

The metalinguistic activity in the speech of musical experts

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Background in psychoacoustics. A study conducted on 11 French singing teachers in 2003 became the basis for a thorough investigation of the concept of voice quality from an acoustic, semantic and cognitive point of view (Garnier et al., 2004). This study allowed to establish the verbal descriptors that are the most consensual in expert discourse. In a second step, acoustic correlates were found to account for the perception of different voice qualities. Since the original motivation of the inquiry was to identify the distinctive parameters (verbal and acoustic) used in qualifying the singing voice, expert discourse seemed particularly compatible with this endeavour. Furthermore, this analysis was paralleled by an investigation of the concept of voice quality in the discourse of trained singers.

Background in linguistics. The experts place themselves in a dual relation to the world reference they are scaffolding (1) and to their own discourse (2). This second dimension is metalinguistic. The capacity of language to refer to itself has been analyzed from various angles. In an extensive study dedicated to metalanguage, J. Rey-Debove (1978) lists and analyzes the semantic, morpho-syntactic and prosodic proprieties of the autonymic sign (signe autonyme). Within the metalinguistic domain, the autonymy designates the special semantic case where a linguistic sign refers to itself in a mirror-like effectⁱ. Conventionally, this sign has several graphical notationsⁱⁱ.

In 1992, J. Authier-Revuz refers to the same concept in a full study of a specific type of modality called autonymicⁱⁱⁱ. A number of enunciative structures that involve a reflection on the use of words are analyzed in different types of discourse.

Yet, there has been little investigation of the relation between the metalinguistic reflection of a speaker and the processes of building cognitive reference.

The aim of this paper is threefold.

- We would like to outline a classification of linguistic items called autonymic. What are the linguistic forms that have an autonymic function in our corpus and how does their distribution characterize an expert's strategy of voice categorization? Vocal imitation is also a frequent means of bringing to mind an adequate descriptor. As such, it is often associated with terminological hesitation and intersects with the metalinguistic dimension in expert speech.
- Distinctive prosodic patterns often though not systematically affect the autonymic items. Does prosody play a part in underlying the autonymic status of an item in expert speech?
- Verbal contexts delimiting autonymic items provide interesting linguistic and cognitive clues as to how and why experts constantly "adjust" their words. So, do experts appeal to specific strategies in dealing with terminological ambiguity?

The observation of a corpus of experts in singing focused at first on the acoustic and semantic processes involved in the perception of voice quality. The present article places

this analysis on a linguistic ground by focusing on a specific dimension of the experts' discourse, namely the metalinguistic activity. Two kinds of phenomena are

observed: the prosodic cues accompanying the metalinguistic items/sequences (1) and the specific verbal contexts delimiting these items (2).

In the first case, our purpose is to investigate the *correlation* between the dynamic construction of mind representations related to self-referring words and the pitch variations affecting these words.

In the second case, the individual strategies of the experts are observed as an expression of their subjective relation to the acoustic environment, on the one hand and to their own discourse, on the other hand.

The cases of four experts were retained for the purposes of our article.

Towards a classification of autonymic sequences

An essential characteristic of our corpus lies in the heterogeneity of the items that appear in an autonymic context. We decided to group them into 4 distinct categories: current descriptors (1) specialized terms (2) isolated letters, syllables and vocal sequences without a semantic content (3) verbal forms uttered with vocal imitation (4).

Because of the large formal diversity of its items, the third category of the classification was left out of this presentation.

Current voice descriptors in an autonymic context

Descriptors or qualifiers belonging to a current register of language represent a relatively small proportion of the autonymic sequences (see fig.1) in expert discourse. Used in a metalinguistic context, they more often than not denote sensorial experiences or convey a subjective judgment.

• Example 1

«E4 : -On a l'impression que la voix 'se casse', si vous voulez, la première fois qu'on le fait.»

