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How musical are the Fulɓe Jelgooɓe of Burkina Faso? The local category of "vocal power"

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Abstract

By drawing on a Fulɓe vocal music style, this article shows that to explore a musical genre as a whole, it is essential to take into account vernacular musical categories that are used to characterize a good performance. Not only does it allow for access to the performers' aesthetic concepts, but also permits revealing of the cultural representations that underlie their production.

"*Doohi* of young people from Soboullé village isn't as good as the one of young people from Kouyé village, because in Soboullé, their voices lack power": [1] These are the words used by a Jelgooji informer[2] (North Burkina Faso) to assess and compare vocal games called *doohi* performed by Fulɓe young herders of the region. This is not an isolated comment.

From the Fulɓe Jelgooɓe perspective, the category of "vocal power" (*semmbe daaɗe*) characterizes without exception all *doohi*'s performances deemed "successful". It means that "vocal power" is considered

[1] *Doohi Sobulle hewtataa doohi Kuye, sabo daaɗe sukaaɓe Sobulle ngalaa semmbe.*

[2] The traditional region of *Jelgooji* (pronounce "Djelgôdji"), named after its inhabitants, the Fulɓe Jelgooɓe, corresponds roughly to the current province of Soum. It is limited by the provinces of Seno and Oudalan to the east, and by the Mossi kingdom of Yatenga to the southwest.

the essential conformity criterion to canonical rules when executing this musical genre. And it is always according to this criterion that the Jelgooƃe assess the ability and performing quality of groups of young people playing *doohi*.

But what is the exact meaning of this concept? Can we frame it from a strict musicological perspective or are we facing a qualitative category emanating from musical interpretation, i.e. a category of expressive nature? In other words, and if this comparison holds true, does the "power of *doohi*" rely on simple vocal technique or does it draw from an effect almost as saturated in musical criteria and simultaneously as hard to define as, for example, the famous jazzman "swing"?

If using local categories enables us to understand a musical style by reporting the internal perception of its performers, we first have to outline all semantic and symbolic extensions of the collected terminology. This is the purpose of this article.

Two vocal interlocking parts

A collective musical game

First we must underline that *doohi* is viewed as a musical "game" (*fijo*) without any ritual or religious meaning. It is a repertoire practiced exclusively by young herders. Even when women join their song to the men' choir, the two repertoires are clearly distinguished in the Jelgooƃe musical typology.[3] Further, a *doohi* ensemble can only gather members of the same age group. The rule of generational relaying is strict: any individual must stop singing forever as soon as they have children who are of the proper age for entering *doohi*.

Young people form a line and start uttering, alternating one after the other with a fast tempo, and making guttural sounds without any linguistic meaning. In the middle of the chain, one of the participants holds a calabash at chest level and strikes it with his ringed fingers. Following the voices' beat, the dancers move back and forth swinging the upper body in a synchronous movement. Each participant holds his neighbor's waist with his right arm while keeping his shepherd's crook firmly against his shoulder with his left hand. From time to time the dancers kneel and sing with their face against the sand. As a result the sound becomes more muffled.

In general, they sing from dusk to dawn every time the opportunity to get together arises. This includes during the inactive wintering season

[3] This article focuses only on the repertoire sung by men, *i.e.* the *doohi,* strictly speaking.

but also when herders come together around water spots during transhumances, at religious events (end of Ramadan, feast of sacrifice "Tabaski"), at wedding ceremonies or even at the rites of name giving to newborn babies.

Yet it is during an annual celebration called *sofoodu* that *doohi* finds its place of honor. After the first mil harvest, women gather around a pond for about seven days in order to collect an herb needed to make vans (calabash lids). Every evening the young men join in and sing and dance with them. Around twenty villages may participate in the event. The Jelgooɓe refer to this gathering moment as a camps feast that precedes the long dry season when communities disperse as they seek out water. It is also the opportunity for harsh competition between *doohi* groups which show off both their art of singing and their art of seduction. Practicing *doohi* at this occasion has to do with the widest network of relationships that young herders can build.

Doohi "voices"

Firstly, the singers explain that the power of *doohi* cannot be achieved with all the sounds of the repertoire. To understand what they mean exactly, we first have to consider the general structure of *doohi*.

