

SYMPOSIUM ON TRANSCRIPTION AND ANALYSIS:
A HUKWE* SONG WITH MUSICAL BOW

organized by Nicholas M. England, with contributions
by Robert Garfias, Mieczyslaw Kolinski, George List,
and Willard Rhodes, and moderated by Charles Seeger

INTRODUCTION

Nicholas M. England

On November 2, 1963, for the Eighth Annual Meeting of the Society for Ethnomusicology at Wesleyan University, the morning session was given over to a "Colloquium on Transcription and Analysis." The materials collected and printed here under the new title, "Symposium. . ." (since there is after all no colloquy involved), represent the devoted labors of Robert Garfias, Mieczyslaw Kolinski, George List, and Willard Rhodes, along with their Chairman-Moderator for the session, Charles Seeger, to bring to life an idea that has been in the minds of Alan Merriam and David McAllester, perhaps others, for some years.

Simply stated, the idea was that several ethnomusicologists should transcribe and analyze the same piece of recorded music, then bring their results together for comparison at a meeting of the Society. The aim: to provide material for thought not only to the participant transcribers, but also to everyone interested in the discipline of ethnomusicology regarding one of the most important tools of the trade, the transcription--as Seeger puts it, the "visual documentation of sound-recording" (see his "Report," p. 277, below)--and the interpretation of it.

As Program Chairman for the 1963 meeting, I invited the four ethnomusicologists named above to join in the project, and they willingly accepted the task. They each worked independently, without inter-communication, using only the tape recording of the music chosen and a bare minimum of information regarding its cultural setting and the technique employed in its performance.

Believing as I do that one great strength of our Society lies in the varied individual approaches that are (and have been) made toward the data of our discipline, I left the assignment open, instructing the participants as follows in a letter of October 8, 1963:

About transcribing and analyzing the song: You will probably want to follow certain usages that have become fairly standard in ethnomusicological works to date. However, I feel strongly that standardization should not be the governing principle of your work. It would seem vital to the

*For purposes of publication here it seems best to use Hukwe, the most commonly encountered name in ethnographic literature for the Bushmen under consideration. At the session of the Eighth Annual Meeting in which these materials were first presented, the name, Kwengo, was used instead; it is the root of the name (Ila-kwengo or Mbara-kwengo) by which the Mbukushu, a neighboring and inter-dwelling Bantu tribe, designate the Hukwe. The Mbukushu appellation has been adopted by many Bushman and Bantu peoples living in the area; Hukwe themselves often use the name. (N.M.E.)

success, and more important, to the ultimate meaning of the project that you transcribe the example according to your individual conceptions of what transcriptions should be and do.

The transcription can be as rough or as detailed as you feel necessary to successfully convey a picture of the sounds to the reader and thus facilitate the demonstration of your individual analyses of the music. You may wish to put down the whole minute and some twenty seconds of music, or you may prefer an abbreviated form....

As for analysis, I have nothing to say. You will each bring up the points you think important for an understanding of what Kafulo (that is the old man's name) is doing with regard to the acoustical phenomena themselves and their organization into a musical organism.

For want of a reliable transcription and translation of the words being sung on the recording (see below in my remarks, p.225), I thought it best that the transcribers ignore the text of the song in their assignment, or at most to consider it only if they desired to make some point that would not require for its validity the meaning of the words. And it might be added here that if any vocal music can legitimately be divorced from its text for purposes of analysis, Bushman song in general is a likely candidate.

The texts consist largely of meaningless syllables for vocalization in combination with irrelevant interjections such as "Oh, Mother!" or "They say." However, in addition, each song will have at least one key phrase that recurs (or better, may occur) intermittently throughout any performance of the piece. Such phrases of course carry more than their basic word meanings; they are somewhat similar to the "... 'catch words,' [in Mohave shaman's songs] crammed full of meanings and surrounded by an extensive halo of implicit meanings..." (Devereux 1957: 1038). Members of the culture (or non-members who know it) may and often do possess the additional information necessary to elaborate upon the key phrase(s) actually sung. I say "may and often do" here purposely to emphasize the fact that it is common for a Bushman to know and perform a song and its usual text without a knowledge of the additional information that the few words convey.

For the Symposium it was initially planned that the four contributions be preprinted and distributed to the participants and their Chairman-Moderator, as well as attending members of the Society, so that everyone might come to the session prepared to criticize and comment on the results of the transcribers' labors. (The participants were called "victims" by someone during the planning stages. And certainly we know that there was an element of courage involved in taking the stand for such a project. However, needless as it is to state in so many words, I would add here that for the success of this Symposium and those of a similar nature that will, hopefully, take place in the future, it is imperative that any thoughts of competition among the participants be put aside, if possible, even before they come to mind.) It was largely through my own neglect in keeping communications open that the preprinting did not come about and, thus, the fourth of Seeger's excellent list of lessons (see p. 276, below) was learned.

Regarding the music around which all of this activity has been centered, the records will be more nearly complete if my report includes the fact that initially it was planned for the music example to be selected from the existing literature of ethnomusicology, preferably from a work published twenty or more years ago. The purpose was to bring into the picture the transcription and analysis of a fifth expert, one who had already published on the chosen piece, and further, to discover what profit (not to mention excitement) might be gained from reworking the older data in the presence of the experts.

It was ill-luck, indeed, that the original plans could not be brought to fruition. There were difficulties in selecting the right piece and, having done so, of procuring an acceptable copy of it from the original field recording for use by the four transcribers. The problems eventually proved too great for solution within the allotted time. In the end, a Hukwe bow song was chosen instead to serve as the vehicle for this Symposium.

I recorded the song--'Du:¹ (Eland, *Taurotragus*)--at fidgele, South West Africa, on September 30, 1959, during a brief, four-day exploratory visit by the seventh Peabody-Harvard Kalahari Expedition² to the Hukwe and their immediate Bantu neighbors, the Mbukushu. fidgele is located at approximately 18° 7' South Latitude and 21° 34' West Longitude. It is situated on the southern bank of the Okavango River, nine miles southeast of Andara near Popa Falls, one of a series of rapids that occurs in the course of the river just before it enters into its complex swamp tract that extends for another two hundred miles, roughly to Lake Ngami and the Botletle River in the Bechuanaland Protectorate.

I was not at the time, nor am I today, qualified to handle the Hukwe language and those related to it. And to compound this inadequacy, there was in 1959 no competent interpreter available for our trip to fidgele and vicinity. Consequently, all information had to run a giddy course from Hukwe, through Fanagolo (the South African mine language), into English--by way of our excellent interpreter of other Bushman languages, Kernel Ledimo, himself a Batawana man--from the mouths of the inhabitants to my notebook or that of Lorna Marshall, ethnologist for the expedition.

It is for these reasons that my transcription of the text of 'Du: cannot be trusted even though I took it down in phonetics from the performer of the song as he spoke it to me, line at a time, upon auditioning the tape of his own performance. Word-for-word translation proved hopeless, so that I emerged with only a very general synopsis of the meaning of the words (see below, p. 231). However, since the recording of 'Du: is being issued as a supplement to this number of *ETHNOMUSICOLOGY*,³ Dr. Owsin Köhler, Director of the Seminar für Afrikanistik at the University of Cologne, has kindly consented to attempt a reconstruction of my transcription. His analysis of the text will be published in the next number of this Journal as a postscript to the Symposium.

The Hukwe and their Music: General

The Hukwe belong to a large, Kalahari-centered aggregation of Bushman bands that speak languages related to Hottentot. Summarily rejecting the earlier theory that all Bushman languages "... are of the same general structure, and can be regarded as belonging to one language family..." (Schapera 1951: 31), Ernst O. J. Westphal classifies Hukwe, and other languages that he groups with it, as plainly Hottentot and not Bushman (most recently in Westphal 1963: 248-250). However, Oswin Köhler, mentioned above, prefers to call them the "Central gender language Group," taking the position that despite the cleavage between them and the Bushman non-gender languages, "... it will offer a better working basis for further research if we look upon them [the Central gender and Bushman language Groups] as originating from one common, though very remote, stock..." (Köhler 1963: 228).

Hukwe-land begins roughly at Andara, or just east of it, in the Caprivi Strip and extends into the southeast corner of Angola for an undetermined

limit. An accurate figure for the total population is unknown; however, as a well-informed estimate, Köhler gives the following numbers: 500 persons or less in the 14 communities (*fidzɛɛ* is one of them) of the Caprivi Strip along the eastern Okavango in South West Africa and Angola; and possibly 1500 persons in all when the Hukwe who live farther north in Angola and those who live in Bechuanaland are counted (Köhler 1964:2).

Throughout their land, the Hukwe live in close contact with various Bantu tribes, e.g., the Mbukushu or the Lozi. This fact, along with the extremely meager ethnographic data published on the Hukwe, makes it unwise to speak of a culture that is consistent throughout their region. It must be stressed, therefore, that all of my remarks here refer to the Hukwe of *fidzɛɛ* and vicinity and, of course, relatives and friends in other parts of Hukwe-land for whom the *fidzɛɛ* inhabitants can speak.

At *fidzɛɛ* the *werf* (an Afrikaans word commonly used in southern Africa to indicate Bushman villages or temporary encampments) is set back about three-quarters of a mile from the river on the sand dune that rises gradually from the bank to a height of perhaps fifty feet above the river's rock-bed.⁴ Below, close to the bank, the Mbukushu village of Ndongo (which name the Hukwe use interchangeably with *fidzɛɛ* to designate their place) is located. It is one of several Mbukushu communities between Andara and Bagani, approximately, over which the rule of Chief Macusi extends from his seat in Andara.

Despite the fact that *fidzɛɛ*, along with other Bushman werfs, is located within the boundaries of this Mbukushu chiefdom, Hukwe informants say that they are not Macusi's subjects. They pay no tax to him nor any tribute to his appointed headman at Ndongo. The Hukwe recognize one of their people, Kativa, as owner of the werf by right of inheritance from his father. He is their headman in roughly the same sense as those of the *zū'lwasi* bands of *IKxō*⁵ in the Nyae Nyae area of South West Africa.⁶

Still a hunting (with poisoned arrows) and gathering society, the Hukwe have augmented their otherwise typically Bushman means of subsistence by limited crop cultivation (they grow millet) and cattle ownership (they "buy" them from Mbukushu neighbors presumably in exchange for farm-labor and hunting services, as do several Bushman bands living in contact with Bantu). Men seek their wives in other werfs of Hukwe-land, but residence is taken up at the husband's home werf.

The people maintain their traditional belief in *Hi:fɛ* and Kiani--the former, a male god who is met with commonly in beliefs of Central-gender-language Bushman bands (e.g., the Nharō-Naron in the literature); the latter, a female god, and to my knowledge, a new name to add to the list of Bushman supernatural beings.⁷ They share with all other Bushmen whom I know belief in the spirits of their dead who bring only trouble and sickness--the Hukwe name for such a spirit, *llgāwa*, is also common to all Bushman bands.

