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In faint praise of folly

A critical review of native/non-native speaker comparisons, with examples from native and bilingual processing of French complex syntax

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This study critically examines the widespread practice of comparing the linguistic processes and representations of non-native speakers with those of natives. We argue that, in some respects, the method yields benefits, while in others it does not serve the interests of research into the nature of second language acquisition and bilingualism. We go on to consider certain analytical approaches that skirt the hazards of the method. The potential payoffs of native/non-native comparisons are illustrated in a priming study of monolingual and bilingual processing of ambiguity in complex French syntax (Gertken 2013).

Keywords: bilingualism, second language acquisition, native speaker, second language user, comparative methods, French, psycholinguistics

1. Introduction

“No party is any fun unless seasoned with folly.” Erasmus 1511, *In Praise of Folly*

With apologies to Desiderius Erasmus, and minus the satire and erudition that characterize his 1511 treatise, *In Praise of Folly*, in the present article we consider the practice of native/non-native comparisons in second language (L2) acquisition and bilingualism research to be an example of folly, but folly that is not without merit. Our support of such comparisons is conditional, and our pros-and-cons scale tips just slightly toward the plus side. Readers will decide for themselves whether our faint praise is ultimately damning.

We offer our views in a climate of differences among researchers, some of whom condemn, some of whom rely on, and some of whom guardedly accept, comparisons of native speakers with L2 learners and bilinguals. Various positions

on the topic have been elaborated at recent conferences, such as the 2011 Second Language Research Forum (Jarvis 2011; Rothman 2011; Slabakova 2011) and EUROSLA 21 (Hyltenstam 2011; Sharwood Smith 2011; Sorace 2011). Our commentary is informed by other position papers, from the classics (e.g. Bley-Vroman 1983; Cook 1997, 1999; Klein 1998; Mack 1997) to current work (e.g. May 2011; Ortega 2013, 2014; Rothman 2008, submitted; Slabakova 2013). That said, a comprehensive look at native/non-native comparisons is not the goal of this paper.

While we are at pains to point out the perils of native/non-native comparisons, we also acknowledge that this practice has undergirded our own research and, to a certain degree, has driven it. We maintain that the methodology of native/non-native comparisons can be defended, but the ultimate value of the resulting evidence is constrained by issues of interpretation, and by the uses to which it is put. We emphasize as well the virtues of comparisons that do not pit non-natives against natives, and of methodologies that eschew comparisons altogether.

Our ambivalence is reflected in the structure of this article. The first main section (Section 3) highlights the pitfalls of native/non-native comparisons. The next part presents selected framings of bilingualism that do not rely on native/non-native comparisons. In the following section we consider certain potential and actual benefits of native/non-native comparisons. This is followed by our review of Gertken (2013), a syntactic priming study of ambiguity in relative clause attachment in French, which includes a constructive implementation of native/non-native comparisons.

We preface these major sections with several terminological notes and clarifications (Section 2). At the end of the paper, we elaborate on our contention that the practice of native/non-native comparisons can contribute in significant ways to understanding bilingualism and L2 acquisition, and is thus not invariably a fool's game.

2. Clarifications and terminology

“You have brought yourself to folly; you have caused a division which can never be healed!” Eustacia Vye, in Thomas Hardy's 1878 *The Return of the Native*

For the purposes of this study, a *bilingual* is considered to be a user of two languages. Thus comments throughout this paper apply both to L2 learners at end state and to bilinguals. Indeed, consistent with the “bilingual turn” in the discipline of Second Language Acquisition (SLA) (e.g. May in press; Ortega 2009, 2013), we maintain that L2 learners who routinely use their L2 and their first language (L1) need not be segregated methodologically or phenomenologically from bilinguals.

The term *L2 user* will be employed in reference to a bilingual in the context of producing or processing the second language. In general, our remarks with regard to non-natives have relevance to individuals in L1 attrition contexts such as heritage speakers and international adoptees, assuming that there is some ongoing use and knowledge of the L1. Except where otherwise noted, the comparisons we refer to are made between groups of adult speakers, and can involve either behavioral or brain-based data. Also, unless specified, the age of acquisition (AoA) of the L2 includes ages from childhood to post-adolescence.

It is beyond the scope of our study to engage in the debate over what constructs should be referenced by the terms “native” and “non-native” (e.g. Davies 2003, 2004; Piller 2001). For the sake of simplicity, and consistent with the stance of many other researchers, we connect “native” (as in native speaker or native user of a language) to the language-from-birth and also to monolingualism. Therefore, following Mack (1997: 115), the term *native* will refer to “an individual who has been exposed to a specific language from infancy and who can function effectively in ONLY one language” (emphasis in the original).¹ A *non-native* is simply a person who is not a from-birth speaker/user of the language in question. (Note, however, that in cases of extreme attrition, a non-native may be functionally a monolingual.) Clearly these notions do not apply in the instance of bilinguals from birth, who are native speakers of both languages. As suggested in Section 4.2, such individuals may constitute a control group as an alternative to natives.

Nativelikeness is ascertained by comparing non-natives with native speakers of a given language: “A nativelike speaker of the same language is someone who, in all respects, uses the language like a native speaker, in spite of the fact that the language in question is not the user’s L1” (Hyltenstam & Abrahamsson 2012: 182). Someone who is not indistinguishable from a native speaker is *non-nativelike*. As a variety of non-nativelikeness, *near-nativelikeness* is a close approximation of nativelikeness, whether assessed globally (i.e. across all features of the L2 and across

1. Hyltenstam and Abrahamsson (2012:182), perhaps with the multilinguistic context of Sweden in mind, define the native speaker as “the archetypical L1 speaker, *who is not necessarily monolingual* [our emphasis] but who has learned that language and continued to use it regularly throughout the life span”. In contrast, Ortega (2014), consonant with Mack (1997), observes that the native speaker has had exposure to the L1 from birth as well as monolingual upbringing and socialization.

