TOPICS
TOPICS IN COGNITIVE SCIENCE

This article is part of the topic "Sociolinguistic Variation and Cognitive Science," Jean-Pierre Chevrot, Katie Drager and Paul Foulkes (Topic Editors). For a full listing of topic papers, see http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1756-8765/earlyview

---

The Sociolinguistic Repetition Task: A New Paradigm for Exploring the Cognitive Coherence of Language Varieties

Laurence Buson,[a] Aurélie Nardy,[a] Dominique Muller,[b] Jean-Pierre Chevrot[c]

[a]*Lidilem, Université Grenoble Alpes*
[b]*LIP/PC2S, Université Grenoble Alpes*
[c]*DANTE Team, Institut Rhône-alpin des systèmes complexes, ENS Lyon*

Abstract

Sociolinguistic studies generally focus on specific sociolinguistic variables. Consequently, they rarely examine whether different sociolinguistic variables have coherent orientation in a specific language variety (a social or a regional dialect) or whether the speakers freely mix sociolinguistic variants. While different attempts have been made to identify coherence and mixing in the production or perception of dialects, our aim is to answer this question at the level of the cognitive representation of varieties. For this purpose, we draw on the phenomenon of *sociolinguistic restoration*: when they repeat sociolinguistically mixed utterances, people tend to make them homogeneous. The first experiment—a repetition task—reproduced sociolinguistic restoration in an experimental setting. The second experiment—a judgment task—ensured that participants perceived the difference between homogeneous and mixed utterances. We conclude that high-order coherent representations influence the reconstruction of utterances during the repetition task.

Keywords: Coherence of sociolinguistic varieties; Sociolinguistic cognition; Repetition task; Sociolinguistic schema

---

Correspondence should be sent to Laurence Buson, Lidilem, University of Grenoble Alpes, 38058 Grenoble, France. E-mail: laurence.buson@univ-grenoble-alpes.fr

1. Introduction

The emergent field of sociolinguistic cognition has brought significant insights into the cognitive representation of sociolinguistic variation and its role during the perception of speech (Campbell-Kibler, 2010). Studies generally focus on specific sociolinguistic variables. As defined by Labov (1972, p. 271), sociolinguistic variables are units or structures of the language system enabling speakers to say the same thing in different ways, with the variants being "identical in reference or truth value, but opposed in their social and/or stylistic significance" (e.g., *he don't smoke* vs. *he doesn't smoke* in the case of non-standard agreement in English). However, by taking this one-by-one approach to sociolinguistic variables, sociolinguistic cognition fails to examine the cognitive dimension of a central debate about the heterogeneity of language. However, speakers mix cues from different social or regional dialects in the utterances they produce, so to what extent do they elaborate coherent cognitive representation of each variety? We will answer this question by drawing on the phenomenon of *sociolinguistic restoration*: When they repeat sociolinguistically mixed utterances, speakers tend to make them homogeneous.

One of the main contributions of sociolinguistics is that it considers languages as heterogeneous and evolving systems. This heterogeneity is due to their internal dynamics, contacts with other languages, and their links with social organization, which is itself evolving and composite (Laks, 2013). As noted by Guy and Hinskens (2016), this heterogeneity is conceptualized through two approaches in the field of sociolinguistics.

The first approach is based on the idea of orderly heterogeneity (Weinreich, Labov, & Herzog, 1968). It refers to the fact that the numerous linguistic choices with which an individual is confronted when producing an utterance (heterogeneity) form predictable inter- or intra-individual patterns (order) at the collective level, insofar as they are correlated with social or linguistic factors (Kiesling, 2011). For example, native speakers of French variably produce liaison consonants between words in positions where the realization of the sound is possible. However, studies have established that the mean score of liaison realization in a sample of speakers depends on social status (higher scores in middle-class speakers, Ashby, 1981), speech style (higher scores in formal situations, Booij & De Jong, 1987), and linguistic context (higher scores after a preposition than after a noun, Malécot, 1975). Such evidence implies that the language varieties characterizing groups or styles exhibit some degree of coherence. It is expected that not only the standard variants of liaison but also the standard variants of a set of sociolinguistic variables will be more frequent in the speech of middle-class speakers and when a formal style is used. In other words, we should see coherent covariation in the usage of sociolinguistic variables. This covariation should be apparent in correlations, reflecting a concomitant increase in the scores of several sociolinguistic variables among certain speakers or in certain situations.

