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A Comparison of the Role of Frequency in the Production of French *Liaisons* by Francophones and Anglophones

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Abstract

Understanding how native speakers process information and acquire certain phonetic features can help better understand the general learning process which, in turn, may be applied to second language pronunciation instruction. Understanding the differences between how native speakers and L2 learners process information can also help in better understanding what causes difficulty and non-native productions as well as determining what L2 instruction could concentrate on.

Liaisons are very complex phenomena in French, as they encompass syntactic, phonetic, sociolinguistic and lexical components. Which type of lexical frequency plays a role in the production of liaisons? Which type of frequency is more important for Francophones? It is expected that L2 learners pronounce fewer liaisons and more mistakes than native speakers. But what is less clear is whether L2 learners use frequency to determine whether a liaison is made or not and whether they process information in a comparable way to Francophones.

Understanding how native speakers process information and acquire certain phonetic features can help Second Language (L2) instructors better understand the general learning process and better teach L2 pronunciation. Understanding the difference between how native speakers and L2 learners process information can also help in better understanding what causes difficulty which may determine what L2 instruction could concentrate on.

The French *liaisons* are a very complex system which encompass syntactic, phonetic, sociolinguistic and, as we will see here, lexical components.

Several phoneticians (Boula de Mareüil & Adda-Decker, 2002) have studied the role of frequency in the production of *liaisons* by Francophones. These authors have studied mainly the frequency of the second word called word2 (for example in *les_enfants*, the second word is *enfants*). However, several types of lexical frequencies have not been studied and compared in the production of *liaisons*: the frequency of word1, the frequency of word2 and the frequency of co-occurrence of word1 and word2.

This study addresses the following questions. Which type of frequency plays a role in the production of *liaisons* and which type of frequency is more important for Francophones and L2 learners? Do L2 learners process information in a comparable way to native speakers (NS)?

LIAISONS AND THE PHONETIC SYSTEM

French encourages open syllabification, favours consonant-vowel contexts (Delattre, 1947), and avoids vowel-consonant contexts. Lambert-Drache (1997, pp. 12-13) states that in French there are 76% open syllables, whereas in English there are 40%. French also avoids hiatus which is called the "anti-hiatus constraint". This explains phenomena like elisions (l'/le) and *liaisons*.

Liaison occurs when a latent consonant is pronounced and attached to the following word, if it begins with a vowel or a mute h.

Example: les (word1)_(z)amis (word2) [le.za.mi].

Les_amis [le.za.mi] Word1 *liaison* word2

Enchainement occurs when the fixed consonant is resyllabified and is pronounced with the following word, if it begins with a vowel or a mute h.

Example: belle(word1)_amie (word2) [bɛ.la.mi].

belle_amie [bɛ. la. mi] Word1 enchainement word2

Both *liaisons* and *enchainements* require that *word1* be resyllabified with *word2*, but *liaisons* have a latent consonant which is otherwise not pronounced.

There are several rules for *liaisons*. One of them involves written <h>. There are two types of phonetic realizations of h: the $mute\ h$ and the $aspirated\ h$. Even though neither h is ever pronounced in French, the two types require different rules for liaisons.

When words of Greek (*hippopotame*) or Latin origin (*homme*) begin with a *mute h*, elision occurs in the singular form and *liaison* in the plural form.

Example: *l'homme* (the article *le* is elided to avoid the hiatus in *le*

homme) [lom]

les (word1)_(z)hommes (word2)

[le.zom]

When words begin with an *aspirated h*, (words of foreign origin other than Greek or Latin), such as *handicap* (from English), there is neither elision nor *liaison*.

Example: *le handicap* (the article is not elided)

[lə.ã.di.kap]

les (word1) / handicaps (word2) (no liaison)

[le.ã.di.kap]

Liaisons are also forbidden with words starting with *y*, which are words of foreign origin (*yacht*, Dutch word). The different types of *liaisons* are summarized in Table 1. This classification is the most commonly used (by, among others, Delattre, 1951; Encrevé, 1988; the *Académie Française*).

