

Specific and generic subjects in the Italian of German–Italian simultaneous bilinguals and L2 learners*

TANJA KUPISCH
University of Hamburg & Lund University

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This study investigates definite articles in specific and generic subject nominals in Italian spoken by adult simultaneous bilinguals (2L1ers) and second language learners (L2ers). The study focuses on plural and mass DPs, in which German and Italian differ. The aims are to (i) compare acquisition outcomes between the weaker and the stronger language in 2L1 acquisition, (ii) see in a comparison with L2ers whether the phenomenon under investigation, which is typically acquired late (after age 6;0), lacks age of onset effects, and (iii) discuss predictions for the directionality of cross-linguistic influence. Twenty German–Italian 2L1ers and 15 advanced L2ers of Italian with German as their native language were tested in an acceptability judgment task and a truth value judgment task. The results show clear differences between Italian as the weaker and as the stronger language in 2L1 acquisition, and similarities between Italian as L2 and as the weaker language in 2L1 acquisition.

Keywords: simultaneous bilingualism, weaker and stronger language, L2 acquisition, specific and generic DPs

1. Introduction

This study investigates the use and interpretation of specific and generic subject noun phrases in the Italian of 20 adult German–Italian simultaneous bilinguals (2L1ers) and 15 second language learners (L2ers) with Italian as a second language and German as their first language.

Italian and German both have articles, but these languages differ in terms of the contexts where articles must be used. Both languages require articles with specific reference (nominals corresponding to *the cats* in *The cats sleep a lot*). However, only Italian requires articles with generic reference (nominals corresponding to *cats* in *Cats sleep a lot*). In contrast, German allows bare nouns in this case, similar to English. In brief, the two languages display overlap in terms of article use, but this overlap is only partial.

Another property of the phenomenon investigated here is that it is at the crossroads between syntax, semantics and pragmatics or discourse, because the interpretation of the article depends on the context

in which the noun phrase is used. This is relevant because studies on cross-linguistic influence (CLI) – in bilingual acquisition, incomplete acquisition and attrition in adult bilinguals – suggest that the linguistic competence of bilinguals is not affected globally. Rather, when compared to narrow-syntax, interfaces (i.e., areas where syntax meets other linguistic modules) turn out to be comparatively more vulnerable (see Sorace, 2011, for an overview).

Studies within the field of bilingual first language acquisition (e.g., Hulk & Müller, 2000) have argued that PARTIAL OVERLAP OF PROPERTIES and A LOCATION AT THE INTERFACE BETWEEN SYNTAX AND PRAGMATICS or DISCOURSE are prerequisites for the occurrence of CLI. And, in fact, bilingual English–Italian and German–Italian children, even at school ages, have been shown to have problems using and interpreting articles appropriately (Kupisch & Pierantozzi, 2010; Serratrice, Sorace, Filiaci & Baldo, 2009, age range: 6–10 years). Importantly, however, monolingual children in some languages show the same problems, yet to a different degree or for a shorter period of time than bilinguals (Kupisch & Pierantozzi, 2010). One might therefore speculate whether bilingual children acquire the investigated phenomenon incompletely, or differently (compared to monolinguals) because of CLI from the language that is being acquired simultaneously. This may be so especially for a minority language, because once bilingual children enter school, they normally tend to hear and use the minority language

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Address for correspondence:
University of Hamburg, Institut für Romanistik, Von-Melle-Park 6, 20149 Hamburg, Germany
tanja.kupisch@uni-hamburg.de

even less than before – bilingual schooling being the exception.

Montrul and Ionin (2010) have provided evidence that adult Spanish heritage speakers face problems using articles with generic subject noun phrases. The authors argued in favour of incomplete acquisition. However, their study did not investigate Spanish–English bilinguals in a Spanish-speaking environment. It therefore remains an open question whether such problems with article use are typical of English–Spanish bilinguals, or whether they are typical only for those with Spanish as a (weaker) minority language.

The present study addresses the following related research questions:

- Do acquisition outcomes depend on whether Italian is acquired as a bilingual speaker’s weaker or stronger language?
- Is age of onset a factor with respect to the acquisition of article use in specific and generic noun phrases?

The study investigates specific and generic subject noun phrases, comparing two groups of bilinguals who differ in terms of their stronger language, and L2 learners of Italian with German as their L1. Moreover, quantitative and qualitative models on the directionality of CLI with respect to the phenomenon are discussed.

In the following, the concepts of weaker and stronger language, language dominance as well as contemporary ideas on interfaces as vulnerable domains are introduced. Sections 2 and 3 introduce the investigated phenomenon and formulate predictions on CLI. Section 4 summarizes previous research. Section 5 presents two experimental studies, Section 6 discusses the results and Section 7 draws conclusions.

1.1 *The weaker and the stronger language in simultaneous bilingualism*

Throughout, the terms STRONGER and WEAKER LANGUAGE characterize the learner’s relative proficiency in the two languages. Over the past years, it has been frequently argued that the grammar of adult bilinguals differs from that of monolingual speakers. A closer look reveals that much of this research has been dedicated to bilingual speakers’ weaker language, which in many studies coincides with the HERITAGE LANGUAGE (e.g., Montrul, 2008; Polinsky, 1997). The latter is loosely defined as a language spoken at home without being the language of a larger society (or nation) (Rothman, 2009). Nevertheless, the view that the heritage language is always the weaker language may not be correct for all speakers. Similarly, it is debatable whether the notions of STRONGER and DOMINANT LANGUAGE are interchangeable. Some authors reserve the term “dominant” for “the predominant

of the ambient languages in a given setting” (Meisel, 2007, p. 499), pointing out that it need not correspond to the more proficient language of a speaker.

For the bilingual participants investigated in this study, the dominant and strong language happen to coincide, as do the minority (i.e., heritage) and weaker language. Perhaps unsurprisingly, Italian developed into the more proficient language of the bilingual German–Italian speakers who grew up in Italy, and into the less proficient language of those who grew up in Germany. Therefore, the terms STRONGER and DOMINANT language are here used interchangeably.

It is often taken for granted, and rarely investigated systematically, that convergence to some monolingual norm is guaranteed provided some language constitutes the stronger language, while the same may but need not be the case for the weaker language. This study shows that, for the phenomenon investigated, this assumption is indeed correct.

