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New Directions in Sociolinguistic Cognition

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Abstract

Variationists have largely, though often implicitly, subscribed to a model of social cognition that characterizes complex social reasoning as conscious and deliberative (e.g. the sociolinguistic monitor), in opposition to rapid and automatic linguistic behaviors (e.g. the vernacular). This paper argues against that assumption, presenting evidence from the field of social cognition which documents automatic processing in the formation of social perceptions, the triggering and pursuit of goals and the effects of stereotype-based priming. Implications and future directions for variation are discussed.

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1 Introduction

> *It is a profoundly erroneous truism, repeated by all copy-books and by eminent people making speeches, that we should cultivate the habit of thinking of what we are doing. The precise opposite is the case. Civilization advances by extending the number of operations which we can perform without thinking about them. Operations of thought are like cavalry charges in a battle—they are strictly limited in number, they require fresh horses, and must only be made at decisive moments.* (Whitehead 1911:41–2)

Variationists to date have been little interested in studying how social information is represented in the mind, despite a strong interest in how linguistic structures function cognitively. As a result, debates about the mental relationships between social and linguistic structures have been hampered by a lack of clarity regarding the nature of social processing. One area in which this has been particularly problematic is the relationship of complex social structures like social person models, social goals, and group-based stereotypes to real-time linguistic processing. This paper draws on existing research in the field of social cognition to argue that an effective model of sociolinguistic cognition must allow for rapid, automatic social processing.

Developments over the the past few decades in social cognition research have strongly supported a model in which social reasoning can be carried out by at least two forms of cognition: controlled processes on the one hand, which are relatively slow, resource-intensive, and require conscious awareness and effort, and automatic processes (Fiske and Taylor 2007) on the other. The relationships between these two types of processing are still poorly understood: it is not clear whether categories or points on a continuum are a more appropriate model, or how characteristics like rapidity, resource use, and conscious awareness are related to one another. Nonetheless, it is clear that many types of social reasoning can occur rapidly and without conscious awareness, including those previously thought of as controlled, like goal pursuit. In this paper I will summarize work on a handful of such processes most relevant for sociolinguistic variation. Before describing the social cognition results, I touch briefly on the current understandings of automatic and controlled processing in sociolinguistic variation, mentioning existing evidence which supports the idea that some sociolinguistic cognition happens rapidly and with conscious awareness or volition. The evidence from the social cognition literature will focus on three areas: impression formation, the pursuit of social goals, and the priming of group-based stereotypes. Finally, I will suggest some possible directions and questions these findings suggest for variation research.

2 Automaticity in Sociolinguistics

Concerns about automatic and controlled processing have long been central in variation research, with researchers typically positioning complex social reasoning as a necessarily conscious endeavor. At the end of his pioneering examination of the social complexities of diphthong centralization on Martha's Vineyard, Labov concluded that the lack of conscious awareness among speakers meant that the variables "[could] hardly therefore be the direct objects of social affect" (Labov 1972:40) and suggested that instead they somehow combined into larger, consciously salient groups. The assumption, at the time quite reasonable, that only conscious mental objects could be impacted by social preferences made the Vineyard results somewhat mysterious. The construct of the vernacular (Labov 1972) represents one approach to integrating supposedly conscious social needs with clearly automatic linguistic processing. The vernacular is learned early and becomes the social "default," produced by linguistic processes, but is overseen by a watchful and conscious sociolinguistic monitor, which prods the speaker to more formal or standard speech in certain situations. This monitor can be distracted by giving the speaker's conscious mind other concerns, such as telling an exciting

story, or by interfering with its performance, as when a speaker is tired or drunk. A core feature of the model is that in order to linguistically marshal resources to pursue a particular social goal, a speaker must be attending consciously to their speech.