Table 1. Classification of liaisons

Obligatory liaisons	Forbidden liaisons	Optional liaisons			
Article + noun: un_arbre	Between a determiner and a nour starting with an aspirated h: les hiboux	n Liaisons are optional if neither obligatory nor forbidden.			
Adjective + noun: gros_effort	Between a determiner and a noun starting with y: un yoyo	Noun + plural adjective: Des enfants_intelligents			
After a pronoun: nous_avons	after ET: beau et intelligent	Auxiliary + past participal: Ils sont_arrivés			
After a monosylabic preposition: en_avance	Noun subject + verb: Jean arrive	Polysylabic adverb + any word: (past participal, determiner) beaucoup_intéressés			
Fixed expressions: <i>États-Unis</i>	Noun + singular adjective: enfant intelligent	negation + any word: pas_arrivé			

Francophone children start to link at a very early age (2-4 years), master the compulsory *liaisons* by age of 6 years and "naturally" tend to "link" words to avoid hiatus (Chevrot Dugua & Fayol, 2005; Dugua, 2008). On the other hand, optional and forbidden *liaisons* are acquired later and are a great source of errors for children of all ages and for adults (Pallaud & Savelli, 2001).

In general, French final consonants are not pronounced, unless the final consonants are c, r, f, l or involve a *liaison*. These conflicting rules can potentially create confusion and hinder acquisition for non-native speakers. Furthermore, one needs to know the pronunciation rules of the *liaison* consonants and the phonetic rules such as denasalisation (*moyen*-

âge), voicing (*neuf heures*), and devoicing (*grand immeuble*) rules. Anglophones are also influenced by their L1 and tend to pronounce the *liaison* consonant at the end of word1 instead of pronouncing it at the beginning of word2.

LIAISONS AND LEXICAL FREQUENCY

When analyzing a liaison, lexical frequency within the two words sequence can be divided into frequency of word1, frequency of word2 and frequency of co-occurrence of word1 and word2. It has been shown that the more frequent the sequences are, the more *liaisons* are made (Bybee, 2001).

Ågren (1973) noticed that some *liaisons* are compulsory within the most frequent fixed expressions but others are optional or even forbidden, in the same syntactic context when the fixed expressions are less frequent.

Durand and Lyche (2008, p. 57) made the same observation and reported that in the sequences *les Nations-Unies*, and *les Jeux Olympiques*, the liaison is compulsory, while in other similar contexts [noun plural + adjective] the *liaisons* appear in only 26% of the cases.

Delattre (1947, pp. 156-157) offered a long list of fixed expressions in which the liaison is required (*tout au plus, mot à mot,* etc.). These expressions are more frequently used than other expressions whose *liaisons* are not required.

According to Bybee (2001) "syntactic cohesion" represents the frequency of co-occurrence of words, and it determines the strength of association between the two words. These *liaisons* are stored in memory and strengthened by their frequent use.

According to Bybee (2005), the *liaison* is a direct result of the frequency of co-occurrence: the words often used together seem to be bound by a stronger cohesion. Words and word sequences are stored in the lexicon. The criterion for memorisation is the frequency of use. The words which are frequently used have their lexical strength increase, and are more readily available than others.

What Bybee (2001) called "the factor co-occurrence" is similar to what Delattre (1955) called "the degree of closeness" between the words. Arguably, according to Delattre (1947, 1955), and Bybee (2002, 2005) the frequency of co-occurrence of words and word frequency play a major role in the production of *liaisons*.

Several studies support this hypothesis. Adda-Decker, Boula de Mareüil & Lamel (1999) analyzed the effect of frequency on the

production of *liaisons*. In their corpus of 155 hours of spoken speech, they found that out of the 256 most frequent linking words, 75% of *liaisons* are made, whereas if one extends the sample to the 2560 most frequent words, the production rate drops to 64%, and 55%, if considering the whole corpus.