Critiquing the monolingual element of native speaker-hood, Ortega (2014) characterizes the archetypical native speaker as being putatively endowed with a linguistic competence “whose purity proves itself in the absence of any detectable traces of any other languages during (natural or elicited) language use”. Though not usually spelled out, the idealized (and ideologically fraught) assumption of “linguistic purity” would seem to underlie references to native speakers in much of the literature. Pragmatically speaking, this assumption removes a confounding variable and a certain amount of conceptual clutter from native/non-native comparisons.

all relevant tasks), or in specified domains (e.g. VOT production, agreement, *liaison*) or on certain tasks (e.g. ambiguity resolution, grammaticality judgments, elicited or spontaneous speech) in the L2. The classic, though controversial, issue in comparisons of non-natives with natives is whether non-natives are indistinguishable from natives in theoretically meaningful ways.

3. Pitfalls of comparisons with natives

“Nothing is as peevish and pedantic as men’s judgments of one another.” Attributed to Erasmus 1511, *In Praise of Folly*

3.1 Limitations of the target deviation perspective

Ortega (2013) reminds us that, fifteen-odd years ago, Klein (1998) pointed out a research bias toward the “target deviation perspective.” On this view, “there is a well-defined target of the acquisition process, that learners miss”; that is, “the learner tries to do what the native speaker does, but does it less well” (Klein 1998: 535).

In contrast to this approach, Klein promoted the study of learner varieties (e.g. Klein & Perdue 1997) that are particularly common in immigrant contexts. Learner varieties are recognized as linguistic systems that “are not imperfect imitations of [...] the target language — but systems in their own right, error-free by definition”, and which emerge from “how the human language faculty works when exposed to new input” (Klein 1998: 538).

Thus, a preoccupation with missing the target is blind to the creative nature of the acquisition process as revealed in the development of learner varieties and pidgins. A focus on non-nativelike outcomes also ignores the dynamics of language change, across all levels of language, that result from contact of speakers of different languages, e.g. the contact of immigrants with natives (Thomason 2008).

Relatedly, many researchers (e.g. Bley-Vroman 1983; Dekydtspotter, Schwartz & Sprouse 2006; Juffs 2006; Ortega 2013; Rothman 2011; White 2003) warn of the comparative fallacy. As a point of departure for linguistic analysis, the notion that a non-native grammar is essentially “a degenerate form of the target system” (Bley-Vroman 1983: 4) favors (potentially invidious) comparisons of learners’ and natives’ grammars over discrete, uncolored analyses of interlanguage grammars as stand-alone linguistic systems. More generally, it is difficult to argue that the systematicity inherent in any grammar is best studied by appeal to grammar-external criteria, i.e. by comparing languages to one another (Bley-Vroman 1983: 15).

3.2 Incommensurability

As Slabakova (2013) observes in her review of adult second language acquisition, comparisons of non-natives with natives pose inherent problems of incommensurability, in two main respects. For one, unlike the monolingual mind, in the bilingual mind there are two languages that are concurrently activated at all times in language use. As a consequence, particularly in processing studies, comparisons of native monolinguals with bilinguals are of questionable informativeness, by virtue of the confounding factors of attentional control and L1 suppression that are required in language processing among bilinguals but not among monolinguals (see Bialystok 2009, cited in Slabakova 2013). The other impediment to *ceteris paribus* comparisons is the fact that there is no obvious way to control for the linguistic experiences of bilinguals versus monolinguals. Consequently, “the input of monolinguals and bilinguals is too varied for direct comparisons to be justified” (Slabakova 2013: 53 and references therein).

3.3 Limited applicability of evidence of nativelikeness

Proponents of the Critical Period Hypothesis for L2 acquisition (CPH/L2A) stipulate that, to falsify the hypothesis, evidence of across-the-board nativelikeness is necessary (e.g. Long, 1990). However, it is well understood that, because of known bi-directional influences of the two languages, neither the L1 nor the L2 of bilinguals (early and late) can be expected to be identical in every detail to the language of a monolingual. (Here, language can be understood in the broadest sense in terms of all levels of the grammar, lexis, pronunciation, processing, etc. and in terms of behavioral and brain-based evidence.) For example, Fowler, Sramko, Ostry, Rowland and Hallé (2008) show that VOT values in French-English bilinguals diverge from monolingual norms in both languages (see Cook 2003 for additional examples and an overview). Inasmuch as bilingualism is by definition non-monolingualism, the criterion of across-the-board nativelikeness for rejecting the CPH/L2A appears unreasonable (e.g. Birdsong 2005a; Cook 2007; Ortega 2009; Piller 2002; Singleton 2003).

3.4 Null results

Among researchers in a variety of disciplines, there is a general sentiment that the absence of statistical differences in comparisons is uninformative and of little scientific value, inasmuch as a lack of differences says little about the roles of identified factors and their related hypotheses. There is a well-documented prejudice against the finding of null results, as reflected in journal rejection rates (e.g.

Greenwald 1975). In an effort to counter this prejudice, some researchers have weighed in against the unnecessary negativity and have emphasized the scientific value of null results (e.g. Whitley & Kite 2012: 543).

Nevertheless, as pointed out by Pedhazur and Schmelkin (1991: 207), a null finding is often seen as “a reflection of weakness in the design and/or in the execution of the study (e.g., large Type II errors, errors of measurement, poor controls)”. Just such arguments are put forth by those who contest findings of nativelikeness, i.e. no differences in comparisons of natives with non-natives (e.g. Long 2005; Abrahamsson & Hyltenstam 2009), as if there were no flaws in studies where non-nativeness is found.

