, general tendencies are easily discernable. The concept of beat is an absolute prerequisite for meter; most theorists also agree that meter can arise only when at least two levels of beats coexist—the primary beat level itself and a higher level that organizes the primary level (see Yeston 1976, 65–67). The resulting organization on the primary level is experienced as a regular series of strong beats in alternation with one or two weak beats.¹⁷ Additional beat levels typically coexist with the two levels already mentioned, resulting in a metrical hierarchy.

Lerdahl and Jackendoff describe how meter arises from phenomenal accentual patterns:

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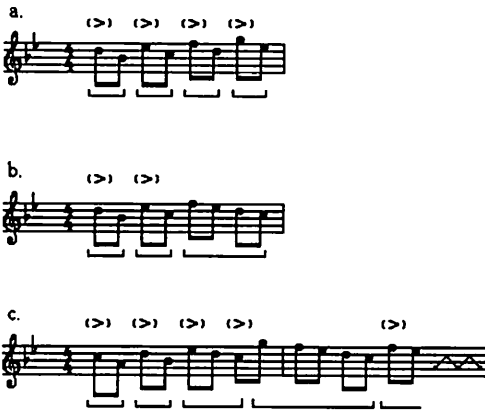
Phenomenal accent functions as a perceptual input to metrical accent—that is, the moments of musical stress in the raw signal serve as “cues” from which the listener attempts to extrapolate a regular pattern of metrical accent Metrical accent, then, is a mental construct, inferred from but not identical to the patterns of accentuation at the musical surface. (17-18)

Meter can therefore be deduced even from an irregular pattern of phenomenal accents. Just enough information must be provided for the listener to construct a metrical hierarchy whose regularly recurring accentual scheme tends to perpetuate itself even though phenomenal accents may occasionally fail to reinforce it. To a certain extent, the phenomenal accents may even contradict the meter without disturbing it. (If such contradiction becomes strong enough, however, the listener may lose the meter or even experience a switch to a new one.) So while meter is initially established through phenomenal accentual patterns, its continuation is not dependent on constant reinforcement by those accents. The world of gesture is very different from meter in this sense, being entirely dependent on phenomenal sounds for its existence. Gestures can only be generated by tangible musical material: the listener does not experience any that are not directly supported by the information actually heard. The very tangibility of phenomenal accents and of the gestural shapes for which they serve as focal points gives both a certain degree of independence from meter. That is, just as meter is free from a complete dependence on phenomenal factors, so the phenomenal gestural world is free from the need to constantly reinforce that metrical structure.

Figure 7 shows how a series of beats at a specific metrical level (here, quarter notes) may or may not be reinforced by phenomenal accents. In this example, the scheme is created purely by melodic contour, since no other type of differentiation appears (e.g., dynamics, duration, articulation). In Figure 7a, each quarter note beat is reinforced by accents in the melodic contour. Figure 7b begins similarly, but the switch to stepwise motion halfway through results in a smooth motion through beat four; thus that beat is not reinforced by a phenomenal accent. Finally, in Figure 7c, the contour not only fails to reinforce the fourth beat, but also creates an accent on a lower metrical level (i.e., on the eighth note after beat four).

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Figure 7.



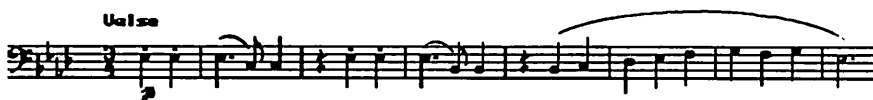
In all three passages, the phenomenal accents initiate low-level gestural units, indicated with brackets. For instance, in Figure 7b the three accents initiate three gestures, the third equal in length to the first and second combined; the longer third gesture, of course, directly relates to the lack of an accent on the fourth beat. Now how do listeners experience this third gesture? Despite the lack of accent on beat four, they certainly *feel* a fourth beat at that point; the meter continues undisturbed. One might therefore conclude that the absence of a phenomenal accent at this point has no appreciable effect on the listener, other than providing a slight sense of surprise that the previous sequential pattern has been broken. But such is not the case. At the fourth beat, listeners do not passively mark time; they experience an expansion begun at beat three and continuing *through* the fourth beat towards its goal. Since this third gesture is the first one to suppress a potential phenomenal accent (potentiality being determined on the basis of preceding events in that measure), it feels relatively expansive. Stated differently, the expansion derives from its relative length, which is double the first two. It should also be noted that performance affects how the listener experiences this expansiveness.

A potential phenomenal accent is also thwarted in Figure 7c, in which a descending three-note gesture beginning on beat three passes through beat four; here, however, a new gesture begins on the eighth note on the "and" of four. In sum, Figure 7b and 7c illustrate an important principle: any time a point of metrical emphasis is not reinforced by a phenomenal accent (except in the case of a rest), we may assume that that moment is subsumed within the continuity of a gesture that moves through it. Figure

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8 illustrates the same principle.¹⁸ Whereas the downbeats of mm. 1 and 3 are reinforced by agogic accents, the downbeat of m. 5 fails to stand out as a phenomenal accent, due to the rising stepwise motion through that point. A performer, then, would move through this D-flat as part of an extended anacrusis pointing towards the final note E-flat, which is the accentual focal point. To accent the D-flat would detract from that anacrusis and from the whole expansion.

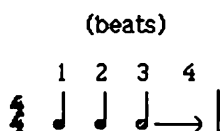
Figure 8.



Figures 7 and 8 have illustrated the interaction of meter and gestural groups (of two or more notes). The relationship between meter and single-note gestures can be described similarly. Let us consider the simple duration series quarter-quarter-half within a four-four meter, as shown in Figure 9. This rhythm exhibits a tension between meter and gesture like the passage in Figure 7b. In that example, the melodic contour created accents on beat one, two, and three, but not four. The durational pattern in Figure 9 creates exactly the same phenomenal accentual scheme by attack points. (The scheme in Figure 7b, however, is at a higher gestural level, since two or more individual pitches are contained within each gesture.) In both cases, a potential phenomenal accent on the fourth beat is suppressed, resulting in a gestural unit that lasts for two beats. The half note of Figure 9, then, does not include two parts (i.e., two beats), but rather is a single unit with a gestural envelope independent of the underlying beat pattern. The performer may *choose* to intensify at the midpoint of the note and thus reinforce the underlying beat, but any other envelope is also possible. In any case, this half note will normally feel relatively expansive like in Figure 7b. As a rule, any duration longer than the prevailing beat value will have at least some gestural significance. And if the tempo is slow enough, single-pitch gestural units will also be noticeable at the level of the beat, or lower.

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Figure 9.



We see, then, that gestural shapes, whether consisting of one or many notes, are to a certain degree free from the constraints of metrical structure. (I include the qualification “to a certain degree” since *some* reinforcement of the meter is necessary if that meter is to stay in effect.) At the same time, any shape exhibiting such freedom has a special *affect* arising precisely from its relationship to the reigning meter. Thus meter and gesture coexist semi-autonomously. This has significant ramifications for the sightsinging class, and indeed, for performance in general. One of the goals of teaching rhythm as gesture is to outgrow an overly metrical approach to rhythm—in short, to sensitize them to gestural shapes.

Another crucial aspect of the interaction between gesture and meter is that gestural groups are not necessarily congruent with metrical units (Lerdahl and Jackendoff, 29-30). We saw a clear example of this in Figure 2, where the quarter-to-half grouping spans the barline. Such across-the-barline (or across-the-beat) groupings are very common. Our notational system, however, which is visually biased toward metrical units (through barlines, beaming, etc.), is not designed to highlight such groupings; indeed, the notation is distracting. Not surprisingly, students often fail to see gestural groupings noncongruent with metrical units. For this reason, such groupings should receive special pedagogical emphasis.

In exploring the theoretical underpinnings for a pedagogy of gestural rhythm, the first portion of this study has focused on two essential theoretical concepts. First, the teaching of gestural rhythm considers gestural *grouping*. Second, a gestural approach distinguishes between phenomenal accent and metrical accent—a distinction many students do not understand, at least conceptually—and more broadly would show how the phenomenal shape of a phrase interacts with the metrical hierarchy. Neither of these topics is normally taught at the undergraduate level, at least in a systematic way. A pedagogy of gestural rhythm would thus remedy a

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serious gap in the student's theoretical education. This, of course, leaves aside the most obvious advantage of such an approach, namely its immediate relevance to practical musicianship: training in gestural rhythm is also training in basic principles of musicality and thus directly relates to the performance studio.