Boula de Mareüil & Adda-Decker (2002, p. 2276) determined that the production of *liaisons* depends on words, which they call "lexical entry". They found that about half (55.3%) of the possible *liaisons* are made in the BREF corpus (newspaper reading), and slightly less (42.8%) in the MASK corpus (guided speech). In this study, the *liaison* is more common with the most frequent words (75%) than the least frequent words (20%), in the BREF corpus. The 10 most frequent words cover 30% of the MASK corpus and 20% of the BREF corpus. The 100 most frequent words cover 80% of the MASK corpus and less than 50% of the BREF corpus.

The production of *liaisons* depends on various parameters which are interrelated: the "lexical entries" depend on the type of discourse, word length, word frequency, frequency of co-occurrence and also depends on the speakers themselves.

If one considers sociolinguistic factors such as age, education level and number of years of education, occupation, social status of the speakers and their families, or type of language instruction (Encrevé, 1988), it appears that these factors are themselves related to the number of *liaisons* the speakers heard, or, in other words, to the frequency factor.

Children imitate the language they hear from their parents and their environment. The language experience of the child seems preserved in adulthood as children from lower socio-economic backgrounds produce fewer *liaisons* than their peers at all ages (Dugua, 2005). Less educated adolescents and adults also produce fewer *liaisons* than more educated adults (Encrevé, 1988).

Naturally, the speakers whose parents speak only French and who speak French all the time (in school and elsewhere) are more exposed to the language than those whose French is only a language of education. Similarly, speakers who use French everyday as a language of education hear and practice it more than people who only study French as a L2, 3-4 hours a week.

The quality and the quantity of the input determine the number of sequences and the number of *liaisons* heard. Consequently, the lexical frequency of the input the speaker received can be determined by the linguistic background of the speaker as well as the frequency of the

sequences themselves, and could predict the number and the quality of the *liaisons* to be produced.

To test these hypotheses, this study analyzed the productions of *liaisons* by Majority Francophones, Minority Francophones and Anglophones and also analyzed the production of the three groups according to different types of frequencies.

METHOD

Participants

20 Francophones were recorded with a digital recorder Panasonic RR/US750, reading a text aloud: 12 majority Francophones: 4 from France, 1 from Belgium, 5 from Quebec, and 2 bilingual subjects having learned French from at least one parent (age 22-49); 8 Minority Francophones: 4 Franco-Ontarians (age 61-71) and 4 Africans from Senegal, Burundi, Congo, Mali (age 23-30). All Francophone subjects had at least a two year post-secondary degree. There were 8 men and 12 women.

Minority Francophones were included for three reasons. Firstly, to determine whether participants with more restricted contact with the French language would pronounce fewer *liaisons*. Secondly, Francophone teachers in school, often come from Quebec, Ontario and from African countries. These Francophone teachers potentially served as the L2 learners' linguistic models in class. Thus, analyzing the model could partly explain the L2 learners' results. Thirdly, having a more varied sample of Francophone speakers may represent more accurately the linguistic reality of the French-speaking communities of Canada.

37 Anglophone students were also recorded reading the same text as the Francophones. Students were rated at the same intermediate level, had studied French 6-13 years, and were aged (age 17-19); there were 6 men and 31 women. They were all registered in a first year French course in a university in Ontario.

Experimental Design

In order to evaluate Francophones' and L2 students' productions of *liaisons* in certain phonetic and syntactic contexts, the text designed (Appendix A) included 51 obligatory *liaisons*, 17 optional *liaisons*, 14 forbidden *liaisons*, and 13 *enchainements*.

Students recorded themselves using CAN8, the system in place in the language lab at that time. CAN8 is a VirtuaLab and a digital language laboratory particularly adapted for listening and recording a L2.

