



Universitat Autònoma de Barcelona

**Treball de Fi de Grau**

**The Perception of Isochrony and Phonetic  
Synchronisation in Dubbing**

An introduction to how Spanish cinema-goers perceive French and English  
dubbed films in terms of the audio-visual matching experience

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## **ABSTRACT**

The McGurk-MacDonald effect explains the perception of speech as a duality which is separately perceived by the cognitive system. The interlinguistic dubbing technique combines two stimuli of different linguistic origin. This study focuses on the analysis of the perception of the two stimuli which conform any piece of speech: auditory and visual. This “imperfect art” produces dyschronies in the matching, which are differently perceived by the viewers. The work of I. Fodor stands as a proposal of phonetic synchronisation standards. Although in terms of phonetic and prosodic characteristics Spanish is more similar to French than to English, the Spanish audience accepts the dyschronies of English better, due to their greater exposure to audio-visual products dubbed from English.

Scenes dubbed from English and from French were presented to Spanish viewers who then responded to a series of questions concerning the quality and naturalness of the dubbing. The experiment revealed that Spanish viewers develop a great acceptance to dyschronies in dubbing. Fodor’s theories have been disclaimed. Furthermore, subjects recognised English articulatory features as more natural than those of French, even though Spanish and French share by nature more resemblance.

***Key words:*** *perception, dubbing, phonetic synchronisation, French, English, Spanish*



## 1. INTRODUCTION

Since its discovery at the end of the 19<sup>th</sup> century, the production of cinema (and other audio-visual products) has become one of the most popular artistic expressions of current times. In this audio-visual era the production of films and series is considered a very fructiferous part of the 21st century leisure economy. A film, or any other kind of audio-visual product, should be regarded as an artistic creation. A whole culture has been raised around cinema, which naturally involves its own standards of quality.

Cinema, as well as literature, was faced with the language barrier. Any kind of human expression involving written or oral language is, in general terms, impossible to decode by people who ignore the language. Initially, subtitles and explanatory texts were used in order to overcome this limitation. However, it would not be until 1930 that E. Hopking created the “Dubbing” technique (Chaves García, 2000: 30). This technique was based on the replacement of the original voices by the voices speaking in the target language, the language spoken in the country of commercialisation. In the case of dubbing, the film script is not only translated to another language but also modified and altered to fit into the original images and movements.

This study will focus on interlingual dubbing, that is, the replacement of the original speech by speech translated into the target language. Among the different aspects of this technique, we will be dealing with synchronisation, which is one of the key factors in audio-visual translation (Chaume, 2012: 66).

Synchronisation is described by F. Chaume as “...one of the features of translation for dubbing, which consists of matching the target language translation and the articulatory and body movements of the screen actors and actresses, and ensuring

that the utterances and pauses in the translation match those of the source text.”<sup>1</sup>  
(Chaume, 2012: 68)

Synchronisation involves, thus, the synchronisation of utterances and pauses, i.e. the length of utterances, also referred to as isochrony (Whitman-Linsen, 1992: 22); the synchronisation of body movements, or kinesic synchrony (Fodor, 1976: 72), and phonetic synchrony (Fodor, 1976: 10), also referred to as lip-sync by Luyken *et al.* (1991: 73) and lip synchrony<sup>2</sup> by Whitman-Linsen (1992: 20)<sup>3</sup>. Of these three aspects isochrony is one of the cornerstones of dubbing (Chaume, 2007: 76) as it is the most important aspect perceived by the audience. Phonetic or lip synchronisation plays an important role in dubbing quality but it is, speaking in commercial terms, not completely applied, as it is only relevant in close ups, extreme close ups and detailed shots. (cf. Chaume, 2012; Fodor, 1976)

Due to its extremely approximative perfection (or dyschrony), dubbing is described as the “imperfect art” (Chaves García, 2000: 44). Although it is impossible to achieve a perfect synchronisation, dubbing is based on a process of “make believe” (Kahane, 1990: 116) by which a pact with the viewer is established. The viewer knows the original version is spoken in a different language and, especially in dubbing countries such as France, Germany, Italy and Spain, the viewer has accepted the perceptual rules of a dubbed film. Although there is a large margin of imperfection, experts have tried to measure the limits of the audience’s expectations and degree of tolerance to isochrony and phonetic or lip synchronisation.

The viewer of a dubbed film receives two different inputs: visual and auditory. The harmony or lack of recurrent dyschronies, may contribute to a complete artistic

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<sup>1</sup> Description by Chaume from the explanations by Luyken *et al.* (1991), Agost (1999), Chaves (2000) and Díaz Cintas (2001)

<sup>2</sup> Whitman also breaks down the visual synchronisation in syllable articulation synchrony (2000 : 19)

<sup>3</sup> Establishment of the types of synchronisation by Chaume (2004)

experience. The perception of audio-visual stimuli has found a revealing explanation in the McGurk-MacDonald effect, explained in their article “Hearing lips and seeing voices”(McGurk & MacDonald, 1976). It basically suggests that, while the speech act is usually seen as an auditory process, visual perception greatly interferes in the understanding of speech. This was experimentally studied by dubbing an “incorrect” audio syllable onto the articulation movement of another syllable.<sup>4</sup> Later studies (Colin et al., 2002; Green, 1996) suggested that the perception of dyschronies may be related to the degree of habituation to these two stimuli in dubbing.

This theoretical aspect raises the hypothesis that the Spanish viewer is less likely to notice the mismatch to English articulatory movements than to the French ones. Obviously, this statement should take into account, firstly, the nature of these languages and their similitudes in articulatory and prosodic features to the Spanish language.

