Original Article

Evidence that accent is a dedicated dimension of social categorization, not a byproduct of coalitional categorization ☆

David Pietraszewski [a],[*],[1], Alex Schwartz [b]

[a] University of California, Santa Barbara & Center for Evolutionary Psychology, CA, USA
[b] University of California, Santa Barbara, CA, USA

ARTICLE INFO

ABSTRACT

The present studies explore whether accent behaves like a byproduct of coalitional categorization, or like a dedicated dimension of social categorization. An experimental manipulation which has previously been shown to reduce coalitional byproducts, such as race, but not affect dedicated dimensions, such as sex and age, was used to test between these two possibilities. Accent behaved like a dedicated dimension, remaining unaffected by the same coalitional manipulation that reduces categorization by race. A second study verified that the exact same coalitional manipulation used with accent in fact reduces categorization by race. These results suggest that accent is not a byproduct of coalitional psychology, unlike race. Implications for the differing proximate psychologies underlying race and accent, and for the construct group, are discussed.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

Despite a large literature on attitudes toward language styles and repertoires (e.g., Giles & Powesland, 1975; Robinson & Giles, 2001; Gluszek & Dovidio, 2010) and recent developmental work (Hirschfeld & Gelman, 1997; Kinzler, Dupoux, & Spelke, 2007; Shutts, Kinzler, McKee, & Spelke, 2009), remarkably little is known about the relationship between social categorization and language differences. Previous studies (Pietraszewski & Schwartz, this volume) establish that accent differences – both native versus non-native and also two different non-native accents – are dimensions of social categorization. These studies were motivated by the idea that linguistic differences, such as accent, would have been a recurrent feature of ancestral environments and would be beneficial to track. Therefore the human mind may be designed to attend to language differences. Four alternative hypotheses as to why categorization by accent may occur were also tested against: (i) categorization by obvious sound differences, (ii) categorization by low-level sound differences, (iii) categorization by familiarity, and (iv) categorization by ease-of-processing.

In the current studies we test against the most viable remaining alternative hypothesis we can think of—the operation of coalitional psychology. Perhaps categorization by accent does not reflect design for attending to accent differences per se, but is instead a byproduct of coalitional psychology. On this account coalitional psychology would

pick up on accent differences over the course of ontogeny, in much the same way it picks up other arbitrary features that happen to correlate with patterns of social interaction and affiliation, leading to spontaneous and implicit categorization by those features (Kurzban, Tooby, & Cosmides, 2001; Cosmides, Tooby, & Kurzban, 2003; Tooby & Cosmides, 2010). Categorization by race, for instance, was once thought to be the result of dedicated design (e.g., Messick & Mackie, 1989; Hamilton, Stroessner, & Driscoll, 1994), but more recently has been shown to reflect the operation of coalitional psychology in just this way (Cosmides et al., 2003; Kurzban et al., 2001; Pietraszewski, 2009; see also Biernat & Vescio, 1993; Cabecinhas & Amâncio, 1999; and Maddox & Chase, 2004 for complimentary evidence). There are good reasons to think race is not the only output of this coalition-tracking capacity—ways of dressing, talking, and behaving can all indicate and mark social alliance and patterns of interaction, cooperation, and competition (Cosmides et al., 2003). If race is an output of this coalition-tracking competence, might not the same be true of accent (e.g., Gudykunst & Ting-Toomey, 1990)? If accent categorization is in fact shown to be a byproduct of coalitional psychology, then this would seriously undermine the proposal that the mind is designed to attend to accent differences.

To test this alternative hypotheses, we used a previously-established experimental manipulation to diagnose if a particular social dimension is a byproduct of coalitional psychology (Kurzban et al., 2001; Cosmides et al., 2003; Pietraszewski, 2009). This involves presenting the social category in question within a coalitional context, such that the category is shown to be no longer predictive of who is allied with whom (e.g., there are an equal number of each category type – e.g., white and black, male and female, old and young, etc. – on each team). Because of the evolved design of coalitional psychology, categories that are coalitional byproducts are reduced by such

manipulations, whereas categories that are dedicated dimensions are relatively unaffected (these include age and sex; Cosmides et al., 2003; Kurzban et al., 2001; Pietraszewski, 2009; see also, Lieberman, Oum, & Kurzban, 2008; Lorenzi-Cioldi, Eagly, & Stewart, 1995; Migdal, Hewstone, & Mullen, 1998; Van Twyver, & Van Knippenberg, 1998). This reduction phenomenon does not reflect a constraint of coalitional psychology (i.e., that it can only keep track of one coalitional cue at a time), but rather reflects an important design feature of coalitional psychology: the ability to track relevant coalitional cues, activate currently-relevant and predictive cues, and inhibit currently non-diagnostic cues (Tooby & Cosmides, 2010). In other words, coalitional psychology continually monitors and updates cue diagnosticity, and when better coalitional cues are provided, less accurate coalitional cues are inhibited (Cosmides et al., 2003; Pietraszewski, 2009).

Applying this test to accent categorization is straightforward. Accent is crossed with strong cues of cross-cutting coalition membership, such that accent is no longer predictive of who is affiliated with whom. If accent is a byproduct of coalitional psychology, then categorization by accent will be reduced. If accent is a dedicated dimension, then categorization will not be reduced. Thus, the results of this experimental manipulation will arbitrate between the two remaining possibilities for the psychology underlying accent: that it is (i) the result a dedicated cognitive system, like sex and age, or (ii) a byproduct of coalitional psychology, like race.

