Problems and Experiments in the Notational Method of Vocal Transcription

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In this study I shall be examining two related aspects of notational method. In considering the first, I shall outline the theoretical implications of ethnomusicological notation in the context of contemporary musical language; in the second, I shall deal with some modern methods of transcription in relation to their different purposes and scope.

Béla Bartók, in his introduction to Part One of 'Serbo-Croatian Folk Songs', wrote —and this is in 1943—

> The transcription of recordings of folk music should be as true as possible. It should be realized, however, that an absolutely true notation of music (as well as of spoken words) is impossible because of the lack of adequate signs in our current systems of notation. This applies even more to the notation of folk music. The only really true notations are the sound-tracks on the record itself. . . .
>
> The human mind . . . must have as visual impressions conventional symbols of drastic simplicity in order to be able to study and categorize sound phenomena. These symbols are what we call 'notation' of music. When applying them to the transcription of folk music, we may add supplementary diacritical signs, in smaller or larger numbers, devised for our special purposes, in order to represent certain phenomena which occur in and are characteristic of folk music. . . .
>
> In spite of these additional signs, the current notation, when used to transcribe folk music, has intrinsic limitations. These limitations, however, can be overcome to a certain degree, according to our purpose and to our well-weighed choice. Our choice will take into consideration the perceptive abilities of the human mind and their limits. . . . (Bartók 1951:3).

Written 25 years ago, that still appears to be an admirable statement of the problems presented by the study of 'performed' music as opposed to the study of 'written' music—with one exception. It has always surprised me that a man of Bartók's sensibility (and genius for that matter) did not allow for the possible extension of musical language, and notation to attempt to express that language in new symbols. An extended notation for art music would naturally influence the transcription of 'performed', or folk music. He hints at a broadening of notational method in his closing paragraph of the introduction when he says: 'Although perfection cannot be attained in transcribing and classifying folk music, we must always endeavour to approach an ideal of perfection, an ideal which in itself is still but dimly perceived. We should never tire of *improving and changing*

[my italics] our methods of work in order to accomplish this task as well as is humanly possible' (*op. cit.* : 20).

Bartók, of course, was well aware of the advances in notation made by his contemporaries (he mentions Kodaly and Schoenberg both using the principle of beams instead of flags for a succession of notes sung to different syllables, a method which he himself employs); and further, being a composer as well as a collector of folk music, he makes the very pertinent point that the placement of pitch is much less exact than in art music. 'Nevertheless', he goes on, 'these deviations, since they show a certain system and are subconsciously intentional, must not be considered faulty, off-pitch singing. This is the essential difference between the accidental off-pitch singing of urban amateurs and the self-assured, self-conscious, decided performance of peasant singers.' Although he is referring here to Eastern European folk music, the assertion is equally valid with regard to the Scottish Gaelic tradition and the Lowland singers of the historical ballads. Specific examples of these two types will be cited later.

Again, Bartók insists that the difference between the continuous variability of folk music and the rigid stability of art music is not one of contrast, but of degree—that is, the performance of folk music shows an almost absolute variability, while art music varies in a far lesser, sometimes in only an infinitesimal degree; the NOTES of art music—because of their fixation by notation—must never be changed, whereas in folk music even notes are subject to change.

One wonders what Bartók would have thought of the latest developments in aleatoric music, where the incorporation of chance elements in a composition relegates notation to the status of a mere skeleton, the flesh to be supplied by the performer's imaginative realisation. There can be no doubt that he would have extensively qualified these conclusions about the function of notation.

To revert to Bartók's original thesis, however, we can see from his statements about the nature of both art and folk music how notational symbols can represent the musical event from two contrasting viewpoints: before and after the actual sounds. It has been said that Bartók himself could hardly endure a performance of his quartets, because performance failed by so much to coincide with the ideal in his head. This may have been partial conditioning brought about by his preoccupation with the receiving end, as it were, of musical performance in his collecting; he no doubt also felt the need for uncertainty and ambiguity to be eliminated so that the performance could conform to his instructions in every detail. On this point, it is significant to note that Stravinsky in his later scores replaces the pause by the measured rest, and markings which cannot be exactly defined hardly appear. Younger composers have extended the range of vocal expression through such symbols as  (on the breath),  to denote a nasalisation of the vowel sound,  a note which begins as speech then merges into a sung pitch, and so on. (Berio 1961 : passim). These are important additions to the symbolic language of notation, and we must be prepared constantly to extend the language to embrace as many varieties of expression as possible.