The vernacular has been challenged for a variety of reasons, perhaps most importantly by the recognition that speaker goals encompass more than simply seeking prestige, that speakers can and do display linguistic behaviors which support more complex and clearly intentional projects of identity (Eckert 2000, Le Page and Tabouret-Keller 1985). Such work provides evidence for rapid sociolinguistic processing, by connecting small linguistic forms like phonetic variants to agentive social choices like the presentation of self or attempts to mark solidarity or distance (Giles and Powesland 1975), but has not engaged with the automaticity of social reasoning directly, a gap which has perhaps contributed to skepticism (for example, Trudgill 2008) due to the complexity of linguistic processes and the lack of arguments for how presumably conscious and similarly complex social goals can impact them in real time. A related concern comes from the clear evidence of speaker difficulties with some sociolinguistic goals, difficulties which may be left unexplained in models which emphasize the ability of speakers to control their sociolinguistic destinies. By investigating the types of processing used in sociolinguistic cognition, we can attempt not only to explain the abilities of speakers and hearers to adapt their linguistic processing to suit their social goals in some situations, but also to explain their inability to do so in others.

Some sociolinguistic research does address, directly or indirectly, questions of automatic and conscious processing. As noted, Eckert (2000), Labov (1969), and others have documented correlational relationships between linguistic variables below the level of conscious awareness on the one hand and complex social goals on the other. A number of models have been proposed for explaining aspects of these relationships, for example that variables are combined into larger units, such as styles (California Style Collective 1993, Coupland 2007, Half Moon Bay Style Collective 2006) and it is these styles, instead of or in addition to individual variables, which are "objects of social affect," as Labov suggests. Another insight is the role of *habitus* (Bourdieu 1982), the observation that despite even pressing social goals (in some cases of shibboleths, a literal gun to the head), speakers are typically not capable of changing linguistic habits on a dime. The accumulation of past experience structures our present abilities as well as our perceptions and affective associations, creating grooves of habit which can only be overcome with intensive practice.

Further evidence for integration between real-time social and linguistic processes comes from sociophonetics, beginning with Strand (1999) and Niedzielski (1999), who demonstrated that providing social information about a speaker (gender presentation and nationality, respectively) alters how listeners identify speech sounds. Evidence since then has accumulated, showing that social information about a speaker may cause listeners to be better or worse at identifying words in the process of merger (Warren et al. 2007) and further that changes in the identification of speech sounds may be influenced not only by speaker characteristics, but merely by exposure to relevant stimuli, for example, experimenter speech (Hay et al. 2006) or purportedly irrelevant iconic images (Hay and Drager to appear). These data suggest that complex, learned social information may be used in comprehending speech at a relatively early point in the processing stream. Strand's participants shifted their boundary between /s/ and /ʃ/ based not only on male/female classification, but on gender typicality, a judgment highly constrained by the cultural time and place of her study. Similarly, Hay and Drager's New Zealand participants showed opposite reactions to Australian social stimuli (stuffed kangaroos) based on gender, a pattern apparently tied to differing stances held by New Zealand men and women regarding Australia. All of this work suggests that sociolinguistic cognition involves complexity in both the social and linguistic domains and highlights the need for theories which take cognition in both domains into account.

Sociolinguists have not been alone in their vision of complex social reasoning as controlled and deliberative. Social psychologists have been similarly reluctant to accept automatic models, a reluctance which has led to a great deal of useful argumentation on the topic, including Bargh and Chartrand (1999), from which the Whitehead quote above was taken. In the next section I will present some research from social cognition that may usefully illuminate some sociolinguistic issues and serve as inspiration for future work.