«E4: -We are under the impression that the voice is about to 'break' if you want, the first time we do this.» (Expert 4)

The sequence 'se casse' ('break') becomes autonymic due to the retroactive^{IV} effect of 'si

vous voulez' (if you want), a comment that conveys an intention to involve the interlocutor in the act of naming. It is often the case for ordinary descriptors to be retroactively marked by more or less explicit metadiscursive comments like: *if you want, if I may use the word*^V.

Specialized terms in an autonymic context

The experts are very likely to introduce a specialized term by a metalinguistic reflection on its adequacy (or particular use in the scientific community) or by an appellative verb as in the following case:

• Example 2

«E2: -Là, il va plutôt vers ce que j'appelle moi 'la mezza voce', c'est quelque chose qui, si c'est bien travaillé peut aider à améliorer la qualité générale de sa voix.»

«E2: -He is doing something similar to what I would call 'mezza voce' that is something which with proper training could help improve the overall quality of his voice.» (Expert 2)

Specialized terms often appear in an autonymic context which proves that their use even though standardized is hardly consensual.

Also, the experts tend to introduce technical terms by an appellative verb (*what I/x would call* cf. ex 2) which is an indication that the speakers envisage these terms by a detour through the representation of the act and sometimes the source of nomination (Authier-Revuz, 1995, p. 123). In general, experts 1 and 2 tend to anticipate the specialized term by an appellative verb rather than mark it by a retroactive form.

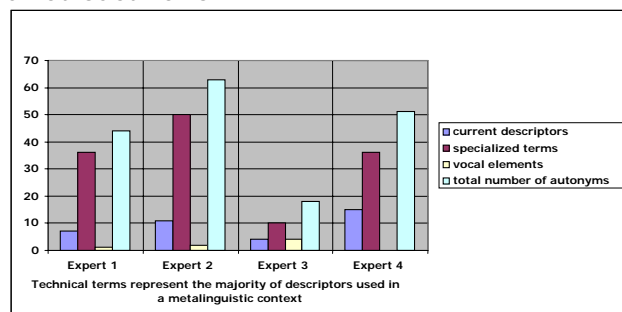


Figure 1. Autonymy in the speech of the singing experts

It's not the same case with experts 3 and 4 who tend to mark their autonymic technical

terms by using equitably anticipative and retroactive comments. In any case, to reflect on the use of a word within a particular context involves a specific strategy since the cognitive mechanism is not the same if the commentary precedes or follows the autonymic word.

Another important aspect concerns the specific ingredients of the voice quality that are designated by technical terms in an autonymic context: experts 1 and 2 use a large proportion of autonyms related to how they globally perceive the sound (stressed, lyrical, breathy: 54% of specialized terms) whereas expert 3 concentrates on the different sound components and processes (articulation, height, spectral composition) and expert 4 pays equal attention to qualifying the types of voice (bianca, infant, mezza voce: 33%) and the sound attributes (suspended, obstructed: 31%).

The dynamic processes of voice description throughout our corpus concern different components of voice quality depending on the expert's specific categorization.

Verbal forms uttered with vocal imitation. Why range them as autonyms?

The experts often make use of different vocal qualities to illustrate the sound or the voice gesture they are trying to describe. As such, imitation affects a variety of prosodic or acoustical parameters like pitch, intensity, speech rate, rhythm or sound quality (spectral composition).

There is a consistent number of various imitations throughout our corpus. Some experts use it extensively, others prefer alternative pedagogical means to explain and describe the sound. In any case, the reason we refer to these imitative sequences within our repertoire of autonymic items is the following:

Imitation is a verbal sequence uttered with a perceptible change of voice quality. Given its dual expression (verbal and musical), it has a twofold semantic content (linguistic and iconic) which makes it a complex semiotic structure.

The same can be said of an autonym: a part of its reference is iconic, since it is an auto-referential sign, in other words it 'shows' himself.

