hard work!

A COMPARISON BETWEEN FRENCH

AND R.P. ENGLISH VOWEL SYSTEMS

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4º curso

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I- VOWEL VERSUS CONSONANT

The assignment of a sound to either category, vowel or consonant, may vary according to the criterion used in defining the categories. Moreover, the same sound may be capable of functioning both as a vowel and as a consonant, depending on its position in the syllable. If we follow a purely phonetic definition, phonemes like RP English /l,m,n,ŋ/ cannot be considered vowels (or vocoids, if we follow K.L. Pike's terminology), since their production involves some kind of stricture in the air passage and their spectrograms show a noise component besides the glottal tone. That is, they are contoids. On the other hand, some allophones of RP /j/ and /w/ will have to be considered vowels, ex. "you" [juː], "way" [weɪ] .This also applies to French /w/, /j/, /ɥ/.
But from a linguistic standpoint, we will consider a vowel any sound which can occupy the central position in a syllable, regardless of its phonetic quality. Such is the case of RP syllabic allophones of liquids and nasals, for ex.: "shuttle"/ʃʌtļ/, "ribbon"/rɪbm̩/, "sudden"/sʌdn̩/, "bacon"/beɪkŋ̩/.

In this study we'll consider only those sounds which are both vowels **and** vocoids, that is, vowels from a phonetic as well as a linguistic point of view. The reason is a practical one: contoid vowels don't exist in French; only a vocoid can occupy the center of a French syllable. And in both languages it is more practical to study the semi-vowels as consonants.[1]

II- DISTINCTIVE AND NON-DISTINCTIVE FEATURES

Any sound in the language seems to the speaker an homogeneous phenomenon, but the phonetician can analyze it, breaking it down into the separate actions of independent organs. Each organ of speech adds one or more particular features to the sound complex; in order to reach the status of phonologic difference, at least one of the features which differ in two sounds must be considered relevant in the speaker's ideal system of sounds. These significant features need not be the same in two different languages; indeed, they rarely are. Each language selects from the enormous number of possible features a few that will be used systematically.

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(1).- Gimson, p.95

As the sounds we are going to study are a well-defined group,
the vowels, <u>in two languages of the same family</u>, it is to be
expected that the general characteristics will be the same.
Both English and French vowels are, as most linguistic sounds in
all languages, eggressive and pulmonar. Ingressive sounds may
appear (for instance, the surprise exclamation often written "Ah!"),
but such sounds cannot be considered to be really linguistic[1] Non-
pulmonar sounds are used by some abnormal speakers. In short,
all linguistically relevant sounds both in English and French
are made with a stream of air coming from the lungs[2]

III- SONORITY

The vibration of the vocal chords as opposed to their letting
a free passage for the air constitutes the feature of sonority,
which is found as a relevant feature in the consonantal system
of the vast majority of tongues, including French and English.
Many languages apply this opposition (voiced/unvoiced) to the
vocalic system as well[3] But unvoiced vowels in English or French
(such as are used in whispering,for instance) are mere allophones[4]

IV- INTENSITY AND PITCH

The intensity, or loudness, of a sound, is the result of an increase
of air pressure during its production. This is controlled by the
muscles used in respiration.
Pitch is our impression of the rate of vibration of the vocalchords,
in voiced sounds, or of complex modifications (\ ⁻ ʀ   ⅀⁻ ⁻ ⁻ ⁻ ⁻
in the shape and tension of the resonators in articulating unvoiced
sounds.
Pitch is used as a significant suprasegmentary feature in intona-
tion and, together with intensity, in stress[5] But neither feature
is used to oppose vowels systematically to one another in English
or French: two vowels of the same quality,etc, which differ in
tone or intensity are allophones of the same phoneme.
However, some French speakers seem to make a significant use of
tone in telling the masculine from the feminine (aimé - aimée).

(1).- Sapir, p.5

(2).- Gimson, p. 10

(3).- Sapir, p.50,n.3, Thomas 190

(4).- Carton, p.43

(5).- Gimson, p.222

In any case, this is a marginal phenomenon: in the general usage, masculine and feminine endings in -é/-ée are homophonous (/e/).[1] The sudden interruption of the vowel, or glottal stop, is a common feature in English and appears occasionally in French, but it does not have linguistic significance, either.[2]

V- LENGTH

> Il existe des parlers pour lesquels les voyelles possèdent des différences de quantité très perceptibles, mais nécessairement liées à d'autres conditions phonétiques, ce qui ôte à la quantité proprement dite son caractère pertinent. Un bon exemple d'un tel état est le français.[3]

And English is another one, although the author of the previous lines would hardly subscribe to this opinion. These general statements need to be discussed in detail.

We must distinguish between purely phonetic length and linguistically relevant length. The former is determined by the sounds preceding or following the vowel; it distinguishes the allophones of one phoneme. The latter serves as a means to oppose phonemes and is independent from adjacent sounds.

For instance, in English, the difference between the two allophones of /i:/ in "feet" [fit] and "feed" [fi:d] has no phonological value: /i:/ is shortened before voiceless consonants, that is, length is contextually determined. Obviously, there will never be an opposition [fit] / [fi:t] since this last sequence will not appear (in normal cases) in RP.

All English vowels are shortened in front of fortis consonants. Also, they are longer in front of a lenis fricative than in front of a nasal, a lenis plosive or in final position.[4] A similar phenomenon occurs in French. Accented French vowels are longer in front of final /z/, /ʒ/, /v/, /r/ and /vr/. Nasal vowels, /ø/, /o/ and /a/ are also longer in front of any final consonant. In unaccented syllables most vowels are short. All are short in final position. So, we find again non-relevant, but evident, length distinctions: neuf /nœf/ - neuve /nœ:v/.[5]

(1).- Malmberg, p.88

(2).- Gimson,p.168. Also Sapir, p.48 and Carton, p.43

(3).- Durand, p.9

(4).- Gimson, pp.96-98

(5).- Malmerg, p.88. Carton, p.214

The differentiation of phonemes by means of length is a different, though sometimes related, problem. Strictly speaking, length can be considered a relevant feature in the phonetic system of a language if a series of minimal pairs can be established in which the changing vocalic elements are differentiated only by means of length. In this respect, the situation in English is as follows:

> There are traditional relationships between short and long vowels in English (...) but only in the case of /ə - ɜ:/ can there be said to exist an opposition solely of length and even in this case it has to be stated that /ə/ occurs only in unaccented syllables, whereas /ɜ:/ can occur in syllables carrying an accent.[1]

As for French,

> En fr. mod. il n'existe plus qu'un petit nombre de couples de couples lexicaux dans lesquels la quantité joue un rôle distinctif. On ne les distingue guère que dans le régistre soigné ou s'il risque d'y avoir une ambiguïté: (...) / mettre/maître, tette/tête, faite/fête... (...) Quand le substrat phonétique régional le permet, il n'y a aucun inconvénient à allonger les voyelles terminées par e muet, pour opposer masculin et féminin: venu / venue , ami / amie .[2]

But while not being independant as a distinctive feature, quantity may still play a role in phonology.
In English it is associated with quality to distinguish the pairs /i:/-/ɪ/, /ɔ:/-/ɒ/, /ʌ/- /æ/, /ɒ/-/ɑ:/ etc.
Although from a purely theoretical point of view it would seem logical to subordinate quantity to quality in analyzing the differences between these phonemes (since the quality opposition is stable, as compared with the important variations, and even disparition, of the quantity opposition), the fact is that length is, when present, a major factor in distinguishing phonemes.
Indeed, Daniel Jones considers that it is the principal feature; Gimson marks both length and quality differences in phonemic transcription and considers quality the primary feature.[3]
The quantity of the French vowels is even more dependent upon context and not upon the vowel itself. But when it is present it blends together with quality to create an additional difference between phonemes like /ɔ/ and /o/([ɔ /o:]), /a/ and /ɑ/ ([a / a:]) or /œ/ and /ø/ ([œ / ø:])

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(1).- Gimson, p.97
(2).- Carton, p. 106 and 215
(3).- Gimson, p. 99

> Dans cotte / côte [Kɔt, Koːt], on peut se demander
> si la différence de ·timbre a plus d'importande
> que celle de la durée. Phonologiquement, il semble
> préférable de considerer comme redondant le timbre
> dans patte / pâte [pat, paːt] [1]

But despite these similarities, the role of length in English
and French vocalic systems is not the same.

> Moins les règles liant la longueur des voyelles
> aux conditions phonétiques seront nombreuses,
> plus la durée aura un caractère pertinent. [2]

The length of English vowels is less dependent upon context,
and therefore more relevant.

VI- TENSION

The degree of tension of the organs of speech during the production
of a sound may vary. This variation may be purely phonetic or may
serve as a relevant feature to distinguish phonemes.
In both English and French vocalic systems, tension is subordinated
to the complex quantity/quality feature. It doesn't oppose two
vowels of the same quality and/or length.
The more a vowel is closed and long, the more tense it is realized.
English /iː/, /uː/,/æ/ (often [æː]) are tense, while /ɪ/, /ʊ/, /e/
are lax. Likewise, /iː/ and /uː/ are tenser than /ɑː/. [3]
Tension contributes in English, together with length and quality,
to the opposition between "long" and "short" phonemes; its
distinctive importance increases when the length feature disappears
in front of a fortis consonant.
A similar relationship between length, quality and tension appears
in French:

> Une voyelle est d'autant plus tendue qu'elle est plus
> fermée: ainsi, p.ex. "o" dans "pose" est plus tendu
> que dans "port", etc. D'autre part, une voyelle est
> d'autant plus tendue qu'elle est plus longue: "o" de
> "pose" est donc plus tendu que celui de "peau". [4]

On the whole, however, the French vocalic system is more tense than
the English one, and the previously mentioned variations in tension
are greater in English than in French. This fact has its consequences:

> Le relâchement des organes phonateurs entraîne
> une modification de l'articulation initiale qui
> change le timbre de la voyelle, ce qui produit
> la diphtongue. L'anglais, langue à articulation
> vocalique relâchée, est aussi une langue riche
> en diphtongues. [5]

We see now that English long vowels must be tense if they are to
remain monophthongs. Diphthongs, on the other hand, are long, lax

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(1).- Carton, p.106   (2).- Durand, p. 14   (3).- Gimson,100-122
(4).- Carton, p. 43   (5).- Carton, p.44. Thomas, p.99-100

articulations.

French prevents the formation of diphthongs by maintaining tense, clear vowels. English unaccented vowels tend to lose clarity: they tend to /ə/. Two French vowels cannot be together in the same syllable, and there is an hiatus to mark the syllabic border. In colloquial speech the hiatus may sometimes disappear, but then the first vowel is substituted by a semi-consonant:

nuage ⟨ [ny'aʒ] / ['nɥaʒ]   scier ⟨ [si'e] / ['sje]

Or again, a semi-consonant is inserted in the hiatus to make the separation clearer:

trier ⟨ [tri'e] / [trije] (1)
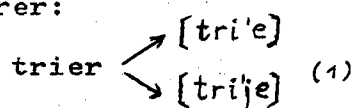
All possible glide is prevented in this way, for, after all, the difference between a diphthong and a hiatus is a question of degree, as is shown in this schematic diagram of the formants of a hiatus and a diphthong in the spectrogram:(2)