1.2 *Age of onset vs. frequency of exposure*

There is a consensus that the simultaneous acquisition of two languages can be seen as an instance of bilingual first language acquisition (2L1 acquisition). Normally, three reasons are offered in support of this view: (i) bilinguals separate their languages from early on, (ii) they pass through the same developmental stages as monolinguals (sometimes more slowly or faster), and (iii) they commit the same types of error as monolinguals (see Meisel, 2011, for an overview).

Within the generative framework, it is an uncontroversial assumption that the process of first language acquisition (monolingual and bilingual) is guided by UG, the acquisition outcome being successful provided that both languages are heard and used sufficiently.¹ In contrast, many researchers hold that the same does not apply for second language acquisition in adulthood (L2 acquisition), irrespective of frequency (i.e., how much the L2 is heard and used). According to Bley-Vroman’s (1990) Fundamental Difference Hypothesis – which is consistent with Lenneberg’s (1967) Critical Period Hypothesis – the innate linguistic system that operates in childhood is no longer available to adult L2ers, who must therefore rely on domain-general cognitive mechanisms.

Lenneberg associated the critical period with the age around puberty. Recent work by Meisel (2011) argues for at least two clusters of sensitive phases in language acquisition. One cluster is around age 4;0, the other

¹ Admittedly, this statement is rather vague. To my knowledge, no study has so far determined how much language input and use, and during which developmental period, is necessary to acquire a language successfully.

around age 7;0. Here, the conditions that are optimal for language acquisition slowly start to fade out. According to Meisel, inflectional morphology is subject to this change relatively early (around age 4), but the two clusters of sensitive phases are not necessarily grammatically homogeneous. Hence, sensitive periods for particular syntactic phenomena may be associated with any of the two phases. The assumption that some critical phases come to end only around the age of school entry, together with the finding that some phenomena (e.g., how to express generic reference) are not fully acquired by that same age, supports the hypothesis that, in relevant domains, differences between L1 and L2 learners may be neutralized. In other words, with respect to some phenomena, “L1 learners may be L2 learners”. It might be a matter of frequency of language exposure and use (rather than age of first exposure) as to how successfully these phenomena will be acquired. The acquisition of generics could be a case in point.²

2. Article use in Italian and German

Article use is a particularly fruitful phenomenon in investigating CLI. Following the original proposals by Hulk and Müller (2000) and Platzack (2001), phenomena that are dependent on pragmatic and contextual variables are especially vulnerable in acquisition. As will become clearer below, contextual information is crucial for the appropriate use and interpretation of articles.³

German (Ge.) and Italian (It.) have definite and indefinite articles, as well as contexts in which nouns can or must occur without an article.⁴ In both languages,

bare noun phrases (NPs) can occur in lexically governed positions, as in (1). However, as shown in (2), German but not Italian also allows bare NPs in subject positions. (In the following, relevant nominals are printed in bold; ungrammatical and semantically inappropriate sentences are starred.)

- (1) a. Ge. Jeden Tag isst sie **Kartoffeln**
 b. It. Ogni giorno mangia **patate**.⁵
 (Longobardi, 1994, p. 615)
 every day eats.she potatoes
 “Every day she eats potatoes.”
- (2) a. Ge. **Katzen** sind intelligent.
 b. It. ***Gatti** sono intelligenti.
 cats are intelligent
 “Cats are intelligent.”

Chierchia (1998) ascribes these syntactic differences between “Germanic” and “Romance” to semantic properties: Germanic nouns have the semantic status of arguments and can be mapped as such onto syntax.⁶ Romance nouns are predicates and must be turned into arguments before they can be mapped onto syntax. This occurs through the projection of a D-position, which can be filled by an overt or phonetically empty determiner. The latter has the status of a null morpheme and is only allowed in lexically governed positions. This explains why Italian subjects, unlike objects, can never be bare.

2.1 Similarities between German and Italian

German and Italian count nouns in the singular must be preceded by an article. In the absence of a context

are (for the four cases nominative/genitive/dative/accusative in this order): *der/des/dem/den* (masculine singular), *die/der/der/die* (feminine singular), *das/des/dem/das* (neuter singular) and in the plural *die/der/den/die* (no gender distinctions). The indefinite article forms in Italian are: *un* (masculine singular) and *una* (feminine singular), *dei* (masculine plural) and *delle* (feminine plural); *un’* and *degli* are allomorphs. The indefinite plural articles are often referred to as partitive articles (but see Renzi, 1982, for discussion). The German indefinite articles are (again, in the order nominative/genitive/dative/accusative case): *ein/eines/einem/ein* (masculine and neuter singular) and *eine/einer/einer/eine* (feminine singular). German has no indefinite articles in the plural.

² The idea that delayed L1 acquisition may lead to L2-like optionality has also been discussed by Meisel, Bonnesen and Elsig (2011), who explored possible effects of intra-language variation in formal vs. colloquial French in the context of L1 acquisition.

³ The view that phenomena at the interface between syntax and discourse are particularly vulnerable is commonly referred to as the INTERFACE HYPOTHESIS (Sorace & Filiaci, 2006). There are different views on the question whether articles should be associated with the internal or the external interface (see White, 2009, for the distinction between internal and external). Sorace and Serratrice (2009) have proposed that article use should be associated with the grammar internal syntax–semantics interface. They assume that this interface involves less processing costs than constructions at the external interface because no interaction between the syntactic module and the external discourse-pragmatic module is required (Sorace & Serratrice, 2009, p. 204). In contrast, this study assumes that articles are associated with an external interface. In order to use articles properly, knowing the semantic features associated with them (e.g., specific, generic) is insufficient, as the instantiation of these features depends on the context.

⁴ Articles in both languages are marked for gender and number, and in German additionally for case. The definite article forms in Italian are: *il* (masculine singular), *i* (masculine plural), *la* (feminine singular) and *le* (feminine plural). The forms *lo*, *l’* and *gli* are allomorphs. The definite article forms in German

⁵ Nonspecific object nouns in Italian can also be preceded by the partitive article, which is normally not considered obligatory, but may produce a meaning difference (see Longobardi, 1994, p. 615).

⁶ In keeping with the relevant literature (e.g., Chierchia, 1998; Longobardi, 1994), the terms “Germanic” and “Romance” are used as if the languages within these families were alike, although in fact they are not.