These spirits do not serve as messengers of the gods as do their counterparts to the south. It is Kiani who performs this function, specifically in matters of medicine and curing. She comes to the medicine man (*jeu* [kiao, medicine owner) with instructions concerning the sick, i.e., whether they live or die, and if the former, what the medicine man must do to cure the patient.

Information on the practices of medicine men was difficult to obtain, perhaps because of the strong interdiction by South West African authorities against witchcraft and sorcery among Bantu inhabitants--and possibly by

extension in the Hukwe minds to the supernatural traffic of their medicine men. However, the tradition does continue. An old man agreed to demonstrate how he might perform if he were a medicine man, though he insisted he was not--nor did he know any--upon which testimony he went to fetch a very authentic looking headpiece and hand-rattle (a stick about one foot long piercing through the center--long axis--of a small food tin that contained seeds).

From his demonstration and the discussion of it afterward, it is clear that Hukwe curing takes a different form from that of Bushmen to the south. Among the latter, most males become medicine men at one time or another during their lives, practicing commonly in groups at large curing ceremonies.⁸ The Hukwe medicine man, in contrast, practices alone. He is paid a fee determined by the patient or family involved--a condition that does not necessarily hold in more southerly Bushman bands.

There was no demonstration by the Hukwe "actor," nor any illuminating information in the later discussion, of the stativolent condition such as that normally concomitant with the activities of the Nyae Nyae medicine men, for example. However, I know from the latter that meetings with supernatural beings take place during the time when a medicine man's soul is absent from his body; and since Kiani does make her appearance to the Hukwe, it seems likely that a state of trance is at some point involved. In any case, it is the medicine man who decides, upon instructions from the goddess, when it is time to hold a curing ceremony, either for curing specific patients or for exploring the general condition of the members of the community.

Concerning the musical culture of the *fidzɛɛ* Hukwe, a brief general survey must suffice here, with detailed comment being reserved for the bow song that is the subject of this Symposium.

Group choral song comprises the larger division of Hukwe music--probably also the more important division by virtue of the social emphasis given the activities of which the music is a part. There are repertoires of 1) medicine song (*jeu* 'lki:), 2) social dance song ('lgana 'lki:), and 3) menstruation song (*haba* 'lki:). Women sing and clap for the *jeu* and 'lgana songs; the medicine man cures to the music of the former, but several individual men dance (*txolo*) a torso- and shoulder-shaking dance to the latter. In both repertoires the participating men may sing strains of the melody from time to time, but the essential vocal sound is that of the women's chorus.

These songs are similar in certain aspects of style and texture to songs of the same type sung by more southerly Bushmen. And it should be noted that despite close Bantu contact, the Hukwe of *fidzɛɛ* have not adopted the leader-chorus type of song, typical of the Bantu, as have other Bushman groups of the same (central gender) language group--e.g., the Ts'ixa⁹ of the Mababe Depression area in Bechuanaland.

However, even in the absence of music examples to illustrate the point, it is well to state here that Hukwe choral songs differ in important musical details from those of other Bushmen. Furthermore, there are two unusual and, in my experience, non-Bushman percussion instruments employed in the performance of *jeu* and 'lgana songs: 1) thin, rectangular wooden blocks¹⁰ used by some of the women as clappers to heighten the effect of their hand clapping (perhaps at the same time to serve as a highly practical palm-saving device); and 2) drums, two of them, played by men--the drums are monoxylic, approximately cylindrical, and single-headed, identical in most details to those played by Mbukushu neighbors who use three drums instead of two in their music.

Unfortunately, neither time nor my relationship with the women allowed for me to hear and record the music that they sing, clap, and dance themselves during the ceremonies attendant upon the menarche of a young girl. However, informants state that there is such a repertory of song, and I can only quote them, adding as they do that drums are not used and that men do not participate. And finally, regarding music for Hukwe rites de passage, all informants agree there are no songs that are exclusively for men, such as those sung in more southerly bands on the occasion of a boy's initiation into adulthood.

The other division of Hukwe music is a more personal, private type of song. Instruments of variable pitch figure in it prominently even though the performer might sing along at the same time. As far as I could determine from interviews and from all such songs that I recorded, this is solo music. If there is a vocal line, it is supplied by the player to his own instrumental accompaniment. All these songs are concerned with animals--their howling, their stalking, their habits.

The Hukwe have borrowed the sanza from their Bantu neighbors; they have also borrowed the Bantu regional name for the instrument: *ʃi/ɛndɛ* or *ʃifanza*. It is an eleven-keyed version, of a form and tuning¹¹ common to Bantu and Bushman sanzans alike in the Okavango regions of Angola and South West Africa. Only a few men play the *ʃi/ɛndɛ*; they learn the songs from the Mbukushu, and no one among them knows more than four or five tunes.

Women prefer to play the *ˈtɛ:llkaba* (bow string?) as they walk from place to place or sit to rest by their huts. It is a mouth-resonated musical bow made of a reed stave (about twenty inches long) strung with the hair of an animal tail, or a piece of nylon fishing line when it can be procured from the stores along the Okavango. This type of bow is fairly common in southern Africa;¹² it is played, for example, by women of the Gcerekwe, Mbukushu, and Tawana tribes, to name only close neighbors of the Hukwe. Since the mouth is used as resonator, players of this bow do not sing; the music is purely instrumental. Kirby notes that among the Venda a second performer might sometimes sing the overtone melody being resonated by the bow player (Kirby 1953: 224); however, I have not encountered such a practice in performances on this type of musical bow among the tribes mentioned above.

One other instrument is played by the Hukwe--adult males only. It is another type of musical bow; and since the little piece that provided the raw material for this Symposium was played on such an instrument, it will be described in the following section devoted to the recording from which the four ethnomusicologists did their work.

ˈDu: the Music of the Symposium

Kafulo, an older man of the *ʃidzɛ* community (see p. 225, above), is playing his regular hunting bow (*ˈtɛ:*) and singing in the performance of ˈDu: recorded on Side 1 of the record supplement to this issue of the Journal. His bow has a hardwood stave four feet, seven inches long with a string of animal sinew. However, the venatic weapon has been adapted for musical purposes: Kafulo has loosened the sinew considerably and braced it back to the stave with a piece of sisal cord at a point (roughly two-fifths of the stave length between the string knots) that will provide division of the overall string length into two parts, the sounded pitches of which lie a major

third apart. In the recorded performance of ˈDu:, the third is approximately F-A; at other times, the bow string might slip or Kafulo tune it differently so that the basic pitch level of the third varies, but it is always within this pitch vicinity.

He sits cross-legged to perform, holding the bow-stave between thumb and forefinger of his left hand--stave toward him, string out. The right end of the stave touches ground to Kafulo's right while the left end rises toward his left shoulder, diagonally. Cupped in the palm of his left hand, with the aid of the other three fingers, he holds the dried shell of a medium-sized calabash so that one surface of it makes contact with the bow stave. Opposite that contact point, the shell has been sliced off to leave an opening about four inches in diameter. He holds the bow close in, contacting the skin just below his sternum with the rim of the calabash opening.

Kafulo beats on the two divisions of the braced string with a thin stick approximately one foot in length. He holds the beater near one end in his right hand; thumb and forefinger grasp the stick and act as a kind of fulcrum while the remaining fingers actually cause the stick to move gingerly up and down. Neither his hand nor his wrist is tense; as a result, the stick can be moved quickly and easily to beat on either side of the sisal tie according to the succession in which Kafulo desires the fundamentals to vibrate.

As they sound out, Kafulo employs the muscles in the area of his diaphragm, either to distend his stomach or retract it so that the opening in the resonator can be closed entirely or opened in varying degrees to change the size and shape of the chamber, and consequently the air column trapped therein, causing it to resonate sympathetically with one of the upper partials of the two fundamentals.

The overtone melodies thus produced seldom utilize many different tones. In ˈDu: there are only three used: partials 3 and 4 of the lower fundamental, and partial 3 of the higher (perhaps also partial 2 of the higher fundamental--see Kolinski's transcription, measure 4, pulse 1). In another piece Kafulo calls into play, as well, partial 4 of the higher fundamental. Nyae Nyae (*zũ'wa*) players, employing a closely similar musical bow technique, sometimes further extend these limits by dipping down to the second partials of both fundamentals. But in the end, the relationship between the pitches of the two string divisions and the average size of the calabash (or often an empty food tin, number 2 size) that can be managed as a stomach-controlled resonating chamber definitely limits the choice of overtones to a few.

This particular aspect of the playing technique has not been reported before; however, a version of it was in use by players observed earlier in the century: Describing the performance of a !O !Kung player in Angola, Dorthea F. Bleek writes, "...By slightly altering the position of the left hand and calabash, he can vary the note a little..." (Bleek 1928: 121). And Kirby states that a Thonga player alternately moved the Calabash away from and pressed it against his bare chest (Kirby 1953: 210).¹³

Although he does not elaborate on the acoustical results of the Thonga player's action, Kirby earlier describes a similar practice on an unbraced bow and notes that the "tone" is varied by that means. From his discussion, however, it is clear that he has in mind adjusting, by movement to and from the breast, the size of the air column within the calabash so that it will better resonate several of the partials along with the fundamental in a "clear chord" (Kirby 1953: 198-199). There is no mention of selecting

specific partials by means of controlled movement of the calabash against the skin. We are left to wonder, then, whether the overtone melody line from a maneuvered rigid resonator is a new development or was perhaps present but unobserved at the time.

Which of the bow lines does Kafulo consider more important? This intriguing musical question (and others like it) is difficult to answer in the case of Bushman music. If indeed the people give thought to such matters, they find it not only impossible, but also quite foolish to verbalize about them. We can look then only to the music for some kind of answers.

There is evidence that with certain types of musical bows the overtone melody is the principal one. When the mouth is used as resonator and selector of partials, as in the case of the *ʔtɛ:llkaba* (p. 228, above), many overtones are available—the mouth being at once more flexible and smaller so that the conjunct partials (from 7 up) as well as a few of the disjunct (from 4 to 7, say) can be effectively isolated and resonated. Thus, more complicated melody lines can be produced, and they are likely to be the more important ones.

Writing about the *lugube* (a Venda reed bow like the *ʔtɛ:llkaba*), Kirby describes the harmonics as the "...fainter series of sounds that constitutes the real melody played upon the instrument..." He adds: "...Should a listener be asked to sing the tune just played by a performer upon this instrument, he would naturally sing the melody produced by the resonating of the string in this manner, and not the tune heard directly from the fingered and plucked string..." (Kirby 1953: 223).

Later Kirby describes, and gives a transcription of, a Venda man's attempt to play a pre-existing melody (the Venda national reed-flute dance) with the mouth-resonated harmonics of his *tshigwana*, a braced musical bow (Kirby 1953: 231). Clearly in this case, the harmonics melody is the important one while the fundamentals are necessary only as generators of the overtone series.

With calabash-resonated bows, however, the answer is not as clear. First of all, the mouth is now free to add a simultaneous line of its own to the musical complex; second, the calabash is a rigid and larger resonator so that fewer and lower partials are available for a melody line. In Nyae Nyae I have collected bow songs in which the singer might follow for a moment the overtone melody but diverge thereafter into an independent melody, leaving the bow harmonics to go their own way. In these instances, I would posit some truly contrapuntal concept on the player's part, at least insofar as the vocal and overtone lines are concerned. (The player would, incidentally, sing his vocal melody as the important one of the song.) Yet the fundamentals are there to be heard plainly and distinctly; perhaps they also figure in the contrapuntal concept.