Bartók, of course, lays down fundamental rules about pitch, rhythm and complex notational groupings; the signs ↑ and ↓ to denote up to a quarter-tone sharp or flat are naturally signs of approximate value (I shall come to the business of scientific exactitude later). He states that limits must be set which correspond to the ability of the human mind to perceive differences of rhythm (♪ at ♩ = 120); occasionally it will be necessary to write groupings such as  , where the quadruplet has a ♪ value of the current notation. Again, consistency of method is important; formulas depend on the individual case. For example, the groupings ♩♩., ♩.♩, ♪♩, and ♩♪ have the same value, and the arbitrary interchange of these formulas without reasonable cause is to be avoided. This problem belongs to the orthography and aesthetics of transcription. Also to be shunned are vague signs such as the hold, trill, mordent and comma—one must admire Bartók's passion for accuracy.

However, in an article published some five years ago, George List of Indiana University makes the point that even Bartók's own transcriptions contain inaccuracies. The discs he used to transcribe the Serbo-Croatian songs in the Harvard Milman Parry Collection are still in the Archives of Folk and Primitive Music, and presumably Mr List has scientific proof of his allegation. It is difficult to believe that any inaccuracies in Bartók's transcriptions could be other than minor, certainly in proportion to the value of these transcriptions in their skilful and artistic realisation.

List's article throws up some other observations, though, which have relevance to a discussion of the various methods of transcription. He remarks:

> No method of transcription yet devised, whether accomplished by means of the human ear or by electronic analysis, mirrors the musical event with exactitude. The value of a transcription lies not in its complete reproduction of all aspects of a musical event but in the fact that it facilitates the comparison of a number of individual and separable elements or aspects of the musical event. . . . Electronic devices are also not always accurate. The ear can make distinctions which cannot be made by the spectrograph. The stylus of the melograph does not always react with the speed necessary to exactly mirror the signal received. Electronic devices are in certain directions more limited than the ear. The melograph cannot produce a transcription of music containing more than one musical line. Nor can it produce a useful transcription where there is much extraneous noise in the recording or when vocal production is too guttural. . . . On the positive side, the melograph can produce a graph of pitch and duration in very great detail indeed. It can also produce an equally detailed graph of the dynamic pattern of the single musical line. . . . Our ears have been trained primarily to discriminate stable pitches, not pitches that are unstable. Until the time this lack of training is rectified we must depend upon electronic apparatus to assist us in plotting the melody of speech and of forms intermediate to speech and song, in graphically describing the vibrato and the effect of breath accent in vocal production. . . . (List 1963: 194–6).

It is obvious from these conclusions that notation by ear and by electronic means can provide a useful comparison. This is endorsed in an earlier article by Charles Seeger

of Santa Barbara, California, where he mentions the development of Olav Gurvin at the Physics Institute of Oslo University, and from his own experience goes on to say: 'To no one would I recommend the abandonment of traditional techniques of writing music for the novel and still undeveloped graph. For the present, I would urge the two to be used side by side' (Seeger 1957 : 66). A later opinion of Seeger consolidates this: '. . . But still, the graph contains, on the whole, less information—even when done with the best electronic devices—than the conventional notation. True, it shows many things that conventional notation cannot show. Best for the present and for the foreseeable future must be, I think, a combination of the two techniques' (Seeger 1964 : 277).

This brings me now to a discussion of the methods of transcription currently available and in use. It must be remembered that each of the methods has its own function depending on the purpose of the transcriber. He may wish to use several in conjunction to give a reasonably complete picture of the musical event. These methods are:

(1) the electronic transcription by means of a graph
(2) the time-signal, where the time-element is narrowed to one-tenth of a second
(3) the detailed transcription by ear
(4) the general, personal, less detailed aural transcription
(5) the abstract of the melody, with all inessentials stripped away.

The first of these is exemplified (Plate V) in a transcription made at the University of Uppsala of Gaelic ornamental psalm-singing by one voice. The graph—whose two lines denote frequency (pitch) and volume—can be compared with a time-signal transcription by my colleague Thorkild Knudsen and his analytical realisation of the ornamentation in Plate VI and Figure 1.

One can see from the graph that only a fraction of the music—*c.* $4\frac{1}{2}$ seconds—can be contained in the same amount of space which a written transcription would occupy; it is therefore extremely cumbersome. Until some truncated form of graph is devised, it is a somewhat impractical method for the purpose of comparative analysis. One instance, possibly, where such a transcription would be extremely useful, would be the exactitude with which the apparatus could measure the complex rhythm of a piobaireachd Urlar. Uppsala University possess such an apparatus, and we hope to collaborate with them in throwing light on the time-structure of the Urlar.