The iconic reference is thus a complex function that underlies autonymic and imitative sequences in our corpus, even though their symbolical functions differ:

"Monstration is generally exterior to language. We frequently oppose the monstration of an object to its definition. Monstration can be mimic (by pointing), visual or imagistic (eg: an illustration of an article in an encyclopedia) or acoustic (an onomatopoe showing the referent which is a sound). This is an exception to the rule of arbitrariness of a sign [...] The monstration of a linguistic sign (in the sense that the sign becomes the referent) is a case of autonymy." (Rey-Debove, 1978, p.362)

As to the practical role of imitative sequences, a point can be made about their use as a teaching strategy meant to improve intelligibility and transmission processes. In the same time, a close observation of our data allowed us to see that imitation is a medium that facilitates the construction of representations (based on the acquired knowledge and on the experimental situation to which the experts must adapt), and guides the expert to an adequate verbal descriptor or to a series of descriptors.

In the following example, expert 1 tightens his vocal cords to explain the effect of narrowing the larynx.

• Example 3

«E1: -Ehhhh (rire) 'c'est serrer le larynx § Intervieweur: -Kermit un peu §§^{vi} hein mais ça fait du son hein ça fait du son mais c'est pas beau le problème'»

«E1: -Ehhhh (laughter) it's about narrowing the larynx § Interviewer: -It sounds a bit like Kermit §§ it makes a lot of sound it makes a lot of sound but it's not exactly a nice one'» (Expert 1)

Prosodic cues in the singing expert metalanguage

We mentioned that the acoustic object was often rendered by means of imitation. Two distinct semiotic registers are thus deployed:

verbal and musical. The experts' use of vocal means to illustrate voice makes the sheer complexity of a type of discourse whose content is not exclusively verbal.

Within this problematic of multiple layers in the construction of meaning, prosody plays a significant part. Having observed some interesting prosodic phenomena accompanying and delimiting the autonyms, we wanted to see whether they occurred with a certain regularity.

Several situations present themselves:

1. A context in which the autonymic element is placed in initial, thematic position. A pitch rise together with a stress tone can help delimit the autonym:

- **Example 4**

«E1: -Mouais ... grailon, on peut dire 'grailon' mais, enfin, on va dire 'grailon' pour faire ... vous voyez ce que je veux dire [...]»

«E1: -Well, a throaty voice we could say 'throaty', well, in the end let's say 'throaty' for an effect ... do you see what I am saying [...] » (Expert 1)

In this case a progressive rise of pitch affects the element 'grailon' but the word's autonymic status is given by the explicit metalinguistic comments pronounced with a high speech rate: 'we could say', 'let's say', 'do you see what I'm saying?'^{vii}.

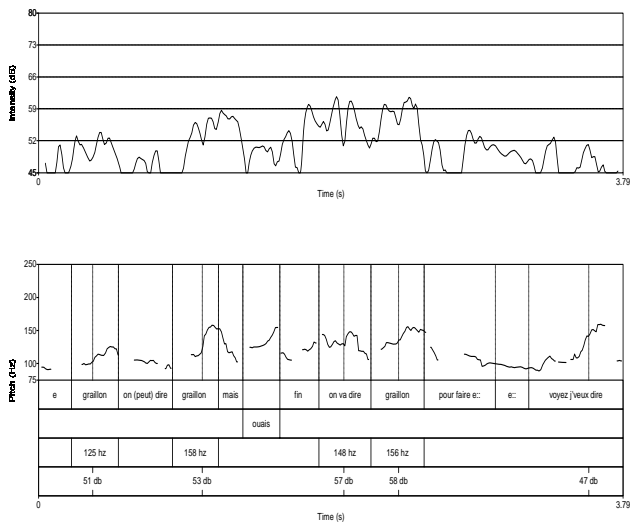


Figure 2. Prosodic cues in an explicit autonymic context

Distinctive prosodic phenomena don't occur systematically in the case of autonyms. When they do occur they're often redundant, the

metalinguistic function being already assured by the verbal context.

