### Changes to the original Minutage coding sheet and instructions

The original guide to coding Minutage, written by Kathleen Mullin in 1968, was as much an instructional text as a report on the procedure used by the original coders, interspersed with notes on their methodological successes and failures as well as suggestions for revisions to this procedure. These suggestions, as well as other revisions to the coding sheet that were introduced in the late 1960s and following decades, and implemented by 2009<sup>1</sup>, were taken into account in the creation of the updated guide. Additionally, adapting the Minutage coding procedure to a digital format necessitated other changes. All of the significant changes made to the coding guide and coding sheet are explained in detail here.

# Change in Timing Procedure

Originally, the researchers coding Minutage used the Jaquet stopwatch, with a two inch diameter face, and two revolutions to the second. The timing procedure for the supplementary coding was to round off each value to the nearest half second. Since half seconds are not taken into consideration in coding, however, in effect, .75 marked the beginning of the new digit. A diagram from the original Minutage Coding Guide shows this:

<sup>&</sup>lt;sup>1</sup> It is not clear whether all of these revisions were introduced at the same time, or when each one was introduced. A document from 2009 listing the revised variables is the basis for this date.



When dealing with durations between whole digits, the original researchers used a "+" to indicate this on the supplementary coding sheet, but used the system described above to determine the value entered on the coding sheet. For example, a duration of 4.5 seconds would be written as "4+" on the supplementary coding sheet, but as "4" on the coding sheet. Likewise, a duration of 4.75 seconds would be written as 5 on both the supplementary coding sheet and the coding sheet. Presumably, this was done in order to allow for more precise analysis during the supplementary coding process, which is then simplified on the final coding sheet.

The updated coding guide instructs coders to use digital tools for measuring durations, allowing them to record more precise durations rounded to the nearest tenth or hundredth of a second. However, on the final coding sheet, durations are coded within ranges of whole numbers.

### General changes

In cases where the scale points used in the 2009 digitization of the Minutage data were defined differently from the scale points in the original study, the 2009 definitions were used as the basis for the updated coding system.

It should also be mentioned that the first three sections from the original Minutage coding sheet, concerning Function, Organization of the Singing Group, and Leader-Chorus Situations, do not appear in the rescaled variables from 2009. The reasons for this are unclear. However, since these variables seem useful--song function, and the way that time is allocated between leaders and choruses were pointed out in the original coding guide as being particularly interesting to Lomax--they have been re-incorporated into the Minutage coding procedure, and the coded data restored to reflect this.

#### Specific changes by section

### Function (Lines 1 and 2A-C)

The Halifax-Lomax Function Code-- referred to in the updated guide simply as the Function Code-- remains the same as it was at the time of the original Minutage sample, with one addition. A third gender option has been added, to address the situation of gender identities that do not conform to the male-female binary. The updated coding system allows coders to enter up to three different functions on three separate lines, while in the original system multiple functions were multi-coded on a single line.

### Organization of the Singing Group (Lines 3-5)

On the original coding sheet, symbols from Cantometrics were used to code for the organization of the vocal group. These symbols are no longer in use, and so they have been changed to their corresponding descriptions on the new coding sheet. The table below shows how the old symbols correspond with the new values.

Ø	No singers	N+N	Alternation: group-group
$\frac{L}{N}$ (or L)	Solo singer	L(N (or L)N)	Overlap: leader-group
-L	One solo singer after another	N(N (or N)N)	Overlap: group-group
L/N	Social unison: leader predominant	N(L (or N)L)	Overlap: group-leader
N/L	Social unison: group predominant	L)L	Overlap: leader-leader
L//N (or //)	Independent/variegated group	W	Interlock
L+N	Alternation: leader-group		

# Leader-Chorus Situations (Lines 6-8)

On Lines 6 and 7 concerning the modal lengths of each component's units, point 7 was corrected from "30 plus seconds" to "21 plus seconds," as the preceding scale point is "13-20 seconds."

# Basic Unit Analysis (Lines 9-13)

The "Successive Interval Count" variable (IV - D on the original coding sheet) has been omitted from the updated coding system. This variable was not determined by the original coders to be useful, and did not make it into the rescaled variables of 2009. Therefore, it was not included in the updated coding procedure.