Kafulo's song is yet another type. His vocal line is always independent of the overtone melody, insistently so. The latter, not complicated as a melody, has the quality of an ostinato as does the fundamental line; together, the two bow lines appear more as two-part harmony than as counterpoint. Obviously more and deeper work is indicated with regard to these matters. However, I would vote in favor of Kafulo's awareness of all three lines in his song—the vocal line most important, with a two-part harmony accompaniment.

The intense energy of his singing style is heightened by the angular, leaping melody, and vice versa. This, along with the extremely close

microphone position used for the recording will perhaps lead the listener to believe that Hukwe bow songs are something bigger in overall sound than they are in reality. To the contrary, I want to stress the quiet, private nature of this and other instrumental songs of the type performed by Bushmen in general. Twenty feet away from the little hut in front of which Kafulo sits playing, the music might be heard faintly; forty feet away, only the clicking of the beater on the string will come through. Thus he might, as other Bushmen whose habits I know better, sing and play for an hour or two, quite alone, repeating the same songs time and again.

It should be inserted here that while the appended recording presents a complete performance of the song, *ʔDu*; it is complete only as of that hour of that day on which it was recorded (inevitably under unnatural circumstances—microphones, wires, foreigners). At another time, Kafulo might sing *ʔDu* for fifteen or twenty minutes without stopping. Then again, he might not sing it at all.

The text of *ʔDu* is concerned with Elands going away to another country. Köhler suggests that the words, "another country," refer to Bechuanaland beyond the borders of which the *ʔidzɛlɛ* Hukwe would have no hunting rights. "...And it is understandable that the Kwengo [Hukwe] hunters are keen on keeping the game within their hunting grounds, especially such fine and big game as the eland. The motif of the song is not new and not invented by Kafulo, as I noted a similar song in 1962 in the Western Caprivi..." (Köhler 1964: 2).

Not knowing what Kafulo thinks, I only conjecture that he makes this music for his own pleasure. And while I would not join Passarge in saying of such "'interne' Musik": "...Sie versetzt ihn [the performer] in halbe Betäubung und lässt ihn vergessen die Leiden des Lebens..." (Passarge 1905: 685), I admit it is for me difficult not to think that Kafulo, utterly absorbed in the performance of his animal songs, can withdraw to some extent (even amidst the heavy traffic of a werf) from the constant, very close contact in which members of a Bushman community live.

ʔDu was recorded with an Ampex 601, single-track tape recorder onto Audiotape low print-through, 1 1/2 mil "Mylar" tape. The Electro Voice Model 630 microphone used was placed near the opening of the resonator in order to better apprehend both the overtones and Kafulo's quiet voice (it was his habit to sing with head bent down). *ʔDu* is item 2 of Reel 1 (July 30, 1959) in the Marshall Collection.

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FOOTNOTES

1. In spelling Bushman words, I employ the alphabet of the International Phonetic Association, modifying it only to include the by now traditional (in the literature) symbols for the click sounds: |, dental; ʘ, alveolar; !, palatal; and ǀ, lateral—the bilabial, "kiss" click, ǀ, is not used by Bushmen of the area under consideration, and Hukwe, specifically, seldom uses the palatal click. The k following a click symbol (e.g., |k) is employed in the orthography only to indicate a voiceless release as opposed to the voiced, which is indicated by a g following the click (e.g., |g). Marks immediately preceding a syllable indicate the tone used in pronouncing that syllable: ˊ, rising; ˋ, falling; ˉ, low; and ˊˋ, high; syllables with no such marks are pronounced at medium level. Because of possible interference with tone marks and click symbols and/or the unavailability of italic type for the International Phonetic Alphabet, Bushman words are printed here without italics or the substitute underlining; their particular spelling and appearance will, I believe, preclude confusion with words of other languages. ' indicates glottal stop.

2. Led by Laurence K. Marshall of Cambridge, Massachusetts.

3. I wish to join our Editor (see "From the Editor..." p. iv) in thanking the Department of Music of Columbia University for the special grant that made possible the issue of the recorded supplement to this number of the *Journal*.

4. For topographic details of the Popsa Falls vicinity, see Wellington 1955: 408.

5. !Kung and !Kui are the most common of many spellings in the literature. Over the years I have come to the decision that !kxō gives a proper picture of the sound, the ǀ being of a very closed variety easily misheard as or confused with u by the listener. It should be added, however, that both Köhler and Westphal, in the most recent research on Bushman and Hottentot languages, prefer the u—see, e.g., Köhler 1963: 228 (!Xū) and Westphal 1963: 244 (!Xū).

6. A thorough account of Nyae Nyae headmanship is given in Marshall 1960: 348-353.

7. See Schapera 1951: 177-195 for a splendid summation and analysis of the literature to 1930 (the date of his work's original publication) on Bushman supernatural beings. A recent penetrating account of the !Kung (ǀkxǀwasi) beliefs is given in Marshall 1962: 221-247.

8. See Marshall 1962: 248-251 for a description of the ǀkxǀwasi "Ceremonial Curing Dance." I have a study in preparation on the medicine songs of the ǀkxǀwasi and neighboring Bushman groups and their beliefs and practices surrounding the music; it will, hopefully, appear within another year.

9. Cf. ts'ixa in Köhler 1962: 531.

10. The blocks played by a Thonga man pictured in Kirby 1953: pl.4B are similar to those of the Hukwe women though the latter do not attach leather straps to the blocks.

11. From right to left in the relationship, e.g., d²b¹a¹g¹f¹eflat¹eflat²d¹d²bg.
 12. See Kirby 1953: 220-225 and pl. 62-63 for descriptions, pictures and distribution of this type of bow in southern Africa. See also Camp and Nettl 1955: 67.
 13. The braced bow with resonator is discussed in Kirby 1953: 204-210; see also Camp and Nettl 1955: 66.

TRANSCRIPTION I: ROBERT GARFIAS

Notes and Comments

This transcription of the Hukwe melody shows some departures from standard transcription techniques. It is not, however, designed as a universally applicable method. In fact, it might be better argued that each genre or tradition be transcribed according to a special system devised to illustrate best those aspects of the performance on which the analyst wishes to concentrate. No system of transcription, mechanical or otherwise, can preserve all of a musical example accurately and it is up to the transcriber to select or emphasize pertinent parts of the entire configuration. The standard western notation system tends to reinforce those aspects of the sound pattern which are compatible with our own notation traditions and in varying degrees to distort or omit others.

The system used here emphasizes certain aspects at the expense of others. The fundamental of the bow part has been transcribed in standard notation in even rhythmic values. In contrast, the voice line has been transcribed to show pattern and to highlight the duration of each pitch and type of entrance by means of a graph, thus emphasizing the transients and durations. On the other hand, the body of each tone has been indicated as a straight line, although, in fact, mechanical transcription with equipment such as the Seeger Melograph would undoubtedly show a melodic line of constantly fluctuating pitch. It seemed more important to indicate the different types of entrances and connections between pitches than the minor fluctuations of pitch which are, in any event, not really discriminated by the ear. Thus, this transcription is a compromise between standard western notation which would show nothing of the attack and decay qualities and the more precise melograph transcription which might show too much.

It seemed foolhardy on the basis of this one example to decide to omit certain portions of the example as less important or as mere repetitions of others and therefore the example is given in its entirety. Only the fundamental of the bow pattern and the voice line were transcribed. A higher overtone pattern produced by the bow resonator can be heard on the recording but because it was not clearly audible during the entire duration of the example, it has been omitted here. A cursory examination of the components of a single bow tone with the aid of a wave analyzer showed a wide band of tone covering a range of fifty cycles above and below the fourth partial of the lower of the two bow tones at approximately 3% of the volume of the fundamental in terms of voltage readings on a Packard-Bell Wave Analyzer. Therefore one could give only a very subjective description of the melodic pattern produced by the resonator of the bow without resorting to a careful plotting of the relative voltage at each frequency, a pattern that might be better visualized on a "gray scale" than with staff notation.

It is also difficult to discuss form in an isolated example. This particular structure of voice and instrument relationship may be specifically for a composition of this speed or rhythmic type. On the other hand, the

BOW

BOW

VOICE

BOW

13.

16.

19.

21.

24.





words of the song or perhaps its function may determine the form. The same problems arise when one attempts to look at the details; for example, the unique melodic figure which opens the vocal line at measure 4 and runs through measure 8 may be characteristic of some, many or perhaps no other pieces of this type. To omit these measures from the consideration of the form of the example may be to assume too much. The obvious answer, then, is to consider all aspects and details that are apparent; however when a single example is studied outside its cultural and musical context, it becomes very difficult to isolate the pertinent elements.

To begin with the broadest elements, the example can be considered in two strata: the voice and the instrumental accompaniment. In the pattern on the fundamental pitch of the bow, one notes a recurring cycle of eighteen beats with a group of six beats as the smallest independent unit. The basic cycle of eighteen beats, i.e., three groups of six, is maintained with some consistency except from measures 13 to 20. Each of the three groups has a special pattern made up of the two possible bow tones, one high and one low. The most frequent combination of the three groups is given below:

1. ----- 2. ---- - 3. ---- -

The major exception at measures 13 to 20 is as follows:

13. ----- 14. ---- - 15. -- ---
16. ----- 17. ---- - 18. ---- -
19. ----- 20. -- ---

The bow patterns show a strong tendency towards self-sufficiency. The last two tones of each group seem of most importance. The two lows at the end of group one tend to lead to group two. The low-high ending of group two is always followed by a low tone and most often by the group three pattern. Two highs at the end of group three lead back to the all-low pattern of group one. This connection of the three groups is adhered to so strongly

that a distinct sense of contrast is noted when it is varied in measures 13-20. A variant pattern for group one (---) appears sporadically but does not seem to affect any other part of the general form by its appearance. A second variant pattern (---) appears only in the special group of measures 13-20.

In the voice line two distinct types can be noted after the previously mentioned instrument-like introduction of measures 4-8. The A type of phrase first occurs in measures 9-12 and corresponds to the first statement of the text. The B phrase runs from measure 13 to measure 15. Both phrase-types complement each other, and, with considerable variation of detail, always alternate with each other. The entire example consists of eight statements of the A phrase-type and seven of the B phrase-type. In spite of the variants, each type consistently manifests distinct characteristics. The A phrase-type shows more independence from the bow pattern and tends to emphasize the octave drop from the highest pitch in the line (indicated by the space above the top line in the voice part). The B phrase-type complements this by moving up from the lowest pitch of the voice part to the next to lowest. The two tones of the B phrase correspond to the two fundamental pitches of the bow, and the voice generally moves from one pitch to the other simultaneously with the bow. This heightens the contrast between the two phrases. The A phrase is independent of the accompaniment and carries the text. During the B phrase the voice sings with the instrument. The appearance of the A and B phrase-types is indicated below.