A specific comment I should like to make about the psychological effect of the *look* of transcriptions such as the realisation of the psalm-singing, is that often one realises that an impression of something more than the notes themselves is being conveyed. We always tend to relate signs to already-perceived experience—this is perhaps what in German is meant by the term 'Augenmusik'—and our conventional notation in comparative study holds a wealth of associations for us. It would certainly not be difficult for someone without much experience of classical notation to see the strange resemblance that the ornaments of the psalm have to the melodic elaboration of a Bach Adagio.

Detailed aural transcription obviously makes heavy musical demands on the transcriber; not only must he take into account every nuance of vocal inflection and phrasing,

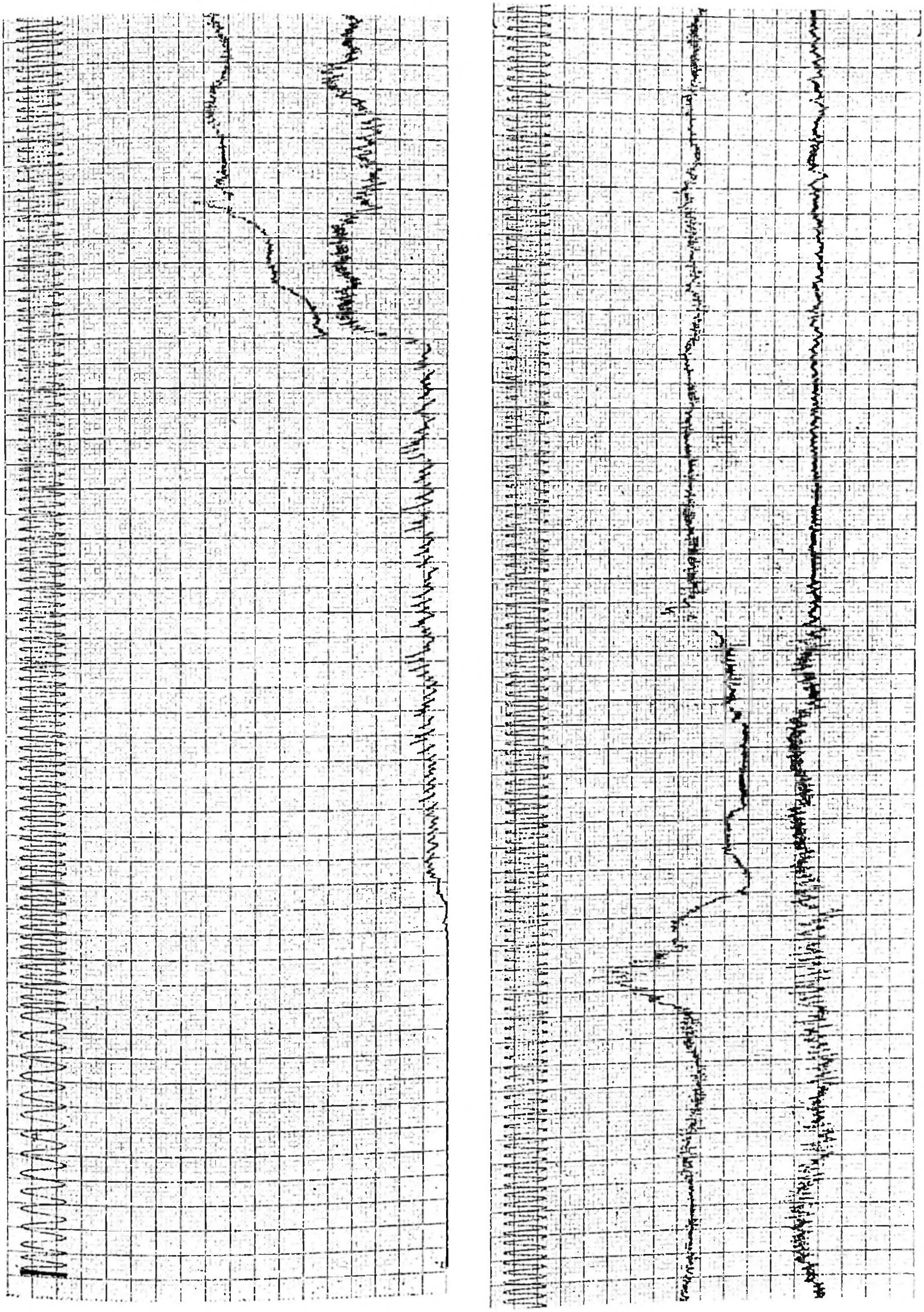
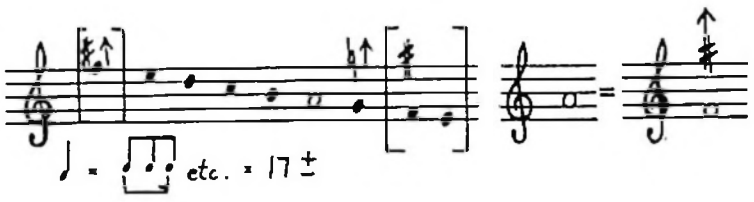