PEDAGOGICAL APPLICATIONS

Overview

Earlier I said a pedagogy of gestural rhythm would train the student "to interpret any given rhythm or melody as a rhythmically vital entity." A more precise formulation is now possible: the objective is to train students to recognize *gestural shapes* in notated music and to perform them appropriately. However, while this new emphasis on gesture establishes a more focused pedagogical method, one must be careful not to claim more theoretical rigor than it deserves. While a musical gesture may be defined with clear boundaries, in reality gestural groups often flow smoothly from one to another. Even when there is a relatively clear demarcation between two adjacent groups at the same gestural level, their mutual inclusion within the continuity of a higher-level gesture will tend to weaken that line. The fluidity of gestural rhythm is therefore difficult to pin down—perhaps more an inherent limitation in the act of conceptualization itself than any shortcoming in our particular theoretical apparatus.

In any case, while this theoretical limitation may be troublesome, it is not a serious barrier for this pedagogical approach. Our present aim is to provide principles for discerning and performing gestural *tendencies* in a score. There is no need to teach a fool-proof analytical system for assigning function to every single note according to some grouping theory. Such a fussy approach would be counterproductive for fluid situations.

While gestural fluidity may be difficult to define, its character can be directly *experienced* through physical gesture. The link between physical motion and musical motion is acknowledged almost universally among professional musicians and laymen alike. Indeed, the reason we are able to respond to musical rhythm at all is that we are gestural beings ourselves: every motion we make, either voluntarily or involuntarily, is a gesture of some type. It seems only appropriate, then, that a systematic approach to musical gesture in the classroom should harness the body as a learning tool. My pedagogical emphasis on physical activity, as well as many of the specific exercises, reflect the strong influence of Dalcrozian eurhythmics.¹⁹

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The Dalcroze approach is probably most widely associated with children; it has also proven, however, to be transferable to the college level. Though eurhythmics is typically taught as a separate course, one can easily incorporate eurhythmic principles within a larger pedagogical context. In doing so, one must take classroom size into account: whereas a typical eurhythmics class requires a large space for its activities (walking, skipping, swinging, etc.), a typical sightsinging class is normally conducted within a relatively small space. I will keep this limitation in mind while suggesting physical activities for classroom use.

Before looking at the pedagogical approach in depth, we must yet address a potential problem regarding its broad organization. Since virtually every musical dimension (contour, dynamics, timbre) contributes to gestural rhythm, how are we to organize the materials within a course of study? In particular, is it possible to start with purely durational exercises (i.e., without pitches, dynamics, etc.) such as those normally encountered in traditional rhythmic training? I believe the answer is yes, since any rhythmic pattern containing durational differences and /or rests will imply groupings as well as a differentiated gestural contour (see Figure 2 and the accompanying discussion); thus durational exercises provide an excellent introduction to gestural rhythm.

Pitch can then be introduced as a complicating factor to reinforce, undermine, or clarify the gestural shapes implied by the durational series itself. Performance markings that specify dynamic level, phrasing, and articulation also affect gestural shape, and they too are brought in later. Normally these other domains (particularly pitch) are considered outside the realm of rhythmic study, an attitude that naturally follows from an attack-point understanding of rhythm. Since rhythm as *gesture*, however, embraces the whole fabric of a musical passage, a pedagogy of gestural rhythm necessarily must include pitch, dynamics, and articulation; to not do so is to miss the whole thrust of the approach. In short, whereas the traditional sightsinging course normally views "rhythm" (i.e., attack-point rhythm) as a separable component, our approach takes roughly the opposite view: sightsinging is the culmination of work in gestural rhythm.

The first stage of rhythmic training: simple meter

At the start students should do some work in simple meter. Conducting is an ideal exercise at this preparatory stage, for it shows metrical structure in a *gestural* way. Specifically, a conducting pattern (two, three, or four beats) reveals an individual character or function for each beat. Abramson describes these different beat qualities:

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Jaques-Dalcroze's theory of rhythmic beat qualities goes on to classify beats as the *crusic* beat, seen as a release of energy; the *metacrusic* beat, seen as a gentle carryover or a dying away; and the *anacrusic* beat, seen as a preparation of energy for release.(41)

For instance, in three-four meter the three beats would correspond to *crusis-metacrusis-anacrusis*; in four-four, both the second and third beats are *metacrusic*.²⁰ A conducting pattern vividly conveys these different beat qualities. The arm shows the *anacrusis* with an upward thrust. Since this motion traces a trajectory against gravity, it represents a building-up of potential energy that awaits release. Such release is provided by the subsequent dropping of the arm for the *crusis*, which should feel like an inevitable consequence of the *anacrusic* preparation. Since the falling of the arm is assisted by gravity, we associate the bottom of that fall—i.e., the *ictus*—with a feeling of weight. The following *metacrusic* beat(s) feel relatively neutral in comparison to the *anacrusis* and *crusis*, though the outward thrust of beat three in four-four (or beat two in three-four) feels like a preparation for the lift of the forthcoming *anacrusis*. In this respect, the *metacrusis* is not merely a dying away as suggested in the above quote but also a gathering of energy. (Indeed, I have heard Abramson refer to the third beat of four-four time as a “growing *metacrusis*.”)

If students have trouble experiencing the different beat qualities through conducting, they may find it helpful to step the meter with alternating feet; in three-four meter, the pattern would be *left-right-left-right-left-right*, with every downbeat stepped in front of the other two beats.²¹ The step on beat three should lift with *anacrusic* energy so that the downbeat lands with weight; beat two then will be lighter and relatively neutral. (The knees should be slightly flexed throughout.) Again, the weight of the downbeat is largely a natural consequence of the *anacrusic* lift immediately preceding it, rather than a simple assertion of weight.

At this point we must confront an apparent discrepancy between the idea of downbeat *weight* and the concept of metrical downbeat in present-day rhythmic theory. While the latter views a downbeat as a durationless moment, the experience of weight would seem to require a time span, however brief. These concepts, however, are not incompatible. While it is true the body experiences weight in stepping a downbeat, the footstep itself actually occurs within a single moment (of contact with the floor), which would correspond to the durationless downbeat. The body does not merely express a downward trajectory of weight immediately after the step on beat

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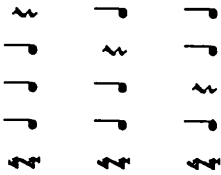
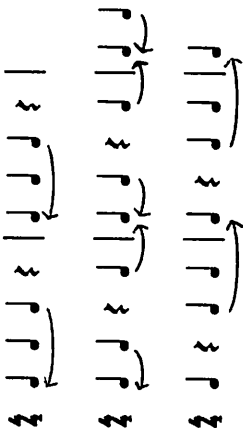
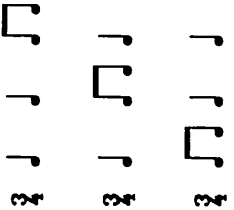
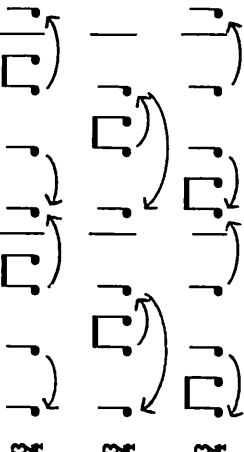
one; it is also on the way to the second step and to that extent expresses a forward trajectory (in time) towards beat two.

After the basic conducting and stepping patterns, students should learn to conduct different kinds of musical character (e.g., staccato, marcato, intense legato, a more floating legato, etc.) in response to music played for them. Since musical character resides precisely in the continuum between beats, this exercise attunes the students to that temporal continuum. More broadly, it enables them to explore the *expressive* possibilities of physical gesture. They should also know how to show various dynamic levels; *fortissimo* requires them to be gesturally expansive, while the smaller gestures for *piano* demand an inner intensity if the beat pattern is not to lose its clarity.

After an introduction to meter, work in gestural grouping can begin. Many of the following ideas and exercises are drawn directly from a pilot text I have written for the freshman theory course at the University of Texas at Austin.²² This text contains material for thirteen units, each focusing on either a particular durational unit or a rhythmic topic (e.g., syncopation). These thirteen units cover a program for only the freshman year; a full-fledged program would ideally take two full years.

Each unit subdivides into three parts. (The term *unit* refers to an ideal level that now is only incompletely realized in the pilot text itself.) The first part introduces very short formulaic patterns that utilize the duration(s) or rhythmic concept featured in that unit; the students are taught to interpret these patterns as gestural groupings. During this time physical gestures are introduced to help the students experience the gestural shapes of the various patterns. The second portion of each unit contains longer durational exercises, which place the formulaic patterns within a larger context. Finally, the students work with actual melodies to investigate the effect of pitch structure, dynamic markings, and articulation on gestural shape. This three-fold division will provide the organization for the remainder of the study.

