Transcription in a New Mode
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TRANSCRIPTION IN A NEW MODE[1]

James Reid

The detail of the pattern is movement.
T. S. Eliot

The problem of manual transcription has plagued ethnomusicologists from the very earliest days of the discipline. Recognizing the indispensable need to get the music down on paper, scholars have sighed over the inadequacies of Western notation while continuing to use it. The ever-increasing number of new ethnomusicological publications using Western notation is testimony to its status as the preferred medium of written musical communication, despite the determined efforts of several scholars to show its inadequacies. That Western notation is inadequate for ethnomusicological purposes should require no demonstration at this late date. The whole question of notation and transcription has already been examined in detail by Hood (1971:50-122), and a number of pathways to new solutions of the transcription problem have been suggested. Yet few scholars have made attempts to follow up these suggestions or to develop new solutions of their own.

The whole problem is of crucial importance to the field, and the facile acceptance of outworn solutions can hardly be countenanced. Without trustworthy transcriptions of the music as raw data, the ethnomusicologist can offer few conclusions of firm and lasting validity about his material.

In the following pages the arguments regarding Western notation are re-examined briefly and several pathways to solutions are offered, as a preparation for a list of requirements for a valid transcription system. Then a new set of solutions is offered for a specific problem in transcription, with the possibility that the solutions may have wider applications.

The feeling that the issues involved in the transcription problem must not yet be fully understood has prompted me to write this essay; otherwise, Western notation would surely be declining as the preferred medium of written musical communication. I see few signs that such a trend has begun to develop among ethnomusicologists. But whether or not it ever does, the field is not served by the continued uncritical acceptance of Western notation as a means for transcribing non-Western music.

WESTERN NOTATION

The case for Western notation rests essentially on three points:

1) "Universality," that is, the assertion that Western notation is the best medium for transcription of non-Western music because "all" trained musicians can already read it. They are thus spared the time-consuming trauma of learning some other system, and their time can be fully devoted to the unimpeded examination of their material.

2) "Adaptability," the assertion that Western notation can be altered (in Hood's word "doctored") with various symbols to represent the many elements of non-Western music that resist normal transcription.

3) "Accuracy," the notion that Western notation is "accurate and reliable enough" for ethnomusicological purposes, and in any case allows for a consensus of scholars to decide what is meant by a given transcription (see for example List 1974:353-377).

None of these arguments will stand close examination. The alleged universality of Western notation is perhaps the most transparent of these fallacies, because very few persons other than trained ethnomusicologists can make real sense of an ethnomusicological transcription in Western notation. No matter how many times we try to tell our colleagues in Western music that B-flat is actually B-flat minus 47 cents, they persist in claiming that B-flat is B-flat. Western notation is irrevocably locked into the tuning system of Western music, and there is no hope that our arbitrary attempts to unlock it can ever succeed. And what of the many outstanding non-Western musicians who cannot read Western notation? Are they to be excluded from scholarship that may involve their own music merely because they do not read the notation of a wholly alien musical tradition?

And what of our many colleagues in the social sciences and the natural sciences who never had the opportunity to learn to read Western notation? One reason non-Western music seems such an arcane and unapproachable subject to so many non-musicians may be the persistent use of Western notation, a system of communication that has very little in common with the graphic and mathematical systems in general use among scientists. A universal system of music notation should be intelligible not just to trained musicians, and certainly not just to trained ethnomusicologists, but to a wide range of the world's educated men, regardless of their specialized training in the tradition of Western music.

The argument for the adaptability of Western notation depends on the many special symbols ethnomusicologists have devised, such as arrows and lines, plus a variety of symbols already in use for Western music. Aside from the obvious imprecision of these devices, many of the latter type rest on the

complex oral tradition of Western music, and were developed quite naturally in response to the specific needs of that tradition. They can make no clear provision for types of musical activity that have no counterpart in Western music. The new ethnomusicological symbols are hardly less vague. How much lower is B-flat with a downward arrow over it? What kind of slide is meant by a bar between two note heads? These countless other questions arise whenever Western notation is applied to non-Western music.

The argument for the accuracy of Western notation is only half an argument, because practically everyone realizes that it falls well short of true accuracy. The argument is usually made that Western notation is "accurate enough" for ethnomusicological purposes. That this assertion is specious should be clear to anyone who has worked directly under a master teacher in one of the non-Western world's great musical traditions. The performance practice of the *gagaku hichiriki*, to take but one example, requires that the performer make distinctions of pitch that would probably be inaudible to most trained Western musicians. The requirements of *gagaku* for precision and ensemble accuracy also exceed Western norms by a good margin.

When transcribing for the *hichiriki* into Western notation, the indication  is often used (see for specific examples Harich-Schneider 1973:565-575, Gamo, Kishibe ed. 1970:145, Masumoto 1972:146-47 among many others).[2] This one pair of symbols is variously applied to no less than three entirely different kinds of melodic activity: the *betsu* touch on a lower finger hole, the *oshi* breath accent, and the *embai* pitch inflections. Only the first of these techniques bears any resemblance to the event described by these symbols in Western music, and even there the Western counterpart falls slightly before the beat (at least in usual late-nineteenth century practice), while the *betsu* falls precisely *on* the beat. *Embai* is one of the most important and characteristic features of *hichiriki* style, and occurs in many varieties depending on the melodic context. Should we attempt to use grace notes and connecting lines to try to convey all this crucial melodic detail? I think the question answers itself.