Doohi is a vocal genre based on the emission of a defined repertoire made of articulated sounds that the Jelgooɓe generically name "*doohi voices*" *(daaɗe doohi)*. Each of these "voices" has a unique "name" (*innde daaɗe*), for instance, [humo], [hije] or [hɛmma].[4]

Among these "voices", the Jelgooɓe distinguish two sound categories: those they call *calɗi* (literally: junctions, forks, bifurcations), *i.e.* the sounds [hɛ], [humo], [hije] or [hɛmma], and the *masal calɗi* (*lit.* vocalization of junctions), *i.e.* the various vowels diversions generated from *calɗi's* consonantal "stem".[5]

Moreover, the same term "voice" is also used to designate the two parts which constitute the vocal ensemble: performing *doohi* indeed implies an alternate form between a first part producing a "junction" sound (which we will call "voice" A, following the Fulɓe terminology) and a second part responding with the same sound or one of its vowel variations ("voice" B). The singers define it in the following way: *doohi* is made up of "two voices doing the same thing but with one catching its breath when the other sings", and vice versa.

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[4] Terms in square brackets are transcribed phonetically.

[5] This translation is made clear to us by the first meaning of the word *masal*, used to define diacritical marks added for vowels in the Arabic writing of Fulɓe language (*ajami*).

Here is an example of the sound [humo] as exposed by voices A and B, and of the different vowel variations that can be applied (fig. 1).

Voice A *Exposing part* [humo]	*Voice B* *Responding part* [humo] ['umõ] ['umɔ] ['umɔ̃] ['umã] [hime], etc.

' = glottal closure producing a slight throat noise before vocal emission.

Fig. 1. Vowel variations of the sound [humo]

Voices respond to each other in this way and alternate in a systematic process of slight overlapping, or "tiling".

The two parts "Voice A - Voice B" represent a structural unit that we designate as a "segment". Each segment is thus repeated by the ensemble during what we call a "sequence", or in the case cited above, "sequence of the sound [humo]", whose duration depends on the leader's assessment. The latter will decide at the right moment to introduce a new sound, which will in turn be reproduced by the two vocal parts following the same alternate scheme, and so on, until the singers give up from exhaustion.

"Vocal power"

A musicological category

Thus, it is these different *doohi* sounds following one another in cyclical sequences that singers classify according to the criterion of their relative power. The singers state that, for example, the sound [hɛ] has no power at all. It is performed *recto tono* and simply helps to "warm up one's throat" when one starts singing or to "give it a rest" between the production of sounds deemed more difficult. In the same way, "the [hɛmma] is easier. Everyone is capable, even kids", but regarding the [hije] and the [humo], "these are the most powerful voices. Especially the [hije]. Kids can't do it. The [hije] hurts: it comes from the ribs up to the throat. If hungry, one can faint while doing it". Hence relative "power" of the different "junctions" and of their vowel variations depends

on the performance difficulty and this difficulty relies on musical criteria that can be fully identified.

Let us consider, for example, the case of the sounds [hɛmma] (fig. 2) and [hije] (fig. 3):

Legend:

: Time unit, approximately equal to 0,19 seconds (320 units/ minute)

■ : Voice A : Path of voices A

● : Voice B : Path of voices B

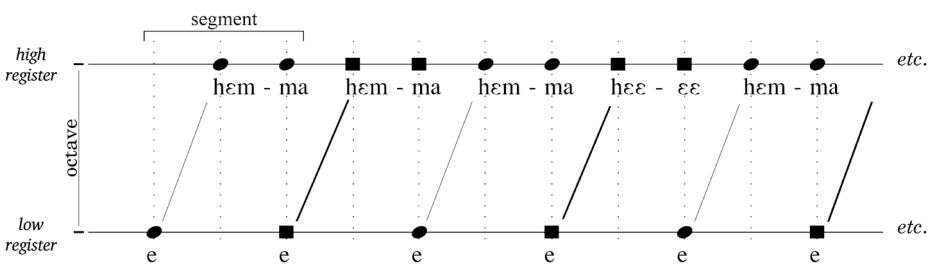


Fig. 2. Sound [hɛmma]

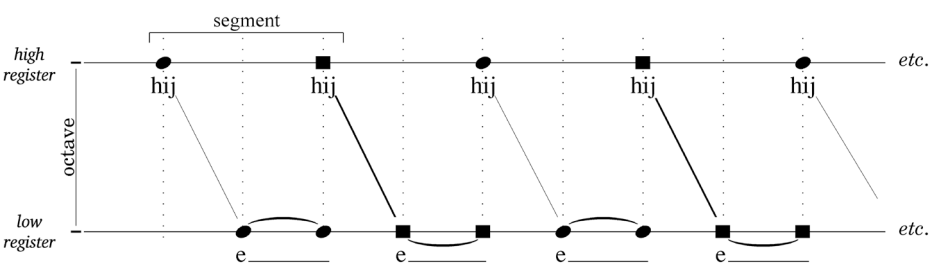


Fig. 3. Sound [hije]

Producing these sounds always requires that singers go from a vocal register called "low" (*ley*) to a register called "high" (*dow*), or reverse.[6]

[6] It should be noted that I have not been able to elucidate a terminological ambiguity concerning the Fulɓe concept of pitch. It seemed to me that when the Jelgooɓe talk about "high" and "low" voices, they do not mean the vocal register or the sounds pitch but the place from which the "breath" originates

This register jump must be executed without sound discontinuity, hence *legato*, and in one single breath. The difficulty obviously grows as the interval becomes wider, though in both cases of [hɛmma] and [hije], it is the same interval, *i.e.* the octave.

