Archetypal vocal setups in studio-based popular music: an introduction

Emmanuel Deruty

IRCAM, Paris, France

Abstract: we propose an approach that leads to the definition of archetypal vocal setups found in studio-based popular music, along with relevant examples. Central to our study is the polyphonic aspect featured in most of those setups.

1 Introduction

Starting with the possibility of easily adding vocal lines on top of other vocal lines using one or several original performers in a studio context, we want to know to what archetypal forms of vocal line superimpositions do studio-based popular music productions typically arrive.

To answer this question, we need adequate vocabulary for the description of vocal parts in this context, and that will be given in section 2. This will lead us to the definition of five fundamental vocal setups, that will be described in section 3. A short focus on actual production techniques in section 4 will help clarify particular aspects of these setups. In section 5, we will consider several vocal-related common studio practices, in relation to our point of view. We will then focus on the functional aspect of vocal parts in section 6, and that will lead us in section 7 to the definition of another typical vocal setup.

In the course of this paper, we refer to several notions whose meaning we want to clarify. For reasons of convenience, we include definitions related to those notions in section 9, `Vocabulary'. The first occurrence of words which definition can be found in this section is signalled with an asterisk*.

2 Fundamental entities

2.1 Definitions

(1.a) Vocal line: a monodic, unitary sequence of objects based on material that can clearly be identified as having a vocal origin. This notion belongs to a compositional* point of view.

(1.b) Vocal part: a unitary sequence of objects based on material that can clearly be identified as having a vocal origin. This notion belongs to a perceptual* point of view.

(2.a) Simple vocal part: a vocal part made from a single vocal line. This notion belongs to a perceptual

point of view.

(2.b) Composite vocal part: a vocal part made from two or more vocal lines. This notion belongs to a perceptual point of view.

(3.a) Merging rule: two or several vocal lines can be grouped into a vocal part during a given section when these lines are nearly homorhythmic throughout this section.

(3.b) Exception: if numerous vocal lines are homorhythmic, but one of them is louder and has a very distinctive timbre, whereas all the others are less loud and have similar timbres, then the line that stands out will form a distinct part.

(4.a) Centered composite vocal part: a composite vocal part will be qualified as centered when there is a perceptual hierarchy of importance between its constitutive lines.

(4.b) Non-centered composite vocal part: a composite vocal part will be qualified as non-centered when all its constitutive lines are of equal perceptual importance.

(5.a) Lead vocal part: a vocal part is qualified as lead when it remains at the front of the sound scene* throughout most of the section. If at some point, another element takes its place as the front most element of the sound scene, then this phenomenon must remain anecdotic*, and must not form a system*.

(5.b) Non-lead vocal part: if a vocal part is not identified as lead, then it will be qualified as non-lead.

2.2 Comments

About (1) and (2): since the vocal line is a compositional object, it cannot be used when describing a monodic vocal part in an actual piece of music. In this case, we will use the term simple vocal part, and that leads to the notions of simple and composite vocal parts, which both belong to a perceptual point of view.

About (3a): in a given section of a music piece, two or more vocal lines can be grouped into a composite vocal part, or each one of them can form a simple vocal part. The merging rule will decide between one choice or the other.

3 Five fundamental vocal part setups

These definitions lead to the existence of five vocal part setups we will consider as fundamental:

(1) Simple lead vocal parts
(2) Simple non-lead vocal parts
(3) Composite centered lead vocal parts
(4) Composite non-centered lead vocal parts

(5) Composite non-centered non-lead vocal parts

Notice that the composite centered non-lead vocal setup is missing: in our experience, this setup is rare and cannot be considered as fundamental.

3.1 Setup 1: simple lead vocal parts

This setup encompasses vocal parts that are based on a single vocal line, and that got a lead role in the sound scene. It corresponds to what one could obtain by recording a solo vocalist and restraining from any kind of post-production. An example of simple lead vocal part can be found in (Bob Dylan, `Spanish Harlem Incident', 1964).

3.2 Setup 2: simple non-lead vocal parts

This setup encompasses vocal parts that are based on a single vocal line, and that got a non-lead role in the sound scene. An example of simple non-lead vocal part can be found in (Jedi Mind Tricks, `Shadow Business', 2006), from 1'35 to 1'54. In this extract, the lead role is taken by a simultaneous composite lead vocal part.