There are however cases in which a vocal or prosodic signal can trigger an autonymic interpretation of a segment, independently of other linguistic marks.

"Supra-segmental/prosodic signals evade the constraint of linearity of the verbal chain" (Authier-Revuz, 1995, 134) and are produced simultaneously to it. This makes it possible for a segment to acquire a specific discursive meaning by an exclusive use of prosodic means.

- **Example 5**

«E1: -Y'a beaucoup de profs qui veulent 'in-tel-li-gi-bi-li-té des voyelles c'est comme ça qu'on a des proble::mes après en chant'»

«E1: -There are many teachers who ask for 'vowel in-tel-li-gi-bi-li-ty this is how we develop singing problems later on'» (Expert 1)

In this case, the vocal signal starts at the segment 'intelligibility' and lasts until the end of the phrase. A 60 centisecond pause precedes and isolates the syntagm 'vowel intelligibility', pronounced with a syllabic stress which expresses iconically the concept of intelligibility that the expert obviously rejects.

We can see that the prosodic elements help delimit a sequence which becomes autonymic in the sense that it functions like a quotation of the words of an external source.

As Authier-Revuz puts it, vocal signals in speech are the equivalent of quotation marks in writing. They can trigger various contextual interpretations (irony, quotation, allusion) of a discursive segment, depending on the interlocutor's capacity of inference.

2. Another context we would like to consider is the one where the autonym is followed by a metadiscursive comment. The two can be separated by a prosodic threshold, not always perceptible.

- **Example 6**

«E2: -Il retrouve un petit peu sa 'voix d'enfant' (FO+)^{viii} entre guillemets (FO+), c'est-à-dire une voix moins travaillée avec moins de pression»

«E2: -He's redesccovering a bit his 'infant voice', in inverted commas, which means a voice less trained and with not so much pressure» (Expert 2)

The melodic rise on the autonymic segment 'infant voice' separates it from the reflexive comment 'in inverted commas' which starts out at a lower level but ends in a rise as well (at 160 hz). This is not an audible melodic threshold and usually if a more important rise affects the autonym, it's rather for rhetoric purposes.

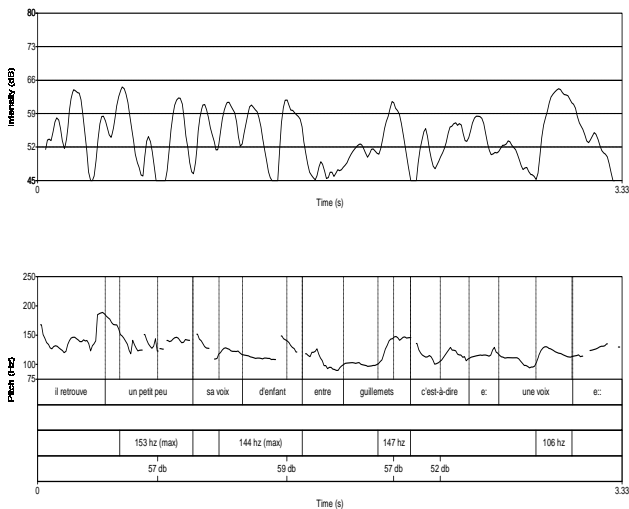


Figure 3. Prosodic pattern within an autonymic structure (voix d'enfant FO+ \ entre guillemets FO+)

Though distinctive prosodic marks don't always accompany autonymic items, we hold that when they do occur, their role in speech is important. Prosodic cues in metalanguage have a rhetoric as well as functional value by allowing speakers (in this case experts) to stress problematic words and to make use of imitative devices to indicate that a segment of their speech is in fact a quotation.

Referential ambiguity and expert strategy in voice description

The point we would like to make in this section is twofold:

Throughout our analysis we were able to point out several cases of terminological ambiguity: it may be *referential* in the case of an interference between the reflection on the acoustic referent and that on its adequate designation; it may also be *semantic* when

terms denoting different aspects of the voice are given as synonymous; or it may involve the permeability of language registers.