aération a-ɛ   (français-canadien:) tête [taɛt]
Hiatus   diphthong
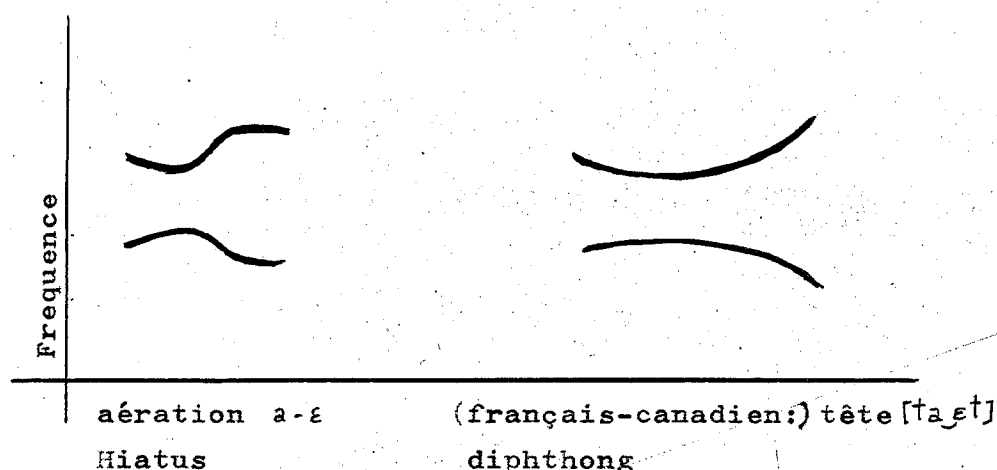
Not only regional, but also historical varieties of French have known diphthongs, and even triphthongs, as is shown by the conservative force of spelling, which was nearly phonetic in Old French (beaus [bɛaʉs], cf. English "hour"as [aʊə]). But modern French has completely reduced those segments, and in this it differs profoundly from English.(3) The spelling "beaus" corresponds in modern French to the pronounciation [bo].
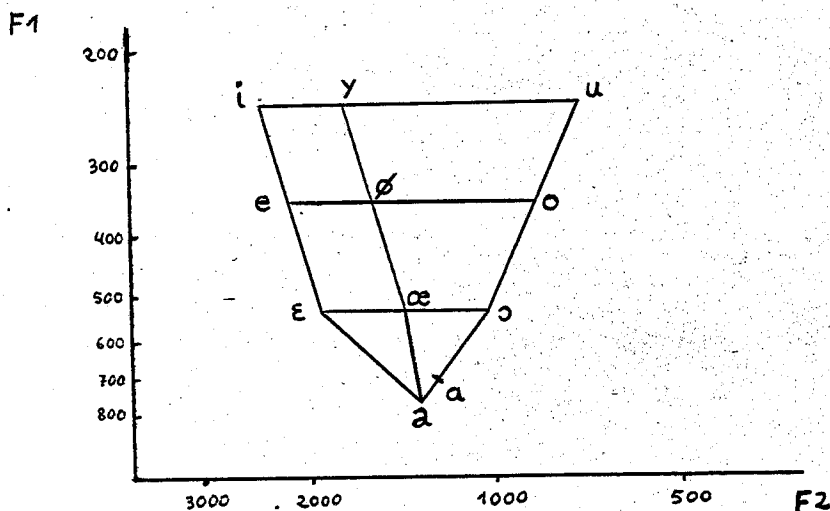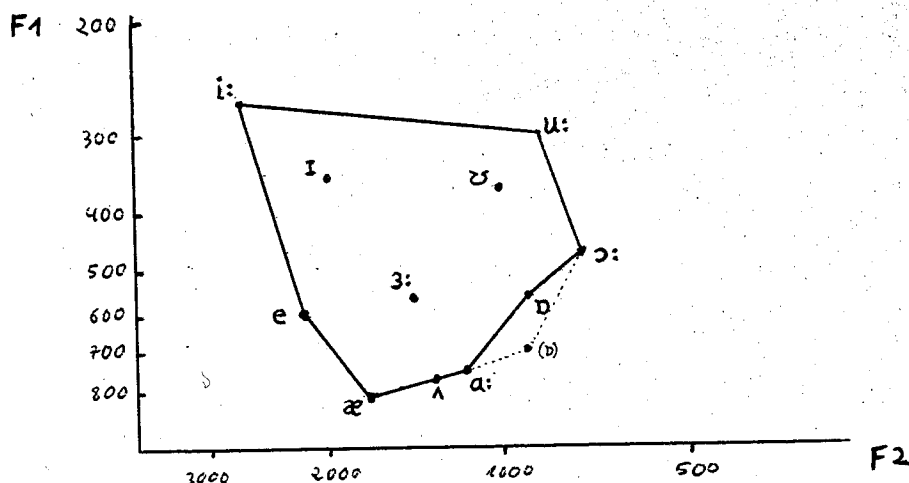
(1).- Carton, p.44
(2).- Carton, p.52
(3).- There is, however, in RP a clear tendency towards the leveling of triphthongs.- Gimson, p.139 ss.

VII· QUALITY

Sound quality is difficult to define in auditory terms. Definitions include "a subjective trait", "sound color",etc. Such difficulty may arise from the fact that quality is our main foothold in distinguishing one sound from another; the rest of the traits -length, sonority, intensity,etc.- are often added to it like accidents to essence. Our subjective impression cannot be described, but just as the wave length of the different colors can be measured, we can measure the sound waves that cause this impression and give an acoustic definition of quality: it is the trait of a sound which depends on the disposition of the formants on the spectrogram. Two formants suffice to distinguish the vowels. Setting the values of F1 in ordinate and those of F2 in abscissa, we obtain the following acoustic schemes:

Formant structure of the French vowels (P. Delattre) [1]

Formant structure of the English vowels. [2]

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(1).- Carton, p.50

(2).- From the values given in Gimson, p.101. However, in p.24,

The general outline of these diagrams is similar to the diagram
of the cardinal vowels, which is based on tongue positions. It
seems logical that the two coincide, however broadly, because
the tongue is a major agent in shaping the vowels. But several
other factors can contribute to shape the quality of a vowel. We
are going to examine their role separately and see the different
usage that English and French make of theopositions established
by them.

Open/close

A vowel has an open quality if the tongue is lowered in the mouth,
and a close quality if it is raised. Of course, all vowels are
"open" in the sense that there is no strictures between the organs
of speech. English and French make a similar usage of this opposition.

Front / back

In front vowels, the front of the tongue is raised, and vice-versa
in back vowels. The opposition is similar in English and French,
but French is characterized by the importance of the front articula-
tion: 10 out of the 16 standard French vowels are front,[1] while
in English the proportion is more balanced.