Before doing so, it is important to note that the division between conscious and automatic pro-

cessing is not at all well understood. Two phenomena that both might be classified as automatic, such as priming effects from subliminal or overt stimuli, may still differ in how automatic they are, suggesting a continuum model rather than a categorical dual-process model. But even a continuum perspective may be overly simple, as the opposition between automatic and controlled can invoke multiple characteristics, including speed of processing, conscious awareness, self-perception of conscious intent, and resource (i.e., working memory) use (for an overview, see Evans 2008). Each of these elements themselves has multiple levels in turn: for example, an actor may be conscious or not conscious of performing an action, its possible consequences, the presence of a prior stimulus, the effect of that stimulus on their desire to perform the action, and so on (Uleman 1987:345). Despite these open questions, it is clear that many relatively complex social processes can happen rapidly and in the absence of conscious awareness. One such behavior is impression formation, the process of developing a model of a person based on available information, an area obviously relevant to sociolinguistic processing.

3 Impression Formation

The study of language attitudes has relied heavily on the evaluation of speakers for decades, in the form of verbal or matched guises, tools which rely fundamentally on the process of impression formation. This tradition in social psychology is the most familiar to sociolinguists and so I will touch on it only briefly. Language cues like language choice, variety choice, paralinguistic qualities and individual variables can all impact how a person is perceived through their voice (for an overview, see Giles and Billings 2004). The contribution of such linguistic cues is influenced by a range of contextual factors including available information about the speaker (Dixon et al. 2002), the content of their speech (Cargile and Giles 1998), the mood and other attributes of the listener (Ryan and Laurie 1990), the setting of the speech (Callan et al. 1983), and whether the listener is involved in the interaction or merely an observer (Street 1985).

More relevant for our current purpose is the type of processing used in impression formation, in particular the representations and processes humans have for perceiving and reasoning about other social beings (typically other humans, but see Lee 2002 and Lee and Nass 2004 for discussions of computers as social agents). Asch (1946) demonstrated the inadequacy of an "algebraic" model for how perceivers combine individual traits into an impression, suggesting instead that perceivers form holistic images, with certain central traits disproportionately contributing to the resulting impression and shaping the effects of others. Which traits are central may depend on trait type, with *warm* vs. *cold* influencing more dimensions of perception than *polite* vs. *blunt*, as well as the order in which the qualities are presented, with earlier traits more influential than later ones. Processes of impression formation also have an impact on other mental tasks, in that participants who have been asked to form an impression of the person who performed a list of behaviors are better at remembering the items listed and are more likely to cluster the behaviors into groups related to the character traits they exemplify (e.g., two behaviors that both show honesty) than participants who have been instructed to memorize the behaviors in the list (Chartrand and Bargh 1996).

One element in this process is called trait inference, the act of inferring a trait like "honesty" from a behavior like "returned a wallet," a process which appears to occur spontaneously. Participants instructed merely to remember sentences such as "The secretary solves the mystery halfway through the book," benefit equally from trait-related cues (e.g., *clever*) and actor-related cues (e.g., *typewriter*) when trying to remember the sentence, despite no awareness on the part of subjects of trait or personality-related thinking (Uleman 1987). While the original method of cued recall used to document spontaneous trait inferences has since been called into question (D'Agostino and Beegle 1996), spontaneous trait inferences have been confirmed using other techniques, for example showing that exposure to photo-behavior pairs facilitates learning subsequent pairings between the same photos and corresponding trait words (Carlston and Skowronski 1994). Thus it seems that perceivers routinely connect behaviors to the personal traits they provide evidence for, and assign those traits to the actors performing the behaviors, without explicit instructions or motivation to do so.

Impression formation as a psychological process is in itself highly relevant to sociolinguistic

cognition, particularly given the heavy emphasis on perception in the field as present. However, it also represents one of the key areas documenting the automaticity of processes previously envisioned as controlled, as one type of goal that can be triggered and pursued without conscious awareness.