Figure 10.

DURATIONAL VALUES	SAMPLE FORMULAIC PATTERNS	MOST GESTURAL GROUPING OF SAMPLE PATTERNS
UNIT 1 quarter notes, quarter rests*		
UNIT 2 eighth notes (in pairs or some other multiple of two)		

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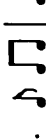
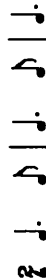
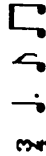
UNIT 3

half, dotted
half, and whole
notes

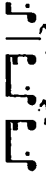
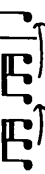


UNIT 4

dotted quarter
notes

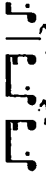
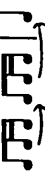


UNIT 5



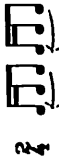
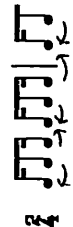
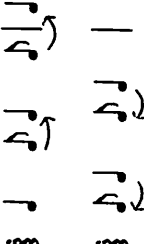
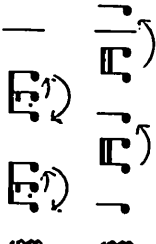
UNIT 6

sixteenth notes



*Units 1 through 8 are in simple meter (assuming quarter note as the beat)

Figure 10. (cont.)

	DURATIONAL VALUES	SAMPLE FORMULAIC PATTERNS	MOST GESTURAL GROUPING OF SAMPLE PATTERNS
UNIT 7	sixteenth notes		
UNIT 8			
UNIT 9	cells associated with compound meter**	 	
UNIT 10		 	

**Assume the dotted quarter as the beat (as in six-eight or nine-eight meter).

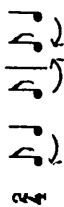
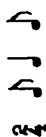
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UNIT 11



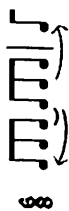
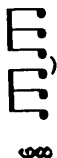
UNIT 12

syncopation in
simple meter



UNIT 13

syncopation in
compound meter



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Formulaic durational patterns

Figure 10 provides an overview of the thirteen units. The left column shows the durational values introduced in each unit. All values in this figure assume either the quarter-note (simple meter) or the dotted-quarter (compound meter) beat; the text itself utilizes three different beat values in each unit—eighth, quarter, and half in simple meter, and dotted eighth, dotted quarter, and dotted half in compound. The middle column displays sample durational patterns from each unit. All of these patterns are notated within the confines of some metrical unit, either the measure (units 1-5, 12-13) or the beats (units 6-11), reflecting the metrical bias of our notational system. (Several sightsinging texts focus on durational cells of this type—e.g., Henry and Mobberly 1986; Kazez 1989.)

But since metrical units are not necessarily congruent with gestural groups, the information in that middle column is not adequate for our gestural approach. I have therefore included a third column, in which the patterns of the middle column are interpreted as gestural groupings. The notated rhythms in that right-hand column reflect an underlying assumption that the gestural shape of any durational pattern emerges most naturally through successive repetitions of that pattern. Figure 10 does not exhaustively depict all the patterns from the thirteen units in the text; for instance, a complete list would include patterns in three-four meter for unit 1, patterns in two-four and four-four for unit 2, and so on.

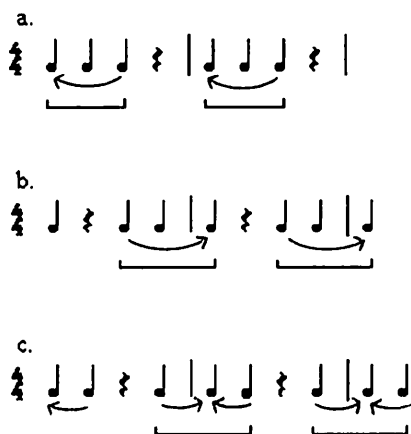
A close look at unit 1 will provide an introduction to the pedagogical role and performance mode assumed by the formulaic patterns. Three patterns are shown in the middle column of Figure 10, each consisting of three quarter notes and one variously placed quarter rest. This simple shift, however, creates a distinctly different gestural shape for each pattern, as shown in the right column.²³ The boundaries of each group are clearly delineated by the rests; the first grouping occurs within the measure, while the other two cross the barline. This distinction between groupings contained within a single metrical unit (i.e., a measure, or at a lower level, a beat span²⁴) and those that begin in one metrical unit but end in another, is a critical one in virtually every unit. The specific position of a group relative to the downbeat directly affects its dynamic shape; this shape is shown by the arrows, which indicate motion to and/or from a point of emphasis.

A single arrow may or may not correspond to a single gestural group depending on where the phenomenal focal point falls within the gesture. If the point of emphasis is either a gestural goal (forward-pointing arrow) or a starting point (backward-pointing arrow), a group is indeed defined by the length of that single arrow (Figure 11a and 11b; the brackets indicate groups). If a gestural focal point, however, has arrows pointing to it from

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both directions (corresponding to Cooper and Meyer's amphibrach grouping), the group corresponds to the composite span of both arrows (Figure 11c). The bracket notation in Figure 11 actually has an advantage over arrow notation insofar as it designates the different kinds of groupings with a single symbol, but I feel this advantage is outweighed by the resulting visual clutter. For this reason I use only arrows in Figure 10 and other examples.

Figure 11



These arrows are not analytical symbols so much as indications for performance. To aid interpretation, I provide the students with specific guidelines for vocal inflection. First, a motion *towards* a phenomenal accent should be intoned with a rise of pitch and dynamic intensification, while motion *from* an accent should be inflected with a descent of pitch and dynamic de-intensification. Second, the inflectional contour should communicate gestural continuity, so the moment of accent seems to arrive at the crest of a tonally-inflected wave. The instructor must strongly discourage punching out accents as isolated points of emphasis. Third, at the beginning stages students should use an essentially legato articulation to convey gestural continuity. Otherwise they tend to lapse into an attack-point mode. The combination of legato and pitch inflection may initially sound odd (its effect is not unlike *Sprechstimme*) but eventually becomes familiar.

As the students become more adept at expressing rhythmic flow, they should also incorporate other types of character, such as light staccato or marcato, or some combination of articulations. In so doing, however, they

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must still inflect the rhythm tonally and dynamically. Finally, the consonant "d" is ideal for the intonation of the rhythms. Its attack is clear and yet flexible, ranging from explosive (*marcato*) to very gentle (*legato*). For *legato*, "d" is preferable to "l" since the latter has a less clearly defined moment of attack.

In the three patterns of unit 1, the moment of phenomenal stress represented by the tip of the arrow coincides with a point of metrical accent. Indeed, a quick glance at the various units in Figure 10 reveals that arrows most often point either to a downbeat (when the durational pattern is a measure in length), or to a beat itself (when the pattern is only a beat span in length). In light of my earlier claim that a gestural shape is semi-independent of the metric hierarchy, this strong congruence of phenomenal and metrical accent requires some explanation.

Why should the student automatically inflect a point of metrical accent with emphasis if a phenomenal shape is presumably not constrained by the metrical hierarchy? This objection may be answered in two ways. First, there is clearly nothing inherently illogical about placing a phenomenal accent on a downbeat or some other point of secondary metrical stress; indeed, such congruence is necessary to a certain extent if a meter is to be established in the first place. In fact, that is precisely the reason for relatively rigid inflectional schemes in Figure 10: they are largely *necessary* for the projection of meter in these patterns due to the lack of melodic contour, dynamic markings, and other accentual criteria. Without the vocal inflection, the placement of the downbeat would more often than not be impossible to determine. Second, while our inflectional guidelines emphasize the metrical downbeat, they do allow a certain degree of gestural freedom *within* the measure so that points of secondary metrical accent do not always receive phenomenal stress. For instance, in the first rhythm of unit 1 the third quarter note receives the least emphasis even though it falls on the relatively accented third beat.

We shall see that the possibility of gestural freedom within the bar is explored further in the extended durational exercises from the second part of each unit. Later when pitch is introduced, the student is shown how a phenomenal design may create gestural continuity through the downbeat itself. In sum, I believe the concept of gestural autonomy from the meter should be introduced very carefully—at first only within the measure and later at higher levels. Too much gestural freedom at the outset may prevent a firm metric sense from ever developing.