2.3 Variation in article use with generic plural and mass subjects

So far, a somewhat idealized picture of article use in Italian and German has been provided. Things become less neat once exceptions and dialectal variation are considered. Contrary to the generalizations stated above, Italian allows bare subject NPs if they are made to be “syntactically heavy”, e.g., through coordination or modification. These normally have an existential interpretation, as in (12).

- (12) **Studenti e colleghi** hanno telefonato.
students and colleagues have called
(Chierchia, 1998, p. 385)
“Students and colleagues have called.”

There is some controversy surrounding the question of whether bare subject NPs can co-occur with kind-selecting predicates (Chierchia, 1998, p. 385). Despite their heaviness, bare NPs as in (13a) “sound bad”, but can become acceptable with more liberal kind-selecting predicates and “more heaviness” (cf. (13b)).

- (13) a. ??**Ragazze in minigonna** sono estinte.
girls in miniskirts are extinct
“Girls in miniskirts are extinct.”
b. **Insegnanti davvero dediti nella scuola di**
teachers really loyal in.the school of
oggi sono quasi estinti.
today are almost extinct
(Chierchia, 1998, p. 385)
“Loyal teachers are almost extinct in today’s schools.”

The number of occurrences of such bare subject NPs is probably very low in everyday Italian speech. However, their existence provides learners with conflicting evidence as to whether Italian generally tolerates bare NPs, or not.

German, too, shows variation in the use of articles with generic reference (e.g., Dayal, 2004; Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link, 1995; Oosterhof, 2004; ter Meulen, 1995). According to these authors, with reference to kinds, mass nouns and (to a lesser extent) plural count nouns, German can employ a definite article:

- (14) a. **Die Elefanten** haben wertvolle Zähne.
the elephants have precious teeth
(ter Meulen, 1995, p. 356)
“Elephants have precious teeth.”
b. **Die Pandabären** sind vom Aussterben
the pandas are of.the extinction
bedroht.
threatened (Krifka et al. 1995, p. 69)
“Pandas face extinction.”

On the basis of examples like (14), it is sometimes claimed that the use of the article in German is “optional” with generic nominals (e.g., Oosterhof, 2004). Optionality in

such contexts is said to be subject to dialectal variation. Yet, so far no study has specified the dialects to which this applies. Intuitively speaking, speakers of North-Western German varieties show a strong preference for generic nominals to be bare. At the same time, however, Standard German speakers appear to be more tolerant towards article use in generic DPs than speakers of English, perhaps owing to their exposure to other varieties of German, especially in larger urban areas. Most participants in this study have been exposed to North-Western German varieties. Since they have lived in larger urban areas, we cannot exclude the above-mentioned tolerance.

To summarize, German allows two different types of plural nominals in the subject position, realized syntactically as NPs and DPs. Italian only allows DPs in subject positions, with very few exceptions. In Standard German, each type of nominal is associated with one semantic interpretation: NPs with generic reference, DPs with specific reference. However, DPs are acceptable with generic reference in some varieties of German. Hence, there is variation in both languages, though to a lesser extent in Italian than in German. Table 1 summarizes the relevant properties.

3. Predicting cross-linguistic influence

Different scenarios predict the directionality of CLI with specific and generic plural and mass DPs. Some of these have been devised in previous studies.

Models of CLI can be distinguished into quantitative (To what extent does CLI occur?) and qualitative ones (What are the characteristics of CLI and why does it occur?). These two types of models do not compete, as the size of some effect does not generally depend on particular ways of describing or explaining the effect.

It is proposed here that (when predicting CLI in adult advanced learners) models which refer to semantic properties are more appropriate than models referring to syntactic properties. After all, unlike children and L2ers at the initial state, advanced learners will already have acquired the syntax of the language, while they continue to face problems when syntactic knowledge needs to be adjusted in the light of additional semantic and pragmatic information. Although it remains true that qualitative and quantitative models do not directly compete – in the sense of excluding one another – it is here assumed that these types of models can be ranked. In particular, the assumption is that the qualitative models can be overruled by language dominance. If so, then CLI only occurs in the weaker language.⁸

⁸ I wish to thank an anonymous reviewer who helped me clarify the issues presented in this section.

Table 1. *Article use with plural and mass nouns in subject position.*

	German	Italian
Specific reference	definite DPs	definite DPs
Generic reference	bare NPs	definite DPs
Exceptions with generic reference	some varieties of German allow DPs	in very restricted contexts, Italian allows bare NPs

3.1 Economy Hypothesis

According to Chierchia's (1998) Nominal Mapping Parameter (NMP), Germanic and Romance represent two parametric settings, differing in terms of the manner in which semantic properties are mapped onto syntax. In Romance, nouns emerge from the lexicon as predicates and in syntax the D-position must be projected to turn them into arguments. This means that Romance nominals in argument positions are structurally represented as DPs, and that nouns are generally preceded by articles or other determiners.

In Germanic, nouns come out of the lexicon as arguments or predicates. Predicate-denoting nouns in Germanic normally have a count denotation, and, as in Romance, need to project D. Argument-denoting nouns, by contrast, have a kind denotation and are directly mapped onto syntax, i.e., as NPs, which means that nouns may remain bare. However, even predicate-denoting nouns can sometimes be bare: Germanic employs a type-shifter which can turn bare predicates into arguments in order to denote kinds. Unlike in Romance, this type-shifter can be applied at the NP-level and generate the generic reading without projecting D. Chierchia (1998, p. 393) refers to the principle responsible for this operation as AVOID STRUCTURE: a determiner is avoided in the generic interpretation if the same interpretation can be obtained with a bare NP.

Avoid Structure predicts that learners will opt for the more economical structure whenever possible (see Pérez-Leroux, Munn, Schmitt & DeIrish, 2004; Serratrice et al., 2009). This means for German-Italian bilinguals and L2ers that CLI is likely to occur from German to Italian, because German allows for structurally less complex nominals than Italian. The result of such influence would be the overuse and overacceptance of bare NPs with kind reference in Italian. Following Serratrice et al. (ibid., p. 244) this account is referred to as the ECONOMY HYPOTHESIS. Note that the Economy Hypothesis should also be effective in monolingual child language acquisition (see Gavarró, Pérez-Leroux & Roeper, 2006).