Isochrony stands as the most noticeable feature of synchronisation. As mentioned before, lip synchrony or phonetic synchrony is just applied to a certain degree. The most relevant feature concerned is the degree of mouth closure, caused by bilabial and labio-dental consonants and open vowels (Chaume, 2012: 73-74; Fodor, 1976: 54-57). Diverse comparative studies draw similitudes and differences between the phonetic systems of the three languages (Delattre, 1964, 1969b), and also try to establish the possible “interlinguistic” phonemes which could be used for dubbing an audio-visual product (Fodor, 1976: 55).

This study aims to provide an explanation of the viewer’s perception derived from the consumption of a dubbed audio-visual product and its relation to the commercialisation of such products and its quality standards, especially those related to synchronisation.

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<sup>4</sup> See Literature review

It focuses on the linguistic factors. A phonetic comparison is provided from the point of view of visual features, i.e. the movements of the visible articulatory organs while delivering a piece of speech. Speaking tempo and rate (Braun & Oba, 2007), as well as syllable formation will be described for all three languages (Delattre, 1969a). These languages are disposed in parallel to provide an overview of their characteristics. This analysis tries to illustrate the linguistic features which may affect the synchronisation result in the dubbing process.

The experiment consisted of the exposure of Spanish viewers to nine close-up scenes from a variety of films in more than one original language dubbed into Spanish. The subjects selected were asked to complete a questionnaire providing their linguistic background as well as a series of questions concerning the perception and quality of synchronisation in the scenes.

The results lead to some conjectures about the perceptive skills of Spanish viewers and it opens new possible investigation lines. Other L1 speakers such as Germans or Italians (dubbing countries) could be studied by this method. Research could also be carried out taking a neurolinguistic approach, studying the brain's reaction to the stimuli provided in the experiment.

## **2. LITERATURE REVIEW**

### **2.1. The McGurk-MacDonald effect**

Dubbing, consisting in the matching of two different inputs (sound and image) is closely related to the way human beings process these two stimuli. Actually, the study “Hearing Lips and Seeing Voices” (McGurk & MacDonald, 1976) based their experiments on a dubbed scene of a female face pronouncing a series of syllables, which were later matched with different syllables from the ones produced in the original version. This experiment demonstrated that speech perception is a multimodal process rather than a single-auditory process (Green, 1996). Thus, listening to a dubbed movie, while perceiving lip-movement of the original language, may lead to the perception of dyschronies and a negative experience or impression on the viewer’s behalf.

The type of mismatch in perception is related to a series of factors which do not show consistency (Massaro, 1987). Some authors (McGurk and MacDonald) suggest age as a key factor in the mismatching effect of the dual input: older children would perceive a higher effect, as younger ones would still be undergoing the sound-movement correlation process (Colin et al., 2002). Consequently, a young audience might be less demanding, in terms of dubbing synchronisation (Chaume, 2012: 77-78).

Although some studies suggest that there is little evidence that experience improves the association of the two inputs (or lip speech read), when focusing on the McGurk-MacDonald Effect (Green, 1996), Fodor (1976) considers experience as a key factor: viewers from countries of great dubbing tradition would be less likely to perceive dyschronies. This relates to the fact that dubbing is a “paradox which has been naturally accepted in all dubbing countries” (Chaume, 2012: 67). This study tries to illustrate the perceptive behaviour of Spanish viewers, highly influenced by the dubbing tradition.

The McGurk-MacDonald effect has been presented in order to illustrate the general frame in which dual stimuli in dubbing are perceived. However, the perception of English and French lip movement in Spanish dubbing must be also described in terms of phonetics and prosody and speech tempo, as they present a physical representation of the three languages in the context of dubbing.

It has already been said that the most important perceptual factor of synchronisation in dubbing is isochrony (Chaume, 2012: 69). However, phonetic synchrony should also be taken into account, as it is the factor providing the reality effect which naturalizes the audio-visual product, which may appear less foreign and more familiar (Goris, 1993).

Although Fodor's studies propose a vast and profound analysis of the phonetic synchronisation, many specialists consider his theories as exaggerated or in practice inefficient. Fodor provides a description of the different types of film framing and their visible features in relation to the viewer, whereas practical dubbing techniques only take into account phonetic synchrony in close-ups or extreme close-ups in which the lip movement matching gains more importance than the accuracy of the translation (Chaves García, 2000: 114).

Moreover, Fodor (1976: 56) proposes an exhaustive scheme of phonemes which could be replaced in terms of the lip position, i.e, articulatory similar phonemes. Later researchers and translators reject Fodor's theories as they seem impossibly accurate. In real translation practice, as observed by Chaume (2014, 2007), open vowels should be replaced by open vowels and close ones by close ones. As far as consonants are concerned, only bilabial and labiodental consonants are of great importance, as they are the ones showing physically observable characteristics. This way, /p//b//m/ and /f//v/ could be matched together causing no or little dyschrony (Chaume, 2012: 74)

## 2.2. Phonetic resemblance

The following analysis will try to list the main differences between the vowel and consonant system of each language. The description of the existing phonemes in the three languages must be complemented with the tendencies of combinations of these phonemes (phonotactics) in order to provide a clear image of the main phonetic resemblances of the languages.

As far as vowels are concerned, English, with 12 vowels and 3 diphthongs, and French, with at least 15 vowels, possess more vocalic sounds than Spanish, which only presents 5 vowels and 3 diphthongs (Delattre, 1964: 80). According to their overall occurrence in words, French and Spanish show a high proportion of front vowels. In both languages /a/ and /e/ are the most frequent vowels in these two languages, French presenting a frequency of 19.29% for /e/ and 16.69% for /a/ and Spanish 32.80% and 30.38% respectively. The most frequent vowel in English is the mid-central /ə/. However, English is quite different regarding vowel frequency: English shows a higher proportion of consonants than French and Spanish (Delattre, 1964: 89-90).