A Phrase-type		B Phrase-type	
Measures		Measures	
	9 - 12		13 - 15
	17 - 20		21 - 22
	23 - 26		27 - 28
	28 - 32		33 - 34
	35 - 38		40
	41 - 44		44 - 46
	47 - 50		52 - 55
	55 - 59		

The rhythm of the example deserves special consideration. The first few listenings suggested a rhythm of six even beats to each accent. (The term *hemiola* used in the theory of Western art music to describe a proportional relationship in the ratio of 3:2 seems especially inappropriate for the description of most African music, which might be better described as simultaneous accent-patterns superimposed on an implied common denominator of constant beats.) In listening to the example one may note that there is a tendency for the last two beats of each group of six bow beats to be heard with greater prominence. This last factor, along with a gradual awareness of a slightly unsteady lilt in the seemingly even rhythm of the bow pattern, became increasingly disturbing. Further investigation produced some interesting results. In order to concentrate on the rhythm alone, the example was run through a high-low pass filter which excluded all but the rhythmic stroke of the bow fundamental. This was then fed into a Mark II Brush Recorder which transcribed these beats on graph paper traveling at a speed of 50 millimeters per second. The distance between the bow strokes was measured with the aid of an abstract ruler with 50 sub-divisions to the inch.

Many minute differences in spacing between these bow strokes appeared, but in general the differences were so small that they averaged out to a pattern of even beats with no discernable pattern of deviation. However, one distinct pattern emerged, isolating the last two beats of each group of six beats. The average distance between beats 4 and 5 in fiftieths of an inch was 17.9, whereas the average distance between beats 5 and 6 was 22.8. The difference 4.9 when equated with the speed of the paper corresponds to a variation of approximately 1/20 of a second. A twentieth of a second is generally agreed to be the limit of human perception of change, difference or error, the so-called "Just Noticeable Difference" factor. Any event occurring with a smaller degree of variation would not be perceived by normal humans. This means that the performer in this example is regularly emphasizing the last two beats of each group of six by shortening the distance between 4 and 5 and by lengthening the distance between 5 and 6 to a degree that just hovers around the threshold of human perception.

The question arises as to whether the use of mechanical devices is really an aid to the ethnomusicologist. Unless one knows clearly what one is seeking, both mechanical transcription and computer analysis will give too much information and the results may be, like any analysis which is too detailed, meaningless. On the other hand, this example shows that mechanical aids can be a valuable extension of one's native perception. Clearly, as regards the investigation of "Just Noticeable Difference" perception described above, it might have been possible to observe some irregularity with the unaided ear, but no definitive statement concerning it could have been made without the aid of special equipment. Although it seems certain that musical sensitivity and accurate perception will remain the most important tools for the ethnomusicologist, is it not time that we consider expanding the limits of our natural endowments?

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Seattle

TRANSCRIPTION II: MIECZYSLAW KOLINSKI

Notes and Analysis

The question whether a piece like the present one should be transcribed in extenso or whether it suffices to select a representative portion of it might be answered as follows: In many instances it seems admissible (and, for practical reasons, even necessary) to present only a characteristic section of a piece; however, in order to determine which part is to be considered as particularly representative, it is unavoidable to transcribe and to analyze, at least in a more or less summary way, the whole piece involved. In the case of the Hukwe song I followed this approach, omitting in the final transcription measures 7-24 which, along with measure 6, comprise the first three out of the nine sections of the song (marked by the capital letters H-Q).

Before turning to a discussion of the tonal structure of the song I would like to point out that in my opinion a fruitful analysis of the tonal construction of music in general and of tribal music in particular is possible only after certain fundamental questions concerning the nature of tonal construction have been clarified. All existing tonal structures could be placed between the following two extremes: At one end of the line we find tone complexes resulting from purely extramusical principles of instrumental construction, at the other end there are well established tonal patterns of strictly vocal origin derived independently of any instrumental prototypes. It is evident that from a musical point of view the latter extreme rather than the former calls for a thorough investigation. In a previous publication (Kolinski 1957a) I dealt with the problem involved; nevertheless, I would like to briefly touch upon the main points, discussing them from a somewhat different angle.

The crucial question is: which factors have enabled the tribal singer to select without instrumental models certain tone complexes out of the unorganized continuity of pitch shades? It is certainly not the physiological structure of the vocal organ, since the voice is capable of producing with equal facility a virtually unrestricted number of pitches within the limits of the tessitura. The selection of musical tone complexes is accomplished by the organ of sound perception rather than by that of sound production. The nature of this process cannot be properly evaluated unless the generally accepted concepts of the main properties of sound have been modified. The starting point of the new approach was Géza Révész' so-called "two-component theory," further developed by Erich von Hornbostel and Wolfgang Köhler. The decisive merit of this theory seems to me not the splitting of the property "pitch" into two components termed by Hornbostel "Tonigkeit" and "Helligkeit" but the isolation of the specifically musical quality which selects out of the continuity of pitch certain tone relations characterized by a more or less close approximation to simple vibration ratios and for which I suggested the English term "tint." Although I originally adhered to the two-component theory which holds that pitch comprises the two subproperties "tint" and "shading," it seems to me more appropriate to maintain the conventional definition of pitch as being the quality which gradually changes with increasing or decreasing frequency, and to define tint as the quality which is identical in octave tones and more or less dissimilar in other tone relations. In other words, tint is to be considered as coordinated with, rather than subordinated to pitch, while the concept of "Helligkeit," or "shading," becomes

VOICE $J = 120$ Orig. - 7 st

OVERTONES

FUNDAMENTALS

Introduction

1 2 3

h i j k

$J = 120 < 144$ H-J $J = 144 < 152$

4 5 6 7-24

l j m n m m

$J = 152$ K

1 2 3 4 5

25 26 27 28 29 4

m n m m o p m q j m

L a III

6 7 8 9

30 31 32 33 34 10

o p m n m h o p m q

b v M a

10 11 12 13 14

35 36 37 38 39

n m o p m j m m o p

l b N a

15 16 17

40 41 42 43 44

m q j m o p m n m m

18 19 20

45 46 47 48 49

50 51 52 53 54

55 56 57 58 59

o p m q j m o p m n

m m o p m n j m o p

m n j m o p m n m m

60 61 62 63

o p m n r s

superfluous. In a previous article (Kolinski 1962) I contended that, contrary to the generally accepted concept, not the ratios of the so-called "natural" or "pure" intervals but those of the "quintal" or "Pythagorean" ones are the physical equivalent of tint relations. The strongest argument in favor of this theory seems to me the fact that the grading of "basic" consonance follows the quintal order which places the major second before the thirds and the minor third before the major one. Since the Pythagorean ratios are symbolized by the cycle of fifths, the different placement, within the cycle, of tint complexes reflects the various types of tonal construction. Therefore, it seemed to me most appropriate to choose the cycle of fifths as the main framework for a classification of tonal structures (Kolinski 1961; it is obvious that instrumentally derived tonal constructions which consistently comprise tone relations incompatible with those symbolized by the cycle of fifths are not fit to be included in the proposed classification).

Depending on the size of the section needed within the cycle of fifths to place the tints of a piece under analysis, 12 tonal types have been distinguished: the Mono-, Di-, Tri-, Tetra-, Penta-, Hexa-, Hepta-, Ogdo-Type and so forth. The tetra-type, for example, requires the 3rd degree tint relation CA, while the penta-type is characterized by the 4th degree tint relation CE. This type includes the 2-tint complex CE, the 3-tint complexes CGE, CDE, and CAE, the 4-tint complexes CGDE, CGAE and CDAE, and the 5-tint complex CGDAE. In order to assure adequate comparison, tonal structures belonging in a similar type have been represented within a similar section of the cycle of fifths. In my classification I chose for the penta-type the section CGDAE. Since the vocal part of the Kwengo song uses the penta-typic 3-tint complex CGE, I transcribed it in the necessary transposition, indicating, of course, the original pitch.



Fig. 1. Scale Formula

The scale formula (Fig. 1; see Kolinski 1961:43) symbolizes the main features of the tonal structure of the vocal part, namely: (1) penta-typic 3-tint complex CGE (as mentioned before); (2) Penta-GE-Mode; (3) structural prominence of the minor third EG, the lower third EG forming the tonal center; (4) relatively minor structural importance of the lowest tone C; (5) use of the higher third step EG and the sixth step GE only in upward direction, the latter being always interrupted by a rest and its components having a low degree of adhesion (Kolinski 1964); (6) wide jumps, such as the octaves EE and GG and the tenth EG, occurring in both directions; (7) range of 19 semitones.

The minor third is the most frequent tone step (40%), followed by the major third (23%), the octave (19%), the major tenth (15%) and the major sixth (4%). About one third of adjacent tones are reiterations; they occur only on the three lowest tones C, E and G. They usually are 2-tone reiterations; 3-tone reiterations are much less frequent, while 4-tone reiterations are exceptional.

The level formula, which expresses the mutual relation between the initial, final, highest and lowest tone, is $37^{\circ}26'$. An application of the level formula approach shows that Hornbostel's thesis of a basic opposition between the general direction of melodic movement of Western and non-Western music is untenable (Kolinski 1957b:3-4). Therefore, there seems to be no reason for a continuation of Hornbostel's method to notate non-Western scale formulas in a downward direction. Moreover, a uniform representation of scale formulas would considerably facilitate comparative research.

(For the method employed in the following analysis of the melodic structure of the Hukwe song, see Kolinski 1964.) Continuous sudden changes between the highest and lowest register convey the impression of a rather

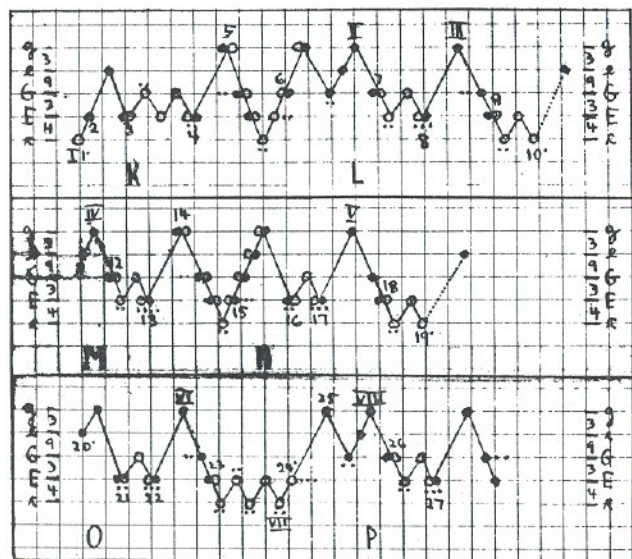


Fig. 2. Melodic Structure of the Vocal Part

erratic melodic line; however, an analysis of the melodic structure of the song shows a high degree of organic coherence (see Fig. 2). 89% of the tone steps employed belong in "recurrent movements" (these comprise pendulums and flexures; a pendulum requires at least three members of alternating direction and of equal size; a corresponding pattern consisting of two members constitutes a flexure).

