

Chapter 8
Social networks and acquisition of sociolinguistic variation in a study abroad context: A preliminary study

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Over the past decade, there has been a clear increase in awareness of social and contextual perspectives in the field of second language acquisition (Atkinson, 2002; Ortega, 2011). A growing strand of literature has focused on how linguistic use and acquisition is affected by learning contexts (Muñoz, 2012). Looking in particular at linguistic outcomes, this literature tries to track the impact of different contexts such as the classroom environment, the naturalistic environment, immersion settings, and study abroad contexts. Learning in contexts where the target language is used is considered particularly beneficial because such an environment should provide access to language that is ample in quantity and diverse in quality. Growing interest has been shown in study abroad (SA) contexts in a diverse array of studies focusing on gains in oral fluency, syntax, vocabulary, phonology, and sociolinguistic and pragmatic usage (Freed, 1995; Kinginger, 2009). SA research has demonstrated that most of the time this context is beneficial for L2 learning. As the field matures, however, many authors are beginning to question one of the most long-standing beliefs, which is that the amount and frequency of contact that students have during their SA experience will increase their language gains (Diao, Freed & Smith, 2011; Freed, Segalowitz & Dewey, 2004). To our knowledge, despite the persistency of this belief, it has not yet been possible to establish a clear correlation between the amount of contact students have and improved language use during a SA experience.

Our goal is to complement this strand of studies by collecting more systematic data and exploring in greater depth the social relationships that shape the SA experience, with a view to linking these results to sociolinguistic acquisition. In this chapter, we present the results of a preliminary study on the application of social network analysis to a study abroad context. The findings provide an initial picture of L2 learners' daily language use, of the types of social networks that emerge in a study abroad context, and of how these social networks can be linked to L2 learners' usage of sociolinguistic variants.

1. The variationist approach and second language acquisition

The belief that changes in language use can be connected with the social activity of individuals was first introduced by Labov (1976). In his famous analysis of the use of the postvocalic /r/ in New York, he showed that linguistic behaviour depends on the socioeconomic class of a speaker. L1 sociolinguistic research has demonstrated that native speakers' alternation between two or more linguistic variants expressing the same meaning is an integral part of spoken language competence (Labov, 1976) and is acquired at a very early age in children (Chevrot & Foulkes, 2013).

A number of studies on the acquisition of sociolinguistic competence in L2 have been situated within this paradigm. By sociolinguistic competence, we understand learners' ability to vary in their use of two or more L2 sociolinguistic variants according to the social context. In SLA, the variationist approach aims at understanding and determining what can make variability in L2 speech systematic. Variability in L2 acquisition and the mechanisms of language change over time are controversial issues. Dewaele (2004a) underlines that a large number of independent variables can affect variation in the L2. Indeed, apart from the social characteristics of the speaker, there are many other factors that can have an impact on L2 acquisition such as the learner's first language, the degree of curricular and extracurricular exposure to the L2, and also the type of input received from teachers and pedagogical materials. How the individual may variably use two or more forms and what influences these changes are key questions in L2 sociolinguistic research. Understanding how L2 learners come to appropriate sociolinguistic patterns of variation and what factors impact most on their acquisition remains the main goal of the variationist approach in the SLA agenda.

An increasing number of empirical studies have focused on the acquisition of variation by learners of French. As it provides more access and exposure to sociolinguistic markers in the target language community, the study abroad context has been given a more substantial place in the field of SLA. Different studies investigate the impact of study abroad on the acquisition of variation by conducting cross-sectional studies comparing groups at home and groups in the target language community; and/or through longitudinal studies following the evolution of sociolinguistic competence before, during and after the stay abroad (Lemée, 2002; Sax, 2003; Regan, Howard & Lemée, 2009; Dewaele, 2004b). These studies show that L2 learners who spend time abroad increase their knowledge of informal variants and use them at a higher rate than students who have never spent time abroad. It has also been found that L2 learners under-use informal variants even with naturalistic exposure to L2, compared to native speakers. Howard (2012) underlines a need for a more ethnolinguistic approach to studies of sociolinguistic-

tic variation. Taking a closer look at what happens socially during learners' time abroad could illuminate "the experiential process that the L2 learner undergoes, as opposed to focussing solely on the acquisitional outcomes of such subjective and highly personal language contact experience in a study abroad context" (Howard, 2012, p. 31). Shifting the focus from a global view of the study abroad context to a deep analysis of the structure of learners' social networks in the host country could provide a better understanding of the development of sociolinguistic competences in SLA.