Thus, a null finding in the form of across-the-board nativelikeness is held up as a stipulated condition for falsification of the CPH/L2A, yet, paradoxically, as a devalued variety of evidence — all the while being conceptually misguided, given the nature of bilingualism. At the same time, researchers implore one another to look for evidence of *non*-nativelikeness.

It must be remembered that we are actually dealing with two of the most central and crucial questions in linguistics and SLA, namely “Can L2 learners ever attain nativelike proficiency?” and “Is there a critical period for (second) language acquisition?” Given that the null hypothesis states that there are no differences between native speakers and (adult) seemingly nativelike L2 speakers, it would be a (...) disservice to the scientific process if we, as researchers, chose not to do our best in trying to reject it (Abrahamsson & Hyltenstam 2009: 293).

3.5 Non-nativelikeness as failure

Although this article is fundamentally concerned with the practical and theoretical implications of comparing non-natives with natives, we would like to interject an observation that focuses on the intersection of ideology and methodology (for related commentary, see Ortega 2014).

The end state of L2 acquisition is described by Bley-Vroman (1989) in terms of failure. Specifically, the outcome of L2 acquisition is “ineluctable failure” to attain nativelikeness (44). The characterization of non-nativelikeness as failure harks back to the pedagogical literature many decades earlier (e.g. Gatenby’s 1948 “Reasons for Failure to Learn a Foreign Language”); ahead a few decades to the L2 linguistics literature (e.g. the Failed Functional Features hypothesis, Hawkins & Chan 1997); and up to the present day in promotions of language learning methods (e.g. Language101.com advertises its product by identifying “The Number One Cause of Language Learning Failure” <http://language101.com/learn-any-language/why-people-fail/>). The equation of the L2 acquisition end state with non-nativelikeness, along with the linkage of non-nativelikeness with failure, are

foundations of a societal-level stigmatization of foreign-ness, particularly with respect to “foreign accent” (for discussion, see Moyer 2013). Arguably, the object of prejudice is not just the presumed inferiority associated with failure, it is otherness and non-normativeness as well. It is not a stretch to connect the dots between disfavored ethnic dialects and failure to attain nativelikeness.

But what if not all L2 acquisition ended in “failure” *vis-à-vis* the native standard? Commenting on (hypothetical) nativelike attainment in late L2 acquisition, Bley-Vroman (1989:44) avers that such exceptional success “may have the same ‘pathological’ status for adult acquisition as the rare failures in first language acquisition are considered to have.” In essence, were an across-the-board nativelike L2 user to be found (as noted, many researchers have argued that this is inconceivable), s/he would be marginalized as an aberration. In a nutshell of irony: nativelikeness at the L2 acquisition end state is abnormal, non-nativelikeness is normal, and neither is viewed in a positive light.

3.6 The folly

In this main section we have argued that objections can be raised against native/non-native comparisons on theoretical, practical, and ideological grounds.

The potential for folly that attaches to the methodology comes down in large part to the interpretation of evidence. Non-nativelikeness is, as it is often put, “consistent with the predictions” of the CPH/L2A, and at the same time is known to be an inevitable feature of both the L1 and the L2 of bilinguals. With the latter observation in mind, “the putative impossibility to attain nativelikeness after a certain age, if reinterpreted under a bilingual lens (...), may turn out to mean that it is impossible for bilinguals to be monolinguals. This would be inconsequential both from a theoretical and a practical viewpoint” (Ortega 2009:27).

The folly of native/non-native comparisons has a programmatic aspect as well. As previously noted, Klein (1998) and Bley-Vroman (1983) lament the narrowness of the view from “the target language,” which systematically precludes insights into the creation of grammars that are not necessarily L1-like or L2-like. Moreover, when researchers refer to “target,” they may presume to know what it is that learners are actually intent on learning. This practice overlooks the fact that second language learners choose their goals (Bley-Vroman 1989); their learning target is not necessarily the ambient language, in part or in whole. In a word, the target language perspective ignores the perspective of the learner.

Further, given what is known about bilingual processing and representation, a programmatic search for indisputable evidence of across-the-board nativelikeness would be handcuffed from the start. Not only is it folly to conceive of across-the-board “monolingual competence a second time around later in life” (Ortega in

press) but, as suggested above, evidence for nativelikeness even on a small scale may be downplayed relative to evidence of non-nativelikeness, and is likely to be met with the cynicism that awaits null results: “all one has to do in order to ‘support’ the null hypothesis is to do sloppy research” (Pedhazur & Schmelkin 1991: 207).

The no-exit gloom associated with nativelikeness finds itself in incongruous juxtaposition with the merry embracement of *non*-nativelikeness. Indeed, the discipline of SLA has historically defined itself by a successful programmatic quest for evidence of that which is already known, namely that “the bilingual is not two monolinguals in one person” (Grosjean 1989). From here, folly takes the form of mischaracterization when bilingualism — by definition, non-monolingual-likeness — is tantamount to failure.

4. Gilt by dissociation: Alternatives to native/non-native comparisons

“Give light, and the darkness will disappear of itself.” Erasmus 1877, *Apophthegmes*

4.1 *E stultitiā lux*

Prompted in part by the recognition of the downsides of native/non-native comparisons, and thus by the perceived need for alternatives, several methodological, philosophical, and theoretical advances have emerged at the disciplinary level. The three selected approaches described here illustrate notable reframings of perspectives on the L2 user.

Piller (2002) is keen to characterize highly proficient L2 users, while avoiding the normativity associated with the construct of near-nativelikeness. Recalling our earlier concerns about the appropriateness of native/non-native comparisons in the CPH/L2A context, Piller (2002: 180) observes: “The primacy of the native speaker as the provider of baseline data against which to measure ultimate attainment (...) is no longer tenable.” And yet, if comparisons of non-natives with natives are out of the question, researchers are left with an inconvenient truth: “At the same time, we do not know how else to measure high-level attainment in SLL [second language learning]” (2002: 180–181). This impasse sets the stage for Piller to promote a different way of conceptualizing what L2 users do. Her ethnographic approach looks at L2 users who “pass for” natives by strategically shaping their L2 performances around their knowledge of stereotypical features of linguistic varieties of native speaker audiences in certain delimited contexts such as service interactions. Determination of “successful L2 use” (2002: 201) is not a matter of

objective testing, be it proficiency ratings or comparison with natives, but derives from the user's own sense of having been perceived as a native speaker.