Delattre (1969) also analyses the frequency of consonantal. French and Spanish, belonging to the same language family, present fewer consonants per vowel than English. When analysing syllabic structure, the two romance languages present a simpler syllable structure, whereas English shows a higher number of consonant clusters. Spanish is considered the simplest of the three languages, showing the smallest number of different syllable structures, whereas English shows the largest inventory (Delattre, 1969: 28).

### 2.3. Prosody and speech tempo

According to the rhythmic structure of languages, broadly speaking two main groups can be distinguished: syllable-timed and stress-timed languages (Braun & Oba, 2007). According to some authors (Abercrombie, 1967; Pike, 1946)<sup>5</sup> in syllable-time languages, syllables tend to occur at regular intervals of time, whereas in stressed-timed languages the stressed syllables delimit the regularity intervals<sup>6</sup>. Thus, syllables in stressed-timed rhythm may tend to vary their length, since the number of syllables tends to stick to the pattern (feet) of stressed syllables (Solé Sabater, 1991). Therefore, Spanish and French are categorised as syllable-timed languages in opposition to stressed-timed languages such as English.

Many studies have been carried out concerning the analysis of the speech rate of languages. Many types of measuring have been proposed, such as the number of elements per unit of time (Fraisse, 1982). Nevertheless, the counting of semantic units may lead to great variability, “words are enormously variable in their seize as measured in syllables” (Fenk-Oczlon & Fenk, 2010). Fenk-Oczlon and Fenk proposed the simple declarative sentence as breathing structure and “pulses” as the counting unit.

In relation to speech tempo Spanish seems to be the “fastest” language of the three, with 7.96 syllables per clause, whereas English and French follow with 5.77 and 5.64 respectively (Fenk-Oczlon & Fenk, 2010). The study also takes into account the average number of phonemes per syllable, which is closely related to the audio-visual synchronisation in the dubbing process. Thus, English presents an average of 2.58 phonemes while French and Spanish show fewer, 2.16 and 2.09 respectively (Fenk-Oczlon & Fenk, 2010).

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<sup>5</sup> In Braun and Oba and Solé.

<sup>6</sup> Called “Feet”, number of syllables compressed between two stressed syllables (in a sentence) (Solé Sabater, 1991)

The formal comparison of the three languages, and particularly of both foreign languages (English and French) in relation to Spanish, draws revealing differences in their phonetic and rhythmic structures. According to the studies previously described, Spanish would be, speaking in general terms, much more closely related to French in terms of rhythm and pace. Moreover, they share the same linguistic origin, which leads to analogies in consonant and vowel distribution, directly related to lip movement and synchronisation in dubbing. This study tries to investigate how the degree of exposure to dubbed films may influence the perception of dubbing. Spanish viewers, enormously accustomed to dubbed products of originals in English, would experience English lip movement as more natural than French.

### **3. METHODOLOGY**

#### **3.1. Task**

Nine scenes from nine different films have been selected. The most important common characteristic of the scenes is that they are all close-ups, that is, the lip movement is quite clearly as visible. We tried to use films which were not recognisable by the subjects in order to focus on the linguistic aspect rather than the actors or the settings.<sup>7</sup>The choice of scenes was a quite a difficult task, as the scenes were all of different characteristics, and not created for scientific purposes. The preparation of cross-linguistic dubbed scenes for investigation purposes sharing the same technical and artistic characteristics would lead to a more accurate analysis of results.

#### **3.2. Materials**

This experiment was performed within the possibilities of the available materials and spaces. It consisted on nine scenes dubbed into Spanish. 4 scenes corresponded to English and the other 5 to French original versions. The scenes were all between 25 and 35 seconds and the experiment, which was performed individually with the presence of the researcher, did not exceed 15 minutes per subject.

Subjects were situated at 40-50 cm of the screen. This screen was a laptop screen of 14". The subjects received the audio input through headphones. Viewing was carried out in a quiet environment, without external interferences.

This experiment could have been performed in a special studio equipped with a cinema screen and proper film quality. The visibility of lip movement and the attention this captivates depends on the size of the screen.

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<sup>7</sup> Find a description of the scenes in 8.2. in the Annexes.

### 3.3. Subjects

The experiment was performed with 15 subjects of different sex and ages comprised between 20 and 52 years old and varying academic and linguistic background profiles. All subjects were Spanish and Catalan bilingual speakers, and at had basic or more advanced competence of English or/and French. An important number of them were students and, of these, some foreign language students, able to understand and speak up to 5 languages. This heterogeneity of subjects aimed to provide the most general overview possible.

Subjects were asked to complete a questionnaire providing (a) general information about age, gender, academic background and habit of audio-visual content consumption<sup>8</sup> and (b) their linguistic background, i.e. native and foreign spoken languages and level of competence in each. The second part of the questionnaire included 5 questions to be answered after visualising each scene. Subjects were asked to mark from 1 to 4 the quality of synchronisation of lip movement and sound, the degree of negative impression and the degree of naturalness of the scene concerning dubbing. Moreover, they were asked to identify the original language of the film and provide the reasons for their decision. All subjects were told that whichever language was possible. They were told to focus on linguistic aspects, but other aspects were possible, such as the scenario or the physical characteristics of the actors and actresses.

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<sup>8</sup> Find a questionnaire sample in 8.1. in the Annexes.