PLATE V An electronic transcription. (2 squares = $\frac{1}{10}$ of a second)

DUNDEE Ps 103 Vv 11 – 12 Murdina Mac Donald 1965



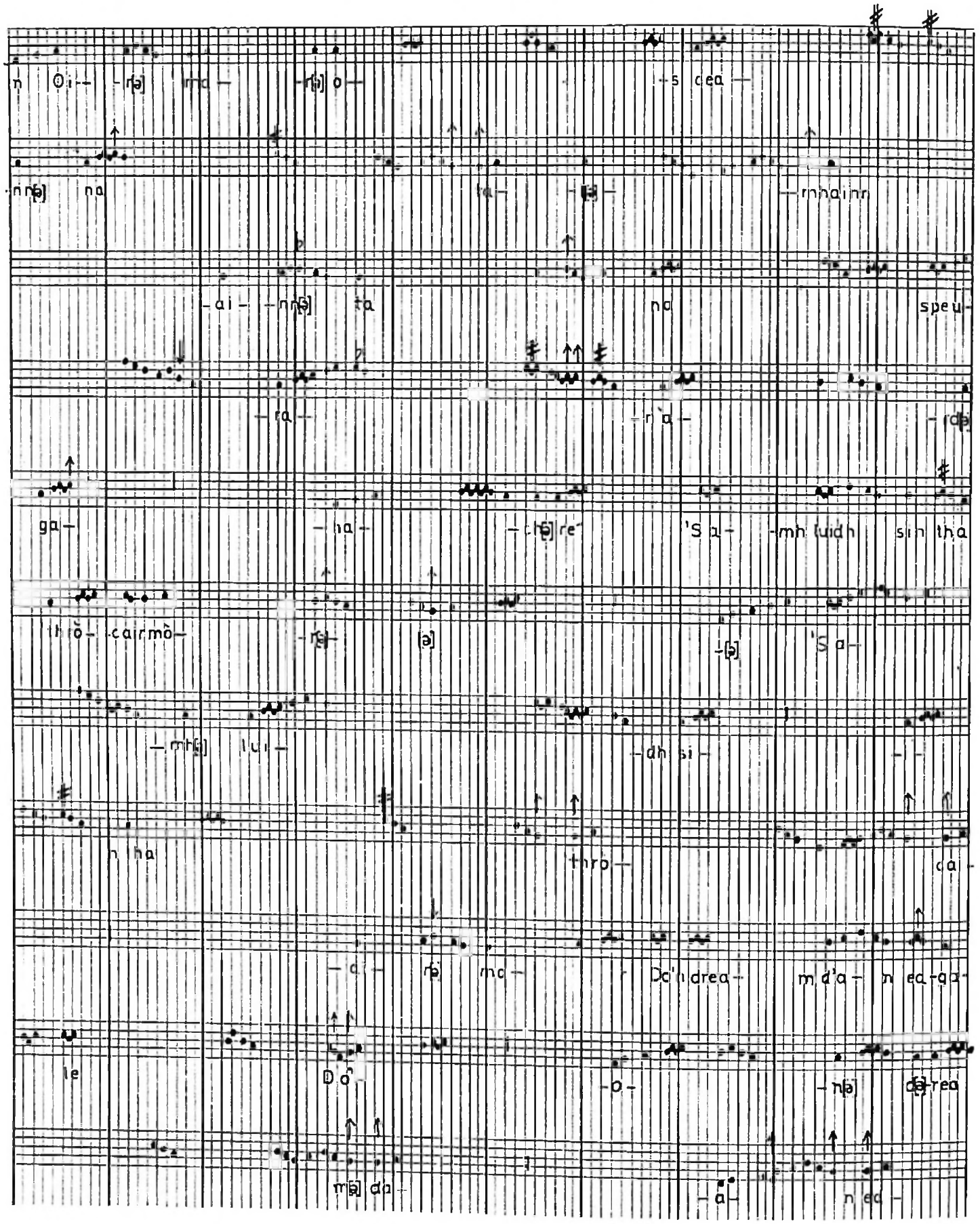
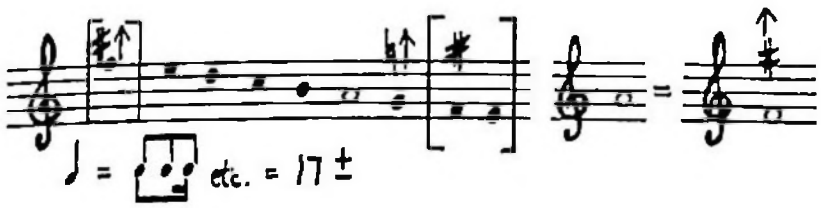