In a similar vein, Magnusson and Stroud (2012) apply constructs and methods of interactional sociolinguistics to their analysis of 20 young multilinguals residing in Sweden who self-identify as Assyrian-Syrians. As many were born and raised in Sweden, and were raised in multilingual families with parents who are not originally speakers of Swedish, these are atypical L2 users. The multilinguals' voice and identity positioning reflect acute metalinguistic sensitivity to linguistic form and hence to nativelikeness. As a function of the interactional situation (school and customer care) the multilinguals choose to enact varying degrees of nativelikeness, which may be stylized or exaggerated. At times, their knowledge of Swedish nativelikeness and register are points of reference for their performance of "incompetence in Swedish" (2012: 341). At other times, their knowledge of *non*-nativelike Swedish allows them to perform "competence or expertise in non-Swedish (e.g. by purposely stylizing an immigrant voice)" (2012: 341). All this requires mastery of sociolinguistic repertoires (e.g. Hymes 1972): "genres and styles [...] their formal aspects and the appropriate subjectivities and social and interactional proficiencies that go with them" (Blommaert & Backus 2011: 9; cited in Magnusson & Stroud 2012). From this description, it is clear that the straightforward practice of native/non-native comparisons is transcended in several methodological- and theory-specific respects.

Another example of going beyond native/non-native comparisons is the usage-based linguistics (UBL) approach (e.g. Bybee 2010), advocated for the L2 context by Ortega (in press) and reviewed by Slabakova (2013). The fundamental tenet of UBL is that knowledge of language emerges, at the level of the individual language user, from actual events of language usage. UBL rejects linguistic normativity and accordingly the notion of a "target" of language acquisition. Language development is referenced to the self, rather than being analyzed in terms of conformity to external or idealized points of reference. With respect to L2 learners and bilinguals, the UBL orientation means that data from comparisons with natives are not only inappropriate, they are irrelevant to our understanding of L2 use.

4.2 Compare, yes: But whom to whom?

The analyses just mentioned are not oriented around comparisons per se. It can be expected, however, that other language researchers be disposed to look favorably on well-motivated comparative methodologies. Recognition of what can go wrong with comparing non-natives to natives has had the salutary effect of focusing attention on how to operate within a comparative paradigm without running afoul of the shortcomings of the monolingual native control design.

Theoretically and methodologically sound designs may compare not only late vs. early L2 learners, but also early/late L2 learners vs. from-birth bilinguals and L1 attriters. Slabakova (2013: 53–54), discussing alternatives to monolingual native controls in current research, notes Sorace’s (2011) promotion of early bilinguals as controls (see also Singleton 2003). For this population, Sorace points out that massive exposure to and use of two languages has enabled high levels of executive control in both languages. Comparisons of early bilinguals with late L2 learners would speak to possible qualitative or quantitative differences and similarities in executive functioning in the specified language.

A consideration under this approach is slight variations in age of acquisition of the early bilinguals, which would have to be controlled for as, ideally, would inter-individual differences in quantity and quality of exposure to each language. Another potential confound to consider is individual bilinguals’ degree of dominance in one language versus the other, as measured globally by instruments such as the *Bilingual Language Profile* (Birdsong, Gertken & Amengual 2012) and, especially in processing contexts, as assessed in terms of executive function by instruments such as *AQT: A Quick Test of Cognitive Speed* (Wiig, Nelson, Minthorn & Warkentin 2002; see Section 6.5). Slabakova (2013: 54) continues:

Slabakova (2011), on the other hand, argues that late but very proficient (advanced and near-native) bilinguals tested in their native language should be the best controls for L2A experiments. What such controls would have in common with adult L2 learners will be exposure to a second language in adulthood, thereby comparable inhibitory control mechanisms. Studies that include both bilingual and monolingual controls would be most informative.

Note that the proposals by Sorace (2011) and Slabakova (2011) reference the psychological mechanism of executive control. In this respect they have special relevance to studies of processing. As mentioned earlier, Section 6 of the present article is a review and discussion of Gertken (2013), a priming study of native and bilingual syntactic processing in which the role of attentional control is examined. Looking at natives and non-natives along psychological dimensions is crucial to a fuller understanding of both populations.

5. The upside of native/non-native comparisons

“Nothing is more imprudent than perverse prudence.” Erasmus 1511, *In Praise of Folly*

5.1 Heuristic benefits

Comparisons of native speakers with non-natives have yielded payoffs of a heuristic nature. Such comparisons have subtended and reinforced the constructs of fossilization and interlanguage as ways of framing observed non-monolingual nativelikeness. The same can be said of the Fundamental Difference Hypothesis and the CPH/L2A. Countless studies under the umbrellas of these notions have been conducted over the decades, disciplinary and inter-disciplinary dialogue has flourished, and the science has been the richer.