Unlike the sound [hije], the change in register requested by the sound [hɛmma] is performed in an ascending way, from [e] to [hɛ], hence towards a wider vowel aperture (*cf.* its performing form [e - hɛm-ma] in fig. 2).

Furthermore, emitting open front vowels such as the [ɛ] and [a] of [hɛmma] demands much less vocal tension than the back vowels [ɔ̃] or [ã] of the sound [humo] when executed with nasalization, or the very close vowels [i] and [e] of the sound [hije].

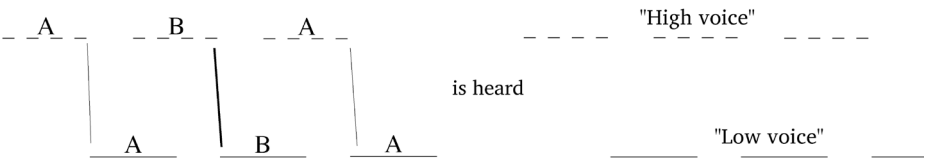
The Jelgooƀe are extremely aware of the role played by these vocalic combinations in the difficulty of producing the *doohi* "voices". This is evidenced by the encouragement they give to children to start with sounds such as [hɛ], [haga] and [hɛwa] which they consider as counterfeits of *doohi,* or "sounds to learn". They equally mention the importance of the voice timbre: "a child's voice is too thin (*sewi*), it has no power".

For the young herders, accessing the *doohi* practice is in effect linked to a physical transformation, the breaking of voice. As long as their voices do not have enough bass and texture, they will not be able to perform the [hije] in a standard way. This sound with more closed vowels demands a jump in descending register. Such a jump is even more delicate as the semi-vowel /j/ makes an abrupt transition between low and high. The dynamics of the sound impulse are essential: the /h/ of the [hije] produced in the high register must be strongly exhaled and immediately followed by a blocking breath and a glottal stop. Singers seek to perform an explosive effect on the attack that they name the "voice breath" (*henndu daande*, *lit.* vocal wind). Conversely, the voice must "stretch lengthily" (*daande yaara eese eese*) on the vowel of the low register. Singers say the following: "Your mouth closed, you can hear the sound rise". In other words, the (j)eee of the [hije] and the (m)ooo of the [humo] must echo with enough power to emerge as a low drone that is more or less continuous depending on the tempo speed.

When these vocal production criteria are met, the Jelgooƀe then explain that "the *doohi* is so powerful that we can hear from far away

(*henndu*), and consequently the organs that vibrate. Exhaled sounds [hij-], [hɛm-], [hum-] that, compared with others, we situate in the high register are physically located "low" (*ley*) by singers, at chest level. Inversely the low register vowels [-e], [-o], [-ɔ], etc., are heard as sounds that "go upwards" (*kam toowi*). And indeed the muscular effort comes no more in this case from the chest but from the throat, with a nasal resonance for some of the sounds: [-õ], [-ɔ̃], [-ã]. Hence what we respectively identify as low and high registers is likely to have an opposite meaning according to the Jelgooƀe.

what is high (*ko toowi*) and what is low (*ko leydi*). Voices have become heavy (*teddi*)". And as the voices follow one another by overlapping in a fast tempo, one can finally hear the two registers with such clarity that it becomes impossible, according to singers themselves, to "untangle voices" and to know that high register and low register are both produced by a single voice A alternating with a single voice B. Identities blur and two "voices" stand out, "the low one and the high one", as two separate entities (fig. 4). The *doohi* has then reached its maximum power.



Sound pitch is on the vertical y-axis, time is on the horizontal x-one

Fig. 4. The voices' dissociation process

Does it mean that the category of power refers to nothing more than a simple collection of musical techniques applied to reach such an effect?

We have determined that singers use resources of vocal timbre, intonation, contrasts in registers and overlapping technique to make two distinct horizontal paths emerge when the real course of voices derives from an opposite process – not horizontal but vertical. We have found that such a process is closely related to the phonetic composition of *doohi* "voices": for example, the sound [hɛmma] takes longer to pronounce due to its morphology of three syllables (*cf.* its performing form [e - hɛm-ma]), and does not allow for a very clear dissociation. However have we thoroughly investigated all the criteria necessary and sufficient to realize a powerful *doohi*?