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The groupings in the first unit are especially clear since they are demarcated by rests. The second unit introduces durational differentiation—a second important basis for delineating groupings. A technically rigorous explanation of how grouping arises from durational differentiation is overly complicated for pedagogical purposes (Lerdahl and Jackendoff, 44–45), but fortunately one can convey an adequate idea of this grouping principle in everyday language. To put it most simply: a relatively long duration will tend to sound like the goal of a group. Since durational differences abound in the world of real music, this particular principle is extremely powerful. We encounter it repeatedly from the second unit on.

Again, the resulting groups fall into two basic categories—some contained within a metric unit and others spanning two such units. In units 2, 4, and 5, grouping occurs within or across the boundaries of a measure; in units 6ff, we encounter a similar distinction at a lower metrical level, the beat span, with some groupings contained within a beat span and others overlapping two spans. The grouping in unit 5 moves gesturally through a moment of metric stress; specifically, an anacrusic eighth-note pattern begins between the second and third beat and passes through the third beat without any emphasis illustrating again the ability of a gesture to escape the metrical constraints.

Figure 10 does not necessarily show every gestural possibility for each durational pattern. For instance, the pattern in unit 5 could be performed with a slight stress on the eighth note on the third beat; I believe, however, that this is a less natural option since it interrupts the smooth flow implied in the succession of eighth notes. Each of the readings in the diagram, in fact, reflects my normative interpretation for that particular durational series within that particular meter. Certain patterns are more ambiguous than others; for instance, the third pattern of unit 2 could also be grouped within the measure, while such an option for the first rhythm in that unit would feel unnatural. In ambiguous cases, the instructor may wish to teach more than one normative grouping. Later the addition of complicating factors such as pitch contour, articulations, and dynamics may radically alter *any* of these normative readings.

Some of the groupings in the right column of Figure 10 are shown in two levels (e.g., see unit 2, second rhythm, and unit 4, second rhythm). In each of these cases a forward-pointing arrow at a lower level contradicts a backward-pointing arrow at a higher level. The contradiction, however, is only apparent; the backward-pointing arrow does not signify that every succeeding pitch in the measure is increasingly recessive (as in the first rhythm of unit 1, for instance) but rather that the smaller gesture *as a unit* is recessive.

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Special mention must yet be made of the third unit, in which half, dotted half, and whole notes are introduced. Here the primary focus is not on grouping, but single-note gestures. These longer values are traditionally taught from a purely metrical perspective (a half note has two beats, a dotted half, three beats, etc.) and are also normally considered the simplest to perform. When conceived as single gestural units, however, longer durations require an expansive feeling that can be elusive for some students. The difference between the metrical and gestural conception has considerable bearing on performance; a longer duration sounds very different when it is counted than when it is truly felt as a dynamic shape. Since students often have trouble with this gestural aspect of longer durations, I save those durations for the third unit. They could, however, conceivably appear earlier.

Quick reaction exercises

The student should be able to perform the gestural shapes in the right column of Figure 10 without hesitation. One means for attaining this level of mastery is the *quick reaction exercise*, a standard Dalcrozian activity.²⁵ In its simplest form, the exercise begins with the intoning of a particular rhythmic pattern by the student, who, upon a verbal or visual signal from the instructor, switches to another pattern that has been agreed upon in advance. This new pattern, in turn, is repeated continuously until another cue signals a return to the original one—and so on, back and forth between the patterns. I prefer to give the cue a beat or two ahead so students can prepare for the switch; in any case, the reaction time should be brief.

This is not merely an exercise in attack-point rhythm; the students must inflect the gestural quality as well. The goal, moreover, is to change immediately and convincingly from one gestural shape to another without the slightest fuzziness or imprecision. When the patterns are new, this switch will invariably sound shaky for a brief time until the new pattern settles in—a sure sign that more practice is necessary. The instructor may also introduce pitch by having the student sing a continuous scale up and down, changing direction at the octave without stopping. Another option is a melodic sequence, as shown in Figure 12. A change in rhythmic pattern in this case produces an apparently new sequential *melodic* unit since one pattern groups within the measure while the other crosses the barline.²⁶

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Figure 12



Physical gesture

All of the gestural shapes in the right column of Figure 10 can be expressed by some kind of physical gesture. The students should learn these gestures as the patterns are first introduced and in particular should use them while intoning the quick reaction exercises. There are three basic categories of physical gesture. The first gives to each note of the pattern its own individual subgesture, while ultimately subsuming these subgestures within a larger gestural progression. Clapping might be considered an example, at least insofar as it expresses a series of individual notes. But how can a series of claps form a larger single gesture? The secret here is to clap different notes in different ways to reveal something about their relative gestural functions. Consider, for instance, a quarter-eighth-quarter-eighth pattern in three-eight meter. A student would typically clap with the same amount of force on all the attacks, with the rebound off the clap returning to approximately the same hand position (say, with the hands six inches apart); clapping of this type does not differentiate between the two notes in any way, but simply expresses them as a series of attack points.

But what if we notice the greater duration of the long note and attempt to show it physically? The only way to express this duration is through the rebound itself, that is, by pulling the hands apart more gradually through *space* to reflect the full duration of the note.²⁷ If the duration of the eighth note is also reflected in its rebound, a gestural difference emerges between the long and short note: the former requires more space for the rebound. The short clap, moreover, now seems to lead to the long clap, so the clapping sequence as a whole clearly expresses the grouping across the barline. To convey gestural flow, the hands should always be in motion, however slight, since the loss of motion is metaphorically equivalent to a musical rest.

Another activity from the first gestural category (especially for the relatively slow rhythms of units 1-5) is the stepping of a rhythm with alternate feet. I prefer that the student step forward on a downbeat (unless a rest appears at that point) and step the other notes of the measure in place directly under the torso; rests should not be stepped, but may be indicated

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with a snap of the fingers. For instance, the first rhythm of unit 1 would be stepped *left-right-left-(snap)-right-left-right-(snap)*, etc.; the second rhythm would be performed *left-right-(snap)-left—right-left-(snap)-right*, etc. (Since there are only three steps per measure, successive downbeats are stepped by alternating feet.)

In stepping a durational pattern, the student must be sure to express the overall dynamic shape of the pattern. For instance, in the first pattern of unit 1 the downbeat should receive the most weight, and the second and third notes should be successively lighter; in the second pattern, the quarter on the fourth beat should lift in preparation for the weight of the downbeat. Rests also require careful attention. Let us imagine stepping the first rhythm of unit 1: we step on beat one, two, and three, and then rest on beat four before stepping on beat one again. Does this mean that the feet are completely motionless through beat four to the following downbeat? The answer is no, since the foot about to step the downbeat must lift at some point *before* that downbeat. Moreover, the quality of the downbeat is influenced by the timing and character of the lift. For instance, if it occurs involuntarily at the last moment, the downbeat itself will tend to be weak and ill-defined. For this particular pattern, then, I ask students to consciously lift the foot with intention on the fourth beat. In doing so, they will discover the following downbeat gains additional emphasis and weight.²⁸ Additional lift on the rest can be provided by an upward thrust of the arms as the fingers snap. If executed correctly, this upward gesture will actually help lift the entire body.

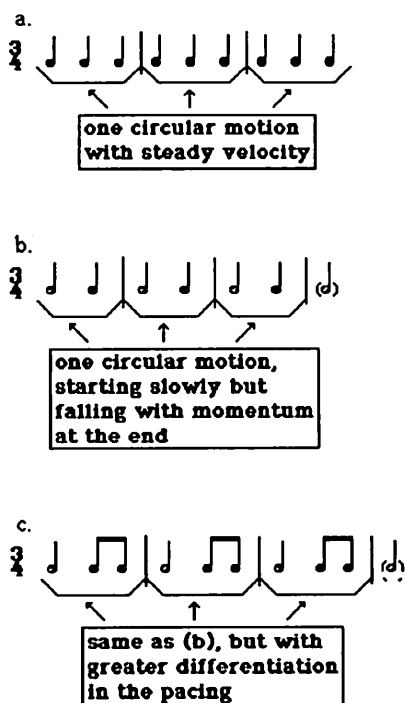
The stepping of a rhythm also dramatizes the effect of durational differentiation on grouping. In unit 2, for instance, the eighth notes create a momentum that virtually demands a longer duration as a gestural goal. As an experiment, I once asked my students to step a quarter-quarter-two eighths pattern (in three-four meter) for four measures, and then to stop. As I expected, the momentum of the eighth notes caused most of them to step involuntarily into the downbeat of the fifth measure.