3.3 Setup 3: composite centered lead vocal parts

This setup encompasses vocal parts that got a lead role in the sound scene, and that are based on two or more vocal lines, one or two of these being more prominent than the others. An example of composite centered lead vocal part can be found in Danity Kane, (Danity Kane, `Bad Girl', 2008) from 0'35 to 0'48. In this extract, each rhyme begins with two vocal lines, and ends with more than two, sometimes much more. This composite lead part is centered around the two vocal lines that begin the rhyme.

3.4 Setup 4: composite non-centered lead vocal parts

This setup encompasses vocal parts that got a lead role in the sound scene, and that are based on two or more vocal lines, all of these being of the same importance. An example of composite centered lead vocal part can be found in (Eminem, `Cleaning out my Closet', 2002) from 0'46 to 4'25. A very different example can be found in (Brandy, `Right Here', 2008) from 0'00 to 0'08.

3.5 Setup 5: composite non-centered non-lead vocal parts

This setup encompasses vocal parts that don't have a lead role in the sound scene, and that are based on two or more vocal lines, all of these being of the same importance. An example of composite non-centered non-lead vocal part can be found in (Pink Floyd, `Brain Damage', 1973) from 1'16 to 1'48: the choir part behind the lead vocal part.

4 Compositing techniques

In order to better understand composite vocal setups, we will switch to a compositional point of view and consider a set of basic studio techniques that are involved in the production of these setups. Such manipulations, which result in composite vocal parts, will be referred to as compositing techniques. We will suppose that a vocal line has already been recorded: we will call it line 1. Another line is to be recorded as an overdub: we will call it line 2. We will consider three possibilities for line 2 in relation to line 1:

(1) Line 2 is identical to line 1. When both lines are mixed, they are panned identically. Perceptual result is a thicker single vocal part.
(2) Line 2 is identical to line 1. When both lines are mixed, they are panned differently. Perceptual result can either be a wider part that's spread across the sound image, or an ubiquitous part that seems to be at two places of the sound image at the same time.
(3) Line 2 is homorhythmic to line 1, and pitches are different. They may be panned identically or differently. Perceptual result is a harmonized part.

An example of technique 1 can be found in (Eminem, `The Real Slim Shady', 2000), from 0'18 to 1'23. An example of technique 2 can be found in the same piece, from 1'23 to 1'41. An example of technique 3 can be found in (Pink Floyd, `Breathe', 1973), from 1'14 to 2'43. In those three examples, all techniques result in composite centered lead vocal parts.

These techniques can be combined, and each process repeated. For instance, it is perfectly possible to end up with a composite lead vocal part made from no less than 6 different vocal lines. Several consecutive examples of complex arrangements can be found in (Justin Timberlake, `What Goes Around... Comes Around', 2006) from 1'17 to 2'00, in (Danity Kane,`Bad Girl', 2008) from 1'37 to 2'00, and in (Brandy, `Right Here', 2008) from 1'52 to 2'14.

5 Particular cases of vocal parts

Studio professionals use a range of expressions to characterize particular vocal layouts. We will focus on four of those terms, that we find to be more common than others. Knowledge of those notions and denominations comes from the author's personal professional experience. Pwording of a particular notion can vary depending on the cultural and geographical context.

5.1 Backing vocals

Typically, backing vocals are a particular case of setup 5, composite non-centered non-lead vocal parts. Under their most common aspect, they consist in several homorhythmic vocal lines with similar timbre and comparable prominence, grouped into a composite part that is called `backing vocals'. As the name suggests, they are used behind a lead vocal part they are supposed to support. Such typical backing vocals can be found in (Queen, `I'm in Love with my Car', 1975), from 0'55 to 1'15. Notice that backing vocals often fall under the only exception to the merging rule, as described in section 2, definitions (3a) and (3b).

In some cases, backing vocals are are based on several vocal parts. If so, they cannot be a particular case of setup 5. This can be heard in (Pink Floyd, `Time', 1973), from 5'24 to 5'54.