Rounded / unrounded

A rounded vowel is articulated with the help of an extra resonator
fashioned by advancing the lips while rounding them. In most
European tongues, the trait "rounded" is welded to "back", so
that it isn't distinctive by itself, but only as part of a combina-
tion of features.[2] English is such a language.[3]
In French the back vowels are rounded as well, but there is a
further series of rounded front vowels (/y/, /ø/, /œ/, /œ̃/).
Although their place of articulation does not coincide with that
of the unrounded front vowels (/i/, /e/, /ɛ/), the trait rounded /
unrounded is the dominant one in perception when telling them apart.
Rounded vowels are far more numerous in French than in English.
Eleven French vowels are articulated with lip-rounding, compared
with four in English.[4] Rounding in French is close and tense; in
English /ʊ/, /ɒ/, /ɔ:/ it is looser.

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the first formant of /ɒ/ is said to be in the region of 600-800 cps.
(1).- Carton, p.41
(2).- Thomas, p.59
(3).- If we except the realization of /ʌ/ in some dialects as [ʌ̈]
   or   of /ʊ/ as [ɣ̈] . See Gimson, p.111
(4).- Three in some dialects (/ɒ/=[ɑ]). Gimson, p.115

Oral / nasal

This opposition results from the action of the soft palate. If it is lowered, as for normal respiration, it allows the air from the lungs to circulate through a further resonator, which gives a special quality to the sound. For most vowels, however, the soft palate is raised. French is one of the rare European languages which use this device to establish a distinctive opposition between vowels. Standard French has four nasal vowels,[1] corresponding approximately to the oral vowels /ɛ,œ,ɔ,ɑ/ (/ɛ̃,œ̃,ɔ̃,ɑ̃/).[2]
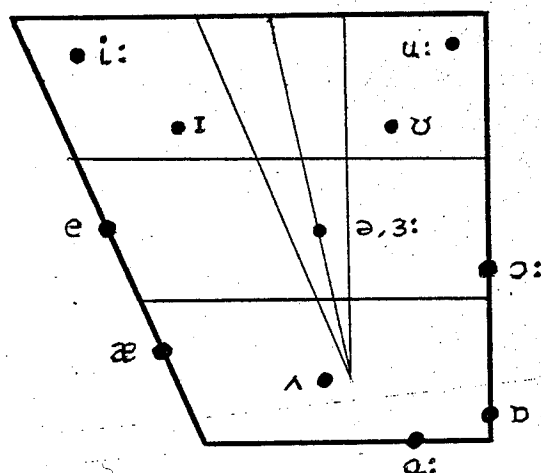
. . . .

The ideal systems resulting from this series of oppositions may be represented thus in relation to the Cardinal Vowels:[3]
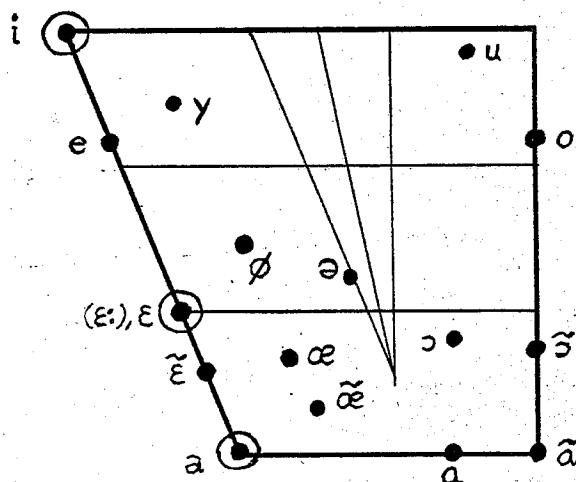
The French vowels

Note: /y/, /ø/, /œ/, /ɑ/, /ɔ/, /o/, /u/, /ɑ̃/, /ə/, /œ̃/, /ɔ̃/ are articulated with lip-rounding.

The English vowels

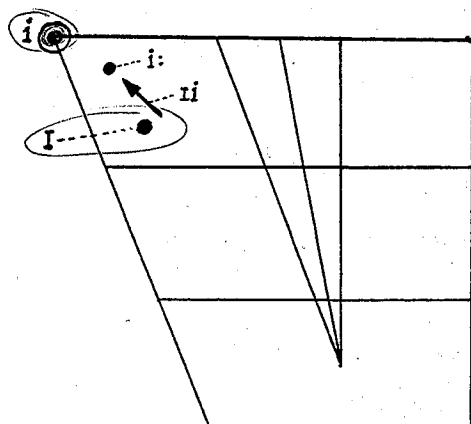Note: /uː/, /ʊ/, /ɔː/ and /ɒ/ are articulated with lip-rounding.

(1)._ Regional dialects may alter this number substantially, as, indeed, that of the oral vowels.

(2).- As it will be shown later, the place of articulation varies, too.

(3).- Carton, p.39. Thomas, p.252. Gimson, pp. 100-122.

1- UNROUNDED FRONT ORAL VOWELS

A- Close vowels: French /i/ - English /i:/ [1]

Examples:

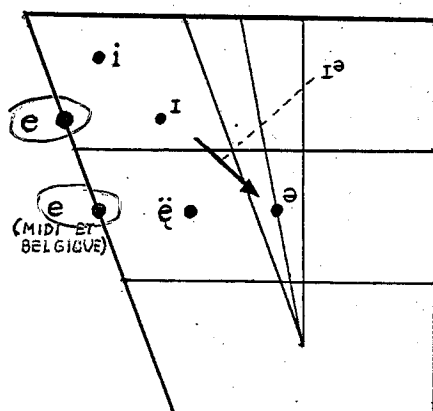|	Open syll.	Closed syll.	Final
F /i/	liquide [liḵid]	rire [RiR]	lit [li]
E /i:/	people [piːpl̩]	niece [niːs]	bee [biː]

The soft palate is raised. Both are articulated with the front
of the tongue raised towards the close front position, which
is reached in the French vowel, E /i:/ being slightly lowered
and centralized. The lips are spread. The tip of the tongue is
pressed behind the lower incissors and the side rims make a
firm contact with the upper molars.
F /i/ is long in front of [R, z, ʒ, v, vR] when in accented position.
It is short in most other cases.
E /i:/ is long when before a voiced consonant or in final position.
its length is reduced before fortis consonants.
A diphthongization [ɪi] is an usual realizarion of RP /i:/, there
is not such diphthongization in F /i/. In the regions of Flandre,
Picardie and Brussels a very open and relaxed realization of
/i/ may appear ([ɪ]).