The second category conveys the gestural shape of the group as a whole *without* showing the individual notes with subgestures. For instance, patterns in triple meter may be shown with a large circular motion of the arm, with a new circle beginning at the start of every new measure.²⁹ (The knees should be slightly flexed throughout so the entire body can give and take with the motion of the arm.) If the pattern creates no strong grouping, as in a succession of equal note values, the arm shows this non-grouping by moving through the circle with constant speed (Figure 13a). But when grouping arises through durational difference, one should let the arm change speed within each circular motion. In Figure 13b, the circular motion would begin slowly but then fall with momentum through the last

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part of the measure, leading without a break to the start of a new circle; Figure 13c would be moved similarly but with an even more pronounced differentiation of speed due to the greater forward momentum of the anacrusis. The sensation of falling can be elusive at first; they must simply *let* it happen. But in mastering it, they learn something fundamental about musical rhythm—i.e., that it can involve a building of energy and intensity or a relaxing and letting go.

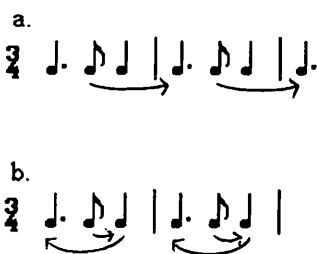
Figure 13.



The dotted rhythm of Figure 14 is more ambiguous in its grouping than either Figures 13b or 13c and could be gestured in two ways. Because the dotted quarter is the longest note suggests it will be a gestural goal resulting in a circular across-the-beat grouping (Figure 14a). Performers, however, also often inflect the quarter note as the end of a group and initiate the next group with the dotted quarter (Figure 14b). The latter possibility

arises because the quarter note itself is the goal of a mini-gesture from the preceding eighth note. I find it more satisfying to teach a noncircular gesture for this rhythm (reflecting the latter interpretation) since that helps to distinguish the pattern from Figure 13c. For example, the student could conduct a pendulum-like arc, moving the hand and arm up to the left, then back down and up to the right, and so on, with each arc representing one statement of the pattern. Unlike a circular motion, this gesture comes to a momentary stop, specifically at the highest point of the arc just before the change of direction. The gesture thus parallels the lack of strong momentum from one measure to the next.³⁰

Figure 14



We have observed that the patterns of unit 1 in Figure 10 could be shown with note-by-note gestures. Our second gestural category, however, may also be useful for these rhythms. For instance, the second grouping pattern in that unit could be shown as follows (beginning on beat four): starting with one arm slightly extended forward, pull back the hand and forearm to show the quarter-note anacrusis, then thrust forward for the downbeat and gradually relax the motion of the hand and arm to reflect the abatement of energy after the accent. Or, for the first pattern of that unit, simply thrust forward the hand on the downbeat (after a preparatory gesture) with a progressive relaxation as the gesture reaches its end. In neither pattern should one show an impulse for each note after the downbeat. Rather, the relaxation of energy should seem continuous.

Unit 3 introduces a special subcategory of the second gestural type. Here the gestural entity is not a group of notes but rather a single note of relatively long duration—specifically, any value longer than a beat, such as a half note, dotted half, and whole note in four-four meter. For these values I borrow the Dalcrozan technique of clapping the attack and then slowly pull the hands apart to show the full duration (also see the above discussion of clapping under the first gestural category). When pulling the hands apart, the student should imagine pulling against a resistant substance such

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as honey or water. Such an image helps involvement with the duration to the end and shows the gestural expansiveness of the note with intensity. In the quick reaction exercise for this unit, the student repeatedly intones and claps one durational value (say the quarter), then upon a signal switches to another value. A sudden switch from quarters to a longer note value vividly demonstrates the expansive energy of the latter.

The third type of physical gesture shows not the gestural shape itself but rather a specific level of the metrical hierarchy, for instance the beat or some subdivision of the beat. Against this recurrent motion, the actual rhythm is spoken or moved by another part of the body. One might show a metrical level through tapping, clapping, or conducting; if there is room, students may also *walk* the pulse, a favorite activity of eurhythmics instructors. This category can be particularly useful during the performance of quick rhythms. For instance, while speaking the sixteenth-note rhythms of units 6-8, the student could tap the subdivisions in the palm of the hand; or, while intoning a durational pattern in compound meter, the student might sway from side to side with bent knees to show the dotted-quarter pulse.

Durational exercises

The second portion of each unit contains longer durational exercises, which combine in various ways the formulaic patterns learned up to that point. In performing these exercises, the student should employ the same basic principles of vocal inflection introduced earlier for the short patterns. In addition, I ask the student always to conduct a few measures before actually beginning the exercise to establish a strong pulse; in determining the pulse speed, the student should scan the melody for the fastest note values as recommended in many other sight-singing texts. As a rule, I prefer the conducting to stop as soon as the rhythm starts, since it can be difficult to inflect a gestural shape convincingly while keeping time with the conducting pattern. I do let the student resort to conducting or tapping, however, for an attack-point to be described later.

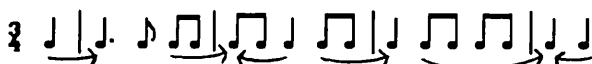
Figure 15 illustrates a few of the performance issues likely to arise in a durational exercise. The second gestural group combines patterns from two different units, with the note on the downbeat of measure 2 acting as a pivot: the anacrusis to the downbeat is a pattern from unit 5 and the motion away from it is from unit 2. When confronted with new combinations, some students lapse into crude inflections, punching out the downbeat while intoning the surrounding pitches in a low monotone. But according to our guidelines, these six notes should be projected like a single wave with a continuous ascent towards the eighth on the downbeat followed by a

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gradual descent; if performed in this way, the eighth notes before the barline will smoothly flow into the eighths of the next measure.

A second interesting feature of Figure 15 is the relatively long anacrusis beginning on the second beat of measure 3. While this particular gesture has not appeared earlier as a formulaic pattern, the students easily understand it to be an extended version of the shorter eighth-eighth-quarter anacrusic pattern (Figure 10, first pattern in unit 2). They will find, moreover, that the momentum created by the four eighth notes naturally passes through the third beat without giving it phenomenal emphasis despite its relative metrical weight (i.e., relative to the neighboring eighth-note subbeats). One encounters this kind of gestural autonomy within the measure rather frequently in the durational exercises. The relatively long anacrusic pattern of measures 3-4 also highlights the importance of seeing a gesture in its entirety *ahead of time*; a failure to do so makes it impossible to pace the inflectional contour in an appropriate and convincing way. (Indeed, this is true for any gesture, regardless of its size.) A well-known cardinal rule of sight reading is to "keep looking ahead"; one advantage of a gestural approach to a rhythm is that it trains just that. The teacher, in fact, can directly monitor whether the student is doing so simply by listening for the inflectional contour.

Figure 15.



The durational exercises frequently project a gestural hierarchy. Let us consider the simple durational succession in Figure 16a. The arrows indicate groupings by durational differentiation; note, however, that this grouping analysis is not entirely satisfactory since it suggests the successive gestures are equal in weight, an interpretation that seems more appropriate for two-four meter. To clarify the meter, then, we need to add a higher gestural level (Figure 16b) that subsumes the three-note groups within a single overriding motion towards the downbeat. (We will discuss Figure 16c shortly.) From unit 2 on, nearly all the exercises project gestural hierarchies; a fairly complex example from unit 6 appears in Figure 17.

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Figure 16.

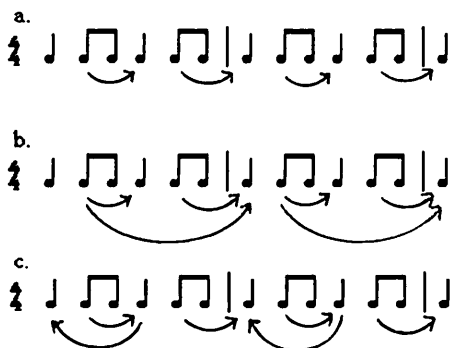


Figure 17.



The arrow notation in the preceding examples is a valuable pedagogical tool for taking in the gestural shape of a line at a glance. I believe, however, the arrows should be dropped as soon as possible after the first few exercises within each unit, since they really are just visual reminders (or extensions) of gestural principles already learned in working with the formulaic patterns. From these principles, the students should be able to inflect a durational pattern with no visual cues; an appropriate gestural impulse is implied by the durations themselves and by their position within the meter.

The absence of arrow notation will frequently leave room for gestural ambiguity at higher levels. For instance, the pattern of Figure 16a actually could support several higher-level interpretations. We have only shown one of the possibilities in Figure 16b; we could just as easily have chosen the interpretation in Figure 16c, and a third option would be to perform so neither interpretation clearly emerges. (These three possibilities, of course, represent a convenient simplification of musical reality; due to the fluid quality of gestural rhythm, a wide range of subtle interpretations are possible within the extremes shown in Figures 16b and 16c.)