There are two points at issue here, notation and performance study. A transcription into Western notation is automatically suspect because of the defects of the notation in dealing with non-Western material. If the transcriber has not studied the performance practice of the music himself, it is doubly suspect.

A claim has been made that transcription into Western notations is "reliable" because a group of scholars may reach some agreement in notating melodic details the same way (see List 1974). Let us assume that the same group of scholars, none of whom has had any *hichiriki* study, has been given an example of *hichiriki* music to transcribe into Western notation. We can

safely predict that a large majority of the scholars will notate the *betsu* and *oshi* techniques, some types of *embai* and possibly initial slides, using the symbols grace-note-plus-quarter-note mentioned above. The apparent consensus would be worthless for two reasons. First, the scholars lack the necessary background of performance study that would enable them to differentiate among these details. Second, even if they did so differentiate, Western notation would not allow them to distinguish among these differences. The whole premise of reliability in this instance, based on inadequate background and a faulty system of transcription, must be abandoned. Even if a thousand ethnomusicologists agree to transcribe two different musical events the same way, the two events remain different, and the transcription remains inaccurate.

SOLUTIONS

Hood (1971:90-122) has proposed three broad solutions to the problem of notation and transcription that need to be summarized again here. The first of these solutions can easily be accomplished now: we should provide the original, indigenous notation where such a notation exists and teach our colleagues how to read it. The number of musical cultures with indigenous music notations is large, and these notations can teach us much about the important features of the music. One can go beyond the presentation of the indigenous notation and provide a "translation" of the notation into a form readily intelligible to the Western reader. An illustration of this for the *hichiriki* notation is provided below.

Hood's second solution is the use of mechanical transcription to unravel the detail of the musical performance. Everyone is familiar with the development of the Seeger Melograph and its wide applications in musical analysis (see further Hood 1971 and Crossley-Holland, ed. 1974). The desirability of scientifically accurate mechanical transcription would seem to be beyond question, and yet the melograph has been criticized for providing "too much unnecessary detail." The case is analogous to that of the physician, who will probably continue to rely on his trained ear (aided by the stethoscope) for the routine examination of the human heart. But when serious questions arise excellent devices are available for the mechanical transcription of cardiac activity. Who would dare to suggest to the cardiologist that he stop using the electrocardiograph because it provides too much unnecessary detail? Mechanical transcription will play a vital role as the final arbiter of musical detail, and will continue to be indispensable when a scientifically sound transcription of the music is required. The full range of its capabilities remains to be explored.

The melograph tells the truth and nothing but the truth. There remains "the whole" truth, as perceived by the educated listener. The need still

remains for Hood's projected third solution, a universal system of manual music notation. Hood suggests that the solution may be found in an adaptation for music of the admirable Labanotation now in use for dance. While this may indeed be the eventual avenue for a solution, a somewhat different path is proposed here as a preliminary step in the direction of a universal notation. Before presenting this method, let us examine some of the requirements for a viable music transcription system.

REQUIREMENTS

To meet the needs of the ethnomusicologist, a system of manual transcription must meet a number of basic criteria. The criteria listed below derive in a large measure from my own special needs in transcribing Japanese music, in particular of the *gagaku* wind instruments. The transcription method must satisfy the requirements of an instrument of sustained pitch that can be modified during its course. Such a method should be widely applicable around the world, particularly to that most widespread and flexible of all such instruments, the human voice.

I present the following criteria recognizing that other musical types and cultures may pose different problems and create different requirements.

1) Suitability

Perhaps the most basic requirement of a transcription is that it should provide a visual analog to the original sound, so that the reader will not be misled by the mere apparatus of the transcription and draw false conclusions about it.

2) Accuracy

The transcription should aspire to a melograph-type accuracy, unattainable though such a goal will always be. At the very least it should provide an accurate record of the important details of the music. It should be accurate enough to differentiate between such details in a manner that can be clearly seen by the reader. The earlier discussion about the use of the grace note in *hichiriki* transcription should indicate the importance of this requirement.

3) Flexibility

A transcription system should allow the user sufficient flexibility to account for the variables within the musical tradition at hand. It should, for example, clearly show the basic intervallic relationships of the music, but without reference to an inflexible pitch grid. Recognizing that relative intervallic relationships in modes are often more important than their absolute

pitches, the system should allow the transcriber to show different intervallic relationships with ease.

4) Utility

The ideal transcription system should be easy to use and should allow the scholar to insert musical quotations directly into his typescripts without such time-consuming annoyances as cutting and pasting.

5) Practicability

Along similar lines, the transcription system should not require expensive equipment or unusual devices. It should ideally make use of the ordinary typewriter as far as possible, since this is one piece of communications hardware we all own already. Further, the system should not require such costly printing procedures as engraving. It should be possible for the transcription to be acceptably reproduced by ordinary photo-copying methods.

I might mention in passing that IBM has developed an interchangeable ball for its Selectric typewriter that types Labanotation. This should perhaps be an eventual goal of the manual transcription system we require.

6) Cross-cultural Applicability

There should be no question that the transcription system can be safely applied to a particular culture's music or musical system, and it should as much as possible preclude ethnocentric bias on the part of the transcriber.

7) Universality

The system should be intelligible to a very wide readership after a relatively short period of initial study. It should not be accessible only to a trained elite. It should make use of means of communication already in general use among peoples of the world. In this way it can achieve a truly universal currency among scholars of many disciplines.

These are among the prime criteria for the transcription system we seek. Others may exist given the wide range of musical styles worldwide. If we hold up the yardstick of Western notation to these requirements we can quickly see that our old, "reliable" system falls short on every count. The challenge remains to develop better alternatives.