The recordings were evaluated according to a precise coding system with 12 possible codes for the pronunciation (or lack thereof) of the *liaison* consonants. When utterances were not clearly identifiable they were discarded.

Goldvarb was used to calculate percentages and statistics. The production of *liaisons* was correlated with personal information from the answers in the questionnaires and with lexical and syntactic information, such as word length and frequency.

To test the different types of frequency, a frequency index for words1 and words2 and a frequency index of co-occurrence of words1 and words2 were established using the frequency database Lexique 3. For example words1 whose frequency is over 500 (out of about 2 million words) are very frequent words such as *les*. Words1 whose frequency is below 40 are very rare.

Because determiners are much more frequent than other words, and some individual words are more frequent than some words combinations, the frequency indexes used for word1, word2 and frequency of cooccurrence are different.

Goldvarb is a multivariate analysis tool used primarily in sociolinguistic variation studies (Ref. Sankoff, Tagliamonte & Smith, 2005). It determines when an independent variable has a significant effect on the dependent variable, and calculates factor weights.

After studying the percentages of productions, a Goldvarb analysis was conducted to check the statistical significance of the most relevant tendencies. An analysis of individual groups first determined if those factors had a significant effect on the production of compulsory *liaisons* or an effect that showed a tendency. At this stage of the analysis the factors that did not seem to have such an effect (age, sex) were excluded. Given the interdependence between groups of factors, it was not always possible to combine all the groups of factors present in the database.

It was then necessary to recode the factor groups when their number was too high to make generalizations, or when the percentage of *liaisons* seemed too close (as with determiners). Then a multivariational analysis of the selected factors was conducted. The statistical analysis confirmed that the percentages and results previously obtained were statistically significant.

Here only the percentages will be shown as they are clear and representative enough to show major tendencies.

RESULTS

Considering the complexity of *liaisons*, and the time it takes L1 speakers to acquire them, it is expected that non-native speakers should produce fewer *liaisons* and make more mistakes than native speakers. However, of particular interest is whether the different types of lexical frequencies play a similar role for L2 learners as for native speakers in the *liaisons* processing.

Analysis of Word1 Frequency

The analysis of the results (table 2) suggests the following tendencies: with the most frequent words, there is little difference between majority Francophones (99.5%) and minority Francophones (98.61%). The differences are most visible with moderately common and rare words. Majority Francophones produce 98% of obligatory *liaisons* with moderately frequent words, while Minority Francophone produce 80.9%. Finally, with the rarest words, Majority Francophones produce 85.4% of obligatory *liaisons*, while Minority Francophones 74%.

Only one *liaison* out of 216 occurrences was not produced by Majority Francophones and two *liaisons* out of 144 occurrences were not produced by Minority Francophones when the frequency of word1 was the highest.

If we compare the productions of Francophones to those of Anglophones we see that the tendencies are similar in terms of frequency: the more frequent the words are, the more the *liaisons* are produced. However, Anglophones produce them in smaller proportions in all categories (frequent, moderately frequent and less frequent).

Majority Francophones produce more obligatory *liaisons* (85.4%) with the rarest words than do Minority Francophones with moderately frequent words (81%) words.

Based on these findings it appears that the frequency of Word1 plays an important role in the production of *liaisons* for the three groups. Word1 represents the lexical frequency and it also represents the frequency of a grammatical structure, or type frequency (Ellis, 2002; Bybee, 2001). For example, if the word1 is *un* this represents the syntactic structure [determiner + noun].

The frequency of word1 is a reliable indicator of *liaisons* production for the three groups.

Analysis of Word 2 Frequency

The frequency of word2 mainly represents the lexical frequency. The tendencies are similar with respect to the frequency of word2 as for word1 (table 3). The Majority Francophones produce 99.1% of *liaisons* with the most frequent words, 95.1% with moderately frequent words and 90.6% with the rarest words. Minority Francophones produce 95.7% of *liaisons* with the most frequent words, 79.2% with the moderately frequent words and 75.8% with the rarest words.