4 Nonconscious Goal Pursuit

Although individual behaviors appear to spontaneously trigger trait inferences, when perceivers are presented with a number of behaviors, instructions to form an impression of a person who would perform all of the listed behaviors influence how the behaviors are processed. Overt instructions are not the only way to elicit this reaction, however. Chartrand and Bargh (1996) have shown that goals for forming an impression may be activated and pursued without conscious awareness. Participants were exposed to a list of behaviors such as: *had a party for some friends last week; went skiing in Colorado for the weekend; caught the error in the mechanic's calculations; read the Bible in his hotel room*. If explicitly instructed to develop an impression of the person who performed all the actions, participants were better at remembering the behaviors in a surprise memory test and more likely to cluster them into trait-based groups than those who were instructed to memorize the list. However, the same effect was also triggered by priming the participants beforehand with words related to impression formation in apparently unrelated tasks. In one case, participants were asked to form sentences using words related to personalities and judgments (e.g., *idea has he impression an*) or related to memorization (*somewhat memory prepared I was*). In another they were exposed to parafoveal cues, 60 ms flashes of words on a screen on the edges of their peripheral vision, such that they reported having seen only flashes of light. These cues were either impression formation-related (*judgment, personality, evaluate*) or neutral (*alarm clock, coffee, building*). Participants then read lists of traits which were mostly honest or mostly dishonest. Told after the fact that the same person did all of them, only participants primed with impression-related words showed an effect of this stacking in their evaluations (Chartrand and Bargh 1996). McCulloch et al. (2008) showed similar results, again using parafoveal cues and asking participants to read and remember sentences. They demonstrated the effect of nonconscious priming for impression formation on the speed of deducing trait implications from behaviors, performance on a trait-based recall task, and sensitivity to whether new information mattered for judging a person's personality in a recall task. Ratcliff and Lassiter (2007) showed that priming impression-formation goals also influences how participants segment behavior into meaningful actions. Their participants watched a brief movie of a young woman alone in her apartment engaging in everyday activities. Those primed with an impression formation goal segmented the clip into fewer units, and were more likely to identify a "pratfall" when the actor spills a drink on herself and her notebook as meaningful.

This body of work has particular relevance for sociolinguistics, as the issue of goals or intentions has been a source of concern. In both sociolinguistics and social cognition, "intentional" has served as one of the qualities that typifies conscious, controlled action, but these studies suggest that intentions may not be as firmly under conscious control as we would like to think. Even goals that are introduced consciously show "under the table" effects, impacting supposedly unrelated tasks. People asked to evaluate a target person as either a waiter (favoring politeness) or a crime reporter (favoring aggressiveness) transfer these preferences to their evaluations of a separate individual, despite their irrelevance to the new person (Bargh et al. 2008). Participants engaged in a helping task were likewise more generous in unrelated domains (willingness to help a fellow student and anticipated donations to their school as alumni) than those assigned to the same task as an equal, rather than a helper, an effect which disappeared at the conclusion of the task (Bargh et al. 2008).

Goals influence not only our actions but also our perceptions, causing us to disproportionately perceive goal-relevant stimuli, for example making goal-related objects visually more salient. Participants subliminally primed with a positive orientation to doing puzzles estimated the dimensions of a puzzle book as larger than those for whom the subliminal associations with puzzles were neutral (Aarts et al. 2008). Finally, goals introduced and pursued without conscious awareness still make demands on cognitive resources, reducing performance on working memory-based tasks (Aarts et al. 2008), further complicating the automatic/controlled dichotomy.

These findings have many implications for sociolinguistic variation; the manipulation of goal-relevant stimuli could help explain why listeners with different social goals differentially respond to sociolinguistic cues (Campbell-Kibler 2008). The fact that even nonconscious goals deplete working memory resources could explain how speakers are able to pursue complex sociolinguistic projects automatically but still be hampered by fatigue or resource-intensive mental tasks, while nonconscious effects of even conscious goals could help to illuminate the limits on style-shifting. But what are the mental structures we use to reason about these social goals? In the next section I will discuss automatic processing of groups and stereotypes.

5 Priming

One challenge of envisioning social reasoning as automatic is the apparent complexity of the social world and the wide variety of information required to reason about it. A solution to this tension lies in the duality of processing described above. When distracted and/or not invested in an interaction, perceivers tend to use simple, heuristic strategies to understand the behavior of others, employing more effortful and nuanced analyses when they have the motivation and capability (Fiske and Taylor 2007). Group-based stereotypes are just such a heuristic, influencing a range of types of processing, capable of being deployed rapidly and costing effort to overcome.