2. Social networks and their impact on language use

To understand the relationship between language and society, Milroy and Gordon (2003) examine the concept of community, not as an abstract and general unit (e.g. a spatial unit corresponding to a city, a social unit corresponding to a social class, etc.) but in terms of local linguistic and social features. Milroy (1987) provides a more concrete definition of specific communities by describing in detail their local conditions and their actual social interactions. Milroy indicates that differences in the structure and nature of social networks directly influence individuals and therefore have an impact on their language practices. The strength of a social network is defined in terms of density and multiplexity. On the one hand, social network analysis focuses on the content of the network ties. Each individual may be linked to others in more than one capacity, for example as a colleague, a relative and a friend. If an individual can be related to other individuals in various areas of sociability, his/her relationships are defined as 'multiplex'. On the other hand, social network analysis is also based on the larger structure of individual network ties. A network is said to be relatively 'dense' if a large number of the persons to whom the individual is linked are also linked to each other.

A dense and multiplex network is a strong indicator of social integration. According to Milroy (1987), belonging to such a network leads to maintenance of similar language use between speakers. Conversely, a loose and uniplex network implies that an individual is linked to others in different, discrete areas, and that the individuals in his/her network do not know each other. This type of network would not be very conducive to the transmission and conservation of local language use. Milroy set out to test the hypothesis of a relationship between the structure and content of social networks and the use of typical phonological variants within a local community. Focusing on three communities in the city of Belfast, Milroy (1987) shows a significant correlation between the social integration of an individual in the community and the use of specific phonological characteristics.

As far as we know, few studies have investigated the acquisition of L2 variation in relation to social network analysis. However, this kind of investigation could bring new insights into the mechanisms of appropriation and acquisition of sociolinguistic competence. Indeed, a deep understanding of the social surroundings of learners through social network analysis could help explain how input provided by naturalistic exposure affects the learning process.

3. Presentation of the study

Our study aims to complement variationist research on the acquisition of sociolinguistic variables by examining how social networking impacts on the sociolinguistic skills of French learners during SA. This preliminary study attempts to answer the following questions:

- What types of social networks do American learners develop during a stay abroad in France of a year?
- Can the different types of social networks developed be linked to the evolution of the use of sociolinguistic variables?

3.1. Data collection

The study is based on a longitudinal analysis of the L2 speech of seven American learners of French over a period of three months at a French university, with data collected in December and March. The students came for a study abroad programme of nine months and their ages ranged from 18 to 22 years. They were all living in a host family at the beginning of the study and had daily French classes. Their level of proficiency in French was B1 or B2 (according to the CEFR: Council of Europe, 2001). Their level of proficiency was evaluated according to the CEFR guidelines by professional teachers in the language centre where the learners were taking French classes during their stay abroad. The group of students was composed of five females and two males. The learners were not specializing in French but were spending a year abroad as part of their wider university studies. The students had between 16 and 20 hours of French classes every week, including French language, French literature and civilization studies.

Two types of data were collected, both social and linguistic. To collect linguistic data, we recorded students on two occasions through semi-directed interviews. The first set of interviews took place in December and the second in March. A native speaker of French interviewed each individual learner for one hour on each occasion. Despite some limitations, the semi-structured interview

is a fruitful method of collecting data, allowing production of free speech and therefore providing a situation of communication close to an authentic conversation experience. Following their elicitation, the data were transcribed using standard orthography. We then performed a quantitative linguistic analysis to obtain clues about the evolution of the learners' usage of selected sociolinguistic variables during their stay.

We observed the social network of learners in March, at the end of their stay. To determine each learner's social network – that is to say all the ties that connect each learner with other people – we developed two complementary procedures: a name generator (a contact diary), and a name interpreter (a questionnaire). First, we gave a contact diary to the students, which they were required to fill in every day for one week, recording every conversation they had. We chose the contact diary among other possible tools for enumerating networks because we were interested in the daily contacts and frequent interactions of the learners. The contact diary is a valuable tool because it allows the students to report events spontaneously, when they appear in context (for the limitations of the diary method, see Bolger, Davis & Rafaeli, 2002; Fu, 2007). To relieve the burden on the informants and simplify completion of the diary for them, we made it as systematic as possible with very few entries to be filled in. Each time they spoke to someone outside the French classroom, they had to write down the name of the person, how long the conversation lasted and the language they used. Thanks to those contact diaries, we had access to quantitative data regarding the length of exposure to particular languages (French and English) but also the names of all the members of the learners' social network.