This indicates that the frequency of word2 plays an important role in the production of *liaisons* for all Francophones. All groups make more *liaisons* with the most frequent words than with the moderately frequent words, and more *liaisons* with the moderately frequent words than with the rarest words. It is with the moderately frequent and rarest words than the differences between the majority and Minority Francophones are the most obvious: 90.6% for the majority Francophones and 75.8% for the Minority Francophone with the rarest words.

As for the Anglophones, they follow the same pattern as the Francophone groups. The more frequent the words are, the more they produce *liaisons*. Their productions are lower than the Minority Francophones and much lower than the majority Francophones.

The frequency of word2 is a reliable indicator of *liaisons* production for the three groups.

Table 2. Compulsory liaisons and frequency of word1 with Lexique3 for Francophones and Anglophones

Frequency Word1	Majority Francopho	ones		Minority Francopho	ones		Anglophones		
Lexique 3	Liaisons Possible produced liaisons			Liaisons produced	Possible liaisons	%	Liaisons produced	Possible liaisons	%
501+	215	216	99.5	142	144	98.6	494	666	74.2
41-500	247	252	98	136	168	81	465	777	59.8
0-40	123	144	85.4	71	96	74	186	444	41.9
Total	585	612	95.6	349	408	85.5	1145	1887	60.7

Table 3. Compulsory liaisons and frequency of word2 with Lexique 3 for Francophones and Anglophones

Frequency Word2	Majority Francopho	ones		Minority Francophones			Anglophones		
Lexique 3	Liaisons Possible produced liaisons		Liaisons produced	Possible <i>liaisons</i>	%	Liaisons produced	Possible <i>liaisons</i>	%	
101+	274	276	99.3	176	184	95.7	638	851	75
21-80	137	144	95.1	76	96	79.2	227	444	51.1
0-20	174	192	90.6	97	128	75.8	280	592	47.3
Total	585	612	95.6	349	408	85.5	1145	1887	60.7

Analysis of Rate of Co-occurrence of Word1-Word2

Regarding the frequency of co-occurrence of word1 and word2, one can observe the same tendencies (Table 4) as with the frequency of word1 and frequency of word2 analyzed separately. The Majority Francophones produce a larger percentage of *liaisons* with the words which have the highest rate of co-occurrence (99.2%) than with words which have a moderately high rate of co-occurrence (98.8%). They also produce a higher rate of *liaisons* with words which have a moderately high rate of co-occurrence than with words which have the lowest co-occurrence rate (92%).

The frequency of co-occurrence seems to play a more important role than the frequency of word1 word2. Only one *liaison* out of 132 occurrences was not produced by Majority Francophones and two *liaisons* out of 88 occurrences were not produced by Minority Francophones when the rate of co-occurrence was the highest.

There are few differences between majority and minority groups with the words which have the highest rates of co-occurrence (99.24% vs. 97.7%), but the differences appear with words with a moderately frequent rate of co-occurrence (98.9% vs. 90%) and are even more visible with those with the lowest rate of co-occurrence (92% vs. 77.5%).

Again, Anglophones follow the same pattern as the two Francophone groups. The higher the rate of co-occurrence, the more the *liaison* is produced. They pronounce more *liaisons* with the sequences with very high rates of co-occurrence (75.9%) than with the sequences with moderately high rate (71.2%), and make more *liaisons* with the sequences with a moderately high rate of co-occurrence (71.2%) than with those with the lowest rate (47.7%). Their productions are lower than the Minority Francophones and much lower than the Majority Francophones' productions.

The difference between Anglophones' production of *liaisons* of words of high rate of co-occurrence frequency (75.9%) and moderately high frequency (71.2%) is not very high. However, there is a clear difference between the words which have a lower frequency rate (47.7%). It is in this category that the differences are the greatest between Anglophones and Francophones.