We need to admit that this is not the case, as not all *doohi* groups reach this effect in a systematic way. The Jelgooɓe will tell you, for example, that "the [hije] is the most powerful *doohi* voice, but tonight, the singers of Kouyé village did not sing well. They had no power at all, *even* on the [hije]".

With this restrictive appreciation, we are now facing a totally different discourse level that seems to pertain more to the field of "singing well" than to musicological criteria that would be invariable and easily objectifiable. We are thus leaving the field of musical systematics and entering the art of interpretation where vocal power primarily carries a perceptual and emotional significance.

An aesthetic category

From a perceptual perspective, the power of *doohi* is an auditory illusion in the sense that the result sought by the singers does not coincide with what they really do: the sum of sounds emitted by the people produces a vocal whole that is other.

At this point, it is interesting to note that acousticians and music psychologists have experimentally studied[7] such musical effects, which Jelgooƀe singers associate to performance "power". This type of auditory illusion results from a perceptual phenomenon that has been termed "fission".

The purpose of such research was to determine the cognitive mechanisms enabling the listener to isolate and discriminate groups of sounds amidst an overall sound event. Three key principles that rule the ability to perceive music by grouping sounds were highlighted: Proximity (one attributes to the same source elements that are closest from a spatial point of view), Similarity, and Good Continuation (elements following each other from a directional point of view are perceived as being together).

Frequency proximity

In the particular case of the perceptual mechanism of "fission", Diana Deutsch shows that it emanates in the first place from the principle of frequency proximity, which for *doohi* corresponds to what we have exposed before: our brain identifies the "high voice" and the "low" one as two independent parts coming from different sources because they are each composed of sounds following one another at the same frequency range.

But to be fully efficient, the principle of frequency proximity also implies a series of other conditions that we shall examine under the light of local discourses. These conditions are as follows:

Temporal proximity

In *doohi*, overlapping is the main technique that provides temporal proximity to sounds composing each register – the low one as the high one.

The singers underline however that reaching "vocal power" – and its resulting fission phenomenon – requires a perfect rhythmic coordination: a single individual becomes offbeat and the whole is compromised. The Fulƀe words used to translate the concept of "rhythmic synchronization"

[7] See in particular Deutsch 1982: 99-134.

are *daande wootere*, meaning "a single voice". The expression is self-explanatory.

Timbre similarity

Indeed, timbre similarity in the case of *doohi* is linked to reiterating within each register the same sound, more often a single syllable or vowel, produced with an intonation and a vocal pitch that are always identical.

But here again, such homogeneity requires a common will that arises from the capacity of the singers not only to listen to each other, but most importantly, to try not to single themselves out by covering others' voices.

Similarity by repetition

The fission process that creates two independent parts is all the more perceptible since each sequence is inherently repetitive, consisting of sound cycles – or "segments" – performed over time.

Yet the singers explain that holding a sound sequence for a signifycant duration depends on the processing order given to each sequence and the pursuit of a dynamic progression. Actually the young people must be able to determine if their voices are warmed enough to start performing the sounds they consider the most difficult. If they fail to pace themselves, they will not withstand over time and risk cracking their voices very quickly, in which case they have nothing left to do but leave the dance.

Continuity in amplitude and dynamics

If one of the registers is sung more or less loudly compared to the other, or with irregular dynamics, it will not stand out homogeneously.

As for the repetition principle, here again it is about the art of the nuance, and the right balance and constancy. In this regard, an old man was regretting that "those of today have no more vocal power. They start immediately very high and they finish low.[8] One can feel that they are choking because they want to go strong immediately. They finish quickly (the *doohi*); maybe because they do not eat enough as in the past".

[8] In this enunciation context, the terms "high" and "low" refer to the level of sound intensity, and are thus synonymous with "loud" and "soft".

Tempo continuity

There is naturally a certain limit in slowing down under which the fission process no longer occurs.

Yet only the collective dynamic makes it possible to maintain a fast and steady tempo over an extended period of time. In the case of the most powerful sounds, this endeavor amounts to a physical challenge. In addition to excellent vocal technique, it requires real endurance strength, more specifically, breath endurance. And it is finally this resistance criterion that ultimately sanctions the power of a given *doohi* group compared to another. Being able to sing a powerful *doohi* (*doohi semmbe*) in fast tempo for hours, sometimes from dusk to dawn, builds a reputation. Jelgooƃe people like to tell stories of singers who started spitting blood after having pushed their voice for too long!

Besides features of the musical system itself, the interpretation dimension thus plays a significant role for a *doohi* group in making its vocal power heard. And the list of conditions, which leads to a good interpretation and to the fission perceptual process, may finally boil down to two main ideas: the cohesion strength of the group and its emulation of what seems to be experienced as a true physical performance.