3.2 Structural Overlap Hypothesis

Building on Döpke (1998) and Müller (1998), Hulk and Müller (2000) proposed that partial structural overlap at the surface level is a precondition for CLI: If one language

has two options, e.g., structures X and Y, and the other language has only one option, e.g., only structure X, the option common to both languages, i.e., structure X, will be overused in the language that has both. By this rationale, Serratrice et al. (2009) outlined the following with regard to the distribution of definite articles in plural subjects in Italian-English bilinguals: CLI should go from Italian (only definite articles with plural NPs) to English (both definite plural DPs and bare plural NPs), where definite plural NPs should become acceptable with a generic reading.⁹

German is similar to English in having definite plural DPs and bare plural NPs. Therefore, if this account applies to the present case, Italian should not be influenced, as it is the language with only one option. Importantly, the Structural Overlap Hypothesis does not make reference to the INTERPRETATION of definite nominals.

3.3 Semantic Overlap Hypothesis

The Economy Hypothesis and the Structural Overlap Hypothesis make reference to the two structural representations, NP and DPs, while focussing on surface structure. Yet knowledge of the structures is insufficient for a proper interpretation of nominals in Italian, as the structures still have to be linked to the appropriate semantics on the basis of a given context. The overlap scenario looks different when applied to semantics than when applied to structure (see Table 2). From the perspective of DP-semantics, Italian would be the

⁹ Serratrice et al. (2009) refer to this account as the SUBSET-SUPERSET HYPOTHESIS (ibid., p. 244). The use of the terms Subset and Superset would be somewhat misleading in the present context, as the interpretation of the Subset Principle commonly found in the L2 acquisition literature (e.g., White, 1989) is different from the concept of Structural Overlap in the context of bilingualism research. According to the Subset Principle, acquisition is guaranteed by exposure to positive evidence. Accordingly, the scenario for the phenomenon investigated here is as follows: If the L1 has two options with respect to a given property (NPs and DPs) and the L2 has only one of these (DPs), all L2 evidence for that property will be consistent with the L1 grammar. Due to the lack of positive evidence contradicting the L1 grammar, learners will face difficulties resetting the L1 parameter. Conversely, if the L1 grammar has only one option (DPs) and the L2 grammar has two (NPs and DPs), positive evidence can be used to reject the L1 analysis and motivate parameter resetting in the L2. Since advanced learners are dealt with here, one may assume that parameter (re)setting is not the crucial issue.

Table 2. Predictions for cross-linguistic influence: Structural vs. semantic overlap.

	Italian	German	Overused property
Structure	DPs	DPs, NPs	DPs
Semantics	specific, generic	specific	specific

language with two interpretative options (specific and generic) and German the language with only one interpretative option (specific). Under the assumption that the option that is common to both languages (i.e., specific) is extended to the language that has two options, one expects that Italian is influenced by German, the effect being that DPs might be interpreted as having specific reference in Italian, even if a generic interpretation is also possible or required.

3.4 Dominance Hypothesis

At the same time, language dominance may be crucial for the occurrence of CLI. If this were the case, Italian should only be affected in the group of German-dominant bilinguals and L2ers, but not in Italian-dominant bilinguals.

To sum up, there are four possible scenarios predicting the direction of CLI with subject nominals in German–Italian bilinguals and L2ers:

- The ECONOMY HYPOTHESIS predicts that German influences Italian, resulting in the overuse and overacceptance of NPs in Italian, specifically in generic contexts, where German requires them.
- The STRUCTURAL OVERLAP HYPOTHESIS predicts that there is no influence from German to Italian.
- The SEMANTIC OVERLAP HYPOTHESIS predicts influence from German to Italian: Bilinguals should be more inclined to interpret definite plural and mass DPs in Italian as specific because this is the interpretation that Italian and German share.
- The DOMINANCE HYPOTHESIS predicts that Italian is only affected in German-dominant simultaneous bilinguals and L2 Italian learners.

4. Previous research on the acquisition of generics

An increasing number of studies has been dedicated to article use and interpretation in generic contexts in monolingual, bilingual and L2 acquisition. Although the focus of the present study is adult simultaneous bilinguals and L2ers, the results from monolingual L1 acquisition studies retain their relevance, as they provide information

about the age at which children may be expected to use and interpret articles correctly. Moreover, they can help uncover potential task effects.

4.1 Monolingual studies

Gelman and Raman (2003, pp. 314–315) investigated how English-learning children interpret generic utterances and which cues they pay attention to. One of their tasks displayed pictures of atypical or unusual characters, e.g., two tiny elephants or two cats without tails. After introducing these characters (*Here are two elephants*), a simple yes/no question was posed. Crucially, this question was presented in a way that used either the generic form (*elephants*) or the nongeneric form (*the elephants*), e.g., *Now I am going to ask you a question about elephants. Are elephants big?* or *Now I am going to ask you a question about the elephants. Are the elephants big?* Two-year-old English-learning children were shown to be able to make use of linguistic form to distinguish specific from generic readings. Clear overall discrimination patterns were observed in children and adults, with individual response patterns showing that a specific bias was more common than a generic bias.

Pérez-Leroux et al. (2004) came to different results in a study of monolingual Spanish- and English-speaking children. To investigate the status of definite plural DPs in generic contexts they designed eight stories containing two atypical members of a kind. As in the task by Gelman and Raman (2003), participants were presented with yes/no questions about the atypical characters (e.g., spotted zebras, cats who love to be in the water, vegetarian tigers). The answer to the question served to identify the semantic status of the noun phrase. Affirmative answers to questions about canonical properties of the kind (*Do the zebras have stripes?*) and, conversely, negative answers to questions about the atypical (i.e., noncanonical) property (e.g., *Do the zebras have spots?*) were taken to indicate acceptance of a generic interpretation of a noun phrase.

Results showed a strong preference among the Spanish-speaking children (ages 3;5–5;0 and 6;5–7;0) to interpret DPs (e.g., *los tigres*) as generic in contexts where either specific or generic interpretations were possible. Unexpectedly, the English-speaking children (ages 4;4–6;0 and 6;5–7;3) also gave a large proportion of generic answers (60–70%) although only specific interpretations were appropriate (Pérez-Leroux et al., 2004, p.5.). For instance, when shown pictures with spotted zebras and asked *Do the zebras have stripes?* they answered “yes”. As the authors note (*ibid.*, p.11), the preference for generic interpretations may have resulted from introducing the characters by name. For example, the children saw a picture with spotted zebras while listening to the following story and question.