TOWARD MORE SOLUTIONS

In the last of the above list of requirements I hinted that we use the means already developed for scientific communication around the world. Chief among these means are numbers and graphs.

Numerical notation was first developed in the West by Chevé for music education in France (Apel 1969:149). It has never been used widely in Western music and remains free of definite associations with the Western tuning system. Our colleagues in Indonesian music have made extensive use of it, though it must quickly be added that numerical notation is particularly well suited to the fixed pitch instruments of the Southeast Asian gong-chime cultures. It has the advantage that it is not culture-bound, and it has great flexibility because the numbers can be applied to any given set of pitches. Further, it is quite easy to use and eminently practical, allowing musical quotations to be inserted directly into the scholar's typescript and requiring neither unusual equipment nor costly printing processes. It falls considerably short, however, of our requirements for suitability and accuracy.

These last requirements are met by graph notation. Graph notations have been used by several ethnomusicologists, though not as widely as they deserve. The desirability of graph notation for instruments of modifiable sustained pitch should be obvious, as it looks very much like the music it represents. It further allows a far greater refinement of pitch variation than Western notation, and can be quite flexible in meeting the challenges of the music at hand.

TRANSLATION FROM THE ORIGINAL NOTATION

The first of Hood's solutions outlined above is the use of indigenous music notations. Figure 1 presents the *hichiriki* notation (Atomi 1972), for *Nasori no Kyū*, the second movement (*kyū*) of a two-movement *Komagaku* composition used for dance accompaniment. One reads down the vertical columns from right to left, as in standard written Japanese. The numbers enclosed in circles to the right of the columns represent the colotomic strokes of the *taiko* (large drum), and the small black dots indicate the placement of some strong strokes of the *san-no-tsuzumi* (hour-glass shaped drum).[3] The central part of the column uses the Japanese *katakana* syllabary in a manner similar to the solfege system of the West, though it is not tied to fixed pitches. Each syllable (*shōga*) in the central column has fixed and identical time value. Smaller syllabic symbols are included slightly to the right of, and between, some of the central syllables. The small circles (○) in the center column mark phrase endings. The symbols to the left of the central column refer to finger holes on the instrument (see the fingering chart, Figure 2). The apostrophe-like symbol is for the *betsu* technique, indicating a brief touch and release on the next finger hole below the one being played.

The original notation can be best understood by reference to the translation provided (Figure 3). I have transliterated the syllabary into romanization, and I have used common symbols on the typewriter to show

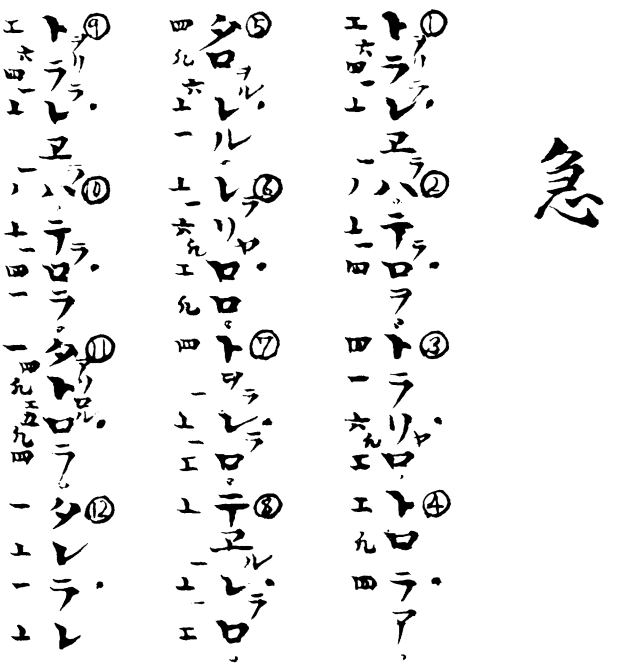


Figure 1. *Nasori no Kyū, hichiriki* notation (Atomi 1972).

the colotomy (see the key). I retain the original symbols for the fingerings; these are few in number and easily learned from the fingering chart. The transliteration poses a problem of space, because one symbol in the *katakana* syllabary must often be romanized as two letters. When the letter density becomes too great, as it infrequently does, I place the additional vowel below its initial consonant.

To these elements, most of which are already present in the original notation, two others are added. Capital letters indicate phrases, as marked off by the small circles in the original notation. These can be used for discussion of form. More important, I have added numerical notation that corresponds exactly to the time values indicated in the syllabary and thus relates directly to the romanization. The exact relationships of the numbers will be shown later. The apostrophe symbol (') on the typewriter is retained in the numerical notation to represent *betsu*, and the asterisk symbol (*) is used to indicate the breath accent (*oshi*). The period (.) is used to mark phrases at the places shown in the original notation by the small circles; the player invariably breathes at these points. Other breaths are, within carefully prescribed rules, left to the discretion of the first-chair *hichiriki* player; these are indicated simply by spaces. The hyphen symbol (-) is used to show that the pitch is