According to the second approach, the heterogeneity of language is seen as a resource by which the individual achieves communicative goals during interaction. For example, the speaker may use the social meaning conveyed by sociolinguistic variants to attune

social distance to the interlocutor (Giles & Powesland, 1975) or to express various aspects of social identity (Le Page & Tabouret-Keller, 1985). This view emphasizes individual agency, that is to say, the ability of the speaker to make choices. Moreover, the nature of the communicative goals in question depends on the components of each interaction (e.g., setting, participants) and its internal dynamics. The sociolinguistic choices should thus be diverse and changing. For example, when Sue, a tour operator assistant working in Cardiff, talks about private topics with her colleagues at the workplace, the issue of social class is not salient because it is non-contrastive in the group (Coupland, 2007). However, Sue uses non-standard variants when she expresses "low personal competence and control" in the face of her difficulty in sticking to her diet. Guy and Hinskens (2016) refer to this approach as *bricolage* (De Certeau, Giard, & Mayol, 1990), a process by which people combine a range of existing resources to construct new meanings (Eckert, 2008). They conclude that *bricolage* does not predict the internal coherence of language varieties.

The tension between individual agency and collective coherence is a fundamental issue in sociolinguistics (Meyerhoff & Klaere, 2017). If sociolinguistics were to fail to demonstrate that language varieties are at least partially coherent at some level, then sociolinguists would have to face the same critique that they have addressed to mainstream linguistics: Hypothetical constructs (e.g., language, dialect, style) are reified as real entities existing independently from their theoretical grounds (Guy, 2013; Guy & Hinskens, 2016). This tension is a general issue that challenges not only linguistics but also the whole field of cognitive science. The field is mature enough to build theories that integrate the collective and individual levels, taking into account the structural, social, and cognitive aspects of knowledge. The inherent interdisciplinarity of sociolinguistics places it in a strategic position for meeting this challenge (Chevrot & Nardy, 2018). Rather than prioritizing collective coherence or individual agency, sociolinguistics should uncover the "missing link" between the speech patterns observed at an individual level and those observed at a group level (Meyerhoff & Klaere, 2017).

A first attempt to resolve the tension between coherence and *bricolage* assumes that they apply to distinct contexts. In a study on Brazilian Portuguese, Oushiro and Guy (2015) distinguished linguistic contexts where the variants were more perceptually salient (e.g., in stressed syllables). In these positions, the correlations between sociolinguistic variables are weaker, suggesting that *bricolage* may focus on tokens that are perceptually prominent, whereas the coherent covariation that reflects the norms of the community may apply to less conscious tokens. In another study on Brazilian Portuguese, Guy (2013) noted that the correlations between sociolinguistic variables are weak and irregular and he concluded that coherence is the wrong model for sociolinguistic variation. However, he conceded that certain groups might lack the fluid manipulation of variants required in *bricolage,* due to their infrequent contacts with other varieties.

A second attempt to resolve the tension between coherence and *bricolage* assumes that coherence is to be found in perception and social evaluation rather than production. Gregersen and Pharao (2016) have reiterated the observation that the production of variants in four dialects of Danish does not provide strong evidence for coherence. They conclude

that the reason why a variety is seen as coherent is that perception is biased toward specific sociolinguistic cues that are foregrounded, whereas others are neglected or considered irrelevant. Categorization of sociolinguistic varieties could be based on salient sociolinguistic cues that may be associated with more visible groups of speakers.

Buson and Billiez (2013) proposed a model of sociolinguistic perception explaining how a non-coherent utterance is transformed into a homogeneous percept. In their view, speakers memorize schemata associating frequent sociolinguistic variants from the same or different linguistic levels with social information about the probable users of these cues or their probable contexts of use. For example, frequent standard variants from the phonological level are associated with standard grammatical and standard lexical variants and with indexical content referring to formal situations, high status, or high education level. According to this model, the salient variants that are present in a heard message activate the sociolinguistic schema in a bottom-up process. Once deployed, this schema in turn, in a top-down process, activates the variants that it includes, even if they are absent from the heard message. This model is coherent with several phenomena in the field of sociolinguistics: *erasure* (Irvine, 2001) according to which the addressee selects certain salient sociolinguistic features while disregarding others, the *halo effect* (Moreau & Brichard, 1997) that extends a social stereotype to an entire utterance, emphasizing certain cues and eclipsing others, and so-called *sociolinguistic restoration* (Buson & Billiez, 2013), which is the focus of this paper. Its discovery was the result of an incidental observation: When children reported on utterances including formal vocabulary and standard variants, they stated they had heard formal variants that were absent from the input but consistent with the rest of the utterance (Buson, 2009). Although the phenomenon of sociolinguistic restoration has not been further investigated, these preliminary results suggest that high-level representations including the restored variants influence how these utterances are perceived or reconstructed when children reported them.