- (15) **Zippy the zebra and Suzy the zebra** are spotted. The giraffe wonders why they look different. Now let me ask you some questions. Do **the zebras** have spots? . . .

Clearly, once a character has been introduced by name, referring to them with a definite DP is at least pragmatically marked, if not inappropriate.

To summarize, L1 acquisition studies have produced conflicting results with respect to children's interpretation of NPs and DPs in Romance and Germanic languages in specific and generic contexts. Gelman and Raman have shown sensitivity to the presence/absence of articles as a cue for specific/generic readings for children as young as 2–3 years, while Pérez-Leroux et al. have shown that older children (4;5–7;3) still had problems. The tendency for the children in the former study was to overaccept specific readings; the children in the latter study tended to overaccept generic readings. Comparing the two studies, which differed in terms of context length, one might suspect that there is a stronger reliance on the picture (creating a specific bias) with shorter contexts.

4.2 Bilingual studies

Kupisch and Pierantozzi (2010) tested 6–10-year-old German–Italian bilingual children, monolingual children and adult controls in both German and Italian. They adapted Pérez-Leroux et al.'s (2004) design to investigate the interpretation of definite plural DPs. The children grew up in monolingual Italian and bi-national families in Germany and were generally more proficient in German.

Unlike in Pérez-Leroux et al. (2004), where there was a separate story for each picture shown, pictures in this study were accompanied by a coherent story of two children, who set out on adventures on a Caribbean island where they met atypical characters. An example of a context and test question in Italian is given in (16a) and (16b). The associated picture displayed witches flying on vacuum cleaners.

- (16) a. Ora i bambini sono esausti di tante
now the children are tired of many
avventure e vogliono tornare dai loro
adventures and want return.INF to.the their
genitori. Per fortuna arrivano due streghe
parents luckily arrive two witches
buone che gli offrono un passaggio fino
good who them offer a ride until
all' hotel.
to.the hotel
“Now the children are tired of all their
adventures and want to return to their
parents. Fortunately, two friendly witches
come by and offer them a ride to the hotel.”

- b. Volano sulla scopa **le streghe**?
fly on.the broom the witches
“Do witches/the witches fly on brooms?”

Since definite DPs can only have a specific reading in Standard German, overacceptance of generic readings was unexpected here. In contrast, a preference for the specific reading in Italian (where both specific and generic readings are possible) was expected because of CLI from German, the stronger language of most children.

Similar to Pérez-Leroux's Spanish subjects, the monolingual child and adult participants showed a generic bias in Italian. Moreover, the bilingual children gave more generic interpretations in Italian than in German, constituting evidence which can be interpreted in favour of language separation. Interestingly, in both Italian and German, the bilingual children often explicitly commented on the perceived ambiguity of definite subject DPs, such as (16), which implies that both readings were available to them.

In German, child and adult participants overaccepted generic readings with definite plural subject DPs, adults doing so less often (20% of cases) than monolingual and bilingual children (both 37% of cases). This indicates that using the presence/absence of an article as a clue for a specific/generic reference seems to be acquired late by Germanic-learning children, likely after school enrolment. However, with increasing age, the children attributed comparatively fewer generic readings to definite DPs, and this change in the rate of attribution tended to occur at earlier ages in monolingual children. In general, this study raises the question whether the discrimination patterns witnessed by the bilinguals' different interpretation preferences in each language will change at later ages, with increasing exposure to German.

Unlike all previous child studies, Serratrice et al. (2009) used an acceptability judgment task (AJT) to investigate article use with specific and generic subject nominals. Their study tested whether simultaneous English–Italian bilinguals (aged 6;2–10;10) accept ungrammatical Italian sentences with a bare NP, such as (17), when influenced by English:

- (17) It. *In genere **squali** sono pericolosi.
“In general sharks are dangerous.”

The test sentences were preceded by an initial adjunct that was either compatible with the specific reading (It. *qui*/En. *here*) or with the generic reading (It. *in genere*/En. *in general*). Results indicated that, in Italian, bilingual children (especially in the UK) were significantly more likely than monolingual children to accept ungrammatical bare nouns in a generic context. All English–Italian bilinguals performed worse in the generic condition than in the specific condition. Also, their accuracy scores differed significantly vis-à-vis bilingual Italian–Spanish

and monolingual Italian controls. These results can be interpreted as evidence in support of CLI from English, raising the question whether bilinguals can recover from CLI at later ages.

Montrul and Ionin (2010) investigated generic nominals in adult Spanish heritage speakers living in the US. The authors used a truth value judgment task (TVJT) with atypical characters and contextualized questions, similar to the studies summarized above, as well as an AJT. Participants were shown to be influenced by English when interpreting and using definite articles in generic contexts in Spanish. In the TVJT, Spanish DPs were interpreted as generic in 57% of all cases. In the AJT, participants failed to correct ungrammatical bare generic NPs 50% of the time. In contrast, they were not influenced by Spanish when interpreting and using English nominals. This study makes no prediction as to whether deviances from the monolingual norm might also occur in bilinguals with the same language combination but for whom Spanish is not the minority language.

Generics have also been studied in the L2 acquisition of Romance and Germanic languages (Ionin & Montrul, 2010; Slabakova, 2006; Snape, García Mayo & Gürel, 2009). All studies show evidence of transfer from the L1, but – importantly for the present study – also evidence of recovery from transfer at very advanced levels.

The research summarized above raises two questions which are addressed in this study.

- Does bilingualism lead to incomplete acquisition of generic subject DPs in a Romance language when it is in contact with a Germanic language?
- Could methodological problems have obscured previous results (e.g., did the use of contexts in the form of stories create a generic bias)?