The following types of recurrent movements are represented in the Hukwe song (compare the identical numbers in Fig. 2 and in the transcription):

- A. Two pitches (step movements)
 1. Up-flexures in the minor third e-g (16, 21) and in the octave e-e (2)
 2. Three member down-pendulums in the minor third e-g (7, 12, 26) and in the major third c-e (9, 18)
 3. Four-member up-pendulum in the minor third e-g (3)
 4. Six-member down-pendulum in the major third c-e (23)
- B. Three pitches (mixed movements)
 5. Up-flexure (step + line) in the minor tenth area e-g-g (4, 8, 13, 17, 22, 27)
 6. Three-member down-pendulum (one up-line) in the octave area g-e-g (25)
 7. Four-member up-pendulum (one up-line) in the octave area g-e-g (6)
- C. Four pitches
 8. Mixed up-flexure (line + step) in the tenth area e-g-e-g (15)
 9. Homogeneous down-line flexure in the twelfth area c-e-g-g (5)
- D. Five pitches (line movement)
 10. Heterogeneous down-flexure in the twelfth area c-e-g-e-g (14)

A most characteristic feature of melodic movement is the way two or more recurrent movements are linked to larger complexes. As far as the Hukwe song is concerned, it might suffice to consider only sections K and L. An initial non-recurrent step (1.) leads in a linear nexus to a complex of eight recurrent movements (2-9); they are connected with one another in direct nexuses: 2-4 and 6-9 in 1st degree nexuses (one common tone), 5-6 in a 2nd degree nexus (one common step), and 4-5 in a 3rd degree nexus (two common steps).

Depending on the mutual level relation of two or more successive directly connected recurrent movements, we may discern four categories of movement complexes: the standing, hanging, tangential and overlapping. In a standing complex the lower level, in a hanging complex the upper level of the recurrent movements is the same; in a tangential complex the opposite pitch levels of two adjacent recurrent movements are the same; in an overlapping complex the ranges of two adjacent recurrent movements overlap. Depending on the range relation between the recurrent movements we may distinguish: with regard to standing and hanging complexes, between widening and narrowing configurations, and with regard to tangential and overlapping complexes between rising and falling configurations. In the Hukwe song the recurrent movements 7-8 form a widening standing complex, 2-4 a low-centered standing complex, 4-6 a low-centered hanging complex, 6-7 and 8-9 each a falling tangential complex.

The instrumental accompaniment on the braced musical bow has a two-part texture. The lower line employs two fundamentals, notated as small c and small e; the tone material of the higher line consists almost exclusively of three pitches (g, b, and c) produced as overtones of the two fundamentals. g is the 3rd partial, c the 4th partial of the fundamental c, b the 3rd partial of the fundamental e. The perhaps unintentional overtone e in measure 4 is the 2nd partial of the fundamental e. The tone material of the vocal part is well integrated within that of the instrumental parts (see Fig. 3). The lower instrumental part forms a continuous step pendulum in the major third c-e. Fig. 4 represents the melodic structure of the overtone part. The only non-recurrent movements are the fourth steps 7 and 11.

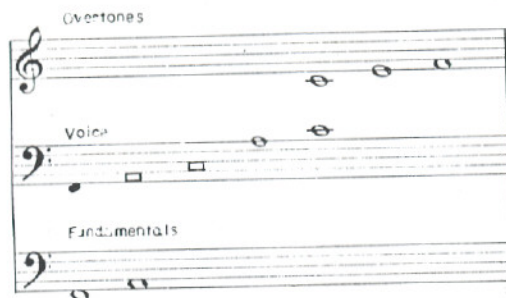


Fig. 3. Total Tone Material (Original Pitch)

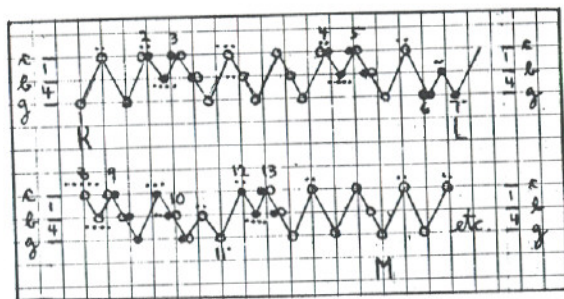


Fig. 4. Melodic Structure of the Overtone Part

The following types of recurrent movements occur in the overtone part:

- A. Two pitches
 1. Up-flexure in the major third g-b (6)
 2. Three-member up-pendulum in the fourth g-c (1)
 3. Three-member down-pendulums in the minor second b-c (2, 4, 8, 12) and in the major third g-b (10).
- B. Three pitches (mixed movements starting with the down-line c-b-g and avoiding the up-line g-b-c)
 4. Three-member pendulums (5, 9)
 5. Six-member pendulum with alternating down-lines and up-steps (3, similar to 9)
 6. Eight-member pendulum (13)

Section K consists of a combination of an extended hanging complex (1-5) and a standing complex (5-6). In section L the hanging complex 8-9 merges with the standing complex 9-10, while the hanging complex 12-13 is similar to 2-3, except for the extension in 13 of the pendulum 3 by two members.

Before proceeding to an analysis of the metrorhythmic and formal structure of the piece I would like to suggest the following definition of rhythm and meter: Rhythm is organized duration, meter is organized pulsation functioning as a background for the rhythmic design. Contrary to the generally accepted concept which identifies meter with a more or less regular distribution of accents, it seems to me that neither accent nor stress represents a constituent element of meter. In fact, the accentual approach has caused a great amount of misinterpretations of metrorhythmic structures (Kolinski 1960).

The song consists of nine sections (marked by capital letters) and is provided with an instrumental introduction and coda. The sections represent performances of the same phrase with more or less significant variation. Vocal and instrumental part form an organic whole, although tune and accompaniment have contrasting structures. Except for the rests in the introduction and coda, the bow produces an uninterrupted succession of virtually equal durational values, notated as eighth notes. Against this background the vocal part employs a variety of values which may be expressed by the durational formula 8:6:4:3:2:1.

The meter of the vocal part is an unmistakable 3/4. The rhythm is preponderantly commetric. Half notes occur only on the lowest two pitches and cover the first two beats. Quarter notes function as upbeats and fall unusually on the third beat. Characteristic is the inverted dotted pattern eighth-dotted sixteenth, which frequently opens the measures. The phrases K-N comprise 6 measures each. An extension of phrase O to 9 measures is balanced by a shortening of the final phrase P to 3 measures. There are other instances of balanced organization: In the phrases L-N the high g is reached on the 1st beat of the 1st measure and on the 3rd beat of the 2nd measure. At the beginning of phrase K the high g is replaced by the low e; however, another high g appears instead towards the otherwise low end of the phrase. As a result, the high g occurs again twice within one 6-measure phrase. On the other hand, the 9-measure phrase O employs the high g three times. Each three measures constitute a formal unit: phrases K-N consist of two, phrase O consists of three such units, while the final phrase P is limited to one single unit.

This formal organization is correlated and emphasized by the structure of the instrumental part. Let us first analyze the line composed of the two fundamentals C and E. If we examine the order in which tone reiterations and single tones follow each other, we arrive at the following self-explanatory picture (numeral 1 represents a single tone, numerals 2-6 express the extent of tone reiterations):

K (=M=N)	a)	6	411	42
	b)	213	411	42
L	a)	6	411	42
	b)	123	411	51
O	a)	6	411	42
	b)	213	411	42
	c)	213	411	42
P	a)	6	411	42

It may be added that the transitions from one measure to the next one are always accomplished by a step and not by a tone reiteration. The scheme consistently used throughout the piece is $\parallel \text{CE EC EC} \parallel$.

An analysis of the overtone line gives us a further insight into the metric and formal structure of the piece. Particularly indicative is the function of the tone G. Except for the coda, the G appears exclusively either as the 1st and 4th or as the 1st of 6 eighth notes comprised in one measure. This distribution of G clearly points to an intramensural organization into 2 times 3 eighth notes; in other words, each 3 eighth notes form a motive, except for the third measure of the introduction and the last measure of the coda (in the transcription the motives are marked by the letters h-s). The following chart shows how these motives are integrated within the formal structure of the song:

K (=N)	a)	mm	op	mq
	b)	jm	op	mn
L	a)	mh	op	mq
	b)	nm	op	mj
M	a)	mm	op	mq
	b)	jm	op	mm
O	a)	mm	op	mn
	b)	jm	op	mn
	c)	jm	op	mn
P	a)	mm	op	mn

The persistent placement of measure op in the middle of each subphrase, contrasting with all other measures by the lack of the structural G, emphasizes the strict formal organization of the song into a continuous series of three-measure groups.

At first sight it would seem that the song represents a striking instance of polymetric construction: a 3/4 meter of the vocal part standing against a 6/8 meter of the instrumental part. However, there is a problem of general importance involved which challenges an unconditional polymetric interpretation of the piece. Gestalt psychology has made us aware of the fact that perceptions cannot but differentiate between figure and background. In regard to a metrorhythmic complex like the present one this phenomenon means the following: Although we are quite capable of perceiving simultaneously two patterns organized in 2 times 3 and 3 times 2, our mind automatically establishes a hierarchy of the two patterns.

Often an identical performance of such a piece of music may be interpreted in two metrorhythmically different ways. Let us take a well known example with a metrorhythmic structure somewhat reminiscent of that of the Hukwe song; I am referring to the Chopin waltz (Op. 42 in A flat major) with the nickname "Waltz in 2/4." If we interpret the 32 measure phrase which follows the introduction in the correct 3/4 meter, the accented 4th eighth note of each measure of the right hand pattern functions contrametrically against the commetric left hand pattern; if we interpret it as being 2/4, the accented 4th eighth note of the right hand pattern functions commetrically and the 2nd and 3rd quarter notes of the left hand pattern contrametrically. But it is inconceivable to perceive one and the same note at the same time commetrically and contrametrically. The seemingly paradoxical

conclusion is that strictly speaking simultaneous polymetric structures do not exist from the standpoint of the listener. The same situation arises for a single performer. Therefore, the Hukwe singer, who accompanies himself, probably interprets the organization of the instrumental measures into 2 times 3 eighth notes in a contrametric sense, that is, as 3/4, unless he subordinates the vocal meter to an instrumental 6/8. Yet if singer and accompanist were two persons, they could quite well perform polymetrically.

In the course of the piece the metric pulse accelerates from quarter = 120 to 160; however, an essential portion of the song maintains a steady 152 quarter. The tempo figure (which indicates the average amount of consecutive notes within one minute) is 156 for the vocal part and 304 for the instrumental part. Tempo figures (Tf) can be calculated by means of the following formula:

$$Tf = \frac{\text{No times } Mf}{Mu}$$

No meaning the total number of consecutive notes, Mf the metronome figure, and Mu the total number of metronomic units (Kolinski 1959).

Finally, the great excitement with which the singer seems to perform his piece ought to be mentioned.