We then supplemented the contact diary data with a questionnaire that we filled in with the students. The questionnaire was based on the names that the students had written in their contact diary and served as a name interpreter. We asked the student about the characteristics of each network member present in the contact diary – age, sex, nationality, language most frequently spoken – and the characteristics of the relationship – type of relationship (member of the host family, friend, colleague, etc.), overall frequency of interaction with each person, types of activities they shared. Finally, for each person cited in the contact diary, we asked participants to make a list of contacts they had in common. Thus, the questionnaire afforded us a deeper representation of the different links within the friendship networks of each learner.

With this methodology, it is possible to obtain both compositional and structural information about each learner's network. Compositional information refers to the attributes of network members, while structural information refers to measures regarding the links between network members. To describe the network in this preliminary study, we focused mainly on two types of criteria:

- A structural criterion: Density;
- Compositional/interactional criteria: Number of contacts who are native speakers of the L1; number of contacts who are native speakers of the L2; amount of time spent speaking the L2 (reported in the contact diary).

The social structure of a network is generally represented by a graph with individuals (as points) and relationships (as ties). Density is a measure of cohesion frequently used in network analysis (Borgatti, Everett & Johnson, 2013; Wasserman & Faust, 1994). This measure is the proportion of pairs of network members whom the respondents indicated were likely to have contact with each other. The density of a network is expressed by the ratio of total possible ties to the total actual ties in the network. In an ordinary undirected graph the number of possible ties is $n(n-1)/2$ (with n points that is to say n network members). For example, in a network of ten individuals, the number of possible ties is 45; so, if the number of effective ties is 25, the network density would be 0.55 or 55%. The greater the density, the more likely it is that a network will be considered a cohesive community.

We selected density from among different structural measures used in social network analysis (for details on the structural properties of a network see Borgatti, Everett & Johnston, 2013 or Wasserman & Faust, 1994). In this preliminary analysis with a limited number of learners, we were mostly interested in obtaining an initial overall view of the structure and composition of the networks created with a specific focus on language use. Consequently, we adopted a limited set of criteria: one structural criterion – density – which provided the overall shape of the set of relationships by describing the cohesion between network members, and several interactional criteria regarding language use. Density was calculated using Ucinet software, and the social network graphs were created using Netdraw software (Borgatti, Everett & Freeman, 1999), accessible at <http://www.analytictech.com/ucinet/>.

*3.2 Data analysis for two sociolinguistic variables in French: The retention or omission of *ne* and the variable realization of liaisons*

We studied two frequent French sociolinguistic variables, namely the variable realization of phonological liaisons and the variable omission of the pre-verbal negative particule *ne*, as exemplified in the following sentences:

Variable liaison realization

(1) *c'est un chat* vs. *c'est /t/ un chat*

[It is a cat]

ne retention or deletion

(2) *je ne comprends pas* vs. *je comprends pas*

[I don't understand]

Both variable liaison and the retention/deletion of *ne* are long standing and widespread variables in French and they have both been extensively studied among adult native speakers.