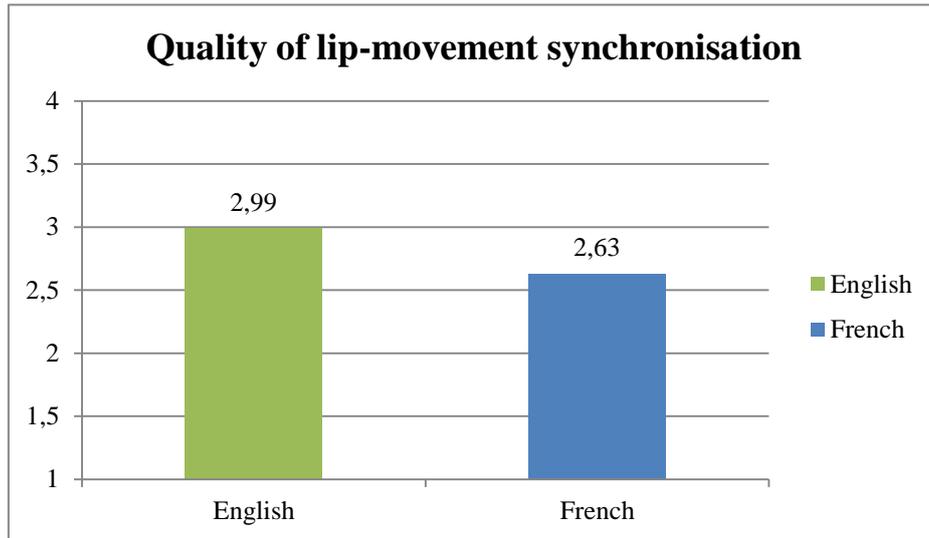
## **4. RESULTS**

We should take into account the limitations of this experiment and the subjects' personal or individual background. The rating of the film scenes is linked to a series of personal factors and to the artistic experience as a whole, which involve extra-linguistic criteria. The scenes and their content, such as actors, performance, colours, styles or photography may appeal more or less to the subject and thus influence their personal judgement of the dubbing quality.

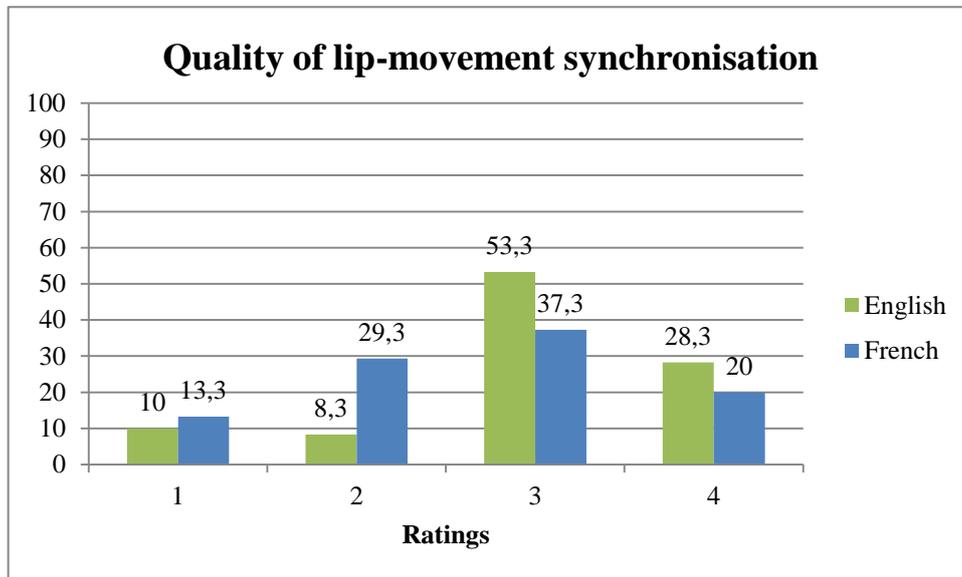
The results are divided among the different questions answered by subjects in the questionnaire. The first two questions focused on the evaluation of the synchronisation of the two inputs (audio-visual) and the negative impression towards the synchronisation of dubbing in the scene. The fifth question was used as a summary of the whole visualisation of the scene and consisted of providing the degree of naturalness of the dubbing. Questions three and four deal with the identification of the original language of the scene and the reasons the subjects provided to explain their decision. Finally general results across age groups are presented.

### **4.1. English matches better**

The analysis of the two first questions, which concern 1) the quality of the synchronisation and 2) the negative impression caused by the dubbing, show a clear tendency. As shown in Fig. 1, subjects rated the quality of synchronisation in the original English scenes with an average of 2.99 whereas French scenes were rated a 2.63. English scenes score a higher number of people answering 3 and 4 (good and very good), in comparison to French scenes, where opinions stay are divided, as we can see in Fig. 1B.