The Universal Grammar (UG) approach to L2 acquisition has also profited heuristically from issues associated with native/non-native comparisons. Though initially oriented toward showing similarities between non-natives and natives, the UG framework has been refined by the understanding that L2 learners' convergence on the linguistic knowledge of natives is not the only possible evidence of UG's role in constraining the hypothesis space of L2 learners. Rather, UG's role is supported by indications that learner grammars are underdetermined by the input, and by demonstrations that the properties of their grammars comply with known constraints on grammatical form in natural languages. On this logic, divergence from the linguistic knowledge of native speakers does not constitute falsifying evidence for UG, so long as the learners' grammatical representations are UG-constrained. White (2003: 27) provides a cogent synopsis of the role of native/non-native comparisons in the context of UG:

It is not the case (...) that one should never compare L2 speakers to native speakers of the L2 as far as properties of the grammar are concerned. There are legitimate reasons for asking whether the L2 learner has in fact acquired properties of the L2. After all, the learner is exposed to L2 input in some form, and the L2 is a natural language. What is problematic is when certain conclusions are drawn based on failure to perform exactly like native speakers. Failure to acquire L2 properties [as revealed in native/non-native comparisons] may nevertheless involve acquiring properties different from the L1, properties of other natural languages, properties that are underdetermined by the L2 input. Such failure does not necessarily entail lack of UG.

5.2 Learning about native speakers

Dabrowska (2012a) emphasizes the need for finer-grained information about native speaker linguistic knowledge, particularly as relates to inter-individual

variability associated with factors of education and language experience (see Section 6.2). As an example of research along these general lines, it would be of interest to explore further the question of instability or indeterminacy in native judgments of grammaticality/acceptability. Indeterminacy effects and associated inter-speaker variability have been shown to be local (i.e. structure- and item-specific). In many instances, the judgments of natives are shown to be more inconsistent than those of non-natives (e.g. Adams & Ross-Feldman 2003; Birdsong 2005b: 176–178; Sorace 1996: 385–386).

Native-speaker variability on a given index of linguistic knowledge presents a set of issues that will only be touched on here. As one example, DeKeyser (2012) suggests that non-natives may artifactually resemble natives on structures where the range of variation among natives is large. According to DeKeyser, researchers should “avoid structures for which quite a bit of variability has been documented; otherwise it is a foregone conclusion that the ranges of L1 and L2 variation are going to overlap” (2012: 212).

Along with Dabrowska (2012b: 333), we believe that native-speaker variability should not be problematized in terms of coming up with ways to keep non-natives from looking like natives. More to the point is the fact that native-speaker variability underscores the dangers of assuming what the target of L2 acquisition is. And, as mentioned above, knowing more about the nature of natives’ linguistic systems is of theoretical significance in its own right.

Another question is whether the variability of natives is greater or lesser than that of non-natives. Considering an example of a simple structure that does not inherently predict variability, to what degree do native speakers of English converge or diverge in their preferences for sentences like “I’m not one of those people who go crazy at football games” versus “I’m not one of those people who goes crazy at football games”? And, is the variability comparable over similar items, such as “I’m not one of those people who cry / cries at movies”? (In a Google search, both “I’m not one of those people who text all the time” and “I’m not one of those people who writes a biography” show up.) Are native respondents consistent over time in their preferences? On such items, as a set or individually, and across time, do non-natives exhibit more variation or less variation than natives? Beyond this simple example, what does it mean if — globally or locally — non-native variation is greater than, lesser than, or equal to that of natives?

In short, a case can be made for looking at variation in representations among natives and among non-natives independently, at the group and individual levels. Subsequent comparisons of natives and non-natives might meaningfully inform accounts of quantitative and qualitative similarities and differences (Dabrowska 2012a,b; Meisel, Elsig & Bonnesen 2011). In this spirit, Slabakova (2013: 56) connects language variability (in the form of optionality in the grammar) to language

experience: “if limited exposure to particular constructions results in optionality in native grammars, then non-native grammars, also characterized by variability and optionality, are highly native-like indeed, at least as far as these constructions are concerned.”

From the processing perspective, Indefrey (2006) likewise suggests the need to probe deeper into what natives do. Indefrey revisits the core premise of the Shallow Structure Hypothesis (SSH; Clahsen & Felser 2006a,b), namely that natives do not process complex strings in a shallow manner (i.e. by appealing to lexico-semantic information), but engage structural information such as filler-gap dependencies. Indefrey argues that nonstructural information is an option for natives, and is often employed by natives with low memory spans. Of special relevance to the present context is that this native processing strategy is essentially what is claimed for non-natives under the SSH: “Nonstructural sentence processing observed in L2 speakers is an option that is also used by native speakers when they have limited processing resources” (Indefrey 2006: 68). In other words, direct comparisons of natives with non-natives that incorporate the moderator variable of working memory may reveal that “L2 speakers behave at least like some native speakers. Thus, if we were to classify types of listeners it would be high working-memory span native speakers on one side and low-span native speakers together with L2 speakers on the other” (2006: 67). What the Indefrey example shows is that insights about natives are potentially valuable by-products of synergistic comparisons of non-natives with natives. This point is pursued further in Section 6.4.

5.3 Learning about nativelikeness

Along with learning about natives, one of the benefits of native/non-native comparisons is an enhanced understanding of the nature of *nativelikeness* and its status in L2 acquisition theory. With this in mind, we wrap up this main section by putting a fine point on certain observations about nativelikeness made earlier in this paper. Our focal points here are two statements from the SLA literature that capture a prevalent ethos regarding nativelikeness.

The first statement represents the impossibility of across-the-board nativelikeness: “our results [of native/non-native comparisons] point (...) in the direction that absolute nativelikeness in late learners, in principle, does not occur” (Abrahamsson & Hyltenstam 2009: 294). In this paper we have recalled more than once the understanding that bilingualism cannot be conceived of in terms of bimonolingualism. From this perspective, the above quotation, though alluding to shortcomings of non-natives *vis-à-vis* natives, is an apt description of bilinguals *qua* bilinguals, not just bilinguals *qua* deficient learners. At the same time, it should be understood that bilingualism does not preclude the possibility of nativelikeness

in some linguistic domains and by some measures. Along these lines we would point out that certain studies have identified late L2 learners who perform like natives across multiple tasks (e.g. Abrahamsson & Hyltenstam 2009; Ioup, Boustagui, El Tigi & Moselle 1994; Marinova-Todd 2003). However, we know of no study that purports to have found evidence of “absolute nativelikeness” across all conceivable measures of linguistic knowledge and linguistic processing. Evidence of nativelikeness in restricted domains neither addresses nor threatens the contention that absolute nativelikeness is an impossibility.