3.2.1. Variable liaison

The first systematic work on French liaison was written by Schane (1965), and since then a great number of studies have investigated this phenomenon. Many studies based on oral corpora (Booij & De Jong, 1987; Durand, Laks, Calderone, & Tchobanov, 2011) agree on the existence of two categories of liaison: obligatory and variable. Obligatory liaisons are those systematically produced by native speakers. The four syntactic contexts in which they appear are: After a determiner (eg. *les /z/ oiseaux*, the birds); after a personal pronoun (eg. *Ils /z/ arrivent*, they are coming); when a pronoun is placed after a verb (eg. *allons /z/ y*, let's go); and in lexicalized phrases (eg. *de temps /z/ en temps*, from time to time). We are only concerned with variable liaisons here. The syntactic contexts of variable liaison are more difficult to study since their realization is highly variable. Regarding linguistic factors, Mallet (2008), working on a large corpus from native French speakers, showed that some syntactic contexts are more productive than others in terms of the realization of variable liaisons. For example, variable liaisons after monosyllabic prepositions (such as: *chez, dans, dès, en*) are almost categorically realized with a mean rate of 91.91%. However, in other syntactic contexts such as after some forms of the auxiliary *avoir*, realization is far less frequent (3.45%). Another study based on a corpus of informal conversations of native speakers (Ahmad, 1993) shows that the mean realization of liaison is only 10%. Apart from syntactic factors, the realization of variable liaisons is also dependent on extralinguistic factors, such as the social class, gender or age of the speaker. The phenomenon of liaison in French is complex for L2 learners to deal with, in terms of its frequency and status in the sociolinguistic profile of native speakers. Few studies have focused on the acquisition of variable liaisons. Howard (2012) found that the formal variants (i.e. realization of liaisons) are more present in L2 speech than in native speaker discourse. Despite interindividual differences, learners tend to decrease their usage of variable liaisons after a stay abroad in France (Howard, 2012; Thomas, 2002).

3.2.2. Omission and retention of *ne*

Studies on the retention and omission of *ne* in French native speech have also shown both linguistic and extralinguistic constraints. Regarding linguistic factors, Armstrong and Smith (2002) explain that the choice of verb, of nominal or pronominal subject or of lexicalized expressions is among the factors that can affect the retention or omission of *ne*. As in the case of variable liaison, there are also a number of social factors that impact on the deletion or retention of *ne*. In a recent corpus-based study, Berit Hansen and Malderez (2004) note that the retention of *ne* is a sociolinguistic variable in constant evolution in the speech of native speakers. Through a comparison between their corpus and older corpora, they show that the retention of *ne* is declining. That is to say, from the 1970s to the 1990s, the mean rate of *ne* retention went from 15.8% to 7%. The impact of the age of the speaker is also noted; speakers aged 50 to 36 maintain the *ne* 14.4% of the time whereas speakers aged 23 to 15 maintain the *ne* 2.5% of the time. Studies (Armstrong & Smith, 2002; Berit Hansen & Malderez, 2004) have also reported that both social class and geographical origin have an impact on the retention or omission of *ne*. Studies of L2 learners' acquisition of this sociolinguistic variable (Dewaele, 2004b; Regan et al., 2009; Sax, 2003) have shown that students who had never been abroad did not adapt their omission rate according to the situation of communication. However, prolonged authentic use of French with native speakers seems to foster the development of this stylistic variation. They also found that even if the students decrease their usage of formal variants after study abroad, they maintain a higher retention rate than native speakers.

These studies of L2 acquisition of variable liaison and the omission of *ne* seem to be consistent in their findings in two respects. Firstly, the study abroad context has a positive impact on L2 learners' use of sociolinguistic variables, as they evolve from formal use of the variants to more informal use. Secondly, studies also indicate that learners do not reach the vernacular norms of native speech. Tracking the social environment during a study abroad period should provide new insights into L2 sociolinguistic competence. The links created by L2 learners with different speakers during their stay in France may have an impact on their usage of French variants. Focusing on the extent to which L2 learners develop such links could give further insights into how the learners adapt their use of sociolinguistic variants. Our study is oriented towards a deep analysis of the social environment using tools and methodological frameworks dedicated to network analysis in order to explore the relationship between social network and sociolinguistic L2 acquisition.