B- Half-close vowels: F /e/ - E /ɪ/

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(1).- In the diagrams, French vowels will be marked in green,
English ones in black.

Examples:

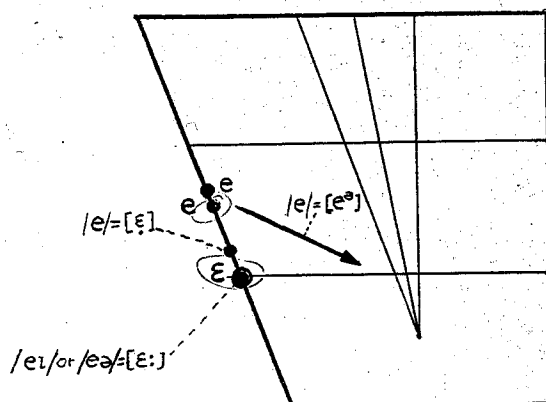|	Open syllable	Closed syllable	Final
F /e/	blessure [blesyR]	-	blé [ble]
E /ɪ/	sitter [sɪtə]	bid [bɪd]	city [sɪtɪ]

The soft palate being raised and the tip of the tongue behind the lower incissors, the front of the tongue is raised to the half-close position or just above it. The lips are spread. Although both have a similar degree of closeness, E /ɪ/ is centralized and lax, compared with fronted and tense F /e/. Both are always short.

RP /ɪ/ has many variants:

- In some terminations, it is being replaced by /ə/
- In unaccented positions, advanced RP uses [ë]
- That same speech uses [ɪə] in accented monosyllables.

In southern France and in Belgium, the opposition /e/ - /ɛ/ is lost in most speakers. The vowel used for both is more open than C [e] .

C- Half-open vowels: F /ɛ/ - E /e/, /ɛə/, /eɪ/

Examples:

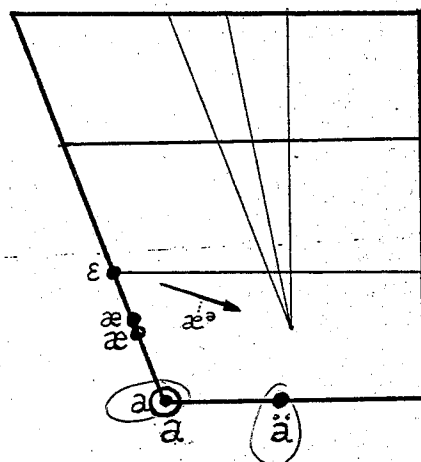|	Open syllable	Closed syllable	Final
F /ɛ/	pêcheur [pɛʃØR]	grève [gRɛv]	frais [fRɛ]
E /e/	many [menɪ]	dead [ded]	-

The soft palate being raised and the tip of the tongue behind the lower incissors, the front of the tongue is raised to the half-open position for F /ɛ/ and to a position between half-open and half-close for E /e/. E /e/ is tenser than E /ɪ/ and F /ɛ/ is

more lax than F /e/. The tongue makes a light contact with the
upper molars and the lips are loosely spread.

E /e/ is short. F /ε/ is long before final [R, z, v, ʒ, vR] when
in accented position. But there are some minimal pairs which
in formal speech and in ambiguous context may be distinguished
by phonemically relevant length: faite/ fête [fεt / fε:t]
mettre / maître [mεtR / mε:tR] tette / tête [tεt / tε:t] However,
most speakers ignore this distinction.

Sometimes a more open vowel [ɛ] or a glide [εə] are found as
realizations of RP /e/. Some advanced RP variants of the
diphthongs /eɪ/ and /ɛə/ produce a long monophthong [ε:]
In southern France and in Belgium [ẹ] is found as a realization
of both /e/ and /ε/.

D- Open vowels: F /a/ - E /æ/, /aɪ/

Examples:

	Open syllable	Closed syllable	Final
F /a/	année [ane]	parc [paRK]	chat [ʃa]
E /æ/	apple [æp̩l]	sat [sæt]	-

The soft palate being raised and the tip of the tongue behind
the lower incissors, the front of the tongue is raised to a
position below half-open for E /æ/ and remais nearly flat for
F /a/. E /æ/ is rather tense, while F /a/ is relatively lax.
The lips are unrounded for both.

F /a/ is long before final [R, z, ʒ, v, vR] when in accented
position. English /æ/ is long before the lenis consonants.

RP variants of /æ/ include:

- [ɛ:] or a glide [æ³] in advanced Rp
- [a] in young speakers.

In many speakers of the ancient "oïl" division (central and northern France), especially in popular Parisian speech, [æ] may appear as a variant of /a/. In the south (former "oc" division) most speakers ignore the opposition /a/ - /ɑ/ and more retracted variants ([ä]) can appear.

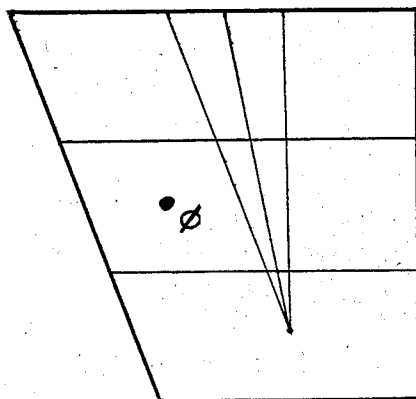## 2-ROUNDED FRONT ORAL VOWELS

A- Close: F /y/
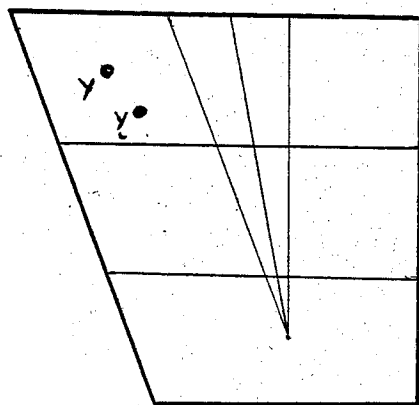
Examples:

Open syllable	Closed syllable	Final
fumer [fyme]	juste [ʒyst]	tu [ty]

The soft palate being raised and the tip of the tongue pressed behind the lower incissors, the front of the tongue is raised below the close position. The articulation is tense and the lips are closely rounded. This phoneme is more centralized than /i/. /y/ is long in front of final [R, z, ʒ, v, vR] when in accented position.