The second statement rejects evidence for nativelikeness as reflecting “a combination of several factors: on the one hand, personal, subjective, and unverified observations, and, on the other hand, empirical results based on either inappropriate definitions of nativelikeness or insufficiently sophisticated techniques for linguistic scrutiny” (Abrahamsson & Hyltenstam 2009:292). Faced with such summary condemnation, why would researchers dare to report findings of nativelikeness in L2 acquisition or bilingualism? We believe the answer is that observed nativelikeness under linguistic scrutiny, however domain- and task-specific it may be, deserves attention insofar as it is attained despite well-understood bilingualism effects and despite known age-related biological and experiential impediments to learning. It is no fool’s errand to introduce nativelikeness into an informed view of users of two languages.

6. In fairness to folly

“Those who scorn this kind of behavior might consider whether it is not better to lead a life of pleasant folly than to look for a rafter and a rope.” Erasmus 1511, *In Praise of Folly*

In this major section we look at the methods and selected results of Gertken (2013), a study of native and non-native processing of structurally ambiguous sentences in French. Gertken’s implementation of the methodology of native/non-native comparisons occurs in the current context of observed nativelikeness in L2 processing (e.g. Gillon Dowens, Vergara, Barber & Carreiras 2010; Morgan-Short, Finger, Grey & Ullman 2012; Reichle, 2010; Rossi, Gugler, Friederici & Hahne 2006), as well as observed non-nativelikeness (e.g. Felser, Cunnings, Batterham & Clahsen 2012; Marinis, Roberts, Felser & Clahsen 2005; Roberts & Felser 2011), particularly as proposed under the Shallow Structure Hypothesis (Clahsen & Felser, 2006a,b).

For the purposes of the present article, Gertken (2013) is suggested as an example of native/non-native comparisons that, despite recognized downsides, produce results that illuminate the nature of both non-native and native processing

of complex sentences. Before reviewing the study, we examine some background considerations in L2 and native processing.

6.1 Individual factors in L2 processing

As is well known, L2 users' AoA tends to correlate negatively with degree of attained nativelikeness, as determined in comparisons with native controls (Birdsong 2005c; DeKeyser & Larson-Hall 2005). It is also known that AoA is not the only predictor of degree of (non)nativelikeness in L2 processing (e.g. Dussias & Piñar 2009; Muñoz & Singleton 2011). For example, a recent study involving timed production of past tense English verbs by native speakers and Chinese and Spanish L2 learners of English suggests that production of inflected forms relies on the same or different mechanisms in an L2 as they do in an L1, depending on several variables, including sex, length of residence, and AoA (Babcock, Stowe, Maloof, Brovotto & Ulmann 2012). An interaction between the variables of sex and length of residence was also observed, specifically that less dependence on storage (vs. computation) of inflected forms is associated with greater lengths of residence in an L2 environment, but only in females.

Proficiency, another individual factor of interest, has been found to modulate L2 processing in brain-based research. Recent reviews indicate that L2 users converge on nativelike patterns with increasing proficiency on hemodynamic and electrophysiological measures (Abutalebi 2008; Green, Crinion & Price 2006; Indefrey & Davidson 2009; Steinhauer, White & Drury 2009; van Hell & Tokowicz 2010). Reichle and Birdsong (in press), for instance, found that L2 learners of French exhibited ERP responses similar to those of French natives for processing of focus structure; however, it was only the high-proficiency learners who were able to distinguish subtle differences between informational and contrastive focus.

van Hell and Tanner (2012) suggest that, in L2 syntactic processing, the proficiency variable may interact with cognitive variables such as working memory, attention, and inhibition (e.g. Dussias & Piñar 2009; Havik, Roberts, van Hout, Schreuder & Haverkort 2009; Sagarra & Herschensohn 2010). In a discussion of empirical studies on the relationship between L1 and L2 lexical processing, they show that higher L2 proficiency is associated with increased attentional control and a greater ability to ignore irrelevant or inappropriate information. (For a recent review of working memory in L2 processing, see Szmalec, Brysbaert & Duyck 2012).

6.2 Individual factors in L1 processing

Native speakers are often thought to process language in ways that are efficient and accurate, and with little inter-individual variation. Recent research is at odds with this assumption. For example, Dabrowska (2012a) reviews studies showing the effect of educational level on native English speakers' comprehension of passives and quantifiers, as well as sentences containing subordinate clauses, tough-movement, and parasitic gaps. Dabrowska also considers internal variables such as verbal IQ, aptitude, and how much people enjoy effortful cognitive activities.

As in L2 processing, working memory capacity is another factor that has been found to significantly impact native-language processing. Kim and Christianson (2013), for example, used a paraphrase decision task paradigm with English natives to determine relative clause (RC) attachment preferences for globally ambiguous sentences such as *The lawyer of the client who insulted the witness during the trial was intelligent*. High RC attachment (i.e. RC attachment to the first noun phrase) yields the interpretation that it was the lawyer who insulted the witness; under low attachment, the client insulted the witness. The researchers found a significant negative correlation between reading span scores (a measure of working memory capacity) and RC attachment preferences, with lower working memory spans corresponding to more high attachment preferences for RC's in ambiguous sentences. The results are of particular interest in light of previous studies showing language-particular patterns whereby English speakers tend to prefer low RC attachment (Carreiras & Clifton 1999; Cuetos & Mitchell 1988).