4. Findings

4.1. What type of social networks do American learners develop during a stay abroad of a year?

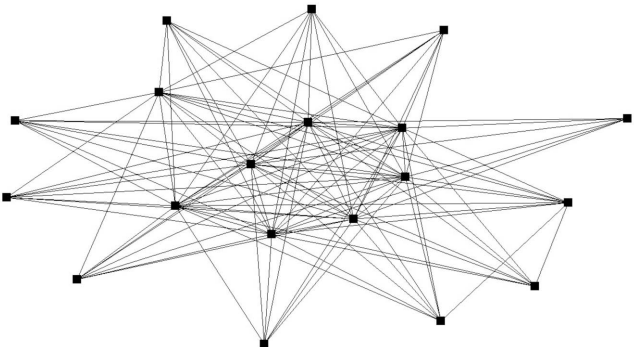
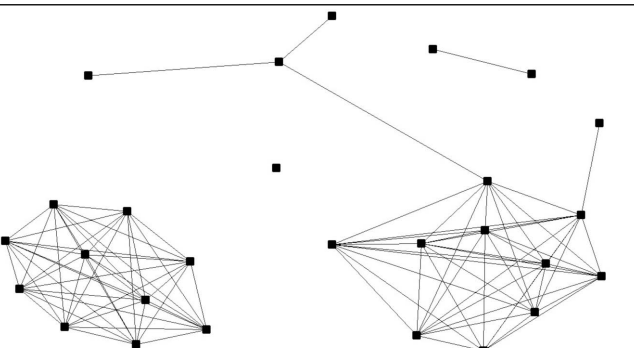
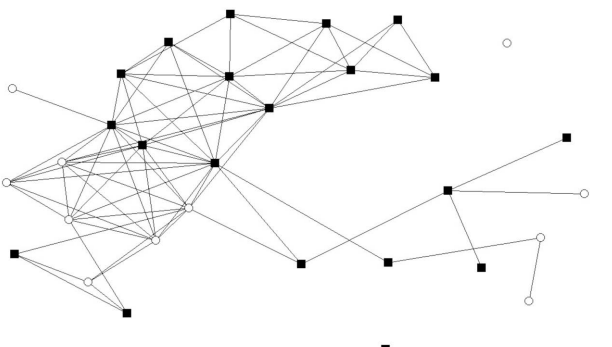
Using the two different criteria defined earlier (structural and interactional), we observed three types of social networks. First, based on the structural criteria we distinguished *dense* and *composite* social networks. We referred to a study conducted by sociologists on the dynamics of social networks of young adults (Bidart, Degenne & Grosetti, 2011) in order to name and describe the network structure found in our own study. *Dense* networks are tightly connected; They contain a high concentration of network members and are generally composed of one single large group. Consequently, the average density is relatively high (above 30%), showing strong cohesion among network members. *Composite* networks are more loosely connected and more diverse, consisting of different groups of network members. As a result, the density is lower (under 30%) and the overall structure of the network is less concentrated.

We then differentiated these networks according to the native-speaker contacts present and the mean amount of time spent speaking the L2 during the week that the contact diary was kept. Five learners had created *Anglophone* networks consisting of only English-speaking contacts. Two learners had *Anglophone and Francophone* social networks mixing French- and English-speaking contacts, with a substantial amount of time spent speaking the L2 outside the classroom (a mean of 27 hours per week was reported in the contact diary). Among the five learners with only English-speaking contacts, two had a *dense* network, with a smaller amount of time spent speaking the L2 outside the classroom (a mean of 6 hours per week) and the three others had a *composite* network, with a fairly small amount of time spent speaking the L2 outside the classroom (a mean of 7 hours per week).

The following graphs (Figure 1) represent these three main types of social networks. We selected one graph as an example for each type of social network, so as to demonstrate its main characteristics. In the social network graphs, links represent all the connections between every friend of the learner. The dark dots represent English-speaking contacts and the white circles, French-speaking contacts. To make the graphs easier to read and understand, the learner him/herself is not represented.

Neil and Cristina's social networks are very dense networks of native English-speaking contacts, in which there are many connections between individuals, i.e. it seems that everybody knows everybody. The density is above 30 % for these two learners and they speak around 6 hours of French per week. Three learners (Shirley, Andrea and April) have composite networks also only composed of English-speak-

Figure 1. Characteristics of learners' social networks

Characteristics of networks	Types of social networks
	Dense Anglophone social networks [Neil and Cristina]
<p>2 learners:</p> <ul style="list-style-type: none"> - Density > 30 % - Mean amount of time spent speaking French: 347 min per week (6h) 	
	Composite Anglophone social networks [Shirley, April and Andrea]
<p>3 learners:</p> <ul style="list-style-type: none"> - Density < 30 % - Mean amount of time spent speaking French: 433 min per week (7h) 	
	Composite Anglophone and Francophone social networks [Jenna and Gary]
<p>2 learners:</p> <ul style="list-style-type: none"> - Density < 30 % - Mean amount of time spent speaking French: 1613 min per week (27h) 	

ing contacts. This kind of social network is far less concentrated than the dense Anglophone type. The density is less than 30%, and these learners speak a mean of 7 hours of French per week. In this type of network, there are different cliques of contacts that are not connected to each other. Finally, two learners (Gary and Jenna) have composite Anglophone and Francophone social networks. This type of social network is composed of a high number of individuals but with few links between them. Contacts are relatively dispersed and many of them do not know each other. The two learners can also be distinguished by the number of hours they speak French per week, a mean of 27 hours, and by the number of French contacts represented by white circles.