Attending to group membership is fundamental to the way people interact with the world and each other. Simply dividing people into overtly arbitrary groupings is enough to cause them to favor fellow members of their group over members of another (Tajfel et al. 1971, Mullen et al. 1992), and groupings, whether arbitrary or meaningful, cause people to confuse group members for one another more often than across groups (Brewer et al. 1995). Negative stereotypes concerning one's own group, when made salient, can diminish our ability to perform on tasks related to those stereotypes (Steele and Aronson 1995).

Given the importance of groups in social cognition, it is not surprising that group membership is identified rapidly as part of the process of impression formation. Ito et al. (2004) conducted a study examining Event Related Potentials (ERPs) in White subjects in response to pictures of White and Black faces. The faces were embedded in sets of non-human negatively-valenced pictures (pictures which had previously been rated as bad) in order to see if overt measures of racism correlated with ERP data on how different participants found the White and Black faces from the blanket negative background of stimuli. In addition to the effect they were looking for, Ito et. al. found that regardless of racism scores, an earlier reaction (roughly 200-250 ms after exposure) differentiated White from Black faces, which they interpret as more thorough processing for ingroup than outgroup faces.

The rapid and automatic deployment of group-based stereotypes not only influences subsequent reasoning about the target individual, but also can cause carry-over effects on other actions in the form of priming. Social priming bears some resemblance to linguistic priming, in which prior exposure to a linguistic form (such as a lexical item or relatively uncommon syntactic structure) can make the same or related items faster to perceive or more likely to be produced (Bock 1986, McNamara 2005). Participants who have been (overtly or subliminally) exposed to a social group exhibit behaviors tied to prevailing stereotypes about that group. Thus, young people exposed to words about older adults walked down a hallway more slowly and White participants primed with images of Black faces displayed more hostility when interacting with a partner during a potentially frustrating game (Bargh et al. 1996).

This priming can happen extremely rapidly. The tragic deaths of African American men as a result of police misinterpretation have inspired studies documenting that non-African American participants (university students as well as police officers) are faster to identify a gun and more likely to mistake a harmless tool for a gun under time pressure (limited to 500 ms or less) when the image is preceded by a picture of a Black face (Payne 2001, 2006). Gender categories likewise function as priming links, where images of masculine or feminine faces (or even faceless hairstyles) facilitate or inhibit tasks like classifying first names or objects as typically masculine or feminine (Macrae and Martin 2007). These priming effects not only occur spontaneously, but cost effort to suppress, leading to decreased control in participants who have previously completed an ego-depleting task

such as the Stroop task (Govorun and Payne 2006).

These priming results suggest that group-based stereotypes are not add-ons to the perceptions of individuals but rather fundamental elements of the perception process, and raise intriguing possibilities for further work investigating priming across the social and linguistic domains, as well as the use of priming as a potential tool for investigating relationships between sociolinguistic variables and other social and linguistic structures.

6 Discussion

The study of variation is about why, when, and how speakers do linguistic work in one way rather than another. One of the founding insights of the field is the observation that such choices are influenced in a regular manner by both linguistic facts and social facts about the speech situation. A full understanding of sociolinguistic phenomena requires an understanding of both the intersubjective and cognitive aspects of both linguistic and social structures, as well as the relationships between them. These results regarding the processing of social information suggest exciting new directions for the field.