Studying top–down influences on a low-level task is a way of testing hypotheses about the functioning of stored representation guiding the task, as illustrated by the famous case of phonetic restoration. Phonetic restoration occurs when listeners perceive a phoneme in a word even though the corresponding acoustic segment is missing or masked (Warren, 1970). This phenomenon has been used as evidence that high-order lexical representation influences speech sound perception in a top–down way (Repp, 1991). According to the schema-based model of phonetic restoration (Srinivasan & Wang, 2005), reliable regions of the corrupted speech help activate lexical templates—an average representation of each word—from which the missing segment is induced.

In this paper, we propose an innovative method—the sociolinguistic repetition task—for exploring the possible influence that coherent cognitive representations of sociolinguistic varieties have on the processing of heard utterances. The task is based on the repetition of utterances that are sociolinguistically homogeneous (e.g., a standard variant in a formal linguistic context) or non-homogeneous (e.g., a non-standard variant in a formal linguistic context). In Experiment 1, we implement this task with native French speakers and observe whether they repeat the heterogeneous utterances by using the variants that are absent from the heard utterances but in line with the context. In Experiment 2, a

judgment task explores whether the restoration effect affects perception or occurs during other stages of the repetition task.

2. Experiment 1: Sociolinguistic repetition task

2.1. Participants

Fifty-eight participants (age range: 18–27, 33 females, education level: 20 graduates, 20 college students, 10 high-school pupils and 8 unknown), all native French speakers, voluntarily participated in Experiment 1. Master students who attended a statistics course collected the data. Each of them had to choose four participants in their friendship circle. Participants were debriefed about the purpose of the study after the experiment ended.

2.2. Verbal material

The subjects completed a task consisting of repeating utterances that were formal or informal, sociolinguistically homogeneous or non-homogeneous. Utterances were recorded by a female native French speaker. She is a sociolinguist and capable of deliberately realizing standard and non-standard variants. In the formal utterances, the content related to societal debates, the vocabulary included rare words, the grammatical constructions were standard, and all the phonological segments were carefully pronounced in the recordings. In the informal utterances, the content related to everyday situations, the vocabulary included a lot of slang, some grammatical constructions were non-standard, and the recordings included several non-standard phonological elisions. In homogeneous utterances, all the sociolinguistic variants were consistent with the rest of the utterance. For example, in a homogeneous formal utterance, all the liaisons were realized along with the standard negative particle "ne." In a non-homogeneous formal utterance, one sole standard target variable contradicts the context. For example, the negative "ne" is omitted in an utterance including several standard cues.

In total, the linguistic material consisted of 24 utterances to repeat (see Appendix A): 6 homogeneous formal utterances, 6 non-homogeneous formal utterances, 6 homogeneous informal utterances, and 6 non-homogeneous informal utterances. In each set of 6 utterances, the target sociolinguistic variables determining whether the utterance was homogeneous or non-homogeneous concerned three different linguistic levels: two grammatical variables, two phonological variables, and two sets of discourse particles, each of which has different forms associated with standard and nonstandard styles (see Table 1 and Appendix A). Thus, 24 corresponds to the minimum number of sentences necessary to test two variables for each linguistic level.

The grammatical and phonological variables chosen are well documented in sociolinguistic studies on French. They all have a standard variant that is clearly opposed to a non-standard variant, as established by different observations (see Gadet, 2007 for a general view). Discourse variables have been explored in French language (Beeching, 2002;

Table 1
Target sociolinguistic variables used in the sociolinguistic repetition task

Linguistic Level	Name of Variable	Standard Variant	Non-standard Variant
Grammar	Variable realization of the first part of the *ne...pas* negation	*ne* realized	*ne* not realized
	Alternation between relative pronoun *dont* and relative pronoun *que*	Pronoun *dont*	Pronoun *que*
Phonology	Variable realization of optional liaison	Liaison consonant realized	Liaison consonant not realized
	Optional realization of the /l/ in the pronoun *il*	/l/ realized	/l/ not realized
Discourse	Opposition 1 between two particles	*oui bon* particle	*oh mais* particle
	Opposition 2 between two particles	*euh non* particle	*hein* particle

Dostie & Pusch, 2007), but studies about their sociolinguistic meaning are scarce. Usually, they are considered as informal, because of their oral usage and expressive value. However, some of them are sociolinguistically more complex. For example, "euh" is usually involved in slow and reflexive discourse to take the time of elaborating the utterance. We considered as standard the two discourse variants "oui bon" and "heu non" because they include the standard forms "oui" and "non" (non-standard: "ouais" and "nan," Péroz, 2009) corresponding to "yes" and "no" in English. An English translation of the discourse variants is provided in Appendix A.