The experts often use commonsense descriptors to qualify voice quality. The problem is that we cannot know whether these words are of current use or they have been adapted to a specific use in musical practice. In other words, are they "migrant terms"?

This corpus shows us that expert and commonsense categorization are complementary, not exclusive. In the following example, the expert uses a suggestive designation to describe a vocal gesture. He introduces it as an approximate and empirical description only to indicate later that in fact it is an used term within the musical community:

- **Example 7**

«E1: -Une espèce de bâillement caché qui est une notion intéressante, on appelle ça 'bâillement caché'»

«E1: -It's a kind of smothered yawn which is an interesting notion. We call this 'smothered yawn'» (Expert 1)

Referential ambiguity

Reference is ambiguous when a definition can equally refer to the use of a term (metalinguistic) or the concept behind it. In the following example, the interviewer asks about the use of the word 'neuter'. The expert replies by explaining the physical mechanism that is qualified as neuter. We see that referential ambiguity often accompanies the dual reflection on a thing of the world and on the word we use to designate it.

- **Example 8**

« Intervieweur : -Quand vous dites 'neutre', c'est dans l'équilibre ou bien neutre ... je sais pas

E4: - 'Neutre' dans le sens où ça fait pas de mal. Ca fait pas de mal et ça peut s'arranger facilement»

« Interviewer: -When you say 'neuter' does it concern the balance or neuter in the sense ... I don't know

E4: -Neuter in the sense that it doesn't create discomfort. It's not disturbing and can be quickly fixed» (Expert 4)

A possible test would be to reconstitute the metalinguistic context in order to see whether an ambiguous descriptor has an autonymic or a mundane reference. In this example, the metalinguistic context would be:

"The word 'neuter' in sense that it doesn't create discomfort"*

But this is not an acceptable phrase so the meaning of the utterance is most probably mundane. The expert speaks about what the term designates and not about its use.

Referential ambiguity around metalanguage is a classical problem in semantics. And it is often present in our corpus which makes it challenging for us to mark out a complete inventory of autonymic forms. This is why we tried to separate explicit from interpretative autonymic contexts.

Expert strategies in voice description

We mentioned the concept of individual strategy in relation with the specific use of autonymic forms by the experts. As we can see under Fig. 1, experts 1 and 2 make an extensive use of autonyms, especially in a dialogical context where the experts quote an external source (x, as teachers say; x, as y says).

- **Example 9**

«E1: -Autrement dit, il y a un tractus vocal, comme dit Nicole Scotto di Carlo qui est une espèce de d'extension intérieure qui fait qu'on ne peut plus faire 'i-e-a' [...]»

«E1: -In other words, there's a vocal tractus, as Nicole Scotto di Carlo puts it, which is a sort of inside extension which makes that we are no longer able to articulate 'i-e-a' [...]» (Expert 1)

This expert is often relying, if we can use this expression, on external sources in order to substantiate his arguments^{ix}.

Expert 2 is also frequently using autonyms within appellative structures (what I call, what we might call) but unlike the first one, he is more willing to take on himself the enunciation of some specific terms. In more than 50% of the cases, he uses the first person singular with autonymic elements. The distribution of pronominal forms gives us a hint as to how experts place themselves in relation to their own language and to their perception of the world.

An opposite case is that of the third expert mentioned in our study. He rarely uses autonymic devices. Instead, he deploys a large syntagmatic description where several terms are put in a sequence. It's a strategy of categorization which doesn't employ metalinguistic comments like in the case of the other experts.

We could explain his tendency as an attempt to avoid a process of word selection which is perceived as too constraining. Instead, the expert uses a multiple choice strategy where he names several descriptors without giving prominence to any of them.