This perspective sheds new light both on the nature of the musical emotion being sought and the socio-cultural values that underlie such an aesthetic intention. By considering the concept of "vocal power" not only from a musicological perspective but also as an expressive category, we have hence moved from the musical field into that of the human being who creates, performs and listens to music.

A cultural category

"When you listen to a good *doohi,* you shouldn't know who's doing what. No individual voice should stand out". For the listeners, *doohi* should thus sound like an interlocked fabric where the sonic event is global and the individuals not identifiable.

This aim is reinforced by the alternating spatial positioning of singers. Voices A and B are in effect physically interwoven, as shown in the following scheme (fig. 5):

… B A B A B1 A1 B1 A B A B …

Fig. 5. Singers' dance chain and spatial distribution of voices

The leader A1 (*puɗɗoowo*: *lit.* the one who starts) who introduces changes of sounds always stands in the center of the chain of dancers. The B1s answer, all of A group resumes, and then the whole B group

follows; the choir is launched. Thus rises the interlaced dialogue of voices, from the center to the fringes of the chain. The ensemble cohesion relies for a large part on this physical proximity between singers, who hold each other by the shoulder and swing synchronously following the voices' rhythm.

From a visual point of view, they seem to be a single body. This effect is clearly conveyed by the word *sekko* which defines the dance chain. In its most usual understanding, a *sekko* is a mat made of wisps of straw aligned side by side and assembled by interlacing strings. We shall add that the construction process of a *sekko* involves the same imbrication of horizontal and vertical lines that characterizes the *doohi* voices.

But one needs to stand at the heart of the dance to really perceive the sensitive conditions that determine the quality of a *doohi* performance. Bodies are connected and sounds follow one another according to primordial rhythms: singers of voice A project the sound in a breath unit while those of voice B, spatially intertwined, catch their breath. Some inhale while others exhale. We are in a binary periodicity that directly takes shape from the internal experience of opposite energetic movements such as breathing (inhalations and exhalations delimiting vocal emissions), walking (moving the right foot and the left foot up and down in the dancing step, symbolizing pastoralist walks in singers' minds), natural rhythms of tension and release (which underlie alternate phases of rest and paroxysm), and perhaps at a more unconscious level, the heartbeat (systole and diastole). *Doohi* is essentially a body language. The performers must manage to ease their way smoothly into this quasi-organic relationship, which seems to plunge them into an altered state of consciousness most likely caused among other things by over-oxygenation.

There is no doubt that the fission mechanism – and musical emotion that its emergence provides –, are closely linked to this climate of symbiosis that the singers have been able to create.

Thus the power of *doohi* is the aesthetic expression of a collective experience that is fundamentally egalitarian. For these young herders who live scattered most of the year, it is the place to apprehend together their belonging and integration within the same age group, which is a pillar of Jelgooɓe social organization.

In this musical game, a person has no margin to express an inner world or even sheer individuality: *doohi* is not a narrative form and role equality totally prevails.[9] Its founding principle is the collective.

The only chance to stand out for an individual is by embodying virtues that characterize ideal manhood in consensual Fulɓe society. Indeed we have seen that the vocal effort imposed by seeking out the fission effect

[9] Of course, the leader gives the signal to change sound. His vocal part is nonetheless similar to that of other singers.

is lived by the singers as a true physical challenge: challenge of breath endurance, challenge of controlling one's pace over the long term, and even resisting sleep,[10] hunger and thirst, as during *sofoodu* gatherings that can last seven days and seven nights, moderation, if not abstinence, is required.[11] Young people must learn to push their limits while hiding the extreme tension behind an always serene, impassible expression. Vocal mastery required by such a challenge turns out to be in Jelgooƀe's discourse a metonymic metaphor for accessing physical maturity: the singers' voices must be broken, in other words, they must be pubescent to be able to perform "powerful *doohi*". It is not uncommon for singers whose voices lack power to be teasingly compared to women in a manner that rules same-age peer relationships. Vocal maturity featured within *doohi* is thus perceived as a sensitive expression of manhood.

It also provides evidence of a certain social maturity. It is indeed noteworthy that moral skills needed for this collective practice are completely aligned with the behavioral norms that Fulƀe people particularly value, which are mostly based on self-mastering.[12] By reaching the aesthetic canons of *doohi*, the singers with the vigor of their young age, not only participate in expressing the unity and vitality of the community, but also contribute to the perpetuation of its most fundamental identity values.