In Brussels and Picardie the realization is often lax and more open, the quality is similar to that of E /ɪ/ if we suppress the lip-rounding.

B- Half - close   F /ø/

Examples:

	Open syllable	Closed syllable	Final
	meunier [mønje]	creuse [KRøz]	deux [dø]

The soft palate being raised and the tip of the tongue pressed
behind the lower incissors, the front of the tongue is raised
below the half-close position. The articulation is tense and the
lips are closely rounded.

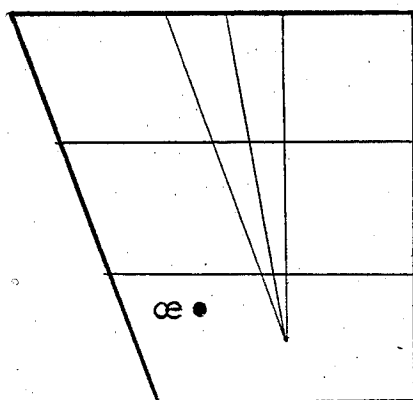/ø/ is long before final [z, ʒ] when in accented position.

The opposition /ø/-/œ/ has little distinctive value: these two
phonemes are only opposed in syllables closed by /n/, /l/.

veule [vø:l] - veulent [vœl]

jeûne [ʒø:n] - jeune [ʒœn]

There are very few cases of real opposition, and in these /ø/
is given extra length to prevent ambiguities.

C- Half-open : F /œ/

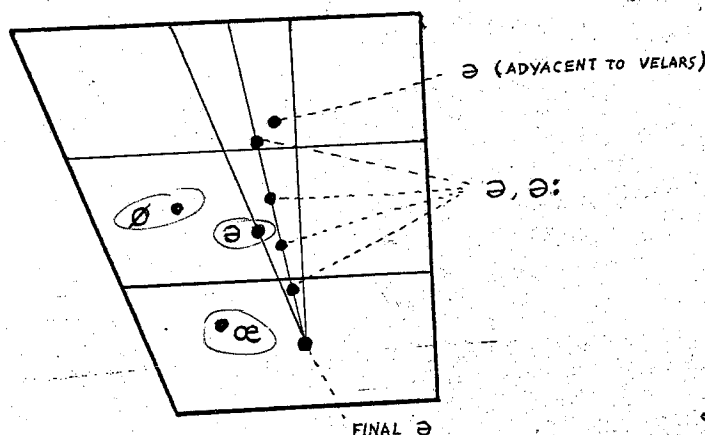| Examples:	Open syllable	Closed syllable	Final
	fleurir [flœRiR]	oeuf [œf]	queue [Kœ]

The soft palate being raised and the tip of the tongue resting behind the lower incissors, the front of the tongue is raised below the half-close position. The articulation is less tense than for /ø/ and the lips are rounded.

/œ/ is long before final [R, v] when in accented position.

3-CENTRAL VOWELS

A- Medium: F /ə/ - E /ə/, /ə:/

ə (ADJACENT TO VELARS)

ə, ə:

FINAL ə

Examples:

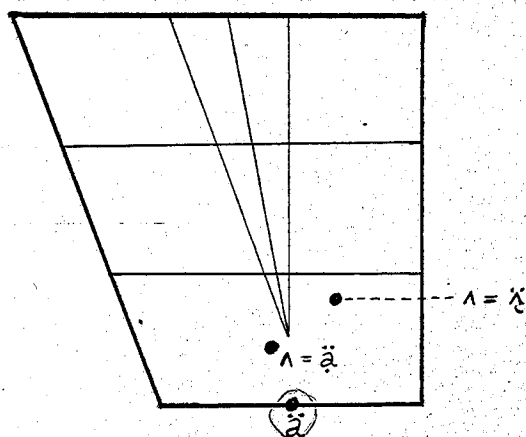|	Open syllable	Closed syllable	Final
F /ə/	petit [pəti]	-	le [lə]
E /ə/	ago [əgəʊ]	chocolate [tʃɒklət]	doctor [dɒktə]
E /ə:/	further [fə:ðə]	work [wə:k]	her [hə:]

The soft palate being raised and the tip of the tongue behind the lower incissors, the centre of the tongue is raised to a position between half-open and half-close for the articulation of F /ə/. RP /ə/ and /ə:/, only differentiated by length, permit considerable latitude in the degree of tongue raising, depending on idiolects and phonetic context. The lips are neutrally spread for the English vowels and rounded for F /ə/. This vowel is slightly fronted, and many studies consider it a front vowel.

E /ə/ does not occur in accented positions: it can be considered an allophone of /ə:/ on distributional grounds.

The variety of F /ə/ described above is typical of the Parisian region: speakers in other regions often realize /ə/ as [ø] or [œ]

The phonemic status of F /ə/ is not clear. The opposition /ə/- zero is neutralized in all but one case: when there is a vowel following /ə/, as in the pairs "l'être - le hêtre" [lɛtR - lə ɛtR] "dors - dehors"

[dɔR - dəɔR]. In all other cases, /ə/ functions as a vocalic prolongation of a consonant which makes articualtion easier. Its appearance or elision can be predicted, and its suppresion does not alter comprehension.[1]

B- Open: E /ʌ/

Examples:

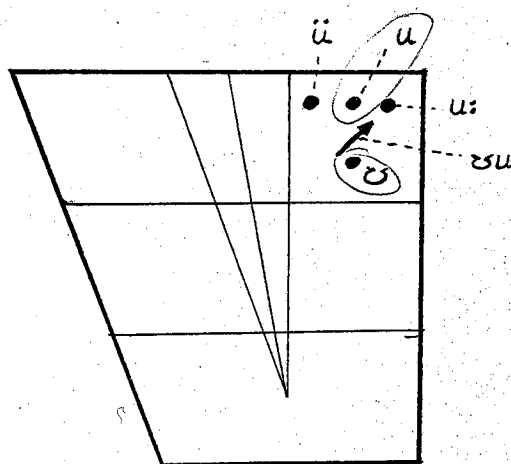|	Open syllable	Closed syllable	Final
	couple [Kʌpl]	sun [sʌn]	-

The soft palate being raised, the central part of the tongue is raised just above the fully open position, no contact being made between the tongue and the upper molars. The lips are neutrally open.