5.2 Stacks

A stack is a composite centered vocal part using at least three lines. It can be either lead or non-lead. It is a term we meet in modern R&B. As the name suggests, it is supposed to sound `massive', being made from `stacks' of vocal lines. For instance, numerous stacks are used in (Brandy, `Right Here', 2008). Most are lead parts: from 0'00 to 0'08, 0'52 to 1'11, 1'54 to 2'14, and 2'35 to 3'15. Some are non-lead parts: at 0'40, 0'45, 1'31, 1'43, and from 1'45 to 1'53. In this very last case, notice how they are used as background vocals, and how they fall under the only exception to the merging rule.

5.3 Vibes

The vibe is a particular case of the non-lead simple vocal part setup. It is a term we also meet in modern R&B. Typically, a non-lead simple vocal part is a vibe when:
(1) It is surrounded with many other vocal lines, grouped in any configuration of vocal parts.
(2) Its melodic profile periodicity is less important than which of the other vocal lines around it.

Vibes often sound like an improvisation. They are typically but not necessarily located near the end of the song. Examples of vibes can be found in (Justin Timberlake, `What Goes Around... Comes Around', 2006) from 4'36 to 4'58, in (Brandy, `Right Here', 2008) between 2'44 and 3'16, and in (Mariah Carey, `Touch my Body', 2008) from 2'23 to 3'23.

5.4 Ambiences

Ambiences can be found in rap and modern R&B. They can be of any non-lead setup. Usually, they consist in onomatopoeia, or destructured sentence bits. Ambiences often seem to comment the song to which they belong. An example in the form of a non-lead simple vocal part can be found in (CoCo Lee, `Do you Want my Love', 2000) from 1'16 to 1'27.

6 Functional changes

A functional change occurs when a lead vocal part, simple or composite, becomes a non-lead vocal part, or vice versa. An example of a functional change can be found in (Fergie, `Fergalicious', 2006), from 0'34 to 1'19. From 0'34 to 0'47, we can identify a lead part. From 0'47 to 1'01, the same part continue as a non-lead part, a newly arrived composite part having become the lead. From 1'01, the composite part disappears, and the first part is lead again.

7 A global setup: staged vocals

We describe this setup as being global, because instead of referring to an element of the sound scene, it refers to the complete mix. We will characterize a section of a music piece as featuring staged vocals when:
(1) There are several interlaced vocal parts inside the section.
(2) It's difficult to identify the role of each vocal part throughout the section, functional changes are frequent.
(3) It's difficult to identify the number of simultaneous vocal lines at all times

An example of staged vocals: (Justin Timberlake, `What Goes Around... Comes Around', 2006).

8 Additional examples

8.1 Centering of a composite lead part using a progressive introduction of a second line

In (The Cure, `The Funeral Party', 1981), whole song. From 0'54 to 1'35, the vocal part is simple. From 1'36 to 1'42, it becomes composite. It is perceived as centered, because the listener has been given the time to identify the first vocal line as being the main line. The same phenomenon appears between 2'11 and 2'35, the second line being barely audible at first. If one were to listen to the part between 3'05 and 3'28 without the beginning of the song, this part would be perceived as non-centered. However, at this point the first line is already identified as being the main line, and this part can be characterized as centered around the first vocal line.

8.2 Centering of a composite lead part using intermittence of the second line

In (OutKast, `Return of the G', 1998), from 0'27 to 1'16, and 1'42 to 2'30. In this example, a second line is intermittently added to the first line, in order to emphasize particular words. This makes it possible for the listener to identify the first line as the main line, thus centering this composite lead part on the first line.

8.3 Two non-lead parts but no lead parts

In (Black Milk, `U', 2007), from 0'52 to 1'46. From 0'52 to 1'14, the vocals that come with the transposed sample are used as a simple non-lead part. From 1'14 to 1'36, this non-lead part continues, along with another composite non-lead part: neither part is mixed loud enough to be considered as a lead part, especially in reference to the level of the snare drum.

8.4 A lot of ambiences

In (Black Milk, `Play the Keys', 2007), whole song. A singular example in which vocals are almost exclusively ambiences, except for the words `Popular Demand' and `Fat Beats Records', which are mixed too loud to be considered as ambiences.