2.3. Task and procedure

The experiment was implemented using the E-prime programme and was presented as a study on memorization. The 24 utterances were presented to the participants in a random order.

The participants heard a recorded utterance and then a single-digit number appeared on the screen. As soon as the screen went black again (3 s after the end of the utterance), they had to repeat the number followed by the utterance. They then pressed the space bar to hear the next utterance, without time pressure. The 3-s delay and repeating the number were designed to delay the repetition. This meant the utterance had to be temporarily memorized before being produced and potentially partially reconstructed based on the sociolinguistic schemata we wanted to test. The participants' productions were recorded and transcribed.

2.4. Data coding

The participants' recorded utterances were compared with the utterances they had heard. Coding took into account the variant of the target variable. Two cases were considered:

1. Identical repetition (coded 0): the participants heard the standard (or non-standard) variant and repeated it identically.
2. Non-identical repetition (coded 1): the participants heard the standard variant and repeated the non-standard variant of the same sociolinguistic variable, or *vice versa.*

Two types of repetitions (66 occurrences representing 4.7% of the 1,392 trials) were eliminated because they excluded the possibility of replacing one variant by the other:

1. The participants omitted the part of the utterance including the target sociolinguistic variable.
2. The participants changed the linguistic context of the sociolinguistic variable in such a way that it eliminated the possibility of variation. For example, they replaced a negative sentence with a positive one and eliminated the possibility of realizing or not realizing the negative "ne."

We computed individual rates of non-identical repetitions expressed as percentages: Number of non-identical repetitions in a set of utterances (e.g., homogeneous) divided by the total number of utterances in the set minus the number of cases excluding the variation.

2.5. Predictions

Our main prediction was that non-identical repetitions would be more frequent when repeating sociolinguistically non-homogeneous utterances than when repeating homogeneous ones. According to Buson and Billiez's model (2013; see Section 1), utterances with a clear sociolinguistic orientation, but including a non-coherent variant, mobilize a sociolinguistic schema that, in turn, activates the competing but compatible variant. Conversely, in a homogeneous utterance, the variants are all coherent with the sociolinguistic schema and the target variant can be produced identically.

Our second prediction concerned the effect of the experimental situation. Its nature (asymmetrical relationship, recording) and the academic aspect of the repetition task made it formal. Both in formal and informal utterances, certain modifications consisted of replacing non-standard variants by standard variants (toward the standard), and other modifications consisted of replacing standard variants by non-standard variants (toward the non-standard) (see Appendix A). Toward the standard modifications are favored by the formal nature of the experimental setting. Our second prediction was that toward the standard modifications (informal homogeneous and formal non-homogeneous utterances) would be more frequent than toward the non-standard modifications (formal homogeneous and informal non-homogeneous utterances). However, our hypothesis is that the favoring effect of the heterogeneous conditions in comparison with homogeneous condition should hold whatever the direction of change.

2.6. Results

We used a 2 (homogeneity: homogeneous vs. non-homogeneous) × 2 (direction of change: toward the standard vs. toward the non-standard) generalized mixed-effects

model (a generalized mixed-effects model was used because the dependent variable was dichotomous). Because mixed model analysis makes it possible to use both participants and stimuli as random variables, it maximizes the robustness and the generalizability of findings compared to traditional analyses of variance (Baayen, Davidson, & Bates, 2008; Judd, Westfall, & Kenny, 2012). Accordingly, we estimated a binomial mixed-effects model using the lme4 package (version 1.1-15) in R (version 3.4.3, R Core Team, 2012). This model crossed homogeneity and direction of change as fixed effects, and we estimated random intercepts and slopes for participants and stimuli. Random components and correlations between random components were included only when the model converged and when they were significant.

As can be seen in Table 2, our analysis first revealed a homogeneity main effect with participants producing more non-identical repetitions in the non-homogeneous utterances than in the homogeneous ones. This analysis also revealed a significant direction of change main effect with participants producing more non-identical repetitions in the toward the standard utterances than in the toward the non-standard ones. This analysis did not reveal a significant interaction (Fig. 1).

3. Experiment 2: Judgment task

Experiment 1 showed that participants repeated sociolinguistically heterogeneous utterances by replacing a heard variant that was inconsistent with the linguistic context with a coherent variant they did not hear. This raises the question of whether this phenomenon affects perception itself. In other words, do sociolinguistic schemata lead people to create a percept in which the variant that is not coherent with the context is missing and replaced by the coherent variant? A judgment task about the verbal material can provide some answers to this question.