New York City

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TRANSCRIPTION III: GEORGE LIST

Introduction

In a paper previously published in this journal I wrote as follows:

...transcription is a prerequisite to certain types of ethnomusicological studies, but not necessarily to all types. It is a prerequisite when it is desired to make detailed comparisons of certain aspects of musical events. Among these are...mode, melody, form, etc.¹

The materials presented in this colloquium represent a demonstration of the means by which four scholars individually approach the transcription and analysis of a single musical performance. As such they are necessarily limited in scope. Transcriptions of one musical event only, no matter if made by a dozen scholars, are insufficient in themselves to produce valid data concerning a particular musical style and are certainly an insufficient basis for comparative studies. Any discussion of the relation of the music to the culture or of language-music relationships has also of necessity been omitted. The omission of consideration of the text of the song is particularly unfortunate since musical accent is often determined by vocal accent. Considering the limitations imposed, I assume our endeavors are directed towards throwing some light upon the validity and utility of various transcription and analytic techniques as applied specifically to the music at hand and to traditional music in general.

I am not qualified to offer a judgment as to whether or not the performance under discussion is typical of African music in general or of Bushman music in particular. The rhythmic complexity and independence of the two parts, I should think, is a reasonably common characteristic of African music. Since this rhythmic complexity seems a major aspect of the performance, I have utilized a special type of score of three staves. The more complex vocal part is notated on two different staves, the lower indicating the internal phrasing of the vocal part and the upper its rhythmic relationships to the simpler bow part.

The transcription presented here was made playing back the recording on an Ampex 350 tape recorder. Playback at half the original speed was not found to be very advantageous since the vocal part seemed distorted at the slower speed. The lower pitches were particularly difficult to identify. On the other hand, it is extremely difficult to transcribe the bow part, and to some extent the vocal part, at the original speed. I therefore reduced the speed by changing the electric supply to 53 cycles rather than 60 through the use of the electronic drive in the laboratory of the Archives of Folk and Primitive Music. This facilitated transcription considerably. Before settling upon this speed as the most efficacious for the purpose, I had listened to the recording at the following speeds of playback: 15 ips as originally recorded, 15 ips at 53 cycles, 7 1/2 ips at 60 cycles, and 7 1/2 ips at 53 cycles. It is interesting to note that the pitches heard by the transcriber for the same phrase varied considerably during playback at the different speeds.

After notating at the slower speed I checked the transcription while listening at the original speed. I then elided all details which I could not hear at the original speed and, in some cases, changed rhythmic patterns to conform with my impressions of them as now heard at the original speed. The

transcription therefore represents what the transcriber can hear at the original speed, the outline sharpened somewhat by a knowledge of what could be heard at a slower speed. Nevertheless, several spots in the transcription represent educated guesses only. In transcribing a musical fabric as complex as the one under consideration I should probably change my opinion concerning certain details on almost every hearing. Should any two transcriptions offered in this demonstration coincide in every detail, I should be greatly surprised.

The unavoidable discrepancies in details which occur in transcriptions do not, to my mind, invalidate the usefulness of transcription. In a recent study of Anglo-American folk tunes² I made two differing transcriptions of ten stanzas of the same tune. The first set indicated many subtleties of

15 16 17 18 19

I

20 21 22 23 24

25 26 27 28 29

30 31 32 33 34

II.

35 36 37 38 39

40 41 42 43 etc.

44

Statements III-VI omitted.

Statements 101-105 and VII. The system consists of three staves. The top staff contains measures 101-105, each with a single eighth note. The middle staff contains rests for measures 101-103, followed by eighth notes for 104 and 105. The bottom staff contains a 2/4 time signature and a single eighth note for statement VII.

Statements 106-110. The system consists of three staves. The top staff contains measures 106-110, each with a single eighth note. The middle staff contains eighth notes for measures 106-108, followed by a quarter note for 109 and a half note for 110. The bottom staff contains eighth notes for measures 106-108, followed by a quarter note for 109 and a half note for 110.

Statements 111-115. The system consists of three staves. The top staff contains measures 111-115, each with a single eighth note. The middle staff contains rests for measures 111-112, followed by eighth notes for 113 and 114, and a half note for 115. The bottom staff contains a 2/4 time signature and a single eighth note for statement 113.

Statements 116-120. The system consists of three staves. The top staff contains measures 116-120, each with a single eighth note. The middle staff contains rests for measures 116-117, followed by eighth notes for 118 and 119, and a half note for 120. The bottom staff contains a 2/4 time signature and a single eighth note for statement 116.

Statements 121-124 and VIII. The system consists of three staves. The top staff contains measures 121-124, each with a single eighth note. The middle staff contains eighth notes for measures 121-123, followed by a quarter note for 124. The bottom staff contains a 2/4 time signature and a single eighth note for statement VIII.

Statements 125-129. The system consists of three staves. The top staff contains measures 125-129, each with a single eighth note. The middle staff contains eighth notes for measures 125-127, followed by a quarter note for 128 and a half note for 129. The bottom staff contains eighth notes for measures 125-127, followed by a quarter note for 128 and a half note for 129.

Statements 130-132. The system consists of one staff. The top staff contains measures 130-132, each with a single eighth note.

pitch and rhythm, the second was relatively simple. In each case the ten stanzas were then combined into a reconstructed or archetypal stanza by eliding all phenomena which did not occur in at least 75 percent of the ten stanzaic tunes. The two archetypal tunes produced by this means were exactly the same. The details offered in the more complex first transcription set but not in the second were all elided in the process of reduction.

It will be noted that in the present transcription I have used various signs and symbols as needed to indicate pitches differing from those of equal temperament, indefinite pitches, etc. The selection of one symbol rather than another for use for this purpose was based upon the following guiding principle. Signs or symbols already in common use in musical notation in Western culture have not been assigned any meaning past that already generally understood. When no sign in common use in our Western music is adequate to represent the phenomenon being notated, I have utilized a sign that has been invented by an ethnomusicologist or I have invented one. Following this principle I have expressed sharp and flat pitches by the use of Bartók's upward and downward pointing arrows rather than Hornbostel's plus and minus signs. The minus sign is similar to the tenuto mark and can easily be mistaken for it. I have used a simple slant line to indicate portamento or glissando rather than the double slur used by Hornbostel and others or the jagged lightning-like line used by Bartók. In my opinion, the slur sign, whether single or double, should represent a slur, not a portamento or a glissando. I have used the simple slant line to indicate the latter since it is already in use to express a glissando on the violin or the harp. Again, in representing an indefinite pitch I have preferred to use an x with stem and flag rather than one of the other signs in use by ethnomusicologists. This sign is already in fairly common use in our music to indicate the indefinite pitch of speech sections occurring in vocal music.

The tonal aspects of the analysis are based upon theories advanced by Paul Hindemith.³ The differential tones utilized in determining the roots of harmonic and melodic intervals are a type of combination tones. However, the differential tones are physiological rather than acoustical phenomena. They do not exist as sound waves in the atmosphere but are produced by the internal ear under the stimulus of sound waves. The cps of a differential tone of the first order is the difference between the lower and higher pitches of an interval. For an example of how a differential tone of the first order is produced let us consider the interval of an octave, e^1 - e^2 , found in Ex. 4 in the following Notes. If e^2 is 640, e^1 is 320. By subtraction we secure the difference, 320. The differential tone thus reinforces the lower pitch of the interval. A differential tone of the second order represents the difference between an acoustical pitch and a differential tone of the first order. In the octave only one differential tone of the second order is produced since the relation of the differential tone of the first order to the lower acoustical pitch of the octave is a unison. Subtracting the cps of the differential tone of the first order, 320, from the upper acoustical tone, 640—again the difference between e^2 and e^1 —we secure the same cps for the differential tone of the second order as that of the first order, viz., 320.







Differential tones produced by intervals sounded on certain orchestral instruments are more audible than those produced by other means. Orchestrators are aware of the effects produced by differential tones. When the tuba is scored a perfect fifth below the bass trombone, an audible differential tone an octave lower than the pitch sounded by the tuba is produced. This pitch may be lower than any the tuba itself is capable of sounding.

Since the inner ear of all men is similar in construction, differential tones are audible to some extent to all men. Theories based upon their effect may therefore be justifiably employed in the analysis of the music of either the Bushman or of the German Romantic movement.

FOOTNOTES

1. List, George, "The musical significance of transcription," *ETHNOMUSICOLOGY* 7(3): 193, Sept. 1963.
2. List, George, "An approach to the indexing of ballad tunes," *The Folklore and Folk Music Archivist* 6(1):7-16, Spring 1963.
3. Hindemith, Paul, *Craft of musical composition*, vol. 1 (New York: Associated Music Publishers, Inc., 1945), pp. 57 ff.

KEY

-  = Glides or portamentos
-  = Unmeasured silence
-  = Not more than a quarter step sharp
-  = Not more than a quarter step flat
-  = Pitch indeterminate
-  = Second pitch is dynamically weak

Notes on the Transcription of the Hukwe Song

As a means of illuminating the rhythmic complexities of the performance, a score of three staves has been employed. The upper staff of the score represents the bow part. The middle and lower staves present the vocal part notated in two different manners.

The performance on the musical bow exhibits a fairly regular pulse but no regular repetitive accentual pattern or meter. The dotted bar lines have been inserted in the upper and middle staves for convenience in reading only. The dotted bars do not necessarily demarcate accentual or metrical patterns. The "pulse measures" contain three pulses with three exceptions which are listed below:

- 1) Pulse measures 18 and 19, two and four pulses respectively. This asymmetrical division is necessary to accommodate the notation of the triplet.
- 2) Pulse measure 128. Only two pulses occur.

Changes in accentual patterns in the bow part from groups of three pulses to groups of two pulses are indicated by the organization of the beams and by placing the stems and beams below rather than above the notes. (See, for example, pulse measures 14-15.) Since there is little dynamic accentuation in the bow part, the phrasing has been developed primarily from tonic accentuation (the occurrence of the highest pitches) and from repetitive patterning.

In the middle stave the vocal part is notated in pulse measures to coordinate with the bow part. In the lowest stave the vocal part is phrased individually. Dynamic accentuation is strong in the vocal part. However, the phrasing reflects tonic accentuation and agogic accentuation (the occurrence of the sustained pitches) as well as dynamic accentuation.

The pulse measure numbers beginning with 101 are given for convenience in analysis only. These numbers do not represent actual chronological numbers of the pulse measures in the entire performance.

Roman numbers represent statements of the melodic material which are simultaneously the strophes of the song. Other textual factors were not taken into consideration in making the transcription. Pitches or glides on nasal or glottalized phones were notated when they seemed melodically significant. The accidentals in the signatures apply to all octaves.

"A. General formal organization," in the following analysis, is based upon the entire performance. The remaining analysis is based upon the material transcribed only.

Analysis

Formal Aspects

The performance is a song with instrumental accompaniment. The vocal part is strophic. The ostinato-like instrumental part is continuous during the vocal performance, providing an introduction, a closing section or codetta, and interludes between the strophes.

A. General formal organization

1. Introduction

- a. The two initial bow groups seem to be a test of the instrument.
- b. Beginning with pulse measure 1 the performer establishes the ostinato-like bow accompaniment and a proper tempo for performance.
- c. During pulse measures 10-15 performer hums melodic material not clearly related to the following melodic statements. This section possibly serves as a "warm-up" for his voice.