8.5 A progressive functional change

In (Justin Timberlake, `What Goes Around... Comes Around', 2006), from 0'31 to 1'31. From 0'31 to 0'56,

we can identify a simple vocal part taking the lead. From 0'57 to 1'10, the function of this part becomes ambiguous, due to the entry of a non-centered composite vocal part. From 1'10 to 1'31, the part can still be heard (`Is this how we say goodbye ?'), but in a clear non-lead role. In this place, two other non-centered composite vocal parts take turns for the lead.

8.6 Complex staged vocals

In (Danity Kane, `Bad Girl', 2008), whole song. There are six different vocalists in this song: the five regular group members, plus one guest. Notice how only one stands out: the guest, who sings the part between 2'00 and 2'28. The other vocalists are difficult to distinguish from each other. The functional changes are particularly frequent.

9 Conclusion

This article shows that vocal parts in studio-based popular music use a number of archetypal setups, that can be useful tools in the context of formal analysis of this music. In our opinion, further study of such archetypes can lead to a comprehensive taxonomy of vocal parts in this context. This article is but an introduction for the subject.

10 Vocabulary

Overdub, overdubbing: refers to `the act of recording new tracks on a multitrack recording in synchronization with previously recorded tracks' (MOOREFIELD, 2005). In this paper, an overdub refers to a new track that is being recorded this way.

Compositional: in this paper, when we refer to the compositional process, it is as a synonym for the poietic process, as defined by (NATTIEZ, 1990). A notion that belongs to the compositional point of view belongs to the act of creation, not to the result.

Perceptual: in this paper, when we refer to the perceptual process, it is as a synonym for the aesthesic process, as defined by (NATTIEZ, 1990). A notion that belongs to the perceptual point of view belongs to the result, and can be viewed without any reference to the act of creation.

System: in this paper we use the word system in relation to its general meaning. That is, a set of interacting or interdependent entities forming an integrated whole. We are not referring to any musical system.

Anecdotic: in this paper, when an element is said to be anecdotic, we mean that it does not belong to a system. As a consequence, this element is singled out.

Sound scene: in this paper, refers to the sum of all events, plus their acoustic context, that can be heard when playing back what was recorded on the media.

Bibliography

Moorefield, V. (2005), *The Producer as Composer: Shaping the Sounds of Popular Music*, MIT Press, Cambridge, Massachussets.

Nattiez, JJ. 1990, *Music and Discourse: Toward a Semiology of Music*, Princeton University Press, Princeton

Discography

Black Milk, `Play the Keys', Popular Demand. Fat Beats Records, 2007.

Black Milk, `U', Popular Demand. Fat Beats Records, 2007.

Bob Dylan, `Spanish Harlem Incident', Another Side of Bob Dylan. Columbia, 1964.

Brandy, `Right Here (Departed)', Human. Epic, 2008

CoCo Lee, `Do you Want my Love', Just no other Way. Epic, 2000.

Danity Kane, `Bad Girl', Welcome to the Dollhouse. Bad Boy Entertainment, 2008.

Eminem, `Cleaning out my Closet', The Eminem Show. Interscope Records, 2002.

Eminem, `The Real Slim Shady', The Marshall Mathers LP. Interscope Records, 2000.

Fergie, `Fergalicious', The Dutchess. A&M Records, 2006.

Jedi Mind Tricks, `Shadow Business', Servants in Heaven, Kings in Hell. Babygrande Records, 2006.

Jim Jones, `We Fly High', Hustler's P.O.M.E. (Product of my Environment). Koch Records, 2006.

Justin Timberlake, `What Goes Around... Comes Around', FutureSex/LoveSounds. Jive Records, 2006.

Mariah Carey, `Touch my Body', E = MC2. Island, 2008.

MIA, `Hussel', Kala. Interscope Records, 2007.

OutKast, `Return of the G', Aquemini. La Face, 1998.

Pink Floyd, `Brain Damage', The Dark Side of the Moon. Capitol Records, 1973.

Pink Floyd, `Breathe', The Dark Side of the Moon. Capitol Records, 1973.

Pink Floyd, `Time', The Dark Side of the Moon. Capitol Records, 1973.

Queen, `I'm in Love with my Car', A Night at the Opera. EMI Music Distribution, 1975.

The Cure, `The Funeral Party', Faith. Elektra, 1981.