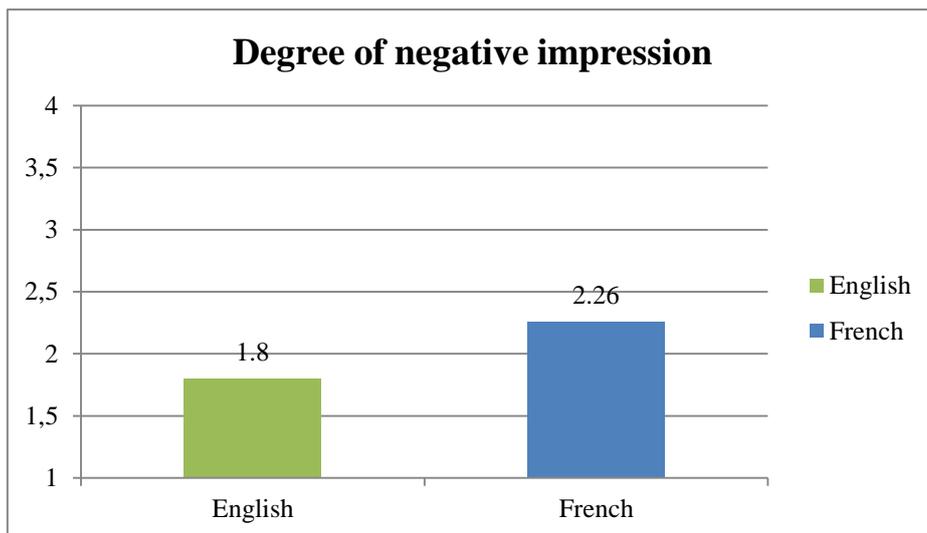


**Fig. 1.** Responses to Question 1: Quality of Lip-movement Synchronisation. Average rates.



**Fig. 1B.** Responses to Question 1: Quality of lip-movement synchronisation. Percentage of responses to each point in the rating scale.

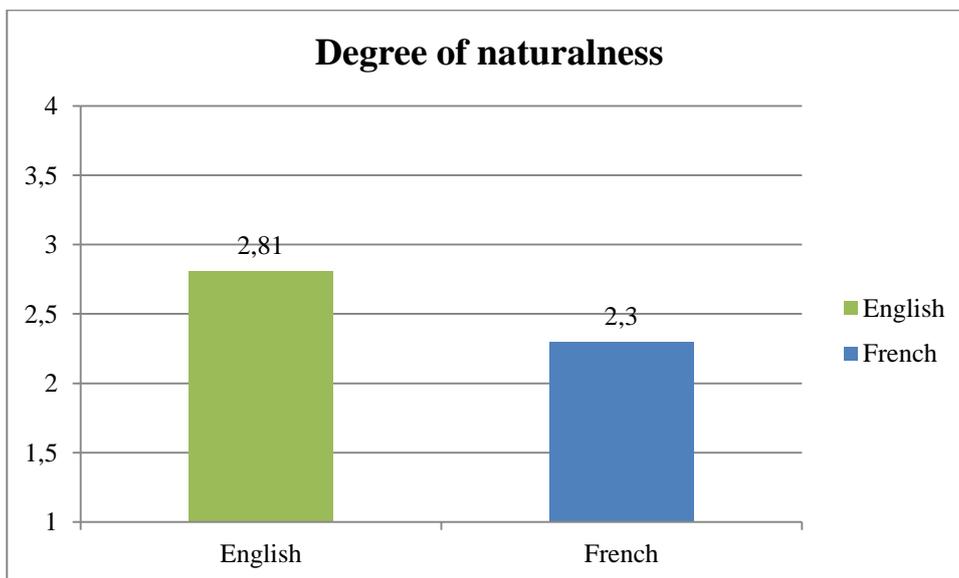
As expected, Fig. 2 shows a tendency which is inversely proportional to the first question. English original scenes cause a less negative impression, with an average rate of 1.8. In the case of original French scenes, the average rate provided by subjects is 2.26. The higher the number, the worse the impression caused by the synchronisation in the dubbed scene.



**Fig. 2.** Responses to Question 2: Degree of negative impression. Average rate.

#### 4.2. English looks more natural

As for the results of question 5, concerning the naturalness of the Spanish dubbing in the scenes selected, subjects rated the original English scenes with 2.81, against 2.3 in the case of French scenes, as represented in Fig. 3.



**Fig. 3.** Responses to Question 5: Degree of naturalness. Average rates.

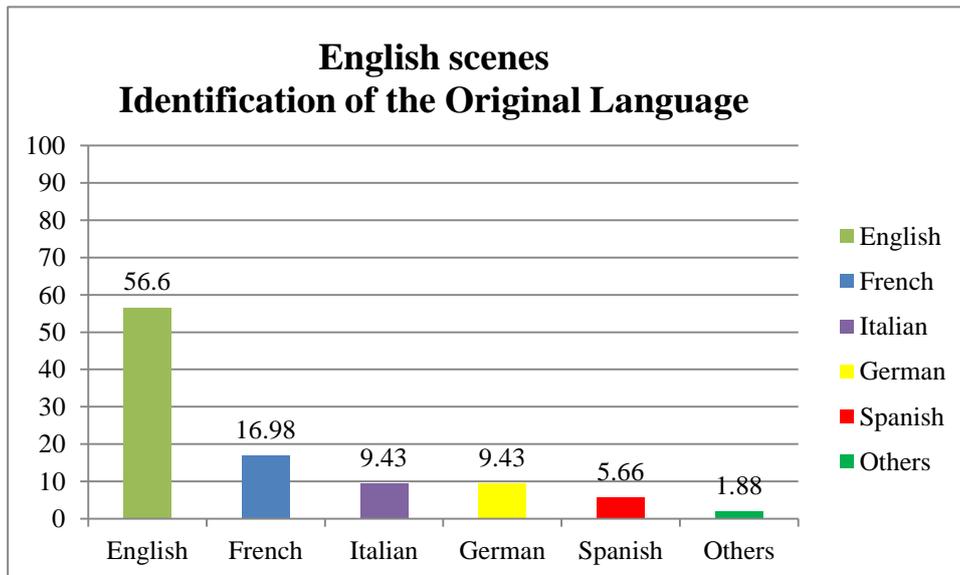
### 4.3. Identification of the original language

Questions 3 and 4 focused on the identification of the original language of the scenes. The responses collected show that in general subjects were able to recognise the original languages. This task proved to be difficult to subjects, as the identification is mainly based on articulatory movements and lip-reading. Thus, it has led to a wide range of languages, including Russian or Catalan. Italian and German are the most common responses though, after English and French. Surprisingly, Spanish was also identified as the original language of scenes, although the scenes were displayed in a Spanish dubbed version.