We can see that American learners have difficulties in creating connections with the native community, as only two learners have connections with French contacts. From our social network analysis, we can also see that there are differences in the shape and characteristics of the social life of the learners. Next, we shall explore whether these differences can be linked to different kinds of sociolinguistic acquisition during their stay in France.

4.2. Can the different types of social networks developed be linked to the evolution of the use of sociolinguistic variables?

Table 1 presents the results for the learners' realization of variable liaison and retention of *ne*. Each learner is presented and categorized by the type of social network they create during their stay abroad. This table also provides numbers and percentages for variable realization of liaisons and of retention of *ne* at two periods of their stay.

Table 1. Seven learners' rate of realization of variable liaisons and of retention of *ne* at Time 1 and Time 2

Learners	Neil	Cristina	April	Andrea	Shirley	Jenna	Gary
Type of network	Dense Anglophone		Composite Anglophone			Composite Anglophone and Francophone	
Variable liaison							
T1	26.3% (24/91)	27.1% (35/129)	51.2% (41/80)	23.8% (13/57)	21.4% (15/70)	23.9% (40/167)	8.5% (8/94)
T2	35.8% (28/78)	27.4% (25/91)	23.6% (9/38)	27.2% (6/22)	12.5% (7/56)	16.2% (18/111)	5.8% (5/85)
<i>Ne</i> retention							
T1	48.3% (15/31)	81.3% (48/59)	45% (23/51)	73.3% (22/30)	44.4% (12/27)	38% (38/100)	1.8% (1/53)
T2	64.1% (25/39)	80% (40/50)	29% (9/31)	41.1% (7/17)	47.8% (22/46)	35.6% (31/87)	1.6% (1/60)

Neil and Cristina, who have a dense Anglophone network, tend either to increase or to maintain a high rate of realization of formal variants of the two sociolinguistic variables at the two different periods. For the five learners who have a composite network, there is a general trend towards a decrease in the rate of realization of the formal variant of the liaison and of the *ne* particle. Two learners, Jenna and Gary, who have composite anglophone and francophone networks, both decrease their use of formal variants between the two periods. More generally, at T1 for both phenomena we observe that the learners' rates of realization of the two variants are heterogeneous. Gary stands out as an outlier, pointing in the direction of native speaker usage. (In informal native speech, variable liaisons are realized 10% of the time: Ahmad, 1993, and *ne* is maintained 2.5% of the time: Berit Hansen & Malderez, 2004).

So far, these data suggest that learners with dense connections with L1 speakers tend to increase or maintain a high usage rate of formal variants of sociolinguistic variables, while those with a loosely connected social network that contains L2 speakers tend to decrease their usage of formal variants. However, the results for the three learners with composite Anglophone social networks ran counter to this tendency. Two of these learners, April and Shirley, decrease their rate of realization of optional liaisons (going from 51.2 % to 23.6 % for April, and 21.4 % to 12.5 % for Shirley). But the number of optional liaisons realized by Andrea increases from 23.8 % to 27.2 %. Concerning the rate of retention of *ne*, only Shirley's retention increases (going from 44.4 % to 47.8 %), whereas the rates of April and Andrea decrease respectively from 45% to 29 % and from 73.3 % to 41.1 %. Learners who have composite Anglophone social networks thus form a more heterogeneous group in which the usage of formal variants seems to decrease but the pattern of evolution is not clear and regular.

5. Discussion and conclusion

The three different types of social network we found revealed an important aspect of learners' social life during study abroad. The differentiation between dense Anglophone, composite Anglophone and composite Anglophone and Francophone networks, brings to light the different ways in which the learners may be connected to other individuals in the host country. What we learnt from this analysis is that even if sociability is mostly oriented towards English-speaking peers, there are differences in the shape of learners' networks. For some learners with dense Anglophone social networks, the ties with their interactants are highly concentrated and the amount of time spent speaking the L2 is low. The learners' relationships are all connected to each other. Composite Anglophone social networks, on the other hand, are composed of different cliques of contacts

and their members' sociability is thus less concentrated, with a greater amount of time spent speaking the L2. This could be understood as a more outward-looking type of network in which members are more dispersed and the cohesion of ties is weaker. Dense Anglophone networks might indicate greater difficulty in integrating into the host community and could be interpreted as a need to create a community in which learners can feel as if they were at home.