PLATE VI A time-signal transcription. (Vertical lines denote $\frac{1}{10}$ of a second)

DUNDEE Ps 103 Vv 11–12

Murdina Mac Donald 1965



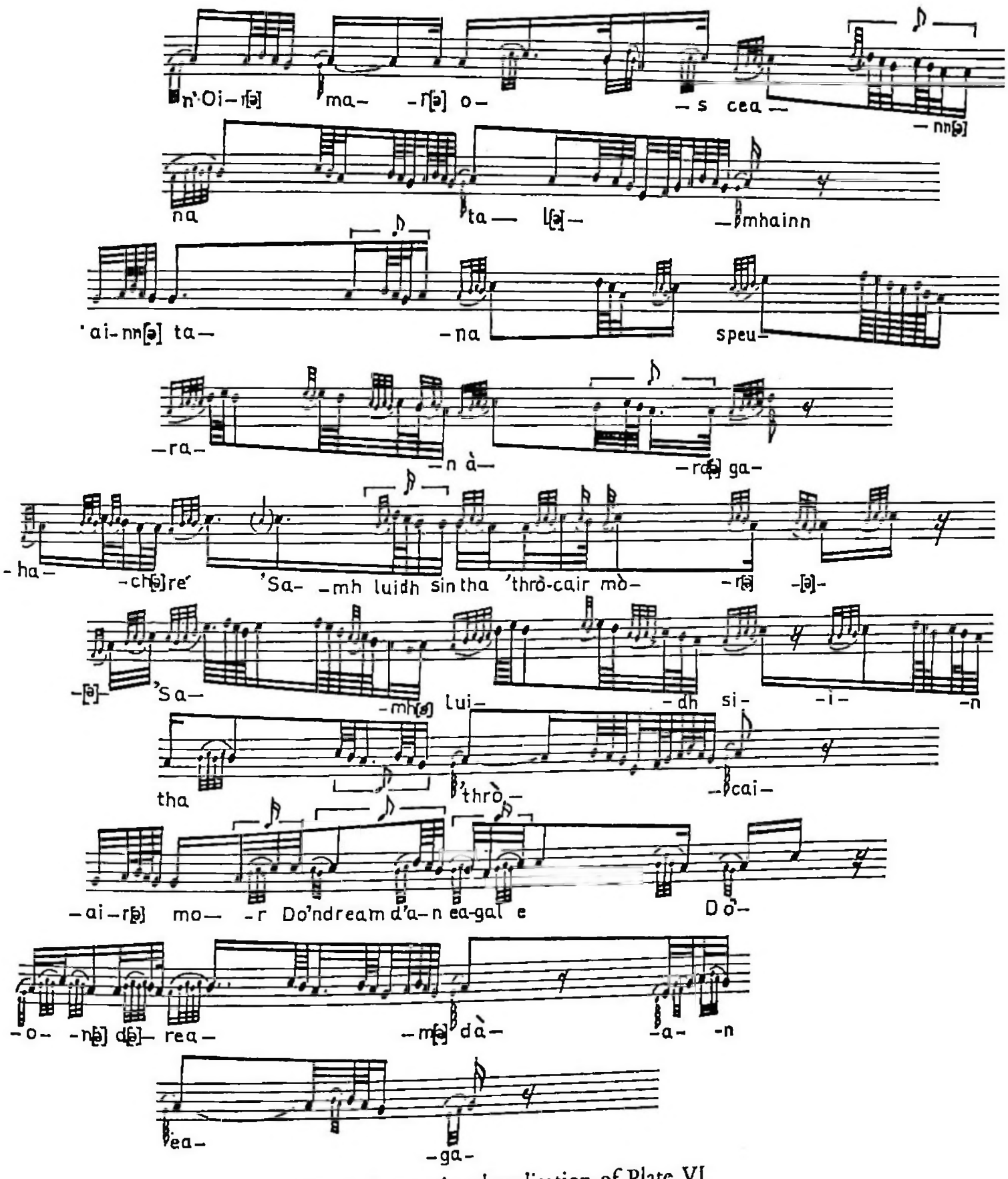


FIG. 1 A notational realisation of Plate VI.

he ought also to cultivate a strong yet subtle sense of rhythm. My own transcription of the classical ballad 'Lord Lovat' ('Lord Lovel', Child 75) has attempted to convey the extreme fluidity of rhythm which distinguishes Jeannie Robertson's version. It is extraordinary how she manages to convey the sense of a decisive rhythmic pulse—albeit internal—in the shaping of her phrases. Although the rhythmic contours may change minutely from verse to verse, it is the power of the internal pulse which characterises her singing with its peculiar rock-like strength (Fig. 2).