As for Anglophones, the pattern is similar to the two groups of Francophones, with a smaller proportion in all categories.

Thus one can conclude that the less exposed to the language, the more the frequency affects the production as it is particularly the case here with the Anglophones' productions.

CONCLUSION

The Anglophones productions of compulsory *liaisons* are much lower (60.7%) than Minority Francophones (85.5%) and Majority Francophones' productions (95.6%). At a first glance, one could conclude that they do not master the liaisons system at a native level.

However, Anglophones use the three types of frequency to determine when to pronounce a *liaison* which is quite comparable to Native speakers.

The three groups show similar patterns for the three types of frequencies. However, for Francophones, it appears that it is primarily the frequency of word1, followed by the rate of co-occurrence, which plays the most important role and finally the frequency of word2.

The frequency of word1 largely represents the frequency of the syntactic structure. Francophones seem to use primarily the frequency of structures. By contrast, if syntactic structures are rarer (with fixed expressions which have fewer items) Francophones rely more on the frequency of co-occurrence and the frequency of word2.

Table 4. Compulsory liaisons and frequency of co-occurrence of word1 and word2 with Lexique 3: Francophones and Anglophones.

Frequency cooccurrence	Majority Francophor	nes	Minority Francophones			Anglophones			
Lexique 3	Liaisons Possible produced liaisons		Liaisons produced	Possible <i>liaisons</i>	%	Liaisons produced	Possible <i>liaisons</i>	%	
500+	131	132	99.2	86	88	97.7	309	407	75.9
60-449	178	180	98.8	108	120	90	395	555	71.2
0-59	276	300	92	155	200	77.5	441	925	47.7
Total	585	612	95.6	349	408	85.5	1145	1887	60.7

The number of *liaisons* they produce is proportional to the number of times they heard (and potentially practiced) the sequences. One can assume that because Majority Francophones heard all sequences more often than minority Francophones, they produced more *liaisons* than minority Francophones. Similarly, minority Francophones had a larger input than Anglophones and thus produce more *liaisons* than Anglophones.

If non-native speakers did not entrench enough items in their database, they do not have enough information to entrench a structure. According to this research they acquired some of the most frequent items within some of the most frequent structures. They process information in a similar way to native speakers, but they did not hear (and practiced) enough items. Because the database of individual items is restricted and mixed with information from the L1 (syllabification and phonetic system of L1) the syntactic structures cannot be fully acquired.

Thus the frequency of words and the frequency of co-occurrence of words play a crucial role for native speakers and non-native speakers to determine whether to pronounce a liaison and how to pronounce it. But what is even more important than the frequency of words is the number of times a person heard a word or a sequence. If a word is very frequent in a native environment (and in the frequency database) it may be very rare in a L2 classroom environment.

In a similar way, the production of *liaisons* can be predicted according to the three types of frequencies and according to the input the participants received. The more restricted input they received the less likely they are to produce a *liaison*. Since the optional *liaisons* are within less frequent structures, words and sequences, they are less likely to be produced by all groups. This is why Francophone children acquire the compulsory *liaisons* (the most frequent ones) first, and the optional ones (less frequent) last (Dugua, 2005, 2008).

Within each category (obligatory, optional and forbidden *liaisons*), the more frequent a word and a structure are, the more a *liaison* is likely to be produced by any group. This is why native speakers tend to make a *liaison* with the most frequent forbidden *liaison*, "les haricots" (which has an aspirated h).

This research suggests that there may be a threshold necessary to entrench information in L1 and in L2. In fact, there may be two thresholds. One threshold which would be the number of times individual items (tokens) need to be heard in order to be acquired and one threshold which

would be the number of items necessary to have been acquired in the database in order for a structure (type) to be acquired.