Conservative RP has a closer and more retracted vowel [ʌ]. The nearest French sound is that of central /a/ in speakers that do not make the distinction /a/-/ɑ/, but E /ʌ/ is slightly more closed.

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(1).- Carton, p.65

4- BACK ORAL VOWELS

A- Close vowels: F /u/ - E /u:/

Examples:

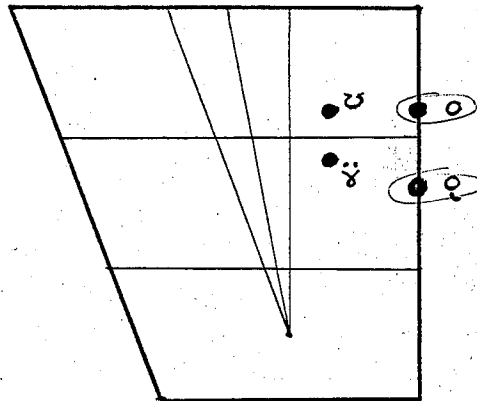|	Open syllable	Closed syllable	Final
F /u/	ouvert [uvɛR]	toute [tut]	chou [ʃu]
E /u:/	Susan [su:zn̩]	food [fu:d]	through [θru:]

The soft palate being raised and the lips closely rounded, the
tip of the tongue is retracted and the back is raised below the
close position for both E /u:/ and F/u/. Both are centralized.
Some RP realizations, especially in the London region, may be more
advanced towards the centre because of the lack of a close front
rounded phoneme [y]; confusion might arise in French if /u/ were
more centralized.
Although E /u:/ is relatively tense, it is more lax than F /u/, and
it allows diphthongization ([ʊu] or [uw]) as one of its variants.
Relaxed and more open realizations of F /u/ ([ʊ]) may be found
in Belgium and Picardie.
E /u:/ is long before lenis consonants and in final position.
F /u/ is long before final [R, v, z, ʒ, vR] when in accented position.

B- Half-close vowels: F /o/ - E /ʊ/

Examples:

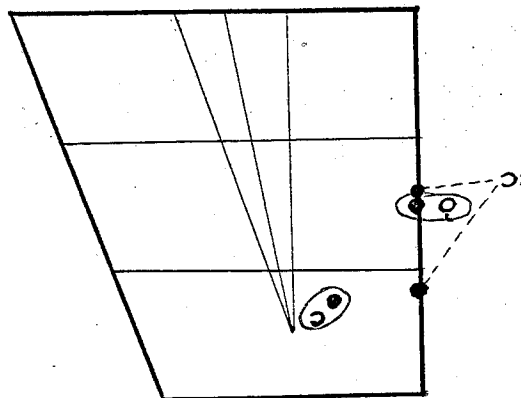|	Open syllable	Closed syllable	Final
F /o/	autel [otɛl]	aube [ob]	peau [po]
E /ʊ/	cushion [Kʊʃn̩]	butcher [bʊtʃə]	to [tʊ] (only this case)

/ʊ/ does not occur in word initial
positions or before /ŋ/.

The soft palate being raised and the tip of the tongue somewhat
retracted, the back of the tongue is raised just above the
half-close position for both F /o/ and E /ʊ/. The latter is articu-
lated in a rather more centralized position and in a lax way,
while /o/ is full back and tense.
E /ʊ/ is short, while F /o/ is song before any final consonant ‿ʊ
when in accented position.
An RP variant of /ʊ/ is somewhat more open, and unrounded ([ɤ̈]).
In the "oc" division, the opposition /o/ - /ɔ/ does not exist in
most speakers, and an intermediate phoneme, /ǫ/, is used for both.

C- Half-open vowels: F /ɔ/ - E /ɔ:/

Examples:

	Open syllable	Closed syllable	Final
F /ɔ/	total [tɔtal]	torve [tɔʀv]	-
E /ɔː/	daughter [dɔːtə]	broad [brɔːd]	saw [sɔː]

The soft palate being raised and the tip of the tongue somewhat
retracted, the back of the tongue is raised just below the half-
close position for both F /ɔ/ and E /ɔː/; the French vowel is
centralized, while the English one is full back. There is no contact
between the tongue and the upper molars. The lips are more rounded
for F /ɔ/ than for E /ɔː/.
E /ɔː/ is long before lenis consonants and in final position.
F /ɔ/ is long before final [ʀ, ʒ, v] when in accented position.
The type of E /ɔː/ described above is typical of conservative RP.
Advanced speakers tend to realize this vowel in a closer way, tending
to C[o]. Southern French realizations of /ɔ/ are also nearer to
C[o], due to the lack of opposition /o/-/ɔ/ in that region.

D- Open vowels: F /a/ - E /aː/, /ɒ/
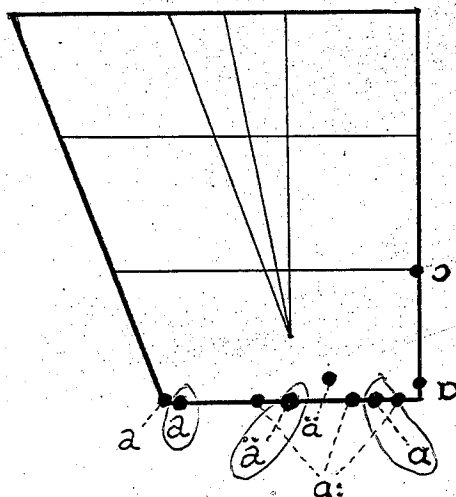
Examples:

	Open syllable	Closed syllable	Final
F /a/	hâlé [ale]	âne [an]	pas [pa]
E /aː/	father [faːðə]	pass [paːs]	car [kaː]
E /ɒ/	holiday [hɒlədɪ]	dock [dɒk]	-

E /ɒ/ is a short oral vowel articulated with the back of the
tongue in the fully open position, no contact being made between the
tongue and the upper molars. There is a slight lip rounding, which
is lost in some varieties of English (South West England and America)
which also centralize the vowel ([ɑ̈]). In Scotland, the opposition
/ɒ/ - /ɔ:/ is lost, and both phonemes are realized as /ɔ/.