Table 2
Logistic mixed-effect model predicting identical versus non-identical repetition

Random Effects	Variance	SD	Corr
Participants (Intercept)	0.288	0.536	
Participants (Dir. Change Slope)	0.271	0.520	−.24
Stimuli (Intercept)	0.192	0.438	
Stimuli (Homo. Slope)	0.879	0.938	
Stimuli (Dir. Change Slope)	0.116	0.341	
Stimuli (Interaction Slope)	0.155	0.393	

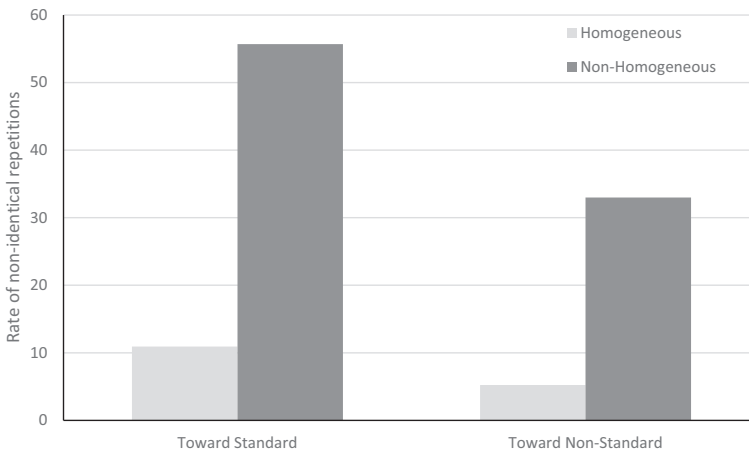| Fixed Effects	Estimate	SE	z-value	p-value
Intercept	−1.659	0.226	−7.329	<.001
Homogeneity	1.442	0.400	3.603	<.001
Direction of change	0.573	0.193	2.964	.003
Homo. by Dir. Change Interaction	0.111	0.195	0.571	.568

Fig. 1. Rate of non-identical repetitions as a function of homogeneity and direction of change in the utterances (Experiment 1).

3.1. Participants

Sixty-two adult native French speakers (age range: 18–30, 58 females) judged the formal or informal nature of the 24 utterances in Experiment 1. They all participated voluntarily and were recruited among first-year students in a linguistics degree.

3.2. Task and procedure

For each heard utterance, the participants ticked a box on a form and indicated whether it had been produced in a formal situation in which the speaker was watching her language or in an informal situation in which she was not.

3.3. Predictions and data coding

The heterogeneous formal utterances included a non-standard variant in the context of standard linguistic features. If they were judged as less standard than the homogeneous formal utterances, which only contained standard features, then we could conclude that participants perceived the mixing of variants. Conversely, if the mixing is perceived, the heterogeneous informal utterances should be judged as more formal than the homogeneous informal utterances. Moreover, if our experimental material was correctly designed, the formal utterances should be judged as more formal than the informal utterances.

We computed individual rates of formal judgement: Number of times participants indicated that the utterances of a certain set (e.g., homogeneous) had been produced in a formal situation divided by the number of times these utterances had been judged.

3.4. Results

We used a 2 (homogeneity: homogeneous vs. non-homogeneous) × 2 (formality: formal vs. informal) generalized mixed-effects model with the formality judgment as a dependent variable. Accordingly, we estimated a model crossing homogeneity and formality as fixed effects and we estimated random intercepts and slopes for participants and intercepts for stimuli. Again, random components and correlations between random components were included only when the model converged and when they were significant. As can be seen in Table 3, this analysis first revealed a formality main effect. In addition, it also revealed a significant interaction. As can be seen in Fig. 2, simple effects tests showed that the formal homogeneous utterances were judged as more formal than the formal heterogeneous utterances, $z = 3.31$, $p = .021$, but there was no significant difference between the informal heterogeneous utterances and the homogeneous ones, $z = 0.84$, $p = .41$. Moreover, the formal utterances were judged as more formal than the informal utterances and the difference was significant both for non-homogeneous, $z = 8.87$, $p < .001$, and for homogeneous utterances, $z = 8.24$, $p < .001$.

4. Discussion

The sociolinguistic repetition task used in Experiment 1 shows, first of all, that the phenomenon observed by Buson (2009) can be reproduced in an experimental situation. When repeating heterogeneous utterances, the participants replaced a heard variant that was sociolinguistically inconsistent with the rest of the utterance with a variant they did not hear, but that was coherent with the context. The replacements were more frequent in heterogeneous utterances than in homogeneous utterances produced in exactly the same situation. Due to the formal nature of the experimental setting, the replacement of non-standard variants by standard variants was more frequent than the opposite replacement. However, the favoring effect of the heterogeneous conditions in comparison with homogeneous condition held whatever the direction of change. A direct interpretation of these