- **Example 10**

«E3: -Bah, dans la première, c'est un peu plus nasal, et puis y'a un peu plus de recherche de 'aah' un peu de mordant, quelque chose d'un peu plus ... de sensations vers le palais dur, un peu plus extraverti, un peu vers les... vers les dents, quelque chose plus...donc plus clair, plus ténorisant, plus d'harmoniques aiguës»

«E3: -Well, for the first voice, the sound is slightly nasal, there's a bit of an attempt to 'aah', somewhat biting, something a bit more...perceptible to the hard palate, a bit more in the open, a bit towards the teeth, something more...more clear, more resounding, which involves more high harmonics» (Expert 3)

His constant effort of (re)formulation can be compared to an open list of descriptors.

In his turn, expert 4 deploys a metadiscursive reflection under the form of comments which involve his responsibility in the act of naming (what I would/ could call, I should say, what I want/don't want to call). He also comments on the necessity to semantically adjust specialized terms to the different parameters of subjective perception. The following example is self-explanatory:

- **Example 11**

«E4: -Mais c'est que, à partir d'une ... c'est, c'est ce quisi vous voulez, c'est ce qui justifie l'emploi faux acoustiquement de la notion de passage. On vous disait 'dans cette voix y'a des passages', alors quand on passe de voix de poitrine à voix de tête, y'a un passage ... ça serait l'emploi correct physiologiquement du mot 'passage', mais néanmoins, on a ... malgré ça, une forme de passage dans la voix, sans qu'il y ait changement de registre, ni de mécanisme»

«E4: -But this is ... this is if you want, what allows the use - acoustically false - of the notion of transition. We would say to you: 'there are transitions in this voice'. So when we go from chest voice to head voice, there's a transition. This would be the physiologically correct use of the word 'transition'. Nevertheless, we can have a transition in the voice without a change of register or mechanism» (Expert 4)

The meaning of the word 'transition' in this example is adapted to a specific context of use, which shows the influence of contextual factors on processes of reference building and terminological adjustment.

However, the deviant use of a specialized term is not always explained and it's then the modal metalinguistic comment that tells us to which degree a term is adapted to the constructed reference or to which degree it is endorsed by the speaker.

Conclusions

We were able to list and briefly analyze several aspects involved in the metalinguistic activity of singing experts:

We focused on the prosodic and vocal (imitative) cues in expert metalanguage by trying to illustrate their functional as well as rhetoric value.

We classified the autonymic sequences and observed the expert metalinguistic strategies related to the use of certain descriptors in specific contexts.

These are of course distinct but complementary processes involved in reference construction and multimodal description of voice quality.

As a whole, this particular approach of the metalanguage wanted to observe some of the multiple interactions between the established terminology in the musical practice and the variable, context-driven use experts tend to make of it.

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ⁱ Autonymy is the concept used to designate a linguistic sign that refers to itself. Reference established within language is thus opposed to standard reference (to external reality).

Ex: *'Dog' is a three letter word* ('dog' is an autonyme) versus *I walked my neighbour's **dog*** (standard reference).

ⁱⁱ In this article, inverted commas are used to indicate that a segment (word/phrase) is autonymic.

ⁱⁱⁱ When the speaker comments on his/her words, a dual structure is produced: a word that becomes the object of a metalinguistic comment and the comment that refers to

this very word. This double-faced structure is called an autonymic modality.

Ex: 'voce bianca' if I may use this word

^{iv} A retroactive comment is an annotation that follows the autonymic term. In our example this comment is 'if you want':

Ex: the voice is about to 'break' if you want

Inversely, an anticipative comment precedes the autonymic term.

Ex: it's what we call 'voce bianca'.

^v cf. Authier-Revuz, 1995, ch.5 for a detailed description of the meta-discursive comments.

^{vi} In our transcription the symbol §...§§ indicates a simultaneous intervention of the interlocutor.

^{vii} The intensity has been set in accordance with the speaker's relative register of voice (the overall intensity of the recording is low).

^{viii} (FO+) signifies a pitch rise

^{ix} The sources the most often quoted by the expert are : the scientific norm, non-trained listeners and famous singers.