5. The study on article use in specific and generic plural DPs

5.1 Participants

This study involves three different groups of adult participants who were recruited in Germany and Italy: two groups of early simultaneous bilinguals (2L1ers) and L2 learners of Italian (L2ers) with German as their L1.¹⁰ All

¹⁰ This study did not include a monolingual control group. This can be justified as follows. As Grosjean (1989) notes, a bilingual cannot simply be considered “two monolinguals in one”. Therefore, monolinguals can never be a perfect match for bilinguals. Moreover, in the present study, bilinguals who grew up in Italy show ceiling performance (as monolinguals would be expected to do), and they have the advantage (vis-à-vis monolinguals) of having been exposed to German from birth. Finally, the concept of “the monolingual native speaker” has meanwhile been controversially discussed, for example, at the Eurosla roundtable in Stockholm, 2011.

bilinguals grew up in bi-national families according to the ONE PERSON–ONE LANGUAGE STRATEGY and regularly used both languages at least until school age.¹¹ The two groups of 2L1ers differed with respect to their dominant language. Language dominance was assessed through a timed cloze test with 45 blanks which required filling in free morphemes and content words.¹² All 2L1ers scored better in the language of their childhood environment, which will therefore be considered “dominant”. The bilingual participants’ speech was also rated for foreign accent by native speakers of the respective languages. These ratings re-confirmed the conclusions arrived at by the cloze test.

Early bilinguals (2L1s) with Italian as dominant language

The bilinguals with Italian as their dominant language ($n = 8$) were between 18 and 38 years old (mean age: 27). All but one participant were recruited in Italy and had never spent more than six consecutive months in Germany. Five participants went to a German–Italian bilingual school. All participants in this group used more Italian than German in their daily lives, and self-reportedly felt more at ease when using Italian. All claimed to have good or very good knowledge of English. One participant in this group was recruited in Germany. He grew up in Italy but moved to Germany at the age of 17, where he continued to live for 21 years. Although he reported to use more German than Italian on a daily basis, and to feel equally confident using either language, he was more proficient in Italian according to the cloze test (48% and 75% accuracy in German and Italian, respectively). Moreover, 19 in 20 raters considered his German to sound foreign, compared to five in 20 raters judging his Italian to sound foreign.

Early bilinguals (2L1ers) with German as dominant language

The 2L1ers with German as dominant language ($n = 12$) were between 19 and 39 years old (mean age: 28). Participants in this group were recruited in Germany, although one was a resident of Italy at the time of testing. All but one had grown up in Germany.¹³ Participants

¹¹ Choosing this restricted set of bilinguals occurred in an attempt to guarantee exposure to both languages from birth. This is not guaranteed for bilinguals who grew up in families where both parents speak the minority language.

¹² The cloze test was created within the context of the research project E11 (see Acknowledgments footnote above). Standardized tests were not used, because the aim was to construct tests with comparable difficulty and text type in three languages (German, French, and Italian). The German and Italian tests were adapted to the French one previously created by Tremblay (2011).

¹³ This speaker grew up in Belgium with an Italian father and a German mother. Besides German and Italian, he was also very proficient in

Table 3. Overview of participants.

	2L1 strong Italian	2L1 strong German	L2 Italian
n	8	12	15
Country of residence during childhood	Italy	Germany (but see footnote 13)	Germany
Age of onset Italian	0	0	21 (range 15–38)
Age of onset German	0	0	0
Age at testing (years)	27 (range 18–38)	28 (range 19–39)	37 (range 27–46)
Cloze test Italian (%)	84 (range 68–95)	66 (range 40–91)	74 (range 46–95)
Cloze test German (%)	57 (range 15–80)	85 (range 71–97)	92 (range 57–100)

had spent between two consecutive months and six consecutive years in Italy (mean: 2 years). All but the Italian resident used more German than Italian on a daily basis. As for language preference, six participants reportedly felt more at ease when using German, three did not provide a statement, two felt more at ease when using Italian, one felt equally comfortable using both languages. The latter three turned out to be more proficient in German (as measured by the cloze test and foreign accent rating). The participant recruited in Italy showed only minimal differences between his two native languages. None of the participants went to a bilingual school, but two were students of Italian language and literature at the University of Hamburg. All participants reported to have good or very good knowledge of English and good or very good knowledge of Spanish or French. Two of them considered their level of English higher than their level of Italian, while ten considered themselves to be more proficient in Italian than in any foreign language they knew.

Second language learners (L2ers) of Italian

Preconditions for the L2ers' participation were that they were advanced speakers (based on self-assessment) and had not received any Italian input before the age of 11. Participants in this group ($n = 15$) were between 27 and 46 years old (mean age: 37) and were first exposed to Italian between the ages of 15 and 38 years (mean age: 21). They had learnt Italian for between six and 30 years (mean: 16) and had spent either no time or up to 14 consecutive years in Italy (mean: 4 years). Five participants had been recruited in Italy and 10 in Germany; among the latter some had lived in Italy for several years. All L2ers were very fluent in Italian and had taken Italian language classes at some point. Nevertheless, naturalistic exposure was the prevalent input source for most of them. According to the cloze test, all L2ers were more proficient in their L1 German despite their high proficiency in Italian.

Information presented in this section is summarized in Table 3. Two points are particularly important for

the remainder of the study. First, the language of the participants' childhood environment determined their dominant language during adulthood. Second, the range obtained from the cloze test results indicates considerable variation in proficiency among the 2L1ers with weak Italian and the L2ers.

5.2 Acceptability judgment task (AJT)

Test items

All participants completed an AJT with 42 items targeting article use in specific and generic subject contexts.¹⁴

A total of eight sentences were constructed with a context calling for a specific interpretation (SPECIFIC CONDITION); 34 test sentences were constructed with a context calling for a generic interpretation (GENERIC CONDITION).

Of the 34 test items in the generic condition, 17 contained grammatical subject DPs with a definite article, as in (18). These 17 items (nine with mass nouns, eight with count nouns) tested whether participants would accept subject DPs with definite articles, although the equivalent German sentences do not require an article.

(18) Grammatical subject DP with definite article, generic context

- a. Uno studio ha mostrato una cosa interessante.
a study has shown a thing interesting
Gli uomini cucinano meglio.
the. men cook better
“A study has shown something interesting: Men are better cooks.”
- b. A scuola abbiamo parlato delle spezie.
at school have.we talked of.the spices
Il basilico è originario dell' Asia tropicale.
the basil is originated of.the Asia tropical
“At school we talked about spices. Basil originates in the tropical part of Asia.”

French and English. Admittedly, multilingualism is a confounding factor in this study.

¹⁴ The AJT also tested other phenomena, e.g., word order and gender marking, but these will not be reported here.