2. Strophic statements

- a. The strophes contain three melodic patterns of differing lengths as follows:
 - A = Pattern beginning on pitch C or E, dropping to E and cadencing on C.
 - B = Octave drop from E with or without following pitches.
 - C = A close of the statement containing one, two, or three pitches ending on C.

b. The strophes are organized internally as follows:

- | | |
|---------------------|----------------------------------------|
| I. <u>A B C</u> | V. <u>A B C</u> |
| II. <u>A B C</u> | VI. <u>A B C</u> |
| III. <u>A B C B</u> | VII. <u>A B C C C B</u> |
| IV. <u>A B C</u> | VIII. <u>A B</u> (possibly incomplete) |

3. Close

- a. The ostinato is cut off abruptly, pulse measures 128-129.
- b. After a pause, a codetta is added utilizing different melodic material, pulse measures 129-132.

B. Formal organization of the bow part

1. The bow part exhibits a generally free combination of a number of pitch patterns of which the following are the most common groups of three pitches:

X = A G E (pulse measure 1)
Y = G G E (pulse measure 3)
Z = A A E (pulse measure 5)

2. There is also fairly frequent use of groups of six pitches divided into three duplets which form a hemiola-like contrast to X Y Z. The two following are the most frequent in the sections of the performance transcribed:

P = AA GG GE (pulse measures 14-15, 20-21, 23-24, 38-39)
Q = AA GG GG (pulse measures 42-43, 106-107, 124-125)

3. The three-pitch or six-pitch patterns rarely appear in succession. The exceptions are listed below.

- a. Z appears in succession in pulse measures 7-8, 25-26, and 31-33.
- b. Two differing six-pitch patterns appear successively in pulse measures 122-125.

C. Relations of the bow and vocal parts

1. There seems to be no melodic relationship between the two parts as far as the utilization of the same melodic material is concerned.
2. More frequently than not, the six-pitch patterns of the bow part are associated with the last or cadential elements of A, B, and C. Examples follow.

a. Statement I

A is associated with P (pulse measures 20-21)
B is associated with P (pulse measures 23-24)
C is associated with the pattern GG GG AE (pulse measures 28-29)

b. Statement II

A is associated with X - Y (pulse measures 35-36)
B is associated with P (pulse measures 38-39)
C is associated with Q (pulse measures 42-43)

Rhythm and Meter

A. Durational values

1. The bow part exhibits only one durational value, the eighth note.
2. In contrast, the vocal part shows many duration values, half note, dotted quarter, quarter, quarter note triplet, eighth and sixteenth notes.

B. Meter or accentual patterns

1. The bow part exhibits duple and triple groups only, 2/8 and 3/8.
2. In contrast the vocal part shows a variety of accentual patterns.

C. Succession of accentual patterns

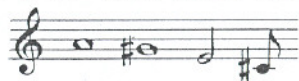
1. In the bow part a change in accentual pattern occurs in approximately 10 percent of pattern successions.
2. In contrast a change in accentual pattern occurs in approximately 50 percent of pattern successions in the vocal part.

D. Accentual relation of the parts

1. Metrical accent, the initial accent of accentual patterns, coincides in the two parts in somewhat over 60 percent of the performance analyzed. Thus slightly less than 40 percent of the initial accents of the accentual patterns in the vocal part produce an effect of syncopation. (In making this last analysis a 2/4 measure was conceived as containing two accentual patterns of 2/8 each.)

Scale

- A. The scale of the bow part is tetratonic. The G is slightly superior to the A in sum of duration values (less than 10 percent) and is the final. On the other hand, the A occupies a greater number of accented pulses. The sum of durational values of the E is considerably less than that of G or A. The C occurs only twice.



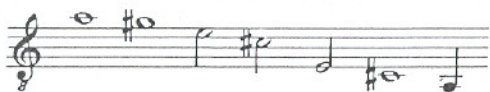
Example 1

- B. The scale of the vocal part is tritonic. The sum of the durational values of C is somewhat over 20 percent greater than that of E. The lower C occupies the final position in all but three of the total phrases analyzed. The sum of durational values of A is small.



Example 2

- C. The combined scale is given below.



Example 3

Harmony and Tonality

A. Theoretic basis of the analysis

In his *Craft of Musical Composition*, Vol. I (1945), Paul Hindemith offers a method of determining the roots of intervals. These are derived from the differential tones produced when the two tones of an interval are sounded simultaneously. By extension these roots may be applied to melodic intervals as well.

The chart below gives the first and second order of differential tones produced by the intervals heard in the sections transcribed of the performance and the derived roots.

○ = differential tone of first order

● = differential tone of second order

Interval							
Differential Tones							
Root							

Example 4

The differential tones of the second order are weaker than those of the first order. It will be noted that inversions of intervals have the same roots as non-inverted intervals. The interval of the major seventh and its inversion have been omitted from consideration due to their harmonic ambiguity.

B. Harmonic roots

1. Of melodic intervals

- a. The harmonic roots of the melodic intervals in all pulse measures of the bow part with the exception of 130-131 are :A: and :E:. The roots of the intervals heard in pulse measures 130-131 are :C: and :E:. (Note: :C: = :C sharp:.)
- b. The harmonic roots of all melodic intervals of the vocal part are :A: and :E:.

2. Of harmonic intervals

- a. Discounting the major seventh and its inversion, the harmonic intervals heard between the two parts produce the harmonic roots :A:, :E:, and :C:.

C. Tonal implications

1. Of the individual melodic parts

Judged by the frequency of the occurrence of the roots of the melodic intervals, the tonal center of both the bow and vocal parts is :A:.

2. Of the harmonic texture

Judged by the frequency of occurrence of the roots of harmonic intervals, the tonal center is A. The roots :E: and :C: appear with almost equal frequency. Their combined frequency is slightly larger than that of :A: alone.

3. Formal considerations

- The entrances of A are associated with all three roots, those of B with the roots :A: and :E:, those of C with the root :A:.
- The closes or cadences of A are associated with the root :C:, those of B with all three roots, those of C with :C:.
- In the sections transcribed the root progression :A:-:C: is invariably associated with the close or cadence of A and with that of C which is, itself, the closing phrase of the statements or strophes.

4. Summation

- Combined, the harmonic and melodic roots produce the tonal center :A: which constantly shifts to the tonal center :C: at important cadential points. When, in addition, the importance of C as a melodic tone is considered (see Scale above) it would seem that the tonal centers :A: and :C: are of equal importance.
- It should be noted that the codetta, pulse measures 130-132, after an initial :C: root, exhibits only :E: roots.

Summation of style characteristics

The performance exhibits a rhythmically and metrically free tertian vocal melody of a large range associated with a continuous instrumental part utilizing only one rhythmic value and only two metrical patterns. The bow melody is of a restricted range.

The bow and vocal parts are individually integrated by repetitive use of melodic patterns. In the bow part the integration is accomplished by the use of a limited number of short patterns and by the use of only two differing accentual patterns. In the vocal part a variety of melodic patterns is integrated by means of a strophic formal organization.

However, the two parts are completely independent melodically. They also exhibit great rhythmic and metrical independence although somewhat more than half of the accents of accentual groups in one part coincide with accents of accentual groups in the other part. This coincidence may or may not be with like accentual groups.

Formal aspects of the performance act primarily to integrate the individual parts. The melodic, rhythmic, and metrical aspects of the two parts in combined performance are generally contrastive in nature. The principal element binding together the two parts is a bi-tonality in which two different roots act as organizing forces, a bi-tonality which is more chronological

than simultaneous in nature. In the complex texture :A: is the dominant but not invariable tonal center during the bulk of the performance while :C: is invariably the tonal center at all important cadential points. The cadential character of this shift in tonality is further defined by the frequent association with it of 3 x 2 rather than 2 x 3 accentual patterns in the bow part.

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TRANSCRIPTION IV: WILLARD RHODES

Notes and Comments

In transcribing the piece of Hukwe music I have attempted to present an accurate and legible notation of what I have heard. The transcription is the result of many repeated "listensings" over a period of time and represents a

Introduction.

Harmonics

1. ♩ = 108-112

Bow*

7.

Voice*

9.

Harmonics

Bow

14.

* The voice and bow sound one octave lower than notated.

19.

24.

29.

34.

39.

44.

49.

54.

59.

64.

69.;

74.

79.

84.

89.

94.

99.

104.

109.

114.

The musical score on page 270 consists of four systems of music. Each system has a vocal line (treble clef) and a guitar line (treble clef). The vocal line contains a melody with various note values and rests. The guitar line provides accompaniment with chords and single notes. Measure numbers 99, 104, 109, and 114 are indicated at the beginning of their respective systems.

Coda

119.

The musical score on page 271 shows the end of the piece. It features a vocal line and a guitar line. The vocal line has a final note followed by a double bar line. The guitar line continues with a series of chords. The word "Coda" is written above the first measure. Measure number 119 is indicated at the beginning of the system.

minor revision of the manuscript shown at the 1963 symposium. The principal changes consist in 1) the addition of the melody of harmonics which was not audible to me until I was able to play the original copy of the tape at 15 i.p.s. with adequate amplification, 2) the deletion of one measure of music near the end of the piece which does not exist, but somehow found its way into my original transcription, and 3) the designation of an introduction and a coda, and the numbering of measures to make easier the comparison of my transcription with that of Garfias, with which it is in closer agreement than with those of List and Kolinski.

The A of the pitch pipe sounded at the end of the tape has determined the tonality in which I have notated the piece. The constant repetition of the F of the struck bow string in alternation with the A of the shorter segment of the string clearly establishes F as the tonal center of the piece. Though I have used the G clef for both the voice and the bow, they are heard one octave lower than indicated, except the melody of the harmonics which sounds in loco as notated.

I have regarded the fundamental tones of the bow, F and A, as the basic accompaniment of the vocal melody. The counter-melody of harmonic tones is undoubtedly of considerable importance to the musician since he controls the pattern by his manipulation of the calabash resonator against his diaphragm, but this line is so delicate and faint on the tape that it was with difficulty and some misgivings that I was able to notate it. The absence of notes in the harmonic line signify that at those places I heard no overtones. The notes in the vocal line in parentheses were not audible to me when the tape was played at the speed at which it was recorded, but were heard as tonal grunts when the speed was reduced to 7.5 i.p.s. Following the two measures of introduction the rhythmic pattern of the fundamentals of the bow is so regular that I have indicated a meter of $3/8$, two measures of which could well be regarded as a unit of six pulsations as Garfias has done.

The transcription is a broad one as opposed to a narrow one, and I have attempted to notate only those features which I considered essential to an understanding of the form and style of the piece. I was keenly conscious of the minute variations of pitch, dynamics, and rhythm of both the bow and the voice, but I found them so small as to elude accurate notation with our present means. I am inclined to think of these details as minutiae of the performance and not of the piece itself. Only by comparing this piece with others performed by the same musician and by other musicians in the tribal group would one be able to ascertain whether these features are basic to the tribal style or the idiosyncrasy of this particular musician.