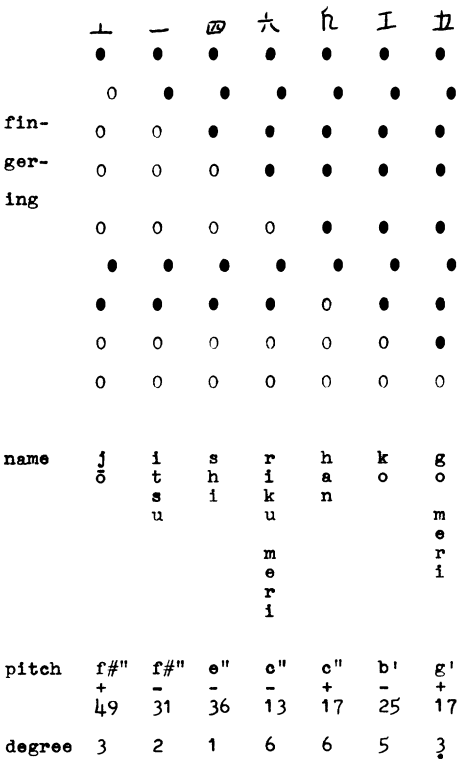


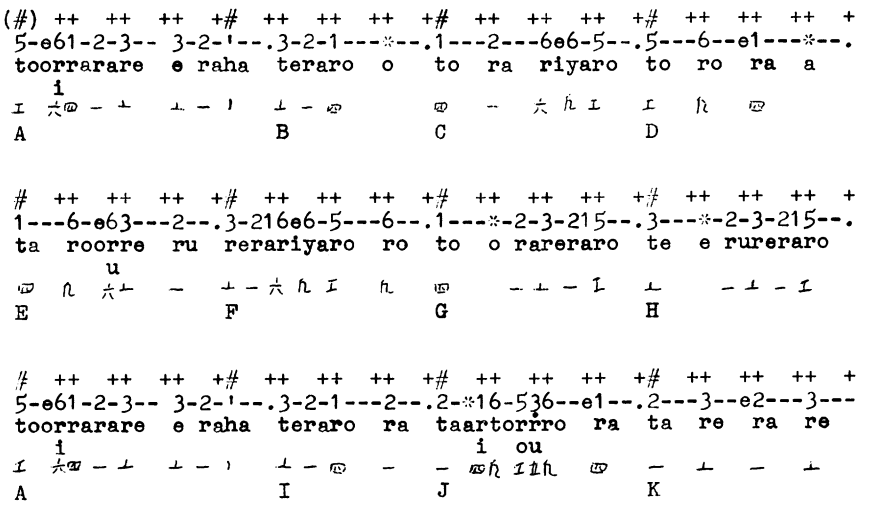
Figure 2. *Hichiriki* fingering chart and Strobocohn measurements for each fingering used in *Nasori no Kyū*.

sustained. The letter "e" in the numerical notation stands for *embai*, the microtonal pitch inflections mentioned earlier. Only the most marked occurrences of *embai* are indicated, with the rest left to the graph notation.

Of crucial importance is the time relationship indicated by the numerical notation. Each unit or space of the numerical notation is treated as one basic time unit, e.g., the indication 5-e61-2- is eight time units (abbreviated TU). Tempo is indicated by such expressions as TU = 100, meaning 100 time units per minute. A TU can vary almost infinitely in duration in real time, and is not dependent on arbitrary Western notation values like the quarter note or eighth note.

Equipped with the original notation (Figure 1) and its translation (Figure 3), we are ready to proceed to the detail of the graph notation. Two main sources—one very old and the other quite new—have stimulated my use of graph notation. The old one is the *hakase* notation in use for centuries in Japanese Buddhist *shōmyō*. Figure 4 presents a brief example of the *hakase* of

NASORI NO KYŪ HICHIRIKI



key:
- * breath accent (oshi)
- ' touch accent (betsu)
- - sustained pitch
- e embai
- # taiko right hand (dō) stroke
- + san-no-tsuzumi stroke
- . phrase mark in original notation
- 3̣ (dot below number) lower octave

Figure 3. Translation and numerical notation for *Nasori no Kyū hichiriki* part.

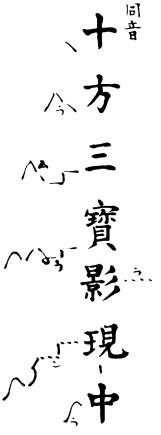


Figure 4. *Hakase* for *shōmyō* of the Tendai sect (Tendai Shinsei Shu, ed. 1972).

the Tendai sect. I hope to discuss this fascinating linear notation at length in a later publication. My second source of inspiration is the melograph. Man can and should imitate the machine in what the machine does better, provided he has something uniquely his own to add.

GRAPH NOTATION

The period key of the typewriter is used to produce a set of differently spaced, dotted lines that represent the pitches and pitch relationships of the mode (see Figure 5). These dotted lines are spaced horizontally to show the relative sizes of the intervals in the mode. The spaces between these lines can be almost infinitely varied on most typewriters to accommodate practically any imaginable mode. The original master page is xeroxed to provide as many blank graph sheets as required. The absolute pitch represented by each line is measured by the Stroboconn, and placed before each line at the beginning of the transcription. Lines separated by a single space are roughly 100 cents, by a double space 200, etc. The numbers assigned to each pitch of the mode, from the numerical transcription, are placed beside each pitch line.

The key feature of the graph notation is the addition of the numerical notation (from Figure 3) in a horizontal display above each set of graph lines.

```
F#+49     3 ..............................
F#-31     2 ..............................

E-36      1 ..............................

D-37*     7 ..............................

C-13**    6 ..............................
B-25      5 ..............................


G+17***   3 ..............................
F#+45     2 ..............................
```

* Pitch 7 occurs only as a brief upward juncture using the fingering riku (六) and is given as 6 in numerical notation.

** The value given here is for the fingering riku; pitch 6 on the fingering han (ㇵ) is C+17.

*** Low 3 and 2 are highly unstable and are rarely used.

Figure 5. Graph display and Stroboconn measurements for *komaichikotsu-chō*.