1.1. Reasons to expect accent is a dedicated dimension, not a byproduct of coalitional psychology

Prior to conducting our studies, we hypothesized that accent categorization would not be a byproduct of coalitional psychology because accent would have been a recurrent feature of ancestral environments, unlike race (Pietraszewski & Schwartz, 2006, 2007). In modern times, both accent and race appear to mark social origins. Both correlate with socioeconomic status, social class, and area of residence, and both seem to be instances of quasi-essentialized groups (Robinson & Giles, 2001). However, from an evolutionary perspective, accent and race are likely fundamentally different categories in the mind.

The physical features that make up the experienced category "race" would not have been a recurrent feature of the world over evolutionary time. This is because the scale of ancestral travel would have not have exceeded the geographic scale of the features that currently constitute race (physically-superficial adaptations to local climates and environments; Cosmides et al., 2003; Graves, 2001; Manning, Bundred, & Mather, 2004). Ancestrally, people traveled in relatively small numbers over relatively short distances (Lee, 1972; Leacock & Lee, 1982; Kelly, 1995; Chapais, 2008, 2010). Only with rapid intercontinental transportation on a mass scale can large populations of previously isolated people with different recent ancestries come in contact with one another (Cosmides et al., 2003). Because race was not likely an aspect of ancestral environments, it is unlikely that categorization of people according to their race is a consequence of dedicated cognitive systems for that purpose. Rather, categorization by race is a phenomenon driven by other evolved social cognitive processes, including coalitional psychology.

In contrast, linguistic variation – including accent variation – was likely a recurrent aspect of ancestral environments (Chapais, 2010; Nettle, 1999; Pietraszewski & Schwartz, this volume). This is because exposure to linguistic variation does not depend on modern transportation technology (Kelly, 1983). Indeed, populations which travel on foot routinely come in contact with others who speak differently (e.g., Bowern, 2010; Hill, 1978; Kelly, 1995; Lee, 1972). Further, because language is acquired from the local social environment, and the acquisition period ends roughly at puberty (likely to be true since the advent of language; see Komarova & Nowak, 2001), variance in language would be encountered whenever the scale of adults' social interaction is greater than that of children (Kirby,

1998; Nettle, 1999; Pietraszewski & Schwartz, this volume). The generality and recurrence of this pattern of life-stage movements are well-documented, both in hunter–gatherer populations (e.g., Leacock & Lee, 1982; Kelly, 1995) and in estimates of ancestral populations (e.g., Chapais, 2008, 2010). Thus, converging lines of evidence suggest that exposure to accent differences was likely a recurrent feature of human ancestral environments.

In addition to being ancestrally-recurrent, accents would also provide uniquely-informative social information. The more two people share linguistic features, the more likely they share relatively common early social origins (i.e., that they grew up in, or are from, the same language community; Chapais, 2010; see Currie & Mace, 2012). Knowing this information would support valuable inferences and expectations (Moya, 2013; Pietraszewski & Schwartz, this volume), and given the speed, fidelity, and frequency of acoustic communication, such language-based assessments would be relatively easy and inexpensive ways of mapping important parts of the local social world.

Because accents were likely recurrent features of ancestral environments, and because they would be useful to track, it is (i) likely that categorization of people according to their accents is a consequence of dedicated cognitive systems for that purpose, and (ii) unlikely that categorization by accent is simply a byproduct of coalitional psychology, like race. In the context of the current studies, accent is therefore predicted to behave like a dedicated dimension of categorization, like sex and age, and be unaffected when shown to be no longer predictive of coalitional relationships.

1.2. Overview of the current studies

Two studies were conducted. Each employed the same memory confusion paradigm used in previous studies to demonstrate (i) that categorization by race is a byproduct of coalitional psychology (Kurzban et al., 2001; Cosmides et al., 2003; Pietraszewski, 2009) and (ii) that categorization by accent occurs in a non-coalitional context and cannot be accounted for by categorization by general sound differences, low level sound differences, differences in familiarity, or differences in ease-of-processing (Pietraszewski & Schwartz, this volume). Both studies also featured a coalitional context that has been previously demonstrated to reduce categorization by race and leave categorization by sex unaffected (Pietraszewski, 2009; Pietraszewski, Cosmides, & Tooby, under review). Study 1 featured the same accent distinctions used in Pietraszewski and Schwartz (this volume), now placed within a coalitional context. This allowed us to examine if accent categorization would be reduced compared to the levels found in the non-coalitional, baseline context of Pietraszewski and Schwartz (this volume) via direct comparison. In Study 2, we verified that these exact coalitional stimuli would in fact reduce categorization by race. Consequently, accent and race were placed within the exact same coalitional experimental context, such that how each was affected could also be directly compared.

2. Study 1: Accent crossed with coalition membership

In Study 1 accent was crossed coalitional membership. If accent is a byproduct of coalitional psychology, then it will behave like race and decrease dramatically in this context. In contrast, if accent is a dedicated dimension then it will behave like sex and not be affected.

Coalitional stimuli from a previous set of memory confusion paradigm studies involving race and sex were used to test between theses hypotheses (Pietraszewski, 2009; Pietraszewski, Cosmides, & Tooby, under review). These studies, which involved over 1200 participants, extensively tested the hypothesis that categorization by race would be reduced when no longer predictive of coalition membership, and that categorization by sex would remain unaffected.

In order to provide the strongest test of the prediction that categorization by accent will not be reduced by coalition information,