The endogenous concept of vocal power hence conveys much more than a simple musical process. It shapes the Fulƀe cultural ideal of male maturity and social harmony meant to reign within age groups into an artistic form. If we extend the metaphor, we would say that it simultaneously symbolizes a model of "masculine power", of "moral power" and of "communitarian power", and that the relative adequacy of the vocal ensemble to these models is the ultimate condition to reach *doohi*'s "emotional power".

Such a conception of musical aesthetics explains for us the fact that the power of *doohi* represents, for each of its interpretations, a stylistic reality that is always moving and unpredictable, each time unique and so unfathomable. It finally measures up to musical and human qualities of each singer, and to the shared experience of the group.

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[10] To remain stimulated, *doohi* singers resort to a large amount of stimulant substances, natural (cola nut, black tea, tobacco) as well as chemical (amphetamines).

[11] Any public expression of a physiological need or an emotional effusion is interpreted by the Fulƀe as a lack of decency and a sign of moral weakness.

[12] A rich ethnographic literature is dedicated to this ideal of identity behavior that the Fulƀe designate under the concept of *pulaaku*, or "the ways and means of behaving as a Fulƀe person". See in particular Riesman 1974.

By exploring the Fulɓe category of musical vocal in all its polysemous extent, we have distinguished between its different semantic levels: the first pertaining to musical structures; the second pertaining to its interpretative dimension, or "musical" dimension in the strongest sense of the term, giving us access to the Jelgooɓe's aesthetic intentions and perceptions; and the third enabling us to reach the emotional quality of these aesthetics, and in the same time, the symbolic and cultural representations that are underneath.

Separating these different comprehension levels of a musical genre was not easy: in the singers' discourse, they appeared as entangled as the voices of *doohi*, and they always boiled down to the same keyword: "power" (*semmbe*).

But as we were solving this semantic tangle, it appeared that we were gradually exhausting the musical and symbolic content of *doohi*, to the point where the description we finally give corresponds to an ideal interpretation which all *doohi* versions can only try to reach.

Maybe it is simply because in Jelgooɓe minds, the category of power defines nothing less than what we could call their "sense of musicality".

Photo 1. Soboullé village, 1995. Doohi dance chain with men and women. (Credits © Sandrine Loncke)

Photo 2. Soboullé village, 1995. Women singers of Soboullé village, 1995. (Credits © Sandrine Loncke)

Photo 3. Soboullé village, 1995. From time to time one of the male singers steps out of the dance line to spin between the two rows. A woman throws her scarf to him as a sign of encouragement. (Credits © Sandrine Loncke)

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Appendix [13]

Musical example 1 > https://phaidra.univie.ac.at/view/o:538041

North Burkina Faso, Fulɓe Jelgooɓe
Doohi of Soboullé village

Vocal ensemble: ten singers of Soboullé village and two children singing women's repertoire in a call and response form during wintering vigil. When women are not present, children may replace them by performing the feminine repertoire.

Sound sequences

The low register's pitch does not change throughout this excerpt.

Legend:


: Time unit, approximately equal to 0,19 seconds (320 units/minute)

■ : Voice A  : Path of voices A

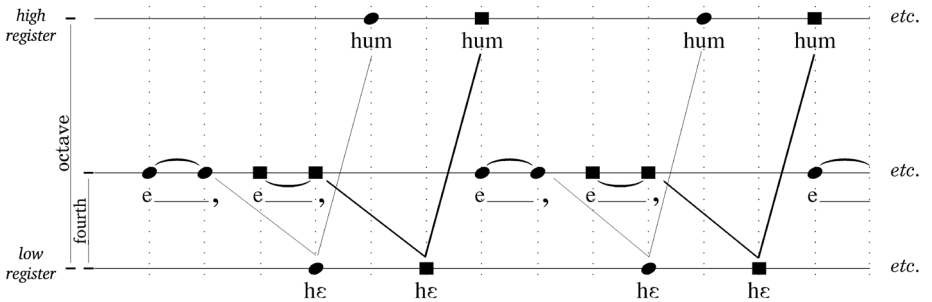
● : Voice B  : Path of voices B


: Glissando

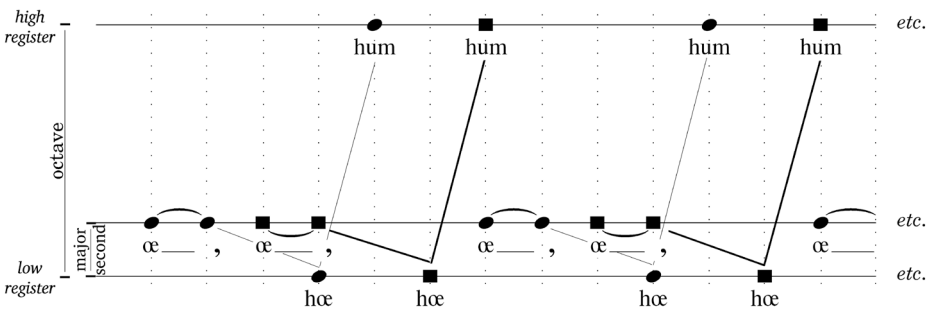
"œ**,**" : Sound interruption without catching breath

[13] See also Loncke 1997.