One advantage of the numerical notation is that it can be expanded to any required width. The notation 5-e61-2- is thus identical to the expanded notation:

5 - e 6 1 - 2 -

or even

5 - e 6 1 - 2 -

if greater expansion is required for meaningful detail in the graph. At the same time the typewriter, by expanding the numerical notation proportionally, preserves the time relationships of the numerical notation and provides a metric grid for the graph transcription (see Figure 6).

A felt tipped pen can be used to draw the pitch onto the graph, the width of the point being open to the individual needs of the transcriber. It is possible to indicate some subtleties of attack, continuation, and release by varying the width of the line. Richard Keeling (1975), using ordinary graph paper, has provided such detail in graph transcriptions for the *shakuhachi*. I have not tried to do so here, although the possibility of this refinement should certainly be noted.

In drawing the pitch line I have connected pitches in the same breath with vertical lines. These could be omitted if one wished to imitate the melograph more closely. I think they are quite useful, however, in showing the limits of the phrase more clearly. One of the main reasons, after all, that we need manual transcription is to point out such relationships to our readers.

The question may arise, why not use ordinary, ready-made graph paper? I have done so, and have found that 6-line-to-the-inch paper works well in a pica typewriter. But I prefer to use the typewriter to make the graph master because the dotted lines show at a glance the basic pitch relationships of the mode. These relationships are not so clear on graph paper, though the latter is far preferable in this regard to Western notation, where one must often look very closely to determine the properties of the mode, if indeed they can be discovered at all.

The reader should note that the mode of *Nasori no kyū* is basically the 123 56 (*ryō* in Japanese) type. It is arranged, as the graph lines clearly indicate, with degree 5 in the lower range and degree 1 in the center. Reading from lower to higher pitch, the arrangement is 56 123. (The lowest pitches, low 3 and 2, and the auxiliary pitch 7, are rarely used). The absolute pitches in Western notation generally used to represent this mode, arranged from lowest to highest, are: b(5), c′(6), e′(1), f♯′(2), and g′(3) (actual sound an octave higher). The reader who looks at the first phrase of *Nasori no kyū* sees the pitches b-c′-e′-f♯′-g′, and from this alone he is quite likely to conclude that the mode is the 12 456 type (*ritsu* in Japanese) with the pitch b as

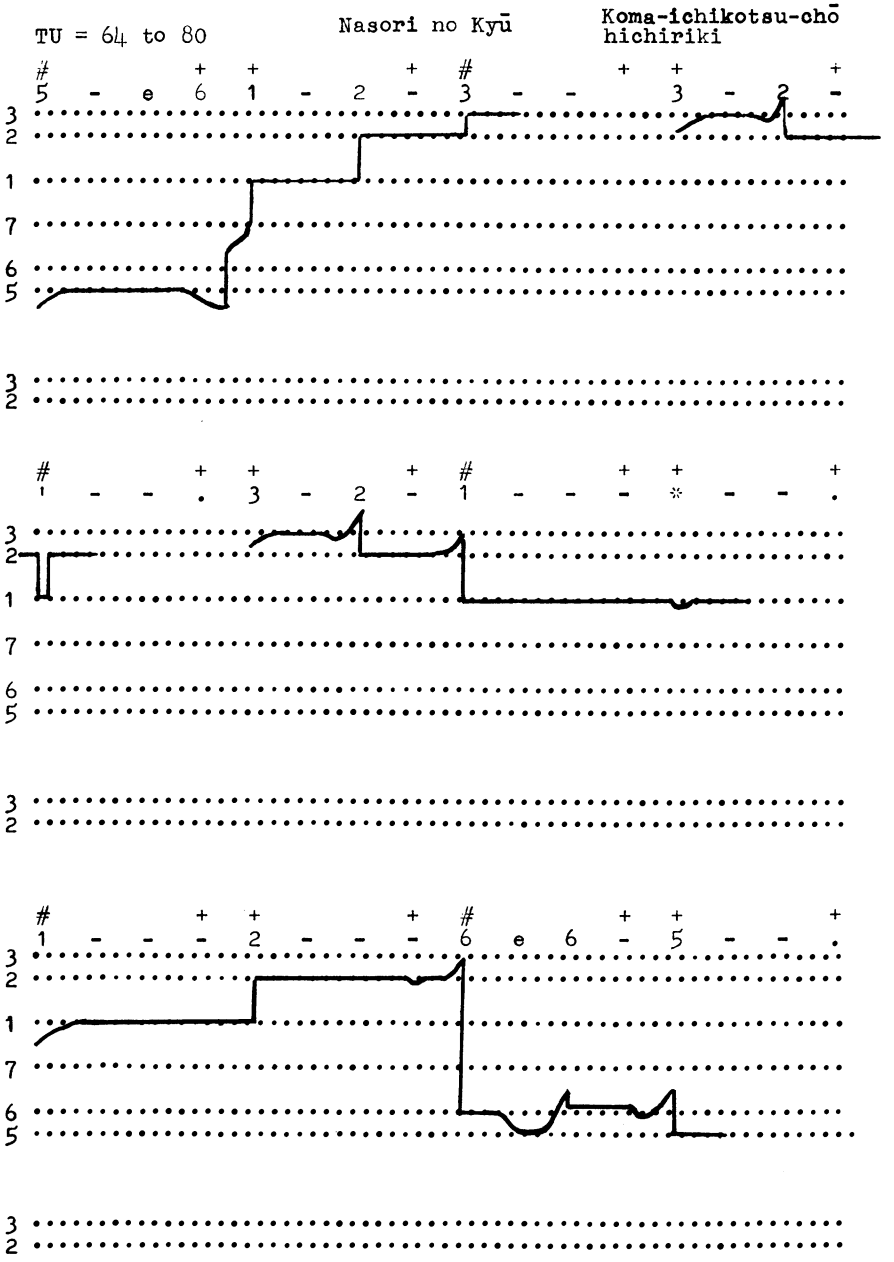


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Figure 6. Number-graph transcription of *Nasori no Kyu.*