A comparison between methods 3, 4 and 5 depends largely on the purpose as well as the skill of the transcriber. It is as well here to quote what Bertrand H. Bronson has to

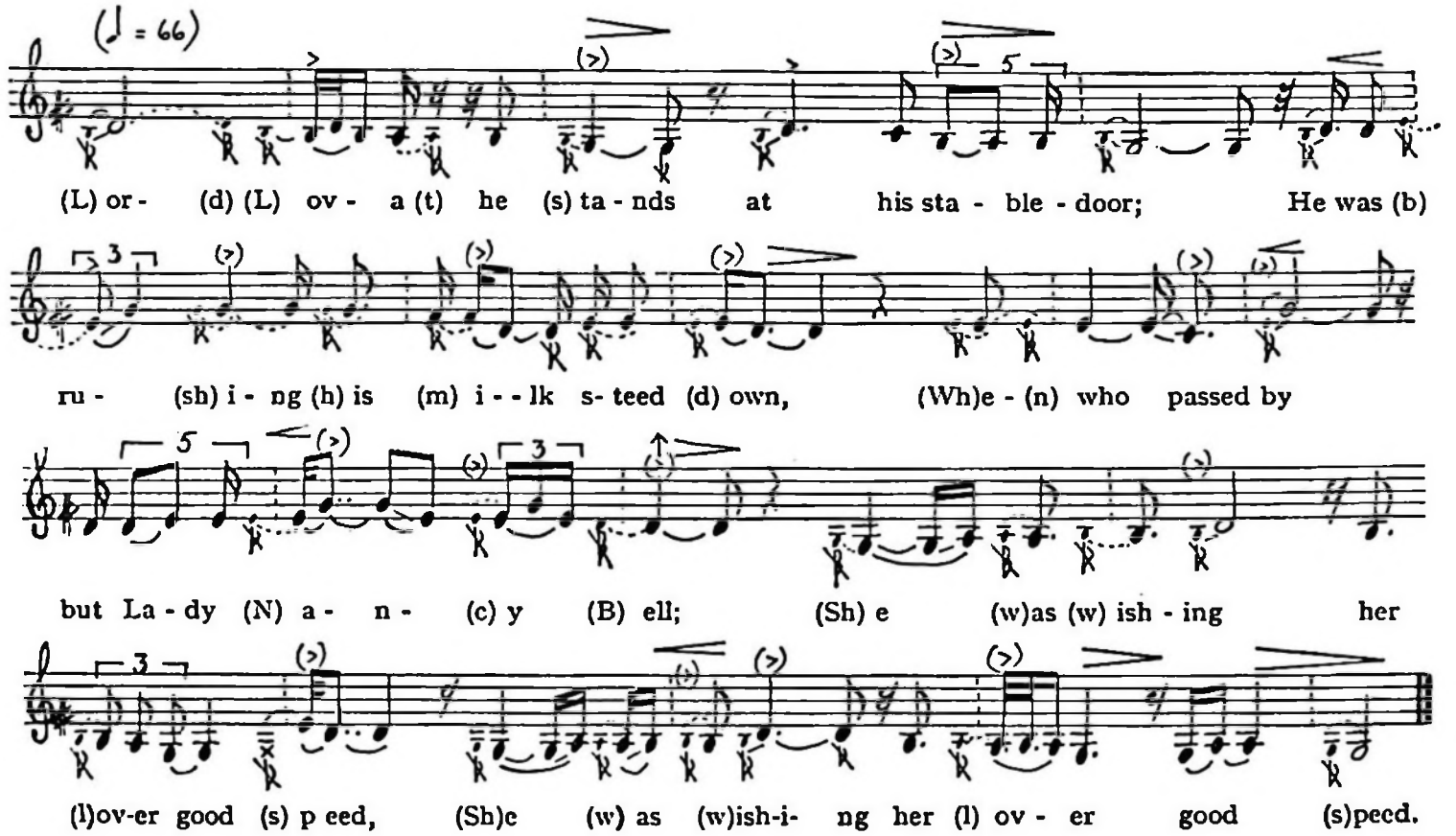


FIG. 2. Transcription of Jeannie Robertson's singing of 'Lord Lovat'.

say in his introduction to Volume I of his *Traditional Tunes of the Child Ballads*. Bronson is more interested in the basic shape of a tune than a performed version, and one can see his point; it would be unwieldy to devote such a mammoth work as his to every melodic variable that came his way:

> No two renditions of the same song by the same singer on the same day and in the same hour can be identical, by laboratory standards of cents and bels. Moreover, no two stanzas of a *single* rendition can be musically identical. The singer, however, 'knows the tune', and thinks he is singing it all the time. Actually, he is singing variations on a musical idea. These variations are scientifically interesting, but too synchronous and diminutive to be of much historical interest as between themselves. If we possessed a complete account of them, we should have to synopsize it to something approximating what the singer 'had in mind', before we could employ it in a large-scale comparative study of the song. The task of

> reducing it, from the scientific data, to its typical form for that singer would be both arduous and puzzling, and probably, in the event, quite subjective. Most of our existing records, of course, simply by-pass such problems by starting at the end: with a subjective notion of the singer's melodic idea, and an attempt to suggest it on paper. When the transcriber has the ear, the skill, and the wide knowledge of a Cecil Sharp, the single approximation is more useful for comparative and historical inquiry than a more exact picture of a single rendition, stanza by stanza, with plus and minus signs suggesting sharpened flats and flattened sharps at particular notes on that particular occasion, and with all the other details of a meticulous record. The aims of the two kinds of transcription are divergent. As suggested above, one is directed toward the abstract, the song; the other toward the individual act of singing (Bronson 1957:xxvii).

Bronson, of course, is only justifying his own methods here *vis-à-vis* the great corpus of material with which he has had to deal. MS records, aural approximations and detailed transcriptions have all to be reduced to a workable denominator when such a vast collation has to be made. The other side of the coin, however, is the musicologist's interest in the technique and style of the living, uniquely-gifted singer, and a transcription that conveys—as far as humanly possible—the traits and characteristics of that singer provides the basic version, the *Originalfassung*, from which all others can be extracted. I should be inclined to argue that such a method would reduce subjectivity to a minimum in the transference of the musical event on to paper; the more short-cuts that a transcriber may be inclined to make in his work, the more the risk of missing the essence of the singer's style, which in turn is the flesh and blood, if not the bones, of a traditional song.

An examination of the ballad 'Mary Hamilton' (Child 173) in this context will make clear the differences of transcription method. Two transcriptions (Fig. 3a and b) are from the same rendering of the ballad: Jeannie Robertson's singing is realised in my own detailed transcription (3a) and in the simpler version by another hand (3b). The Bronson version (3c) is taken from Group D in his classification, and represents both printed and aurally-noted originals; it consists of a contour of the melody in its simplest form.

Finally, I should like to return to my own methods of transcription, since some of the symbols employed may require clarification. Natural musical stress divisions in the vocal line are represented by the dotted bar-line; strong musical accent is denoted in the usual way by the symbol >, and partial accent by (>). In order to convey something of the vocal style of the performer, the subtleties of rhythm and intensity, the use of small-head notes has become a necessity. These possess two distinct functions; first, in the ordinary way found in other musical genres, as a leaning-note (stressed or unstressed); second, as a means of illustrating dialectal and linguistic traits peculiar to the singer. For example, in the ballad 'Lord Donald' ('Lord Randal', Child 12), Jeannie Robertson sings the word 'mak' thus: 

the emphasis of the ejective 'k' is given a notational form by the accented small-head note with a dotted tie to the main time-element.

This occurs also in the case of consonants such as 't' and 'p', *e.g.* the line 'There lies a ship' in her singing of 'The Golden Victory' ('The Sweet Trinity', Child 286) has the first time 

where the voicing is contained in the initial 'shi-' and the plosive emerges as a separate time-element, and the second time appears in the form 

. These are, I hope, self-explanatory details, and similar instances occur throughout Jeannie Robertson's repertoire.