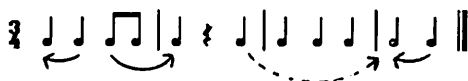
The versions in Figures 16b and 16c both show the same lower-level impulses; it is only at the next higher gestural level that the grouping

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ambiguity arises. In general, I do not view higher-level ambiguity as problematic, nor do I believe the instructor should draw much attention to it. If arrows are not specifically provided, the students should be free to inflect that level as they feel inclined, provided they strictly follow two guidelines: first, they must clearly express the lower-level gestures, and second, they must give the proper emphasis to the downbeat of the measure. (In following the latter guideline, they will automatically project some kind of gestural hierarchy, even though it may be ambiguous.)

Figure 18 introduces a new interpretive marking, the *dotted arrow*, which indicates passing through a downbeat without emphasis. Up to now, a stress on the downbeat has been the norm, both in the short patterns and in the longer exercises; thus the dotted arrow notation signifies greater gestural autonomy from the meter. Ultimately the purpose of this notation is to prepare the students for the melodies of the third part of each unit, where specific factors such as pitch contour, articulation, or dynamics may provide a concrete basis for avoiding a stress on the downbeat.

Figure 18.



Thus far I have implied that the primary difficulty in performing a durational exercise is knowing how to express its gestural shape. But what if the student is simply unable to get the rhythm right in the first place? When this happens, I believe it is best to focus on very brief subpatterns and then to build the rhythm up gradually from these short segments. Such a tactic is also consistent with our overall pedagogical approach; indeed, very often one of these subpatterns will be equivalent to a durational formulae the student has already studied. The student should repeat the troublesome pattern with inflection over a regular pulse until it is solidly learned. That pattern could then be combined with a short pattern immediately adjacent, and so on, until the original rhythmic line is reconstructed.

While I believe that working with patterns is the best way to address a rhythmic problem, the approach could be supplemented with a focus on the note-by-note attack series of the exercise as a whole. Here the issue of inflection will necessarily recede temporarily into the background. It is therefore helpful to define an attack-point performance, clearly distinguishable from gestural inflections. When performing only attack points, the

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student need not inflect the durations vocally. In fact, I prefer a pure monotone to maintain a clear distinction between this type of performance and the gestural mode. The exercise should be performed with a hard consonant so the point of attack is easily heard ("tuh" is best). Most important, some metric level should be conducted or tapped during the exercise to aid the timing; this beat or sub-beat level must be maintained in strict metronomic time. As a variation the student could intone the durations while tapping two different metric levels simultaneously—for instance, quarter notes with one hand on the thigh and eighth notes with the other hand on the chest.³¹ After mastering the timing, the student will normally be asked to return to a gestural mode of performance.

Besides its utility, the attack-point mode can be used to tighten up a sluggish rhythm—a common problem with relatively long values (especially units 1 to 3). It can also aid in learning a few of the difficult patterns at the beginnings of the units. For instance, some students have difficulty with the first pattern of unit 10, placing the sixteenth note just a bit too late. By tapping sixteenth subdivisions, the student can bring the rhythm into focus and thereby convey more successfully its peculiar lilting character.

Thus far our discussion has limited physical gesture to tapping and conducting, both from our third metrical category of gesture. One might surmise that our first two categories, which are overtly gestural rather than metrical, would also be helpful in refining the dynamic shape of these rhythmic lines. Indeed, it is not uncommon for Dalcrozian instructors to have their students move an entire rhythmic or melodic phrase. Since the lack of space, however, in the typical sightsinging classroom can make this kind of activity difficult, I tend to use the first two gestural categories only with the formulaic patterns at the beginning of each unit. The gestural principles learned at that stage are easily transferable to the exercises, even if the physical gestures themselves are not carried over.

Melodic contour and gestural shape

Rhythmic training will be of little value if it is not successfully applied to the singing of actual melodies. The pedagogical task here is not simply to graft a melodic line onto some abstract durational sequence; such an approach mistakenly presupposes that pitch and rhythm are completely separable categories. Rather, we will view pitch as a factor that contributes to gestural shape, by strengthening, qualifying, or even undermining a dynamic shape implied in the durational series alone.

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The interaction of pitch and duration is enormously complicated and merits fuller treatment than is possible here. Such an expanded treatment would need to address at least two different angles. First, we would have to consider how melodic contour itself contributes to the formation of gestural shapes. Second, we would need to consider how *tonal relationships* (expressed in scale-degree functions) influence or are influenced by gestural shape. Melodic contour has a direct effect on the profile of a gesture through leaps or change of direction (causing an accent) or through stepwise motion (creating continuity). The effect of tonal relationships on gestural shape, however, is much less clear. While scale-degree function is an important contributor to the feel of a gesture, such a succession is not phenomenal in the same sense as the other factors discussed in this study. Thus a scale-degree succession cannot in itself create a phenomenal accent—neither can a harmonic progression, at least under normal circumstances.³² Since we have been emphasizing the phenomenal aspects of musical gesture, a consideration of tonal function lies beyond our inquiry. The remainder of the study will therefore focus on melodic contour and its effect on the phenomenal shape of a gesture.³³

Our earlier guidelines for vocal inflection have provided an intuitive basis for understanding the gestural function of melodic contour. That is, by inflecting the gestural shape of a durational pattern with a tonal contour—motion towards a phenomenal accent through a rise in pitch, motion away with a descent—the students have in effect been intoning melodies of indeterminate pitch. While the introduction of written melodies with discrete (and specified) pitches obviously introduces new difficulties, the student has at least been prepared for the idea that melodic contour directly affects gestural shape.

Since a melodic contour of even moderate length can take a virtually infinite number of shapes, one clearly cannot systematically introduce every possible inflectional nuance. It is possible, however, to teach a few principles that reveal in a broad way the gestural impact of contour. Remember that contour generates a dynamic shape in two fundamental ways. The first is melodic direction, whereby we experience an upward motion qualitatively different from a downward motion. In one of his pedagogical texts, Jaques-Dalcroze presents a simple exercise that effectively sensitizes the student to this difference and the gestural implications thereof: the student sings an ascending major scale with a gradual crescendo, and then sings a descending scale with a diminuendo (Jaques-Dalcroze 1906-17, 22). Jaques-Dalcroze conceives this natural connection between contour and intensity level as a “rule of nuance” for performance; that is, the student should normally crescendo for any ascending line, or decrescendo for any descending line.

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One might counter that this rule is too crude since it cannot possibly apply to every musical situation³⁴; I do not see this, however, as a problematic issue for two reasons. First, I believe the guideline really does reflect a natural tendency in some respect; adherence to it will normally result in an intuitively appropriate inflection for any contour even if it is not the only conceivable one. Second, the exercise ultimately has a broader purpose than being a directive for performance: above all, it is a vehicle to learn to experience tonal space, not as a neutral vacuum, but as a dynamic field. The qualitative difference between up and down within that field is typically characterized as intensification and relaxation, but even in cases where that characterization seems inappropriate—say when a bass line intensifies while descending—the effect of the particular inflection is largely dependent on its relative position in tonal space. For instance, that bass line may seem to convey a sense of increasing weight precisely because of its low placement relative to the whole texture. Or, a rising line may in certain circumstances convey an ethereal lightness, a characteristic appropriate to a spatially high position. Pedagogically, our objective is not so much to teach iron-clad rules of nuance (e.g., “rising lines must always crescendo”), as to foster a heightened awareness of tonal space *per se*. For that reason, the above inflectional guideline may be somewhat loosened after the very early stages of study.

A change of direction creates a point of emphasis in the line, while motion in the same direction promotes continuity, assuming that no other factor intrudes. The accentual effect arising from a contour change is built into the line and requires no additional emphasis. It will, however, be automatically projected subtly whenever the “rule of nuance” is adhered to, since the change of direction will also change the intensity contour.

The second factor contributing to melodic profile is the correlation between the size of an interval and the intensification (or relaxation) required to traverse that distance. The instructor should provide exercises that focus on the dynamic differences between intervals both in direction and magnitude. The one shown in Figure 19 is simple but effective: each successive ascending interval is performed with a wider range of intensity. One may also sing a descending version of Figure 19 by inverting both contour and dynamics. In this exercise the interval is experienced not so much as a juxtaposition of two discrete pitches as a single shift of energy.³⁵ The crescendo markings in Figure 19 indicate the energy shift begins on the lower note and culminates on the high note thus binding the two pitches within a single process of intensification. To be sure, one could withhold the forte until reaching the high note; but one could just as easily intensify only on the lower note and then land lightly on the higher with an actual diminuendo. (When executed well, the latter effect can be stunning.) In

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other words, if an interval represents a single dynamic shift, the performer may place that shift anywhere during its execution. Pedagogically, however, I believe the gradual intensity contour suggested by the crescendo marks is the most effective way to convey the dynamic quality of intervals.