In the preliminary study presented here, we included the description of social networks at one moment of the learners' stay in France. In order to have a more complete view of the composition of learners' social networks, it would be necessary to grasp the dynamics of social interaction over time. Indeed, Bidart et al. (2011) explain that social network formation is in constant evolution, constrained by different transformations and important steps in life. These changes directly impact on relationships between individuals, leading to movement in social networks that can evolve from dense to composite or the reverse. As Bidart et al. (2011, p. 311) state: "*Envisager une relation à un moment donné, c'est arrêter un film sur une image fixe. Or, l'histoire d'une rencontre et la relation qui s'est façonnée depuis constitue généralement la matière la plus importante d'aujourd'hui*" [Considering a relationship at a given time, is like stopping a movie on a still image. And yet the story of an encounter and the relationship that has since developed, generally constitutes the most important of all subject matters today] (our translation). A longitudinal study tracking the creation of learners' social networks would therefore usefully supplement this preliminary study.

Moreover, it would be interesting to investigate a larger group of learners to establish whether it is possible to find recurrent patterns of sociability. A deeper analysis of the formation of social networks combined with qualitative analysis of the different interactants could explain the differences in the types of social networks. In particular, learners with composite Anglophone and Francophone networks – in which there are many different English- and French-speaking contacts who are less connected to each other than in other networks – might have gone through different steps of network formation. Understanding how learners evolve in the creation of their social bonds should provide new insights into what is happening socially in a study abroad context, and how far interactions create specific social forms that can be connected to specific language use.

Regarding the linguistic aspect of our study, an interesting hypothesis emerges from the link between social networks and use of the two sociolinguistic variables. The learners with dense English-speaking networks seem to maintain or increase their rates of formal variants whereas the learners with composite French- and English-speaking networks tend to decrease their rates of formal variants between the two periods of observation. The learners with French native speaker contacts spent more time daily in conversation with native speakers than the learners with only English-speaking contacts. This would seem to indicate that the use of soci-

olinguistic variables by L2 learners can be related to the social network created during study abroad, rather in the same way as it is for L1 speakers (Milroy, 1987). However, this conclusion must remain hypothetical since the number of L2 participants is small. Furthermore, the link between sociability and acquisition of sociolinguistic variables remains unclear for three of the seven learners of our study. Indeed, the results for learners with composite English-speaking networks show individual variation without any well-defined directional change in the use of variants between the two periods. These results can therefore not be explained by analysis of the learners' contacts network alone; in order to fully understand their use of sociolinguistic variations, it may be necessary to also observe the input received in the classroom or in other parts of their social life (such as interaction with their host family).

To observe the impact of the naturalistic environment on learners' sociolinguistic skills, we also need more experimental studies involving recognition of sociolinguistic norms in specific syntactic contexts through both judgement and production tasks, such as those that have already been used to understand the acquisition of sociolinguistic variation by children (Barbu, Nardy, Chevrot & Juhel, 2013). An important aspect of the acquisition of sociolinguistic variation by L2 learners that needs to be explored is learners' awareness of the stylistic value that the variants convey. Different authors have stated that L2 learners tend to decrease their use of formal variants after a stay abroad, in order to "sound native-like". What, then, is the reason for the increase in use of formal variants by some of our learners? Are they fully aware of the style they are adopting? And if this is the case, do they use formal variants in order to move away from native speaker discourse? Dewaele supposes that "learners may also consciously decide not to adopt certain variation patterns from the NS community if they judge them to be in conflict with their own ideological and cultural beliefs or sense of self" (2004a, p. 314). These questions could be answered by using judgement and production tasks or even through introspective questionnaires about learners' awareness of the use of sociolinguistic variables. Last but not least, this study also raises an important issue regarding the correlation between social network and language use and acquisition. Indeed, in our data some learners converge more than others towards local sociolinguistic patterns, but is such behaviour due to the type of network they create, or do they belong to a certain type of network because of their level of proficiency in French? In order to gain a better understanding of the correlation between the shape of learners' relationships and their usage of the L2, it is necessary to conduct further analysis of both their levels of L2 proficiency and their attitudes towards the native community.

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