Figure 6 (Continued)

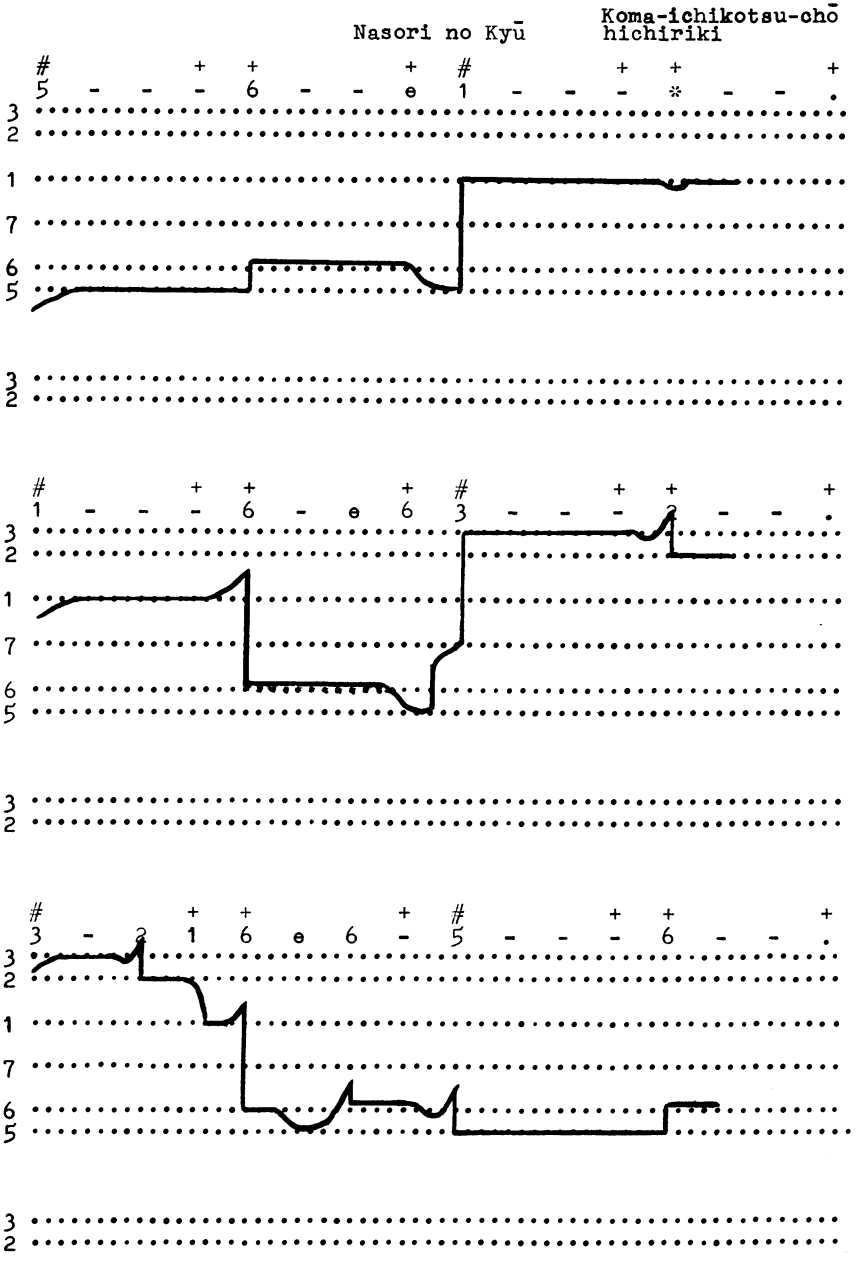

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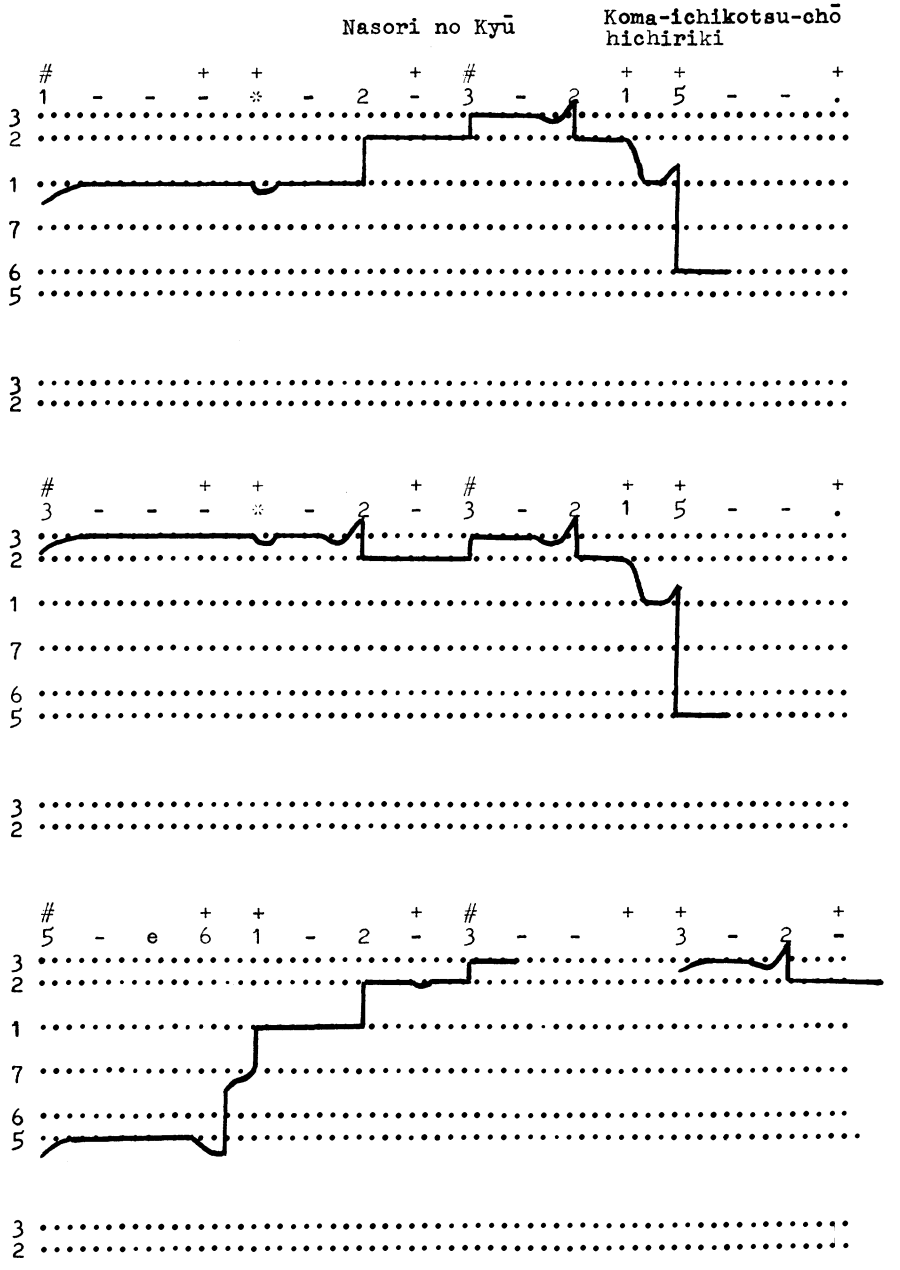