Questions about the role of sociolinguistic cues in impression formation abound. How much does impression formation based on speech resemble that based on other cues? Can individuals listening to speech choose to (or be influenced to) attend or not attend to the social information in the stream? What kind of cognitive load does it draw? The introduction of new "talker models" has been repeatedly shown to impact speech processing, as when listeners told to expect two voices slowed in response to synthetic speech with variable pitch while those told to expect one voice did not (Magnuson and Nusbaum 2007). To what degree is such a phenomenon a linguistic one (involving the recalibration of linguistic expectations) and/or a social one (listeners must introduce a new "person" entity into their situational model)? How are impressions updated by the use of sociolinguistic variables, and how is this updating process influenced by the information already included? Labov et al. (2006) suggest that for one sociolinguistic variable, the social impact of repeated uses falls on a logarithmic scale, but it is uncertain whether this applies across other variables as well. If it does, we may also ask whether socially or stylistically variables show independent scales of effect or share influence.

Priming, with its intriguing parallels between social and linguistic processing, is another area ripe for sociolinguistic investigation. The work already done in this area (Hay et al. 2006, Hay and Drager to appear) has yielded surprising results, but there are more questions than answers in this area as well. To what degree do social categories prime linguistic behaviors and vice versa? How does priming influence the perception of and interaction with multiple interlocutors? Much research on social priming has been done on broad demographic categories, namely race and gender, categories that are quickly and easily read from phenotypes (provided the phenotypes themselves are preselected). Sociolinguistic variation provides a world of often highly salient cues to social information which can be used to investigate priming phenomena.

Categorization is at the heart of both social and linguistic processing. Proponents of exemplar-based theories place great emphasis on direct experience, suggesting that linguistic categories are the result of generalization processes functioning over stored memories of actual sound tokens (Pierrehumbert 2001) and that sociolinguistic categories (for example, of people and speech situations) are built similarly (Johnson 2006). At the same time, language ideologies, functioning in conscious awareness and subject to metalinguistic commentary, have strong influences on sociolinguistic behavior (see Schieffelin et al. 1998). How do ideological structures and less conscious sociolinguistic categories relate to one another? One possibility is that ideologies about language as well as other practices inform the development of the social categories which are integrated with linguistic categories. Listeners update their processing to respond to talker-specific characteristics (Magnuson and Nusbaum 2007), and memories of particular talkers seem to be structured in terms of social categories, such that listeners confronted with a new talker may attempt to identify them with respect to certain known talkers (Strand 1999, Niedzielski 1999, Hay et al. 2006). If this is the case, what kinds of social groupings are relevant? Are they the same ones that are rapidly identified from face

cues (e.g., race and gender)? Are they specific to language?

These questions call for hybrid approaches drawing on multiple research methods, a strong tradition in variation from Labov's (1969) combination of sociolinguistic interviews and subjective evaluation tests and continuing to the present day. Experimental approaches allow for close control over many aspects of the data, and are crucial to establishing causal relationships. This control often comes at the cost of ecological validity, as it is not always clear how behavior during experimental tasks relates to practices in day-to-day life. Conversely, ethnographic work provides rich insight into how practice and belief are intertwined in even the most mundane of social interactions, but researchers are obligated to take data in forms that are natural to study participants, which may or may not speak directly to pre-existing research questions or remain consistent across groups. Sociolinguistic interviews provide one middle ground, combining relatively consistent situational contexts and the manipulation of linguistic activity with a freedom for interviewees to self-present in ways that, ideally, reflect their habitual or at least preferred linguistic identities. It may be useful to draw further on psychology's toolbox, including not only the survey/questionnaires and social evaluation techniques already familiar, but priming manipulations, cognitive load assessments, and technological developments like ERP, fMRI and eye tracking (Conrey et al. 2005).

The results described here represent only a small portion of the debates currently in play regarding the nature of automatic and controlled processing in social cognition as well as other areas of psychology, and it is certain that models of such processing will develop further in the years to come. It is clear, however, that the social elements of sociolinguistic cognition include processing which is rapidly deployed and occurs without conscious intent or awareness. These results highlight the need for explicit work in sociolinguistics addressing the cognitive relationships between social and linguistic structures, relationships which are crucial to a full understanding of the development and maintenance of linguistic variation.

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