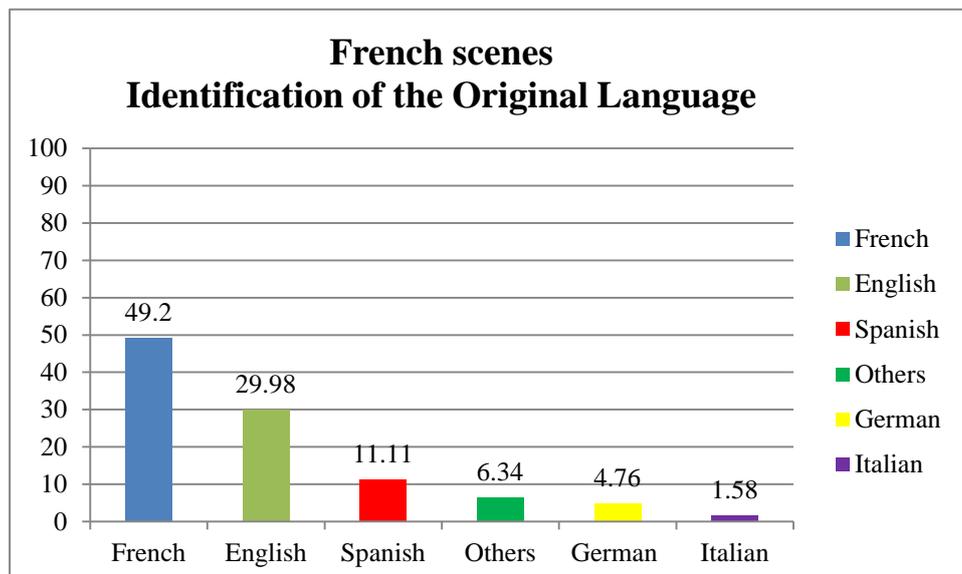
More than 56% of the responses<sup>9</sup> correctly identified English in original English scenes in comparison to the following languages: French (16.98%), Italian (9.43%) and German (9.94%) (Fig.4), whereas 49.20% correctly recognised French in the original French scenes<sup>14</sup>, followed by the responses recognising English (26.98%) and Spanish (11.11%) (Fig.5). We cannot talk about a majority as there was a large variety of possibilities but we can recognise a tendency. However, in both cases the second language identified is French or English respectively, as shown in Fig. 4 and 5.

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<sup>9</sup><sup>14</sup>Some of the subjects failed to answer the question: these were not counted.



**Fig. 4.** Answers to Question 3: Identification of the original language in English scenes. Each language is represented in percentages of responses.



**Fig. 5.** Responses to Question 3: Identification of the original language in French scenes. Each language is represented by the percentage of responses.

Among the reasons given by the subjects concerning the identification of the original language, we have to exclude those guessing the language by the recognition of the film itself (actors). These excluded, subjects alleged that the articulatory movements made them recognise the original language of the scene. Some even detailed their choice by pointing out that “French articulatory movements are closer and the lips are always tenser”.

Some of the subjects were able to recognise words by lip reading in original English scenes, mostly those with a greater competence in English. Expressions such as “Shit!” or the conjunction “that” were a clue to the identification of English. In some cases, English is categorised as Italian on the ground that “Italian is really close to Spanish” and thus, “better dubbed”. This response is in line with the responses of questions 1, 2 and 5, which suggest that the Spanish viewer is to some degree accustomed to English articulatory movements and hence tends to qualify dubbing into Spanish as better when English is the original language.

#### 4.4. Age differences

The comparison of the responses provided by subjects reflects that the averages obtained do not show a relevant difference between younger and older subjects as we can see in Fig. 6.

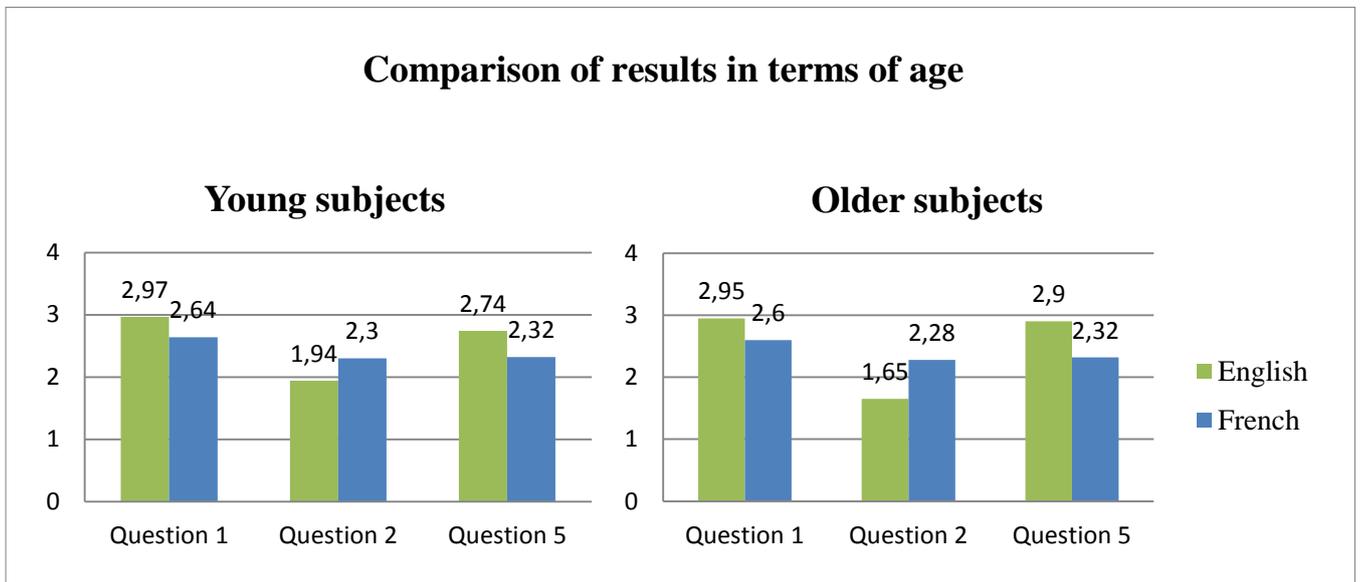


Fig. 6. Responses to all questions comparing subjects by age. Average rates.