The relation of the text of the song to the vocal melody is important and a knowledge of the language would probably have aided in the transcription

and explained certain features. No attempt was made at analysis although a cursory reading of the score provokes questions and problems that demand study; the hemiola, the variation of the vocal line, the patterning of the fundamentals of the bow and the harmonic melody.

The experience of transcribing this piece has been another reminder of the inadequacy of our means of accurate and objective notation and the problems that confront the ethnomusicologist in his work. The human ear has its limitations. I do not know at what vibration and dynamic level my hearing stops, but I know that it has its limits as does the hearing of everyone. This variation of aural limits is a factor that must be recognized. The melograph in its present state of development is unable to transcribe music beyond the monophonic stage. The capriciousness of the play-back of tape recorders with their various controls, the differences of fidelity between machines, and the lack of adequate equipment and technical engineering assistance have plagued this transcriber. It is apparent that if the ethnomusicologist is to avail himself of electronic equipment in his work, he must either prepare himself in the theory and use of this material or enlist a body of scientists whose musical interests are sufficient to involve them in a collaboration that can prove rewarding to them as well as to the ethnomusicologist.

Columbia University
New York

REPORT OF THE CHAIRMAN-MODERATOR

Charles Seeger

Unfortunately, there was no rapporteur for the Symposium on the notation of the Hukwe song. As Chairman, I should have appointed one but did not—nor did anyone else, as far as I know—realize at the time how significant the project would turn out to be. In lieu, then, of a proper report I offer here only a brief comparison of the duplicated papers presented at the meeting. It will be strictly objective and factual. I assume no evaluative function whatever toward the jobs performed by the four transcribers. I do not feel it incumbent upon me to provide another transcription and/or analysis against which the others might be checked.

The four notations at my disposal, with the exception of Rhodes's, of which I have received a slightly revised version, are without alteration. Messrs. Kolinski and List have amplified but not altered their already ample analyses.

As was expected, the four participants, whom I shall designate from here on as G, R, L and K, varied in their understanding or interpretation of their assignment. G and R presented notations of the whole song such as are conventionally published, along with many other similar items, in any paper or monograph, "On the Music of the . . ." Neither seems to have felt that the assignment called for the musicological analysis and/or documentation that would normally frame their notation in any such publication. L and K, on the other hand, seem to have felt that the assignment required or at least invited an analysis worthy of the complex organization of the little piece. Both studied the whole song and its accompaniment; but neither felt that he was called upon to present a notation of the whole. Unfortunately for this rapporteur, K made a substantial cut at the beginning and L, a slightly

more substantial one at almost the exact point where K's ended. This has left a scant section just before the end for which alone we have notations from all four transcribers. Of these, I have aligned ten $\frac{6}{8}$ measures each of G and K and twenty $\frac{3}{8}$ each of R and L in such a way that agreement and disagreement in detail can readily be shown. (See accompanying synoptic view of the four notations).

Rhythmic Materials, Bow-part. All four transcribers perceived the tempo giusto of the bow strokes and laid out their work accordingly. G uses quarter-notes, the rest, eighths. MM. figures by the latter three are given variously for quarters and dotted quarters. Thus we have very close agreement upon a tonos protos:

R — eighth note = 324-336 at his measure 4.

L — eighth note = 246 at the beginning, quickly accelerating to eighth note = 312;

K — eighth note = 240-320, over all, but for the most part eighth note = 304.

G and K distinguish measures of six tp and mark them with conventional bar-lines. The former uses no signature; the latter, one of $\frac{6}{8}$ and explains placement of the bar-lines as enclosing two eighth-note patterns that are merely pulsations and rejecting accent as, by definition, not a determinant of meter.

R and L distinguish measures of three tp. The former uses conventional bar-lines and a metrical signature of $\frac{3}{8}$; the latter, dotted bar-lines "for convenience in reading only" and no metrical signature. "Since there is little dynamic accentuation in the bow part," he writes, "the phrasing has been developed from tonic accentuation (the occurrence of highest pitches) and from repetitive patterning." This results in the placement of his dotted bar-lines one tp later than are the solid bar-lines used by the other three transcribers, giving the bow-part an anacrustic instead of a thetic beginning and a masculine rather than a feminine close, though this seems to be of no particular importance in the case, owing to the improvisational nature of both beginning and ending.

Voice-part. L does find, however, strong dynamic accent in the voice-part; and on an extra (lowest) staff writes it with conventional bar-lines and metrical signatures, thus implying that both tonic and dynamic accentuation may be determinants of meter. K finds the voice-part in ternary meter and gives it a metrical signature of $\frac{3}{4}$. Thus he finds a hemiola relationship between its three groups of two and the bow's two groups of three. Furthermore, he finds the voice part anacrustic as over against the thetic bow part.

Tonal Materials. None of the four transcribers distinguish between the tonal materials of the voice and bow parts. All are agreed that there is a pitch base, tonal center, axis, most important pitch, most commonly sounded pitch level, or whatever, which is nearest to the standard equal-tempered F. G, L and K give this as a fifth below, R as a fourth above, middle C. G and R write the song "as it sounds"; L transposes the F up to an A, read 8va bassa, for convenience; K, up to C, to conform to the presentation he has made of the classification of possible modes in the equal-tempered duodecuple octave scale.

All transcribers heard complexes of pitches from the strokes of the bow. G speaks of "higher and lower partials," but notates only a low part. R writes a low part throughout but gives some higher pitches. L speaks of "differential tones" of first and second orders, but notates only a high

SYNOPTIC VIEW OF THE FOUR NOTATIONS

48 51

G

(96) (100)

R

103 104 105 106 107 108 109 110 111 112

L

49 50 51 52 53

K

m n m m o p m n j m

Detailed description: This page contains four staves of musical notation. The top staff, labeled 'G', shows a series of horizontal lines with some vertical strokes and a few dots, with numbers 48 and 51 above it. Below it are two staves labeled 'R' and 'L'. The 'R' staff has a treble clef and contains several measures of music with notes and rests, with numbers 103 through 112 above it. The 'L' staff has a treble clef and contains several measures of music with notes and rests, with numbers 49 through 53 above it. The bottom staff, labeled 'K', has a bass clef and contains a series of vertical lines with some dots, with numbers 21, 12, and 23 below it. At the very bottom, there is a row of letters: m, n, m, m, o, p, m, n, j, m.

OF A SINGLE PASSAGE IN HUKWE SONG

54 57

(105) (110)

113 114 115 116 117 118 119 120 121 122

54 55 56 57 58 59

o p m n j m o p m n

Detailed description: This page contains four staves of musical notation. The top staff shows a series of horizontal lines with some vertical strokes and a few dots, with numbers 54 and 57 above it. Below it are two staves labeled '(105)' and '(110)'. The third staff has a treble clef and contains several measures of music with notes and rests, with numbers 113 through 122 above it. The bottom staff has a treble clef and contains several measures of music with notes and rests, with numbers 54 through 59 above it. At the very bottom, there is a row of letters: o, p, m, n, j, m, o, p, m, n.

bow-part. K writes throughout both a high part, agreeing 80% with L's high part, and a low part, agreeing 100%, in our "synoptic view" with G's low part. R's notation varies slightly from these.

As anyone who listens to the record must perceive, the voice part is the more difficult to notate. The variance among the four notations is evidence of this. See, especially, the low notes in K's measures 53-56, which were not notated in the other three transcriptions.

Since K alone deals with tonal modality, it need not concern us here, for his published papers on the subject are readily available.

Form. Both L and K have dwelt at some length upon the form of the song. If both had made available to us their notations of the whole length this report could have been more complete. For these transcribers show, both in their analysis and in the brief passage in which we can align the two notations, perception of an elaborate melodic patterning in the bow-part. Without such complete notations, however, it is not clear how L's eight "strophes" and K's nine "sections" do or do not correspond. See, for example, in the synoptic view, that L's strophe VII and K's section O (in his original notation, VIII) exactly coincide. As it is, L notates and analyses only his "statements" I and II, and K, only his sections K - P (originally, IV - IX). Both of these transcribers perceived also recurring motives of triplets in the bow part. K's analysis, indeed, displays the performance as a veritable *ricercar* of an intricacy that would have pleased Okeghem. See, for example, the twin tabulations of his sections K - P, one in terms of single tones and reiterations, the other of pairs of triplets.

L'envoi. Having withheld all critical judgment of transcribers and their contributions, I now turn—but not until I tender the former expressions of most sincere appreciation and admiration for their ingenuity, industry and courage—to consideration of the project of holding such a Symposium. This, at last, elicits a critical judgment, namely, it was, to me personally, the best session the Society has held at an annual meeting and my hope is that there will be more like it. It has taught us some lessons.

First, I must say that one very important element was missing: the words of the song. According to instructions from the Program Chairman the four transcribers omitted the text of 'Du: from their considerations. However, the words were available even if only in primitive and inadequate form (see England's remarks on the matter, p. 224). The question is: would their integration in the transcriptions have made any difference? Frankly, I do not know. But we cannot assume it would not. From a practical viewpoint, only a linguist expert in the particular language could fit the words to any of the four transcriptions. And in this, he would probably need the help of the transcriber. Lesson No. 1, then, is: if we schedule another such symposium, the item chosen, if a song, should be one in a language likely to be commonly enough known in university linguistic circles to permit the transcribers to find help without travelling too far from home.

Second, we should specify complete transcription of the whole item chosen.

Third, all the transcriptions should be accompanied by detailed explanation of the meaning of the symbols used.

Fourth, the transcriptions and any accompanying analyses should be made available a month before the meeting to a discussant who will do what I have tried to do here, i.e., prepare a comparative summary to stimulate and guide

general discussion and keep it relevant to the purpose of the project. Perhaps two sessions should be devoted to the symposium: morning, presentation by the transcribers; afternoon, summary, followed by general discussion.

Fifth, if possible, one transcriber should be expert in the tradition represented by the item chosen for the occasion.

Sixth, a rapporteur should be appointed. This could be the discussant or, perhaps, someone not previously involved in the project.

We have, I believe, reached a point in the development of ethnomusicology where there can be no excuse for a continuing inadequacy in techniques of documentation. Thanks to anthropology, contextual documentation has reached a high level of technical proficiency with respect to tribal musics. It is somewhat less strong in the realm of Western folk musics. It is still very weak in dealing with the idiom of "high," "professional," "fine" arts of music. (Strange, that we still lack a name for this idiom!) It is deplorably weak in dealing with the context of the "popular" idiom—another, with no proper name.

Textual documentation, i.e., description and notation of music itself, is comparatively undeveloped in comparison with the best techniques of contextual study. Aural documentation by sound-recording has, of course, revolutionized musicology. But visual documentation of sound-recording is just as necessary; for without it, (speech-) reference to the musical event is merely gross and clumsy, and classification and archiving, impossible. We still can notate little else in textual data than what, in it, is identical with or closely analogous to the fine art of Western music, exclusively for which our present conventional notation was devised. Mr. Garfias's excursion into graphic representation of the voice part in the Hukwe song is commendable. 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.

Future sessions such as the one at Wesleyan last November might well be planned with such considerations in view.

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