Figure 6 (Continued)



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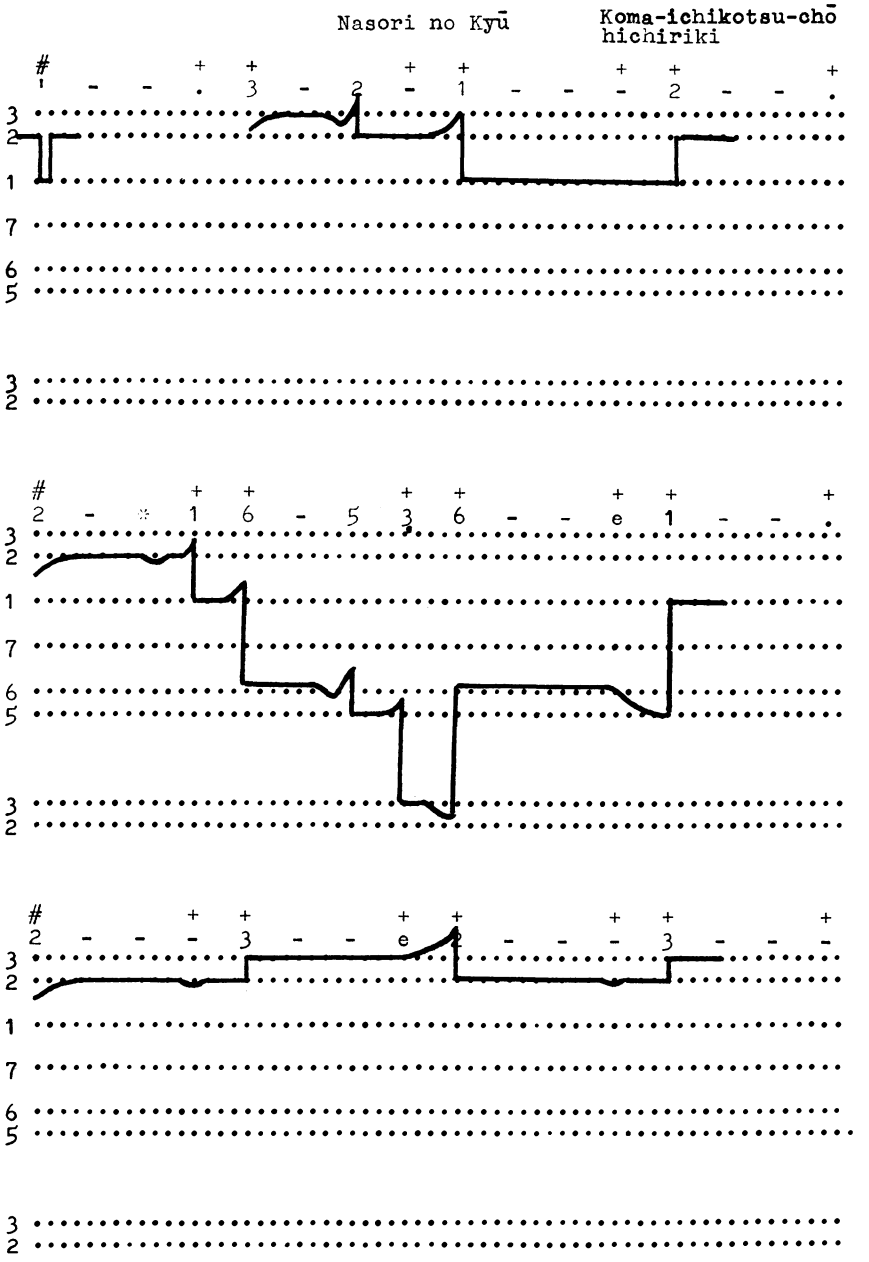