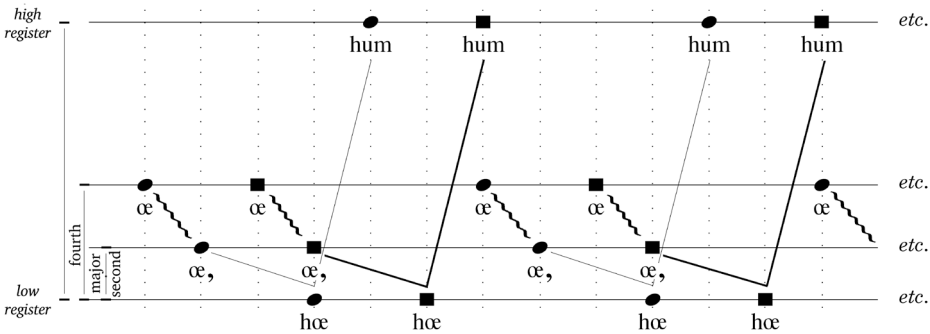
00 - 0:29 — *1st sound: [hum]*
Vowel variant (*masal caldi*) of [hɛmma] that is being performed [e hɛ hum].



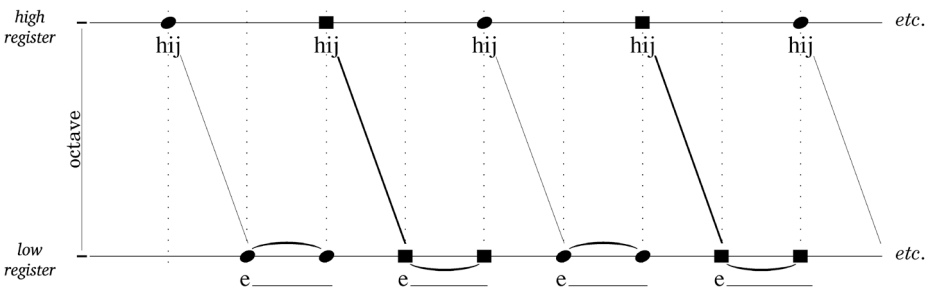
0:30 - 0:45 — *2nd sound: [hum]*
Vowel variant of [hɛmma], here being performed [œ hœ hum] with interval leaps of a descending tone and an ascending octave, and not with a descending fourth like in the previous sound (*Cf.* above).



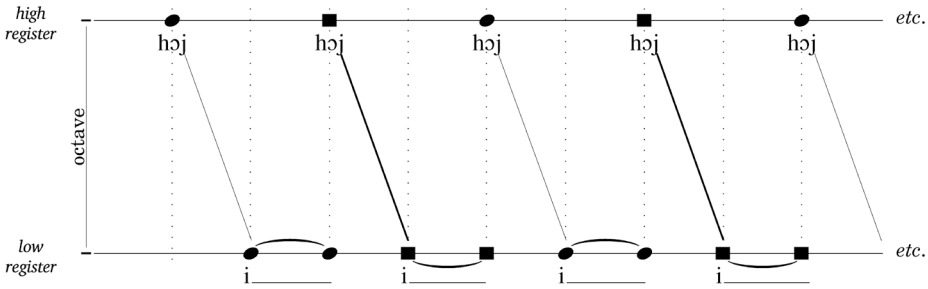
0:46 - 1:04 — *3rd sound: [hum]*
Vowel variant of [hɛmma] here also being performed [œ hœ hum] with a descending glissando from the fourth to the second degree before reaching the first degree and leaping to its octave upwards.



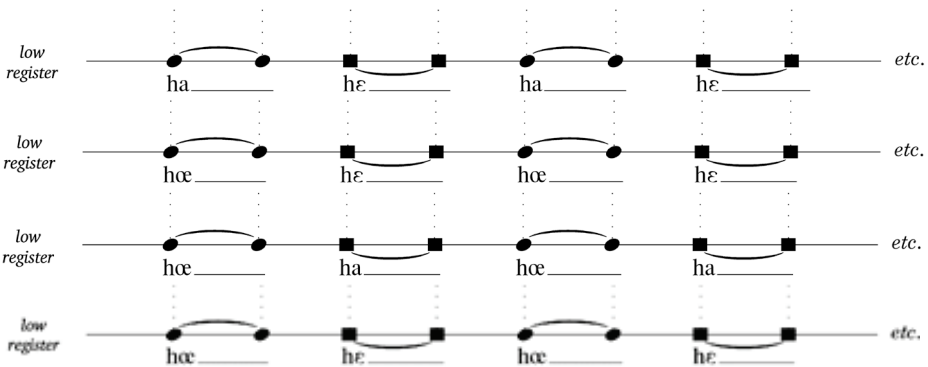
1:05 - 1:38 — *4th sound: [hije]*
An adult who came to make sure that the recording process is under control (usually older people stay away from musical vigils) cheers on the young singers: "*Dow, dow, sukaaɓe*!" (High, take it high, kids!).