Table 3
Logistic mixed-effects model predicting formality judgments

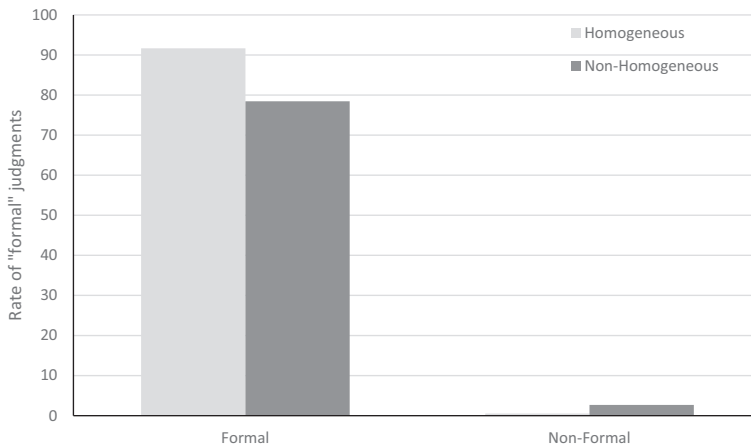| Random Effects	Variance		SD	Corr
Participants (Homo. Slope)	0.446		0.668	
Participants (Fam. Slope)	0.619		0.787	−.81
Stimuli (Intercept)	0.824		0.908	
Fixed Effects	Estimate	SE	z-value	p-value
Intercept	−1.376	0.288	−4.771	<.001
Homogeneity	−0.172	0.334	−0.516	.606
Familiarity	3.853	0.351	10.993	<.001
Homo. by Fam. Interaction	−0.607	0.285	−2.131	.033

Fig. 2. Rate of "formal" judgments as a function of homogeneity and formality of the statements (Experiment 2).

results is that the task was influenced by coherent schemata of varieties, linking together features from different linguistic levels with a similar sociolinguistic orientation.

The judgment task used in Experiment 2 shows that the utterances designed as formal or informal for the purposes of the experiment were perceived as such. It also shows that the participants perceived a heterogeneous formal utterance that included a non-standard variant differently from a homogeneous formal utterance that did not. Although these results may be accentuated by the large proportion of women—more sensitive to standard norms (Labov, 1972)—in the sample, we can conclude that the effect of schemata representing sociolinguistic varieties does not prevent perception of non-standard variants inserted in the context of a formal utterance. Where informal utterances were concerned, the presence of an isolated standard variant within an utterance including several non-standard cues did not change the judges' opinion. One might suggest that the fact that attention is immediately focused on non-standard features leads to ignore the standard ones.

These results testify to the heuristic value of the so-called *sociolinguistic restoration phenomenon*. They suggest that this phenomenon can affect the reconstruction of utterances in memory and not just their perception proper. Moreover, they encourage us to look for the coherence of sociolinguistic varieties in speakers' capacities to create cognitive schemata based on the co-occurrence of sociolinguistic variants and semantic-lexical content in the linguistic environment. This conception of coherence is compatible with the hypothesis of *bricolage,* which would consist of activating several schemata simultaneously when producing the same utterance.

A question worthy of further investigation is whether the restoration phenomenon holds for sociolinguistic variables from different linguistic levels. But the most urgent task is to prove that these schemata have indexical value, whether in the broad opposition between standard and non-standard or in more specific terms (e.g., gender, local identity). This

new methodological paradigm using the sociolinguistic repetition task in combination with methods from the field of social cognition (e.g., social priming) opens up a promising direction for studying the cognitive representation of sociolinguistic varieties.

References

Ashby, W. (1981). French liaison as a sociolinguistic phenomenon. In W. Cressey & D. Napoli (Eds.), *Linguistics symposium on romance languages (9th)* (pp. 46–57). Washington, DC: Georgetown University Press.

Baayen, R. H., Davidson, D. J., & Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language*, *59*(4), 390–412. https://doi.org/10.1016/j.jml.2007.12.005

Beeching, K. (2002). *Gender, politeness and pragmatic particles in French*. Amsterdam: Benjamins.

Booij, G., & De Jong, D. (1987). The domain of liaison: Theories and data. *Linguistics*, *25*(5), 1005–1025. https://doi.org/10.1515/ling.1987.25.5.1005

Buson, L. (2009). *Variation stylistique entre 5 et 11 ans et réseaux de socialisation scolaire: usages, représentations, acquisition et prise en compte éducative*. PhD dissertation, Université Stendhal, Grenoble.