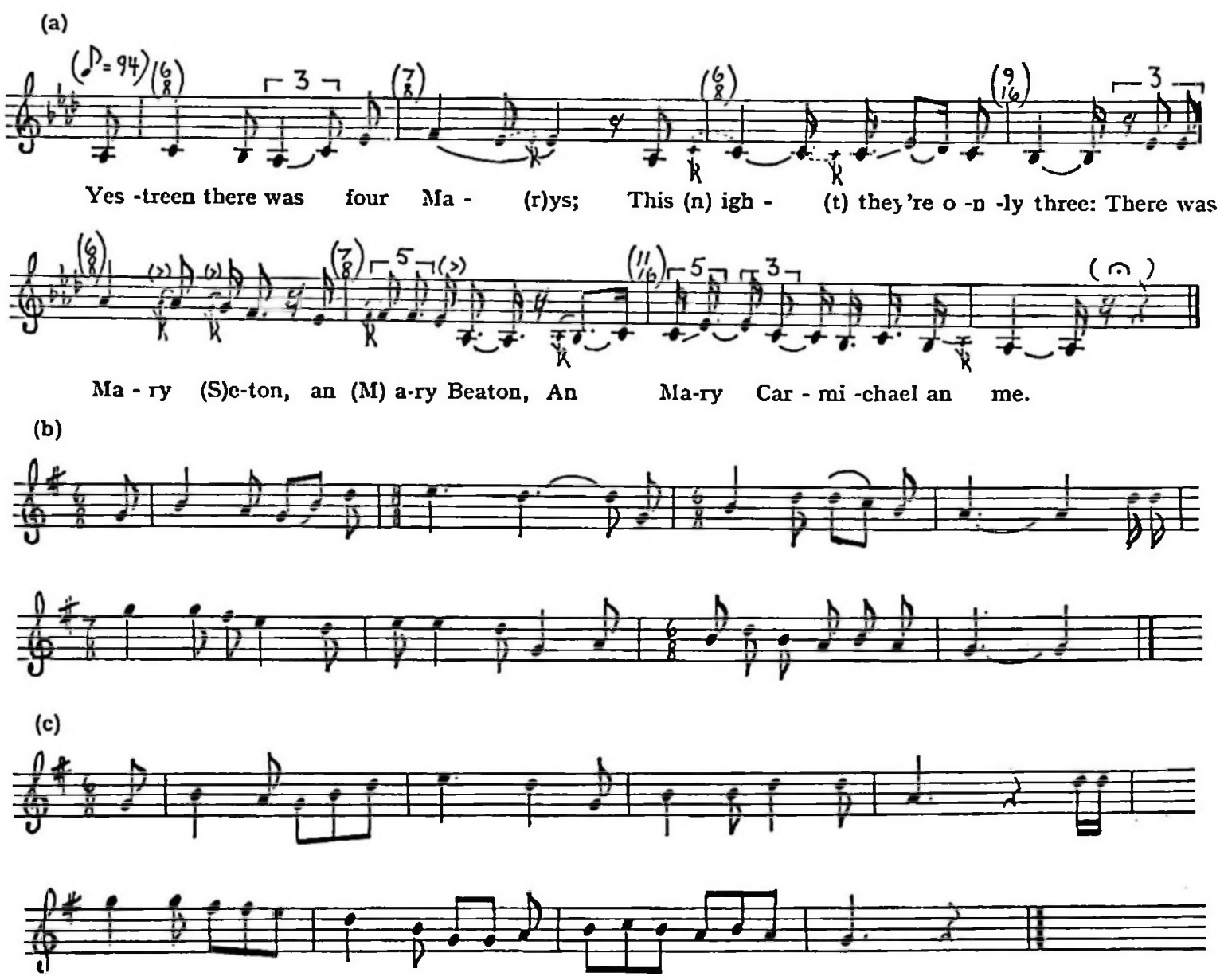
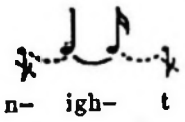
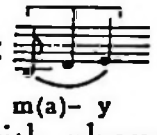


FIG. 3 'Mary Hamilton'—three transcriptions.

A more complex example may be observed in the transcription of 'Mary Hamilton', *viz.* 

. As far as we know, whispered vowels do contain frequency, though sometimes the pitch is easier to grasp with the ear than at others. Where the ear can

detect a pitched whisper, I denote the sound thus ♪ at the same pitch as the preceding or following main time-element. I also make a distinction between ♪ and ♪, where both are minute time-factors, the second being imperceptibly smaller than the first.

Despite Bartók's strictures in his introduction about the complicated means involved in devising some way of denoting tone-colour, it seems a logical step in such detailed methods of transcription to reveal something of the richness of vocal timbre to be found both in Jeannie Robertson's and Murdina MacDonald's singing. For example, Jeannie Robertson will sing the word 'my' as follows: 

. It seems to me perfectlypossible to represent this—possibly in conjunction with phonetic transcription at first for the sake of lucidity—by the method of a coloured line beneath the stave, without in any way attempting a scientific correlation between sound-frequency and colour-frequency. One might devise a reasonably simple table relating vowel-sounds and certain intermediate tonal articulations to a colour system which would result in an even more complete graphic picture of the musical event.

This method I intend to develop further in collaboration with colleagues in the Department of Phonetics and Applied Linguistics. The particular idea of colour representation can, I am sure, be developed in a systematic and logical way, while conveying to the aural imagination something which could hitherto only be surmise. I hope to publish a progress report in a later article.

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