## 5. DISCUSSION

The tacit agreement by the audience while consuming a dubbed product tolerates a certain number of dyschronies. However, the limits of synchronisation quality remain unclear, as very little empirical study has been carried out concerning this issue. Phonetic synchronisation is not considered a priority for the translator when working on the dubbing process of a film, but is likely to contribute to a poorer artistic experience as the quality standards are not respected (Chaume, 2007: 78).

According to McGurk and MacDonald's study (1976), experience is not considered a decisive factor when identifying mismatches and dyschronies. The present study shows that Spanish viewers, highly accustomed to dubbing, experience relatively little mismatch or dyschrony in the audio-visual stimuli in no matter which language as most subjects rated the quality of the dubbing quite high, regardless of the original language. This fact may suggest that the perception of mismatches in dubbing may be influenced by previous experience of the viewer.

Comparing English and French the results show that the Spanish audience tends to qualify English articulatory movements as better synchronised in Spanish, as stated by Fodor (1976: 50). Thus, English seems more natural to the audience's standards, although French and Spanish are more similar in terms of phonetic and prosodic characteristics. This fact reveals that the subjects are more accustomed to, or have normalised to a higher degree, the original English lip movement in dubbed versions.

There is little evidence that age or previous experience improve the way visual information is associated to the phonological representations (Green, 1996). The results of this study suggest that subjects with greater linguistic background were able to distinguish the lip movement of the original language of the scene and even to recognise words. In terms of age, McGurk and MacDonald (1976) pointed out that by perceiving

mismatches between both inputs a certain difference was recorded between young children and adults. The results of the present study do not show a significant difference between younger (20-25) and older subjects (46-55).

We can see from the results that younger subjects were more critical in rating the quality of dubbing, whereas older subjects would rate it as more natural. However, the initial hypothesis that there would be a considerable difference between regular consumers of cinema and TV series, and sporadic cinema-goers or less exposed to audio-visual material, remains unclear.

What was proved in the results is that those subjects possessing more advanced skills in foreign languages were better at recognising some words by means of lip reading. This fact may have implications for the field of second language acquisition in terms of direct or indirect skills involving lip reading and the visual features of articulatory movements of languages.

Almost all subjects shared the following opinion: “I have never noticed how dysynchronised dubbing is when you focus on the mouth of actors”. This fact reinforces the conception of the dubbing technique as an imperfect art which, however, conforms the “make believe” on the audience. This acknowledgement by the subjects also underlines the relative importance of the precision of dubbing synchronisation. Thus, Fodor’s theories would be kept only as a theoretical rather than practical framework for dubbing. This author suggests replacing bilabial consonants with bilabial consonants, labio-dental consonants with labio-dental consonants, and even rounded vowels with rounded vowels (Chaume, 2012). The results have shown that the audience is aware of these details only up to a certain point.

### **5.1. Future research**

The framework of this study could be applied to a reproduction of the experiment following other linguistic variants. First of all, we could analyse the same perceptive process with Spanish viewers but using stimuli involving other language combinations. We have to say that English and French are the most habitual product of commercialisation and thus, easier to find and handle.

Another approach would be to repeat the experiment with an audience of other dubbing countries, such as France, Germany or Italy, or an audience from non-dubbing countries, such as the Netherlands or the United Kingdom. A contrastive analysis of these different audiences might lead to further insight.

The study of perception in dubbing is a very subjective area, highly dependent on the subject's linguistic and cultural background and tastes. However, this study could be oriented towards a new line of investigation based on neurolinguistics and psycholinguistics. The experiment could be repeated by analysing the neuronal processes to different inputs. This approach would naturally require specialised material and background knowledge.

Consequently, this topic proves to be very open to further investigation. Research can be extended not only to new combinations of languages and interlinguistic comparison but also to new approaches to the same area of study.

## 6. CONCLUSION

This study focuses on the analysis of the perception of synchronisation in dubbing as well as the phonetic analysis applied to dubbing practices. The exhaustive theories of Fodor have proved to be only marginally relevant and rather “exaggerated”, as shown by the norms in professional contexts of European dubbing countries (Chaume, 2004). The audience does not normally focus on the phonetic synchronisation and the matching of phonemes seems to allow for a certain range of dyschrony.

The study has revealed that the audience becomes aware of dyschrony in dubbing when only they focus on lip movement. Subjects have proved to be able to identify the original language of the scene by lip-reading (recognition of words) or phonetic features, such as the position of lips, even if they had no specialised linguistic training.

The results collected in the experiment reveal that the Spanish audience is first of all little predisposed to notice the mismatches in dubbing; in other words, they accept the dubbing of films, which causes in general little negative impression or feeling of strangeness. Secondly, the Spanish audience tends to identify original English scenes as better matched, showing that they are more accustomed to English than to French lip movement.