Buson, L., & Billiez, J. (2013). Representations of stylistic variation in 9-11 year-olds: Cognitive processes and salience. *Linguistics*, *51*(2), 325–354. https://doi.org/10.1515/ling-2013-0013

Campbell-Kibler, K. (2010). New directions in sociolinguistic cognition. *University of Pennsylvania Working Papers in Linguistics*, *15*(2), 31–39.

Chevrot, J.-P., & Nardy, A. (2018). Sociolinguistique et sciences cognitives: Promesses d'une rencontre inattendue. In M.-H. Côté, J. Durand, C. Lyche, & J. Peuvergne (Eds.), *Dynamiques linguistiques: Variation, changement et cognition*. Paris: Presses universitaires de Paris Ouest. pp. 49–72.

Coupland, N. (2007). *Style. Language variation and identity*. Cambridge: Cambridge University Press.

De Certeau, M., Giard, L., & Mayol, P. (1990). *L'invention du quotidien, I: Arts de faire*. Paris: Gallimard.

Dostie, G., & Pusch, C. (2007). Les marqueurs discursifs. *Sens et variation. Langue française*, *154*(2), 3–12. https://doi.org/10.3917/lf.154.0003

Eckert, P. (2008). Variation and the indexical field. *Journal of Sociolinguistics*, *12*(4), 453–476. https://doi.org/10.1111/j.1467-9841.2008.00374.x

Gadet, F. (2007). *La variation sociale en français*. Paris: Ophrys.

Giles, H., & Powesland, P. (1975). *Speech style and social evaluation*. London: Academic Press.

Gregersen, F., & Pharao, N. (2016). Lects are perceptually invariant, productively variable: A coherent claim about Danish lects. *Lingua*, *172–173*, 26–44. https://doi.org/10.1016/j.lingua.2015.12.001

Guy, G. R. (2013). The cognitive coherence of sociolects: How do speakers handle multiple sociolinguistic variables? *Journal of Pragmatics*, *52*, 63–71. https://doi.org/10.1016/j.pragma.2012.12.019

Guy, G. R., & Hinskens, F. L. M. P. (2016). Linguistic coherence: Systems, repertoires and speech communities. *Lingua*, *172–173*, 1–9. https://doi.org/10.1016/j.lingua.2016.01.001

Irvine, J. (2001). "Style" as distinctiveness: The culture and ideology of linguistic differentiation. In P. Eckert & J. R. Rickford (Eds.), *Style and sociolinguistic variation* (pp. 21–43). Cambridge, UK: Cambridge University Press.

Judd, C. M., Westfall, J., & Kenny, D. A. (2012). Treating stimuli as a random factor in social psychology: A new and comprehensive solution to a pervasive but largely ignored problem. *Journal of Personality and Social Psychology*, *103*(1), 54–69. https://doi.org/10.1037/a0028347

Kiesling, S. F. (2011). *Linguistic variation and change*. Edinburgh: Edinburgh University Press.

Labov, W. (1972). *Sociolinguistic patterns*. Oxford, UK: Blackwell.

Laks, B. (2013). Why is there variation rather than nothing? *Language Sciences*, *39*, 31–53. https://doi.org/10.1016/j.langsci.2013.02.009

Le Page, R. B., & Tabouret-Keller, A. (1985). *Acts of identity: Creole-based approaches to language and ethnicity*. Cambridge: Cambridge University Press.

Malécot, A. (1975). French liaison as a function of grammatical, phonetic and paralinguistic variables. *Phonetica*, *32*, 161–179. https://doi.org/10.1159/000259697

Meyerhoff, M., & Klaere, S. (2017). A case for clustering speakers and linguistic variables: Big issues with smaller samples in language variation. In I. Buchstaller & B. Siebenhaar (Eds.), *Language variation – European perspectives VI: Selected papers from the Eighth International Conference on Language Variation in Europe (ICLaVE 8)* (pp. 23–46). Amsterdam: John Benjamins.

Moreau, M.-L., & Brichard, H. (1997). La part de la subjectivité dans l'évaluation de la qualité linguistique: une étude en Belgique francophone. *Parole*, *2*, 121–145.

Oushiro, L., & Guy, G. R. (2015). The effect of salience on co-variation in Brazilian Portuguese. *University of Pennsylvania Working Papers in Linguistics*, *21*(2), 157–166.