degree 1. The *ryō-ritsu* division of modal types is the most fundamental distinction in the *gagaku* modal system. To mistake one type for the other, due to the vagaries of Western notation, is an error of the utmost gravity.

CONCLUSION

The combination of numerical and graphic notation provides a level of detail beyond that achieved by Western notation, presented in a form particularly suited to the music at hand. I leave it to the reader to judge how well the system fulfills the other requirements listed earlier for a manual transcription system. Readers wishing to see Western notation transcriptions of *Nasori no kyū* are referred to Harich-Schneider (1973:573) and Shiba (1972:321). The interested reader will want to hear the actual music.[4] A recording is available performed by the Nippon Gagaku Kai (Everest 3322). Another recording is in the Bärenreiter-UNESCO series (Japan, Vol. 2, BM 30 L 2013), but this recording is unbanded, making the *kyū* movement difficult for the uninitiated to locate.

The combination of numerical and graph notation here presented is only a small step toward the eventual universal transcription system we so urgently require. It was developed in response to a specific problem of transcription, and I think I can safely claim that it is an acceptable solution to that problem.[5] The variety of the world's music will prompt other solutions, and in fact has already done so in a few cases. To cite one example, James Koetting (1970) has provided a transcription solution for the drum ensemble music of West Africa, a transcription problem quite different from the one explored here.

Many more such solutions, and refinements of the solutions, will be required before we finally arrive at a universal music notation system. My hope is that these comments will help spur others to find solutions for the specific transcription problems raised by their own musical specializations. Each new solution can be another step out of the methodological Stone Age, as represented by the ill-suited and ethnocentric tool of Western notation. We may hope that the day will finally arrive when we can communicate via transcriptions with real precision, not only with our colleagues in ethnomusicology and with other musicians, but with other interested scholars throughout the world.

NOTES

1. The transcriptions presented here are based on a direct study of *hichiriki* performance under Mr. Suenobu Tōji, director of the UCLA Gagaku Ensemble and a former member of the Musicians of the Imperial Household Agency ("the court musicians"). They have been compared against a taped live performance of 26 February 1972 by the Musicians of the Imperial Household Agency. I wish to thank the National

Theater of Japan for making this tape available to me. Above all, I want to express my gratitude to Mr. Tōgi for giving me years of generous and patient instruction in the art of *hichiriki* playing.

2. The transcriptions of Garfias (1975) represents a better Western notation solution for the *hichiriki*, using small graph-like lines along with a basic Western-notation transcription.

3. The *komabue*, the other melodic instrument used in *Komagaku*, and the *shōko*, a suspended gong, are excluded from the present discussion to avoid unnecessary explanation. The full ensemble will include these instruments.

4. The composition *Nasori* is unique in the *Komagaku* repertory in using a special performance practice of shortening or "clipping" the phrase endings. The numerical notation given here follows the full phrase structure indicated by the original notation, which would be followed in all other *Komagaku* compositions. The graph notation shows the actual "clipped" phrase structure used only in *Nasori*.

5. I am now preparing a full-scale study of the *Komagaku* repertory that will demonstrate the use of the notations presented here for both the *hichiriki* and the *komabue*.

APPENDIX I

Rules for Reading the Syllabary (*shōga*) Used in *Hichiriki* Notation (see Fig. 3)

1. Syllables consist either of a single letter (vowel) or two letters (consonant plus vowel).
2. A vowel written below a consonant is pronounced with that consonant.
3. Each verbal element (*shōga*) relates to a pitch or event given in the numerical notation.
4. Each one- or two-syllable element is separately articulated with the pitch that corresponds to it.
5. Some vowels, particularly at phrase endings, are used to show that the pitch is sustained.
6. Syllables beginning in "t" sounds are used to begin phrases.
7. Syllables beginning in "r" sounds are used to show the continuation of the phrase.
8. Syllables beginning in "h" sounds indicate the *betsu* fingering technique (see text).
9. Syllables beginning in "y" sounds indicate the change from the *riku* fingering to the *han* fingering (see Fig. 2).
10. Vowels usually give the approximate pitch range: "u" and "o" in the lower register and "a," "e," and "i" in the middle and upper registers.

APPENDIX II

An Example of the Use of *Shōga*

The notation 5-e61-2- in expanded form is read:

to orrara
i

5	-	e	6	1	-	2	-
to		o	ri	ra		ra	

with each syllable related to one pitch or event indicated in the numerical notation. The syllable "to" uses the initial consonant "t" for phrase beginnings. The second "o" is

articulated separately. The syllable "ri" is written with the "i" below the "r" in the regular (unexpanded) form, but is read "ri" as shown in the expanded form. The "r" of "ri," and "ra," shows that the phrase is continuing. The vowel "o" in the first three time units indicates the lower register of the instrument, and the vowels "i" and "a" indicate the middle and upper ranges.

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