Figure 19.



An activity that helps to integrate this principle of intervallic differentiation with Dalcroze's rule of nuance is the contour exercise, in which a short melodic contour is repeated sequentially: for instance, the melodic pattern 1-3-6-5-4-3 would be successively transposed up by step to 2-4-7-6-5-4; 3-5-8-7-6-5; etc. The student should experiment with various contours and note their different gestural effects; other possibilities would be 1-3-5-3-1; 1-5-6-5-4-3; 1-2-3-4-5-3; and so on. To help focus on the effect of melodic contour on dynamic shape without the intrusion of other complicating factors, the exercise should be sung with even durational values at a moderately fast tempo.

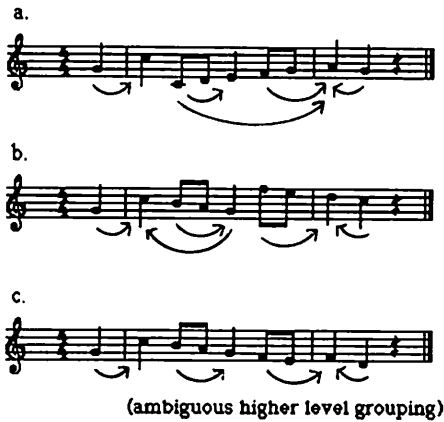
In real musical contexts, a melodic leap sometimes articulates the beginning of a new group—one may be as aware of the articulation in the line as of the dynamic quality of the leap itself. Grouping arising from contour may reinforce a durational grouping; but contour may also create a grouping where the durational series alone fails to do so (Figure 20). Figure 21 illustrates how contour can also influence grouping at higher levels by clarifying (Figures 21a, 21b) or reaffirming (Figure 21c) an ambiguity in the higher-level grouping of a duration series.

Figure 20.



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Figure 21.



By emphasizing the inherent dynamic features in melodic contour, the instructor can also prepare an understanding of the interaction between pitch and meter. For instance, the student will learn that a melodic contour does not necessarily reinforce a metric accent (Figure 22). Many students approach passages like this with a serious misconception: having been taught the third beat is stronger than the second or fourth, they have a vague notion (and sometimes a firm conviction) that they should slightly stress the third note simply by virtue of its metric position. Neither the durational pattern, however, nor the melodic contour suggests the third note should receive emphasis. A more natural performance would let the gesture grow from the opening note to the downbeat of the second measure, so it moves smoothly through the third note. Another illustration of meter/pitch interaction is seen in Figure 23a, which utilizes a durational pattern from unit five; here the melodic contour again moves through a point of metrical accent (i.e., the third beat), thus reinforcing the interpretation shown in Figure 1. In Figure 23b, however, the same durational pattern is contoured to reinforce that third beat with a phenomenal accent.

Figure 22.

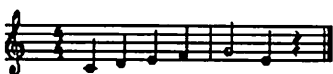
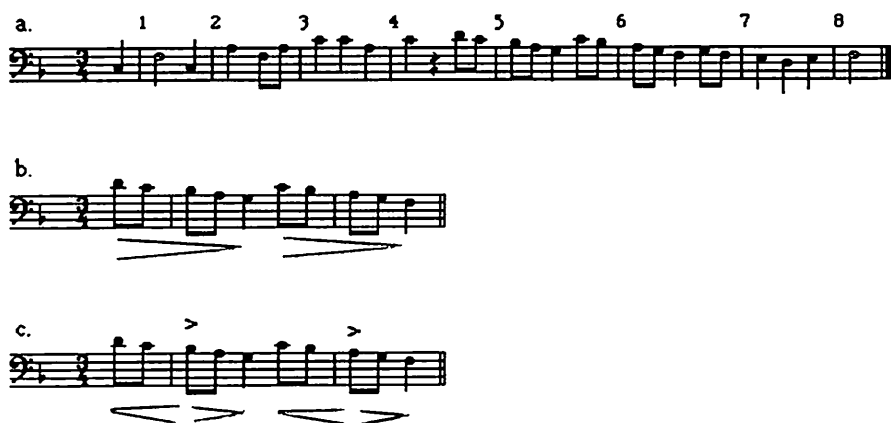


Figure 23.



In the durational exercises, we introduced dotted arrows to indicate motion through a downbeat. A melodic contour will often suggest a similar interpretation, as illustrated in Figure 24a.³⁶ Here the eighth notes in measures 4-5 and 5-6 move through the downbeats with stepwise motion (like in Figure 9). Figure 24a, however, does allow more interpretative latitude. In the latter, a strong phenomenal accent on the D-flat of measure 5 would have seriously weakened the power of the long anacrusis towards the downbeat of measure 7, which provides the clear focal point of the gesture. In contrast, one could perform the slurred gestural units in Figure 24a with strong accents on the downbeats without harming their integrity. The question is where to place the primary accentual point: should it fall on the first eighth of the gesture, as implied by the melodic design (Figure 24b), or should one impose a stress on the third eighth to reinforce the meter (Figure 24c)? Either interpretation is appropriate.

Figure 24.



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As noted earlier, a prerequisite for performing a gesture convincingly is recognizing its wholeness in advance; only by doing so can the performer give each note its appropriate weight within the complete gesture. A melody that illustrates this principle well is the D major “March” from *Clavierbüchlein* for Anna Magdalena Bach (Figure 25). The passage divides into three subgestures, of which the third is as long as the other two combined. Each gesture has a motion both towards and from an accentual point of focus; the anacrusic motion in the third gesture, however, is a full measure longer than in the first or second. (In the third gesture, the change of direction at the climax A is not of sufficient accentual strength to challenge the primacy of F-sharp at the opening of measure 4.) Therefore, before beginning the third gesture, the performer needs to mentally shift gears, as it were, so not all of the anacrusic energy is spent on the first two notes; this shift can happen only if the performer has seen (and understood) the entire gesture ahead of time.

The second and third gestures begin with exactly the same two pitches in the same metrical position, yet the gestural meaning of the second dyad is very different from the first because of the larger context. This second B-C-sharp should therefore *sound* different from the first B-C-sharp, an effect that might be achieved through any combination of factors, such as dynamics, articulation, and temporal placement. This last factor brings to mind an observation by Cooper and Meyer: that grouping can affect rhythmic timing (18-19). In the Bach “March,” the third gesture will probably begin just a bit later than would be metronomically correct since the following string of eighth notes moves towards the goal pitch with increasing momentum. Ironically, the performer cannot project this subtle shift of timing in a convincing way by consciously *thinking* about the timing; the secret is to release the flow of energy immediately before beginning the new gesture. This momentary sense of relaxation, which allows the performer to gather the energy for that forthcoming gesture, cannot be forced; one must simply let it happen. This reminds us that gestural rhythm consists of the dynamic interplay between intensification and relaxation.

Figure 25.



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As in the durational exercises, the student should be able to inflect melodies gesturally without any performance indications; thus, a sizable number of the melodies sung by the student should omit such markings. In training the student to see the durations and pitches of a tune as inherently dynamic, our pedagogical approach acknowledges a simple reality: no vital performance can ever arise merely from a slavish adherence to performance indications. The student must see gestures (to borrow an expression of Robert Abramson) in the written score without any other visual crutch. To be sure, any two students may produce somewhat different renditions of a given tune if articulation, dynamics, etc., are not provided in the score; but they should share a core of gestural vitality.

At the same time, though, it would obviously be wrong to claim that performance markings are unimportant since they enable the composer to specify a particular character, articulation, dynamic scheme, etc. from among a myriad of possible (and equally musical) possibilities. Sometimes these markings will contradict natural gestural tendencies—for instance, a diminuendo accompanying an ascending line, or a slur that contradicts a normal grouping. In singing from a marked score, the student should pay special attention to how the performance indications reinforce, contradict, or clarify the natural tendencies of the line when considered without such markings. I believe that in an ideal sightsinging text, roughly half the single-line melodies should omit performance markings and half should include them.³⁷

In sum, this pedagogical approach trains the student to look for the gestural structure of a notated durational series or melody and to convey an understanding of that structure through performance. In doing so, the student begins to learn a very important skill, namely how to integrate the processes of thinking and feeling. Very often students conceive of the two as incompatible. One rather common manifestation of this attitude is the performer who resists analyzing a favorite piece for fear of losing an intuitive connection with it. In reality, thinking and feeling are mutually supportive. The expression “seeing gestures” (referred to above) expresses perfectly this intimate relationship between the two: recognizing a gesture in the score is a cognitive act, yet that very act is also a direct link to the world of feeling. That is, in a gesture we see not a mere segment of music but a group of notes imbued with a dynamic life, and we can do so precisely because we are feeling, gestural beings. A primary advantage of a gestural approach to rhythm, then, is that it taps into the powerful resources of the human body—the very source of our rhythmic impulses.