6.3 Gertken (2013)

In L2 acquisition research, the processing of such complex morphosyntax is often identified as an area in which L2 attainment falls short of monolingual nativelikeness (e.g. Clahsen & Felser 2006a,b). Grammatical processing requires real-time construction of structural representations for sentences, phrases, and morphologically complex words in comprehension and production. As previously mentioned, Clahsen and Felser's Shallow Structure Hypothesis (SSH) proposes that shallow processing, or the use of lexical and pragmatic information to compensate for deficits in the construction of detailed structural information, characterizes L2 comprehension of complex morphosyntax.

At the same time, there is a significant body of literature concerning non-optimal or "good enough" processing among native speakers, which reveals that their parsing system may settle on interpretations that are shallow or somehow incomplete, particularly when processing complex morphosyntax (for a review see Ferreira & Patson 2007). One example comes from the interpretation

of temporarily ambiguous garden-path sentences by native speakers of English in Ferreira, Ferraro & Bailey (2002). After listening to sentences such as *While Anna dressed the baby played in the crib*, participants in this study often answered “yes” to questions such as *Did the baby play in the crib?* and *Did Anna dress the baby?*. The authors explained that the content words and the predicate–argument structure of the first part of the sentence (*While Anna dressed the baby ...*) caused participants to incorrectly interpret *the baby* as both the agent of *played* and the patient of *dressed*.

The syntactic priming study of Gertken (2013) addresses the need for more testing of the nature of L2 grammatical processing (Clahsen & Felser 2006a) and the possibility of shallow processing among natives. Gertken investigated priming of RC attachment height among native speakers of French ($n=22$) and L1 English- L2 French bilinguals ($n=46$; mean AoA = 13.2; $sd=4.1$). Gertken’s self-paced reading task involved reading sentences containing complex RC constructions and responding to comprehension questions probing attachment height of the RC. Previous research had shown that prior exposure to structural information, either through comprehension or production, primes monolingual adults’ subsequent comprehension. These structural effects persist despite no lexical, thematic, or phonological similarities between a given phrase or sentence and what precedes (for a review see Pickering & Ferreira 2008).

To test whether the structural information coded in attachment height was susceptible to priming during comprehension, Gertken presented stimuli on a laptop screen in prime-target pairs. Example (1a) is a temporarily ambiguous prime sentence while (1b) is an ambiguous target sentence that is structurally similar to the prime but otherwise unrelated.

- (1) a. *Martine s’adresse au voisin des cuisiniers qui parle quatre langues.*
(‘Martine is talking to the neighbor of the cooks who speaks four languages.’)
- b. *Louis téléphone au psychiatre de l’avocat qui habite en Angleterre.*
(‘Louis is calling the psychiatrist of the lawyer who lives in England.’)

In both (1a) and (1b), the relative pronoun, *qui*, represents the point of ambiguity. It signals that the current RC must relate to one of two potential antecedents: the preceding noun phrase (NP) headed either by the first noun (NP1) or by the second noun (NP2). Disambiguation of RC attachment to one of these antecedents is required for a complete syntactic analysis of these items.

Disambiguation of RC attachment was guided by information contained within the RC for prime sentences but left open to interpretation in the target sentences. In (1a), number features associated with the singular verb *parle* indicate that the RC must modify *voisin*, the only singular NP candidate. For this reason,

(1a) is only temporarily ambiguous. Sentence (1b) is globally ambiguous because the number agreement feature associated with the verb *habite* does not distinguish between the two possible NP antecedents *psychiatre* and *avocat*, both of which are singular. Comprehension questions probing RC attachment, whether high (NP1) or low (NP2), followed each sentence in the syntactic priming study (e.g. *Est-ce que c'est le voisin qui parle quatre langues? Oui or Non?* “Is it the neighbor who speaks four languages? Yes or No?”). For prime sentences, such as (1a), answers were either correct or incorrect. Ambiguous target sentences, such as (1b), simply elicited participants’ preferred interpretation.

In an off-line task, the tendency for repetition of RC height — understood as evidence of syntactic priming — was indicated by responses to comprehension questions based on sentences such as (1a) and (1b). Results revealed that prior processing of a disambiguated structure influences natives’ and L2 users’ disambiguation of globally ambiguous RC’s during comprehension, both immediately and in terms of an accumulated preference for (initially dispreferred) low attachment. RC attachment preferences are thus influenced by previously encountered material (see also Gambi & Caramelli 2012, for RC priming during comprehension).

In another condition of the study, Gertken found that both native and bilingual groups were susceptible to shallow processing in French. In this mismatch condition, a correct interpretation of a prime sentence depended on associating the RC with the correct NP based on number agreement between the NP and embedded verb, while the plausibility of the embedded verb conflicted with the morphosyntactic cues and signaled an interpretation of the RC as modifying the incorrect NP. Unlike in example (1a), where number information on the verb served as the only cue for disambiguation, the embedded RC verbs of this condition were semantically biased (based on real-world plausibility) toward association with just one of the two NP antecedents. This condition is illustrated in (2), where the activity of chopping the onions (*hache les oignons*) is initially associated with cooks (*cuisiniers*) by plausibility; however, *hache* being morphologically marked as singular, it can only ultimately be associated with the neighbor (*voisin*):

- (2) Martine s’adresse au voisin des cuisiniers qui hache les oignons.
 (‘Martine is talking to the neighbor of the cooks who is chopping the onions’)

The conflicting morphology and plausibility at the disambiguating region of prime sentences in this condition caused comprehension problems for both natives and L2 users (Christianson, Luke & Ferreira 2010; Ferreira 2003). For French natives, the implausibility of grammatically licit sentences appears to have led to uncertainty about the sentences’ syntactic structure and resulted in less stable syntactic representations in implicit memory, which in turn had less of an effect on subsequent

comprehension (Christianson et al. 2010) and failed to induce priming. When semantic plausibility and verbal morphology converged, however, the syntax of the initial sentence was primed for subsequent comprehension. Gertken understands the lack of priming in the case of conflicting morphosyntax and plausibility as an attempt by the parser to reconcile the outputs of syntactic and semantic processing routes (van Herten, Chwilla & Kolk 2006). Because the resulting representations constructed by the French natives were less than complete, these data are taken as an example of shallow processing, in line with research in the “good enough” processing tradition (Ferreira & Patson 2007).