The pedagogical implications for L2 teaching are that in order to acquire a structure, NNS should first have acquired enough items in their database. Therefore, the first step is to find a way to ensure L2 students acquire these items which can only be done with learning vocabulary and word sequences. For example, in order to know when to pronounce an aspirated h or a mute h, students first should know enough words within each category. This implies that pronunciation cannot be separated from vocabulary. In turn, vocabulary and pronunciation also depend on grammar. In order to know how to pronounce the *liaisons* with pronouns, students first should know how to use pronouns. In other words, frequency of words and structures does not only permit to acquire a phonetic structure, it also permits to acquire syntactic and lexical structures (Ellis, 2002).

More research is necessary to evaluate the role of frequency in L1 and L2 pronunciation and more research is necessary to determine more accurately the constituents of these thresholds.

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APPENDIX A

Text read by participants with coding symbols. E = linking (*enchainement*); LO: obligatory *liaison*; LF: optional *liaison*; LI: forbidden *liaison*.

1.	Cette_Angl	aise_a de	mande	é aux_in	vités le	es_affaire	s des_étud	diants.	
	E1	E2		LO	l	LO2	LO3		
2.	Tes_assista	nts, mes_	ouvrie	ers et leu	ırs_enf	ants sont	tous nos_	amis.	
	LO4	LO	O5	LF1	LO6		LC)7	
3.	Un bon_amplein_air.	ni a dit qu	'au mo	oyen <u>-</u> âg	e, à un	certain_â	ge, on cha	ıntait_er	ı
	LO8			LO9		LO1	0	LF2	LO11
4.	À mon_avis	s, ton_en	fant ne	fait_au	cun_ef	fort pour	s'adapter_	_à son_é	ecole.
	LO12	LO13	3	LF3	LO1	4	Ll	F4 LO	15
5.	Son premie léger_ennui	_	l'a mis	se devar	nt le fai	t_accomp	oli, ce qui	est_un	
	Ι	LO16			L	O17		LF5	LO18
6.	Ils sont_alle premier.	és_au der	nier_é	tage de	l'ancie	n_édifice	, mais ne	sont pas	_allés_au
	LF6	LF7	LO19)]	LO20		LI	F8 LF9
7.	De nouveau	ıx_étudia	nts_or	nt_attend	du au s	econd_éta	age du gra	nd_imn	neuble.
	I	LO21	LI1	LF10		LO22	2	LO23	
8.	Ses vieux_6	écrits_et s	ses nou	ivelles_	idées lı	ii ont vali	u de belles	s_acclar	nations.
	LO	24 LF1	1	LC)25		Ι	.O26	
9.	Un_oiseau les_yachts.	aux_yeux	k bleus	regarde	e les_oi	es mange	er des_yog	ourts da	nns
	LO27	LO28			LO2	9	LI2		LI3
10.	Ces beaux_gigolos.	Alleman	ds_ont	eu de 1	folles_a	ventures	grâce_à l	eurs fau	x <u>-</u> airs de

E3 LO30 LI4 LF12 LO31 LO32 11. Il n'y a pas de sous-entendu : on met un accent aigu sur le « e » d'États-Unis. LO33 LF13 LO34 LO35 LO36 12. Cet homme a parlé d'un hôpital où il y avait de vieux habits et de vieilles éponges. E4 E5 LO37 E6 E7 LO38 LF14 LO39 13. Des personnes ont écrit des histoires sur ces hôpitaux. E8 LF15 LO40 LO41 14. Les handicaps des Hollandais et des Hongrois font d'eux des héros. LI5 LI6 LF16 LI7 LI8 15. Deux amis de dix ans se sont vus à six heures devant les trois arbres. LO₄2 LO43 LF17 LO44 LO45 16. Il a vingt - trois ans et elle a vingt - cinq ans. A neuf heures, il aura cent ans. E9 LO46 LO47 LI9 LI10 E10 LO48 E11 LO49 E12 LO50 17. Un héros, un garçon intelligent, a eu cet accident affreux dans un bois immense. LI11 LI12 E13 LI13 LO51 LI14