Of the remaining 17 items, eight were ungrammatical containing a bare subject NP, as in (19), and nine were inappropriate containing an indefinite-marked subject DP, as in (20). Again, subject nominals were constructed with mass nouns ($n = 9$) and plural nouns ($n = 8$). The eight bare NPs tested whether participants would correct ungrammatical bare NPs in cases where German requires them. The nine indefinite-marked DPs were included to control whether participants paid attention to an article that is semantically inappropriate in the given context. (Because the context is generic, the equivalent German sentences require bare NPs).

(19) *Ungrammatical bare subject NP, generic context*

- a. Davvero non lo sapevi? **Patate** crescono
really not it knew.you potatoes grow
sotto terra.
under earth
“Really, you didn’t know that? Potatoes grow under the ground.”
- b. A scuola abbiamo parlato delle spezie.
at school have.we talked of.the spices
Zafferano si usa per fare il risotto.
saffron is used for make the risotto
“At school we talked about spices. Saffron is used for risotto.”

(20) *Inappropriate subject DP with indefinite article, generic context*

- a. Gli esperti degli animali dicono: **Delle**
the experts of.the animals say of.the
lepri sono animali solitari.
rabbits are animals lone
“Animal experts say: Rabbits are loners.”
- b. La ricerca ha provato una cosa. **Della**
the research has proved a thing of.the
cioccolata rende felici.
chocolate makes happy
“The research proved one thing. Chocolate makes happy.”

The remaining eight stimuli contained sentences testing whether participants faced problems using or not using a definite article when the preceding context was biased towards specific reference (see (21)–(22)).¹⁵ Associative uses of the definite article were constructed, because using the same DP in the context and test sentences might otherwise have influenced participants’ judgments.

¹⁵ For this condition, fewer items were used because subjects were not expected to experience difficulties. Many of the remaining stimuli of the AJT (see footnote 14 above) contained specific DPs; hence this imbalance was not seen to be problematic. Note that it had originally been intended to subdivide generic items into mass and plural items due to relevant differences in the corresponding German nominals. However, this distinction turned out to be irrelevant.

(21) *Grammatical subject DP with definite article, specific context*

- a. Anna non può cucinare perché **le padelle**
Anna not can cook because the pans
sono sparite.
are disappeared
“Anna cannot cook because the pans disappeared.”
- b. Ora capisco perché la torta fa
now understand.I why the cake is
schifo. **Lo zucchero** era scaduto
disgusting the sugar was bad
nel 2001.
in.the 2001
“Now I understand why the cake is disgusting. The sugar went bad in 2011.”

(22) *Ungrammatical bare subject DP, specific context*

- a. Daria si rifiuta di mangiare perché
Daria REFL refuses to eat because
piatti sono sporchi.
plates are dirty
“Daria refuses to eat because (the) plates are dirty.”
- b. Ora capisco perché il dolce fa
now understand.I why the cake is
schifo! **Farina** era scaduta l’anno
disgusting flour was bad the.year
scorso.
last
“Now I see why the cake is disgusting! (The) flour went bad last year.”

Items were constructed in pairs; each grammatical/acceptable sentence had an ungrammatical/inappropriate counterpart similar in length, context sentence and vocabulary.

Procedure

Stimulus sentences appeared in random order and were presented both auditorily and in writing (yellow type on a black computer screen). Most test sentences were preceded by a context sentence in a different colour.¹⁶ Participants were instructed to read and listen to each example, and to repeat the yellow sentence when they thought it sounded good, else correct it when they thought it sounded bad. Response time was limited and corresponded to three times the duration of the test sentence read by a native speaker. If participants failed to respond within this limit, their response was not recorded or recorded incompletely.

¹⁶ Sometimes the context or items were very short and integrated into the sequence to be judged.

Table 4. Responses in the AJT (accuracy in %).

	Grammatical condition		Ungrammatical condition		
	Specific context/ def. DP (n = 4)	Generic context/ def. DP (n = 17)	Specific context/ bare NP (n = 4)	Generic context/ bare NP (n = 8)	Generic context/ indef. DP (n = 9)
2L1 strong Italian (n = 8)	32/32 (100%)	135/136 (99%)	32/32 (100%)	61/63 (97%)	71/71 (100%)
2L1 weak Italian (n = 12)	48/48 (100%)	203/204 (100%)	43/48 (90%)	31/95 (33%)	80/103 (78%)
L2 Italian (n = 15)	59/59 (100%)	252/253 (100%)	56/58 (97%)	66/118 (56%)	116/135 (86%)

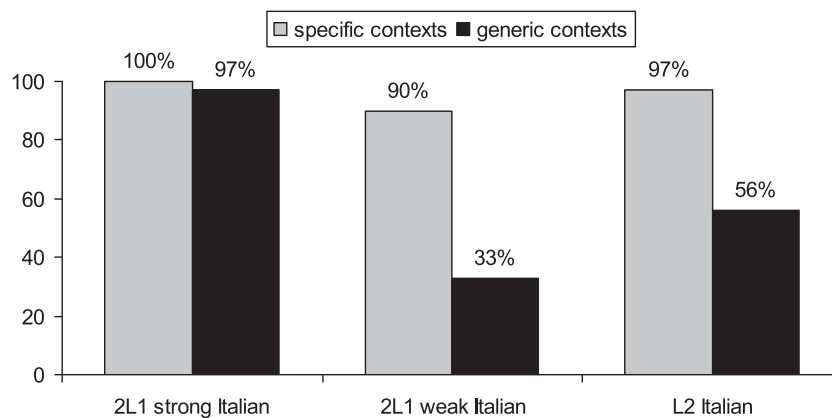


Figure 1. Appropriate corrections of bare NPs in specific and generic contexts.

Results

For the data analysis, the number of responses to acceptable and unacceptable/ungrammatical items were counted separately. Participants' corrections were examined and classified as relevant or irrelevant. Answers which failed to correct missing or semantically inappropriate articles in subject nominals were taken to indicate lack of sensitivity towards the phenomenon investigated. For example, sometimes participants corrected the gender of a given indefinite article instead of correcting it to a definite article. Items for which participants failed to provide an answer within the time limit were removed from the analysis.¹⁷

Results of the AJT (mean accuracy in %) are shown in Table 4, indicating correct repetition in the case of grammatical contexts and expected correction in the case of inappropriate or ungrammatical items.