In contrast, Gertken observed priming among the L2 French users in the mismatch condition. While the L2 users behaved similarly to natives in that they had difficulty comprehending these structures overall (as indicated by accuracy rates), on correctly answered items (i.e. when the ultimate interpretation matched the grammatically licit interpretation), the extent of priming for these items was the same as in the case of morphosyntactic disambiguation alone. The alternative plausible representation did not linger or result in more ambiguous coding as it did for French natives. These results point to shallow processing, in the sense that no attempt was made to integrate the outputs of the syntactic and semantic processing routes; instead, the output of one route was essentially disregarded.

6.4 The payoff of the folly

Along with Indefrey (2006; Section 5.2 above), Gertken (2013) reveals that non-natives may not be alone in their susceptibility to shallow processing. French natives in Gertken’s study attempted to integrate the morphosyntactic and semantic outputs of sentence parsing in the case of conflicting verbal and semantic disambiguation, leaving representations of prime sentences somewhat incomplete and underspecified, and resulting in a lack of priming. Gertken’s results for non-natives implicated shallow processing as well. However, her novel finding is that native shallow processing and L2 shallow processing may take different forms: instead of attempting to integrate the conflicting syntactic and semantic parsing routes like natives, L2 users set aside one route in favor of another. The comparative methodology in Gertken’s study thus yielded theoretically-enriching evidence that natives and non-natives process ambiguity in ways that are at once the same, and different.

6.5 *La revanche*: Comparing non-natives with non-natives, and natives with natives

Gertken's study also looked at executive function among non-natives and its relationship to RC attachment height. Executive function in French and in English was assessed using *AQT: A Quick Test of Cognitive Speed* (Wiig, Nielsen, Minthorn & Warkentin 2002), which involves a picture-naming task to measure "perceptual speed (attention and verbal automaticity) [...] and cognitive overhead (cognitive shifting between semantic categories and working memory for visual stimuli)" (Langdon, Wiig & Nielsen 2005: 323; see Birdsong submitted, for discussion of the appropriateness of AQT speed as a participant factor in studies of complex sentence parsing). Degree of dominance in French L2 versus English L1 was operationalized as the difference in seconds between the bilinguals' AQT naming speeds in their two languages. Gertken found that the likelihood of low attachment decisions in her bilingual sample was associated with the direction and magnitude of their language dominance; specifically, higher frequencies of low RC attachment were associated with greater dominance in L1 English. This result may be related to two distinct, but possibly mutually reinforcing processing strategies. On a transfer-based interpretation, strongly English dominants would transfer to L2 French their English-based low-attachment preferences. On a psycholinguistic interpretation, users of L2 French who are strongly English dominant would tend to parse French complex sentences at the lowest cognitive cost. For the sentences in question, this would mean that RC attachment to the nearest NP may have been less demanding on working memory and attentional control (and, felicitously, would at the same time be congruent with parsing-structural preferences from the L1).

Gertken's findings concerning cognitive variables in non-native RC attachment preferences represent a significant complement to work on executive function in bilingualism (e.g. Bialystok 2009; Sorace 2011; see 4.2 above). In addition, in the native language context, use of AQT naming speed, along with measures of working memory and other cognitive factors, may help reveal multiple cognitive dimensions of individual differences in native-language RC attachment preferences (e.g. Kim & Christianson 2013, discussed in 6.2 above). Along these lines, future work with adult monolinguals representing presumed low- versus high-attachment languages (e.g. English versus French) might fruitfully explore potential AQT speed — by — language interactions in RC attachment preferences.

7. Conclusion

“Such issue none would venture to predict, Yet folly ‘twere to nourish foreshaped fears And suffer in conjecture and in deed.” Thomas Hardy 1904, *The Dynasts*

To summarize, the downsides of native/non-native comparisons relate to the narrowness of perspective in some comparative designs, to the inherent incommensurabilities that prevent apples-to-apples comparisons, and to the questionable uses and interpretation of the evidence for both nativelikeness and non-nativelikeness. The benefits of such comparisons include learning about natives and about native-likeness, the prompting of complementary approaches, and the straightforwardness and heuristic values of the method.

We have suggested that there is more to comparing non-natives with natives than passing judgment on one or the other group, or on the corresponding evidence. Moreover, we are reminded that science is not just about rejecting the null hypothesis: nativelikeness and non-nativelikeness, together, help round out the picture of bilingualism.

Although native and non-native populations warrant examination in their own right, this fact should not in itself devalue studies of natives alongside non-natives, which can be particularly revealing in the area of sentence processing. In addition, significant insights emerge from comparing groups other than natives and non-natives, and from looking at individuals and communities through lenses that do not involve comparisons.

Used *en connaissance de cause* with other methods and interpreted judiciously, native/non-native comparisons can potentially inform a textured understanding of the user of a second language. We would be foolish to understate their worth.

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Résumé

Cet article propose une discussion critique de la méthode souvent pratiquée qui consiste à comparer les processus de traitement et les représentations des locuteurs non natifs avec ceux des natifs. Nous montrons que, si de telles comparaisons peuvent être fructueuses à certains égards, elles nuisent également aux recherches visant à comprendre le bilinguisme et l'acquisition d'une langue seconde. Nous examinons ensuite certaines approches analytiques qui évitent les écueils de cette méthodologie. L'apport potentiel des comparaisons entre locuteurs natifs et non natifs est illustré par une étude d'amorçage sur le traitement de phrases complexes ambiguës en français par des natifs monolingues et par des bilingues (Gertken 2013).

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