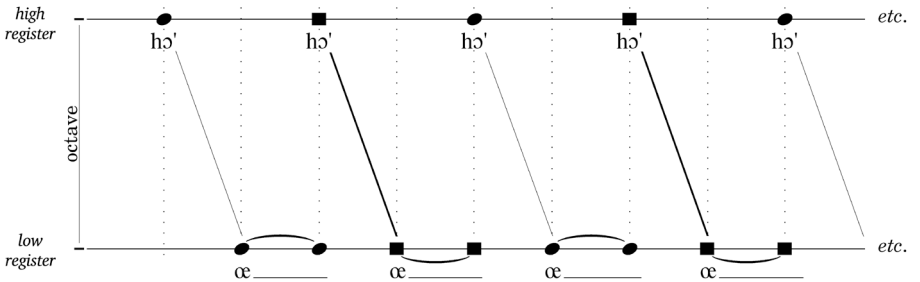
1:39 - 1:52 — *5th sound: [hɔ'ji]*
Vowel variant of [hije].



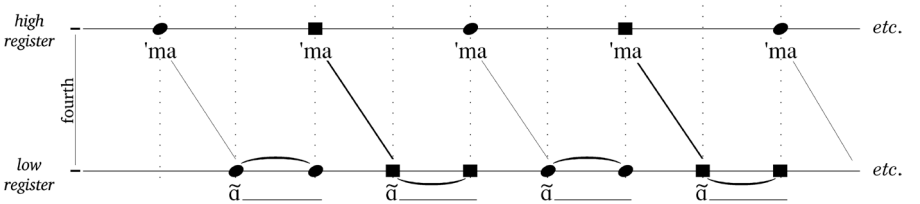
1:53 - 3:22 — *6, 7, 8 and 9th sounds: [ha] and [hœ]*
Vowel variant of [hɛ].
The sound [hɛ], which is performed *recto tono* in the low register, allows the singers to rest their voices.



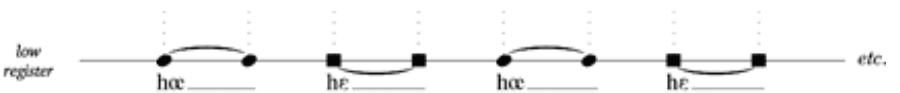
3:23 - 3:32 — *10th sound: [hɔ'œ]*
Vowel variant of [hije].



3:33 - 3:47 — *11th sound: ['maã]*
Vowel variant of [humo].



3:33 - 4:04 — *12th sound: [hœ]*
Vowel variant of [hɛ].



Musical example 2 > https://phaidra.univie.ac.at/view/o:538038

North Burkina Faso, Fulɓe Jelgooɓe
Doohi of Kouyé village

Vocal ensemble: five singers of Kouyé village and two women in a call and response form during wintering vigil.

Sound sequences

Time unit approximately equal to 0,21 second (388 units/minute)

0:00 - 0:57 — Following the same vocal schemes as above, the singers start with the sound [humo] and its vowel variant [hime], but the two syllables composing this sound are here performed with an interval of a fifth, and not a fourth.
0:58 - 1:39 — The singers follow up with the [hɔ'œ], a vowel variant of [hije], and with the sound [hije] strictly speaking.
1:40 - 2:08 — Then they come back to the [hime]/[humo].
2:09 - 2:37 — And back on [hɔ'œ]/[hɔji].
2:38 - 3:00 — And finally a brief resting sequence on the sounds [hɛ[ha], sung *recto tono* in the low register before starting again on a new cycle of sequences, etc.

As one can hear, the singers of Kouyé village are particularly famous for the power of their *doohi*. In this recording, there are only five persons, but they very quickly reach the sounds that are the most difficult to perform and they keep them much longer than other groups of the region.

Further the pitch of their low register stands a fifth below that of Soboullé singers, as a sign of vocal maturity aimed to contrast with children's voices, or that of women when they take part in the vigil.

Regarding the sound [hije] and its variants, one can clearly hear the "high voice" and the "low voice" that stand out, separated by an interval of one octave.