Although the scope of this study is limited, it opens new lines of investigation such as (a) comparison of different languages and audiences in relation to dubbing and (b) addressing the issue with different methods provided by the fields of neurolinguistics.

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## 8. ANNEXES

### 8.1. Questionnaire sample

#### Cuestionario

Sexo:

Edad:

Profesión:

Nivel de estudios:

Qué producto audiovisual utiliza: Series  Películas  (Si disfruta de ambos, subraye el preferido.)

Con qué asiduidad: Baja  Media  Alta

Qué soportes: Cine  Televisión  Ordenador

De qué nacionalidad (remarque la más habitual).....

Acostumbra a visualizar contenido en VO? Sí  No  Subtitulado?

¿Por qué? .....

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Lenguas y nivel (por orden descendente de nivel):

1.

2.

3.

4.

5.

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Ahora se procederá a la visualización de una serie de escenas.

#### Escena 1

Evalúe el grado de sincronización entre movimiento y sonido 1 2 3 4

Evalúe el efecto de desentonación/impresión negativa que le causa 1 2 3 4

¿Cuál diría que es el audio original?.....

¿Por qué lo diría?.....

¿Qué sentimiento de familiaridad le despierta el doblaje?/¿Le resulta natural? 1 2 3 4

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Escena 2 [...]

## 8.2. Scenes

Scene 1	
<b>Film:</b> La haine <b>Year:</b> 1995 <b>Duration:</b> 1h 13m <b>Country:</b> France <b>Director:</b> Mathieu Kassovitz <b>Producer:</b> Christophe Rossignon	<b>Scene:</b> 49:42 - 50:11 <b>Description:</b> The main character, a man, is speaking in a furious tone. We see him through the image projected on the mirror. This angry tone increases the rhythm, which makes it more difficult to synchronise.
Scene 2	
<b>Film:</b> Like Crazy <b>Year:</b> 2011 <b>Duration:</b> 1h 26m <b>Country:</b> United Kingdom <b>Director:</b> Drake Doremus <b>Producer:</b> Andrea Sperling	<b>Scene:</b> 01:13 – 1:32 <b>Description:</b> The female main character is delivering a speech in front of the class. The focus is a close-up, the mouth is clearly seen. The speech is artificial, previously prepared and so, the rhythm is slower.
Scene 3	
<b>Film:</b> Cashback <b>Year:</b> 2006 <b>Duration:</b> 1h 07m <b>Country:</b> United Kingdom <b>Director:</b> Sean Ellis <b>Producers:</b> Lene Bausager, Sean Ellis	<b>Scene:</b> 27:53 – 28:20 <b>Description:</b> Male and female characters have a discussion sitting in a café. We only see and hear the girl. Always with the same shot which gets closer. The rhythm is natural. The particularity of the scene is the topic. They speak about Italy and the Italian language.
Scene 4	
<b>Film:</b> Amour <b>Year:</b> 2012 <b>Duration:</b> 2h 07m <b>Country:</b> France <b>Director:</b> Michael Haneke <b>Producers:</b> Veit Heiduschka, Margaret Ménégoz, Stefan Arndt, Michael Katz	<b>Scene:</b> 41:29 – 41:48 <b>Description:</b> There is an elderly couple. We only see and hear the husband. He does not speak clearly and the lip movement is poor.
Scene 5	
<b>Film:</b> Paulette <b>Year:</b> 2012 <b>Duration:</b> 1h 25m <b>Country:</b> France <b>Director:</b> Jérôme Enrico <b>Producer:</b> Légende	<b>Scene:</b> 52:42 – 53:12 <b>Description:</b> Four different actresses appear in this scene. The door is opened by a lady and three other ladies walk towards her while speaking. The particularity of the scene is that the main character is Carmen Maura, a Spanish actress.

Scene 6	
<b>Film:</b> Happiness <b>Year:</b> 1998 <b>Duration:</b> 2h 14m <b>Country:</b> United States <b>Director:</b> Todd Solondz <b>Producer:</b> Christine Vachon, Ted Hope	<b>Scene:</b> 05:05 – 05:34 <b>Description:</b> We see a man talking to a woman in a restaurant. We only see and hear the man. He speaks in a more or less agitated tone, but the rhythm is quite normal.
Scene 7	
<b>Film:</b> Shaun of the Dead <b>Year:</b> 2004 <b>Duration:</b> 1h 34m <b>Country:</b> United States <b>Director:</b> Edgard Wright <b>Producer:</b> Working Title Films, Film4 Productions, StudioCanal	<b>Scene:</b> 05:13 – 05:39 <b>Description:</b> Two men are talking in a kitchen. Both dressed in suit and holding a mug. The focus changes from one to the other during the dialogue, always in a close-up or a little bit broader.
Scene 8	
<b>Film:</b> Au revoir, les enfants <b>Year:</b> 1987 <b>Duration:</b> 1h 40m <b>Country:</b> France <b>Director:</b> Louis Malle <b>Producer:</b> Louis Malle	<b>Scene:</b> 0:13 – 0:34 <b>Description:</b> A mother is talking to her child. She bows a little towards the boy. First, we see and hear the woman talking to him and then he answers. This film is quite old and the quality standard barely meets the requirements.
Scene 9	
<b>Film:</b> La même <b>Year:</b> 2007 <b>Duration:</b> 2h 13m <b>Country:</b> France <b>Director:</b> Oliver Dahan <b>Producer:</b> Alain Goldman	<b>Scene:</b> 07:05 – 07:28 <b>Description:</b> The scene takes place in a restaurant. A man and a woman sit opposite to each other. We basically see the face of the woman which changes gradually from a frontal close-up to right-side shot. This film was selected because of the actress. Marion Cotillard is French, but has appeared in several Hollywood films.