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NOTES

¹Grosvenor Cooper's definition of rhythm (1969, 729) similarly emphasizes both its dynamic quality and the differentiation in its flow: "In its primary sense, [rhythm is] the whole feeling of movement in music, with a strong implication of both regularity and differentiation. Thus, breathing (inhalation vs. exhalation), pulse (systole vs. diastole), and tides (ebb vs. flow) all are example of rhythm."

²For an introduction to the ideas of Jaques-Dalcroze, see Abramson 1986 (27-69). Jaques-Dalcroze also wrote a series of essays on his approach, which appear together in *Rhythm, Music, and Education* (1921).

³I had contact with Robert Abramson at a Dalcroze workshop held at the Manhattan School of Music in the summer of 1987. The broad pedagogical objectives of this study, as well as some of its specific pedagogical techniques, have been very much inspired by that workshop. I would also like to thank Prof. Abramson for introducing me to the writings of Lussy, and in particular for making accessible to me his translations of important pedagogical writings by Jaques-Dalcroze.

⁴Special note should be taken of a sightsinging text by Porterfield and Stevenson (1986), which reflects a strong Dalcrozian influence, particularly in its use of physical gesture. The authors, however, do not emphasize gestural *grouping*, which will be critically important in the approach discussed in this study.

⁵Two of Lerdahl and Jackendoff's grouping preference rules (GPR 2, GPR 3, pp. 45-46) explicitly focus on the determination of group boundaries.

⁶As a contributor to shape in groups of more than one note, articulation falls into a special subcategory: it affects only the *attacks* of successive notes, while timbre and dynamics are continuously operative through the entire gesture.

⁷For a more rigorous formulation of this grouping principle, see Lerdahl and Jackendoff's Grouping Preference Rule 2 (45). Cooper and Meyer also describe a similar basis for grouping (13).

⁸Pierce (1977) uses the term *juncture* to refer to the moment between gestures. She characterizes juncture as "poignant . . . with the potential for activity" (23), and draws parallels between its manifestation in music and in the world of physical gesture.

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⁹The concept of musical space is discussed in Zuckerkandl 1956 (262-362), Budd 1983, Scruton 1983 (77-100), and Clifton 1983 (137-204). The notion of tonal space as a "dynamic field" is directly borrowed from Zuckerkandl; however, while Zuckerkandl conceives of this dynamic field as deriving only from tonal relationships (i.e., scale- degree functions), I am proposing that the relative *positions* of events (i.e., "higher," "lower") within tonal space also have dynamic implications.

¹⁰This assertion is very much influenced by Cooper and Meyer 1960.

¹¹See Lester (1986, 15) and Benjamin (1984, 379). For a dissenting view, see Kramer (1988, 89).

¹²Berry views these impulses as metrical functions, an attitude reflected in the term "initiative" for the gestural focal point (i.e., that point by definition "initiates" a metrical unit.) I prefer to think of the impulses as essentially gestural, interacting with and yet distinguishable from the world of meter (about which more later.)

¹³Example 6 is an excerpt from a melody in Berkowitz, Fontrier, and Kraft (1986, 37 [#224]). In their original version, the only diacritical marks are a *piano* and a single slur over the entire four-measure phrase.

¹⁴This hierarchical aspect of the gestural world closely parallels grouping structure; see Lerdahl and Jackendoff (13-14).

¹⁵Pierce (1977) discusses musical performance along very similar lines. In reference to Chopin's C minor Prelude, she observes that "the performer of this piece needs to be a juggler, allowing the shorter phrases to emerge and at the same time containing them within the binding, the ligature, of the longer notated groups." (27)

¹⁶Cooper and Meyer address the possibility of grouping ambiguity in a passage by providing two apparently conflicting readings (12-13). They normally regard one of the grouping schemes as primary, and the other as secondary (reflecting a latent rhythmic organization).

¹⁷However, the fact that we *experience* alternating strong and weak beats does not necessarily mean that a theoretical model of meter should include such alternation (see Graybill 1989). The issue has considerable bearing on our present investigation of meter and gesture, and in particular, their interaction.

¹⁸This tune is from Berkowitz (26 [#165]).

¹⁹I have been strongly influenced by several specialists in Dalcroze eurhythmics. As suggested earlier, this study is particularly inspired by the work of Robert Abramson; I also have benefited greatly from working with Lisa Parker and Ann

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Farber of the Longy School of Music in Cambridge, Mass., Ruth Alperson of the Manhattan School of Music, and Herbert Henke of the Oberlin Conservatory. Their influence is reflected not only in the general spirit of this approach, but also in some of its specific exercises. Finally, my initial contact with eurhythmics was as a student at the Oberlin Conservatory of Music, where I had the good fortune to study with the late Inda Howland, who was one of Jaques-Dalcroze's students in Geneva.

²⁰Observe that this Dalcrozian view attributes gestural shape to meter itself, an attitude that may seem to be at odds with my earlier claim that meter and the world of gesture are semi-independent of each other. One way of reconciling the apparent contradiction is to view a particular meter as having a *normative* dynamic shape that may be reinforced or contradicted phenomenally in an infinite number of ways; the standard conducting pattern for that meter would presumably be an expression of that normative shape.

²¹I would like to thank Lisa Parker for this idea.

²²The course consists of five class hours per week, three of which are lecture, and two of which are in lab format in sightsinging/ear training; the pilot text is used within the lab portion. I would like to thank the following teaching assistants for their ideas and input, which I have found to be extremely helpful: David Burdick, Lee Gannon, Mary Hester, Paul Murphy, Craig Nazor, Roger O'Neel, and Michelle Pippert.

²³The idea of shifting a rest from one position to another to reveal differences in grouping was suggested to me by Robert Abramson. I have also avoided placing the quarter rest on the downbeat since it is a special case; see n 28.

²⁴A "beat span" is bounded by two adjacent beats, which in themselves are durationless.

²⁵Jaques-Dalcroze 1921 (65-66) provides a description of this type of exercise.

²⁶The quarter note at the beginning of m. 3 is not included within a group, thus violating Lerdahl and Jackendoff's GPR 1 ("strongly avoid groups containing a single event"); one might therefore want to analyze the E as belonging within the following group. Even in such a reading, however, the three notes immediately following the E would form a strongly defined subgroup.

²⁷Abramson (38) explains the process of clapping in four stages: preparation, attack, prolongation (i.e., "pulling the hands apart to feel and measure kinesthetically the full length of the beat"), and return to preparation.

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²⁸I am indebted to Robert Abramson for this idea. He also argues that if a quarter rest is followed by three quarter notes in a four-four measure, the anacrusic power of the rest creates the strongest accent on the first of those quarter notes. (This obviously flies in the face of the idea that the third beat should always receive a phenomenal accent relative to beat two.)

²⁹Abramson (42) notes that compound meter, with its triple subdivisions, requires curved or circular motions; here I extend the idea to meters in which the beat pattern itself is triple.

³⁰I received the idea for this gesture from Rebecca Burkhart, a graduate student at the University of Texas.

³¹I would like to thank Lee Gannon for this idea.

³²There is at present no clear consensus on the relationship between tonal function and metrical accent. Caplin 1983 summarizes various viewpoints and also provides a historical perspective on the problem.

³³It should be emphasized that his exclusion of tonal relationships from our discussion does not mean that they are any less important in a gestural approach. For instance, the notion of dynamic scale-degree function occupies a prominent position in the Dalcrozean view of musical structure. See Abramson (51-61).

³⁴Dalcroze himself recognizes that the rule can not always be applied, and he discusses situations in which it may be overruled.

³⁵This explanation is very much influenced by Zuckerkandl 1956 (89-95).

³⁶The melody is from Berkowitz (#106, p. 18); I have omitted the diacritical marks that appear in the original.

³⁷As noted at the outset, such an ideal text does not exist at present. In our freshman course at the University of Texas, we are using Berkowitz/Fontrier/Kraft as our primary text; however, I supplement it with unmarked melodies that closely follow the ordering of material in the pilot text.

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