For the articulation of F /a/ and E /ɑ:/, a part of the tongue
between centre and back is in the fully open position, no contact
being made between the rims of the tongue and the upper molars.
The lips are unrounded for E /ɑ:/ and slightly rounded for F /ɑ/.
E /ɑ:/ is a long vowel; its length is distinctive even before the
shortening fortis consonants. F /ɑ/ is long before any final
consonant when in accented position.
An RP variant of /ɑ:/ is fronted towards C [a]. Regional variants
include this same /ä:/ and short /a/ in the words with a+r if
r is pronounced in the dialect. The distinction /ɑ:/- /æ/ is lost
in many dialects.
French /ɑ/ is lost in most Southern speakers as a phoneme opposed
to /a/. The resultant phoneme may be either /a/ or an intermediate
/ä/. However, the distinction is well maintained by careful speakers.

5- NASAL VOWELS

A- Front   French /ɛ̃/
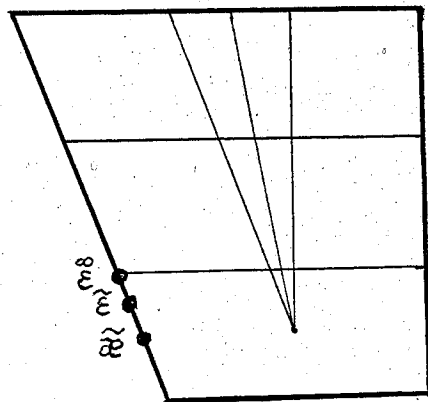
Examples:

	Open syllable	Closed syllable	Final
	instinct [ɛ̃stɛ̃]	dinde [dɛ̃d]	pin [pɛ̃]

The soft palate being lowered, there is a double passage for the
air through the nose and through the mouth. The tip of the tongue
is behind the lower incissors and the front is raised to a position
similar to that of /ɛ/. However, in most northern and Parisian
speakers, the articulation is lower ([æ̃]). An old opposition
/ɛ̃/ - /æ̃/ seems to have been lost, although some speakers still
pronounce unconsciously "pin" [pɛ̃] "pain" [pæ̃].
In Belgium this vowel may be only partly nasalized; the -n- in
the spelling is then pronounced (Germaine-[ʒəRmɛn])
/ɛ̃/ is long before final consonants when in accented syllable.

French /œ̃/
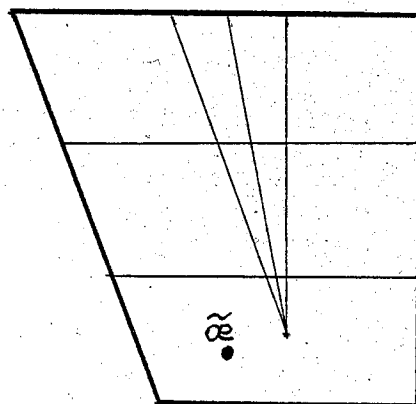
Examples:

	Open syllable	Closed syllable	Final
	humble [œ̃bl]	Munster [mœ̃steR]	parfum [paRfœ̃]

The soft palate being lowered, the tongue is set in a position
similar to that of /œ/, but slightly more open. The nasalization
makes it difficult to perceive the effect of the lip-rounding
which distinguishes /œ̃/ from /ɛ̃/. As a result, this vowel is
becoming identified with /ɛ̃/ in most advanced speakers. Its best
strongholds are the Paris region and the centre.
/œ̃/ is long before any final consonant when in accented position.

B- Back vowels

French /ɔ̃/
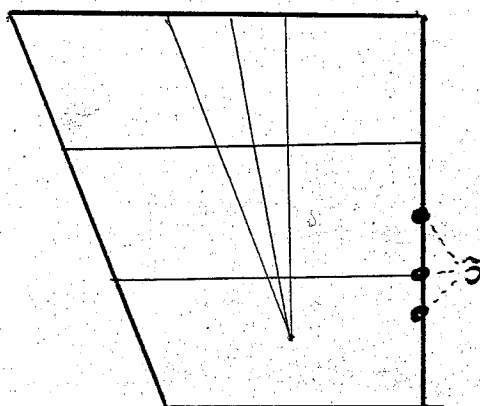
The soft palate being lowered, the lips are rounded and the tongue is raised to any position between open-half open and half-open - half closed /ɔ̃/is articulated in the full back position, and not centralized like /ɔ/.

/ɔ̃/ is long before any final consonant when in accented position.

Examples:	Open syllable	Closed syllable	Final
	lumbago [lɔ̃bago]	honte [ɔ̃t]	mon [mɔ̃]

French /ɑ̃/
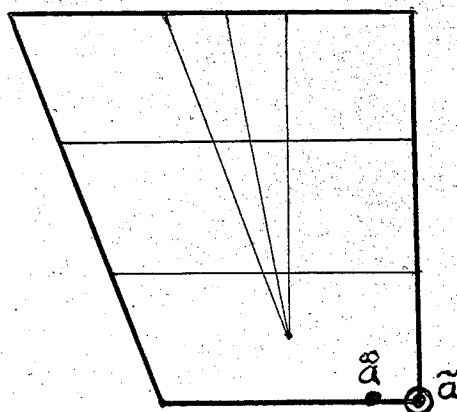
Examples:

Open syllable	Closed syllable	Final
mentir [mɑ̃tiR]	tente [tɑ̃t]	plan [plɑ̃]

The soft palate is lowered and the mouth is wide open. The tongue articulates at its lowest far back in the mouth, and there is a slight lip-rounding.

/ɑ̃/ is long before any final consonant when in accented position. Some Southern speakers realize this vowel as a nasalized /a/ ([ã]) The -n- in the spelling is then pronounced: chante [ʃãntə]

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