Finally, the values available for each variable were changed to match the rescaled system from 2009. These changes are as follows:

### A. Unit typology (Line 9)

- The new variables appear in a different order than the originals. The reasons for this are unclear, but the new ordering has been used in order to maintain consistency with the most recent coding of the samples.
- A new value, "Overlapped breathing," has been added.

# B. Modal length (Line 10)

Values have been grouped differently than they were on the original coding sheet. This presumably reflects findings from the original analysis showing that, for example, lengths of 1-3 seconds can be combined into a single category, rather than separated into two categories (1 second and 2-3 seconds). Similarly, all lengths above 10 seconds are now coded as one category (10 plus), rather than separate categories for 10-12, 13-20, and 21 plus seconds.

### C. Range of unit lengths (Line 11)

On the original coding sheet, this category was coded by simply entering the numerical value of the range. On the updated form, the available values have been grouped in the same way as in Line 10 (Modal length), as per the rescaled variables.

#### D. Unit pattern (Line 12)

- This category, called "Organization of unit lengths" on the original coding sheet, has been re-ordered so that the values represent a gradient from the least patterned to the most. On the original coding sheet, the values were presented in a seemingly random order.
- Values that referred to differences in patterning for leader versus chorus units were removed as per the rescaled variables.

• In the rescaled variables, the term "Maximal" was used instead of "Regular;" it seems that they have the same meaning, and the new term may have been introduced to avoid confusion with Line 9, point 6 (Chorus Regular). The new coding sheet uses "Maximal."

### E. Other patterning considerations (Line 13)

- Two categories from the old coding sheet-- "rubato" and "ventilation"-- have been removed to match the rescaled values. As Minutage is specifically concerned with breathing patterns, the omission of "ventilation" is notable. Although it is not completely clear why this category was removed in the rescaling process, one possibility is that point 6, (Irregular pause, patterned unit) encompasses nearly every case of audible inspiration being used as the pause marker.
- Geometric and arithmetic patterning have been combined into one category in the new coding sheet.
- The values have been re-ordered to match the rescaled variables.

### Special Beginnings and Endings (Lines 14-18)

The variables for Special Beginnings and Endings have remained unchanged. However, the values have been regrouped and re-ordered, and sometimes changed slightly, as per the rescaled variables.

#### Pause Analysis (Lines 19-25)

The main changes made to the Pause Analysis section concern the variables involving orchestration (Lines 19-21). On Line 19 (Orchestral Accompaniment), the values have been simplified as per the rescaled coding sheet. On Lines 20 and 21, concerning instrumentation, the original coding sheet called for coders to enter a value from the Roster of Instruments, a document based on the Sachs-Hornbostel classification system that listed instruments by type with numerical values assigned to them. This roster is no longer in use for Minutage; the updated coding sheet simply asks the coder to code for the presence or absence of a featured instrument and alternate featured instrument.

In the remainder of the Pause Analysis, the values from the original coding sheet have been regrouped as per the rescaled variables.

### Levels of Melodic and Unit Analysis (Lines 26 and 27)

This section remains unchanged from the original coding sheet, except for the omission of a scale point on Line 27, "Levels not regular but p". The meaning of the abbreviation "p" was not explained in the original Minutage coding guide, and this value was not used in the rescaled coding, so it has been omitted in the updated coding sheet.

### Repetition Analysis (Lines 28-32)

- For all of the variables in the Repetition Analysis, the values have been regrouped as per the rescaled variables.
- On Line 28 (Percentage of the melody repeated), a new category has been added--90%--based on a recommendation from the original coding guide. This recommendation was not taken during the rescaling process, so it is being incorporated now.
- On Lines 30 and 31, concerning the length and range of the largest repeated section, the new coding sheet presents several categories for coding values (taken from the rescaled variables)

rather than calling for the coder to enter numerical values in seconds (as in the original coding sheet).

### Melodic Units (Lines 33 and 34)

This section was originally titled "Impressions," and contained a line for coding general impressions on the structure of the song. However, this line was not used in the rescaled coding, and its purpose can be more effectively realized using the comments section of the new coding sheet. Therefore, it was omitted.

In addition, both lines in this section present categories for coding values, taken from the rescaled variables, rather than calling for the coder to enter numerical values.