Péroz, P. (2009). On ne dit pas ouais! *Langue française*, *161*(1), 115–134. https://doi.org/10.3917/lf.161.0115

R Core Team (2012), R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. http://www.r-project.org/

Repp, B. H. (1991). Perceptual restoration of a "missing" speech sound: Auditory induction or Illusion? *Haskins Laboratories Status Report on Speech Research*, *108*, 147–170. https://doi.org/10.3758/BF03205070

Srinivasan, S., & Wang, D. (2005). A schema-based model for phonemic restoration. *Speech Communication*, *45*, 63–87. https://doi.org/10.1016/j.specom.2004.09.002

Warren, R. M. (1970). Perceptual restoration of missing speech sounds. *Science*, *167*(3917), 392–393. https://doi.org/10.1126/science.167.3917.392

Weinreich, U., Labov, W., & Herzog, M. I. (1968). Empirical foundations for a theory of language change. In W. P. Lehmann & Y. Malkiel (Eds.), *Directions for historical linguistics: A symposium* (pp. 96–195). Austin: University of Texas Press.

Appendix A: Verbal material

Translations are provided to give the non-French-speaking reader a sense of the topic, register, and, where possible, the homogeneity/heterogeneity of the utterance. For obvious reasons, they cannot fully reflect the variables used.

Formal homogeneous utterances

Negation—*Nous **ne** connaissions même **pas** le président de cette association.*
We did not even know the president of that association.
Relative—*Je m'interroge sur la façon **dont** ils conçoivent l'enseignement en général.*
I wonder how they view teaching in general.
Liaison—*C'esT un pays accueillant où il ferait certes bon vivre.*
It's a welcoming country where one could certainly live the good life.
/l/ in pronoun—*Etant donné qu'**il** travaille à l'hôpital, démissionner est une décision délicate.*
Given that he works at the hospital, resigning would be a tricky decision.
Discourse particle 1—*Oui bon, la situation est certes éminemment complexe.*
Yes well, the situation is clearly eminently complex.

Discourse particle 2—*De plus, **euh non**, certains articles évoquaient plutôt une restructuration.*

Moreover, erm no, some articles mentioned restructuring instead.

Informal non-homogeneous utterances

Negation—*Ouais bein le gars i(l) **n'**avait pas franch(e)ment l(e) choix au final.*
Yeah well, the bloke didn't exactly have any choice in the end.
Relative—*Essaye de pas m(e) refiler l(e) matos pourri **dont** t(u) as parlé l'aut(re) fois.*
Try not to dump that rubbish gear you mentioned last time on me.
Liaison—***C'esT un** sale gosse j(e) te jure il est grave.*
He's such a brat, seriously, he's a total pain.
/l/ in pronoun—*Ouais **i(l)** bosse tout l(e) temps c'est abusé.*
Yeah he works all the time it's way out of order.
Discourse particle 1—***Oui bon** en même temps comment i(l) s(e) galère avec sa meuf.*
Yes well, at the same time, man does he get hassle off of his woman.
Discourse particle 2—***Euh non** en vrai j'avais bien les boules de pas capter ses questions.*
Erm no, actually, I was pretty gutted that I didn't get his questions.

Informal homogeneous utterances

Negation—*Tu ∅ vas **pas** mett(re) tes pompes dégueu dans ma caisse, nan ?*
You're not gonna put your filthy shoes in my motor, yeah?
Relative—*Nan c(e) **que** j(e) te parlais t(ou)t à l'heure, c'(é)tait un aut(re) plan foireux.*
Nah, the thing what I was telling you earlier, it was another half-arsed plan.
Liaison—***C'est un** appart avec un pote (il) y a pas la télé.*
It's a place with a mate who's not got a telly.
/l/ in pronoun—*Alors **i(l)** regarde le truc et dit oh mais c'est quoi ça?!*
So he looks at the thing and he goes wait what's that?!
Discourse particle 1—***Oh mais** lui pour s'en remett(re) franch(e)ment ça été chaud.*
Oh but for him, getting over it, to be honest, it was proper rough.
Discourse particle 2—*Écoute t(u) es vachement sympa merci **hein**.*
Listen, you're super nice, thanks, huh.

Formal non-homogeneous utterances

Negation—*C'est un prix symbolique même si le gouvernement ∅ veut **pas** parler de gratuité.*
The cost is symbolic, although the government doesn't wanna refer to it being free.
Relative—*L'écueil majeur concerne la manière **qu'**on enseigne l'informatique à l'école.*

The main stumbling block concerns the way what we teach IT at school.

Liaison—*Certes les débordements dans l'hémicycle **étaient inévitables**.*

Clearly, outbursts from the benches were inevitable.

/l/ in pronoun—*Pour subvenir à ses besoins, bien entendu, **i(l)** faut d'autres sources de revenus.*

To support oneself, of course, you need other sources of income.

Discourse particle 1—***Oh mais** aujourd'hui les gens ne se marient plus à 25 ans à moins d'y être contraints.*

Oh but today people don't get married at 25 anymore unless they're forced to.

Discourse particle 2—*Nous pouvons sans doute nous y soustraire **hein**.*

We can probably elude it, huh.