In only one case was a correct sentence repeated incorrectly. Therefore, grammatical contexts do not reveal differences between the three groups of learners (and will not be discussed further). Comparisons between the three ungrammatical contexts are illustrated in

¹⁷ This explains why the number of items counted in Table 4 does not always equal the number of stimuli multiplied by participants. Alternatively, each failure to provide an answer within the given time could have been counted as "failure to provide a 'correct' answer". However, there were only few such cases overall, some of which resulted from technical difficulties.

Figures 1 and 2. A multilevel logistic regression analysis was carried out to determine whether there were significant contrasts between the three conditions and between the three groups.

A comparison between specific and nonspecific ungrammatical contexts (see Figure 1) did not yield a reliable test result for the 2L1ers with Italian as their stronger language.¹⁸ The same comparison was highly significant for the 2L1ers with Italian as the weaker language ($B = 5.24$, $SE = 1.28$, $z = 4.09$, $p < .0001$) and for the L2ers ($B = 4.49$, $SE = 1.08$, $z = 4.16$, $p < .0001$). Across-group comparison of corrections in specific contexts did not yield a reliable test result with respect to the contrast between the two groups of 2L1ers and between the L2ers and the 2L1ers with Italian as their stronger language due to ceiling performance of the latter group. The difference between the 2L1s with Italian as their weaker language and the L2ers was not significant ($B = -1.26$, $SE = 1.41$, $z = -0.89$, $p > .05$). As for corrections in generic contexts, contrasts were highly significant between the two groups of 2L1s ($B = -6.74$, $SE = 1.66$, $z = -0.06$, $p < .0001$) and moreover between the 2L1s with Italian as their stronger language and the

¹⁸ This result does not imply anything about the significance of the contrast. Rather, it indicates that the contrast is untestable with the statistical method used. The same is true for the other contrasts reported below in which the 2L1s showed ceiling performance of 100%.

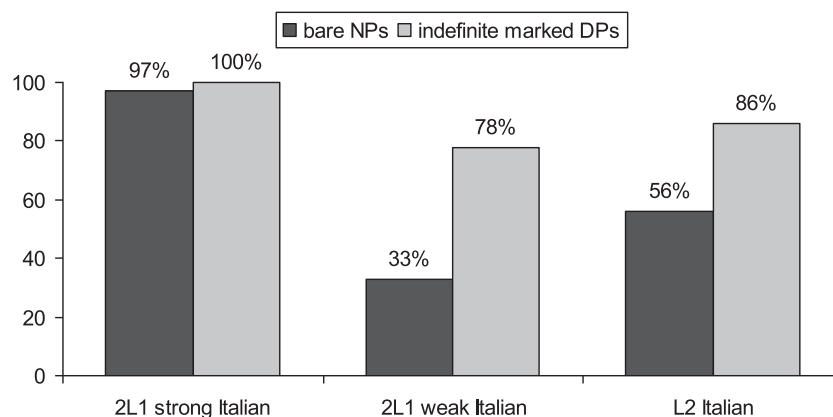


Figure 2. Appropriate corrections of bare NPs and indefinite DPs in generic contexts.

L2ers ($B = 4.75$, $SE = 1.62$, $z = 2.94$, $p < .005$), but not between the 2L1s with Italian as their weaker language and the L2ers ($B = -2.0$, $SE = 1.07$, $z = -1.87$, $p > .05$).

Comparison between the corrections of bare NPs and of indefinite-marked DPs in generic contexts, illustrated in Figure 2, did not yield a reliable result for the 2L1ers with Italian as their stronger language, again due to ceiling performance. In contrast, comparison was highly significant for the 2L1ers with Italian as their weaker language ($B = 2.92$, $SE = 0.44$, $z = 6.71$, $p < .0001$) and for the L2ers ($B = 2.93$, $SE = 0.49$, $z = 5.97$, $p < .0001$). Comparison across groups in the indefinite condition did not yield reliable test results between the 2L1ers with Italian as the stronger language and each of the other two groups. Comparison was not significant between the 2L1ers with Italian as their weaker language and the L2ers ($B = -1.46$, $SE = 1.01$, $z = -1.45$, $p < .5$).

There was considerable individual variation, especially within the groups of L2ers and 2L1ers with Italian as the weaker language. While all bilingual participants who grew up in Italy corrected at least 75% of bare nouns in the test condition, only two out of 12 heritage speakers did so (17%), compared to seven out of 15 L2ers (47%).

Summarizing, there were no differences across groups with respect to grammatical contexts. Here, all participants showed target-like performance. Bilinguals with Italian as the stronger language (i.e., those who grew up in Italy) also performed in a target-like manner in all remaining conditions. In contrast, bilinguals with Italian as the weaker language and L2ers faced problems correcting bare and indefinite-marked nouns. These two groups showed qualitatively similar tendencies, correcting significantly more bare NPs in specific contexts than in generic contexts, and significantly more indefinite DPs than bare NPs in the generic condition. Overall, the L2ers corrected more ungrammatical bare NPs and semantically inappropriate DPs than the bilinguals with Italian as the weaker language, but this contrast was not statistically significant.

5.3 Truth value judgment task (TVJT)

Test items

The truth value judgment task was modelled on similar tasks used by Gelman and Raman (2003) and Pérez-Leroux et al. (2004) with the methodological changes outlined below. Twelve coloured pictures were designed. Every picture showed three objects or characters of one kind, each with two anomalies (e.g., blue sunflowers in the desert; kangaroos with ties but without tails, flying monkeys eating ice-cream). Each picture was accompanied by three statements, resulting in a total of 36 statements (see Figure 3).

The 36 statements divide into three conditions. Statements in all conditions were balanced for truth value: half the statements were true with respect to the picture but false with respect to facts, and vice versa for the other half. All sentences were grammatical.

The major condition displayed statements ($n = 12$) with definite DPs, such as those in (23) below. Recall that these can have a specific OR a generic reading in Italian. The assigned truth value served to identify the semantic status of the DP.

- (23) a. *Picture showing tailless kangaroos with ties (Figure 3), test condition*
I canguri hanno la coda.
 the kangaroos have the tail
 (F = specific, T = generic)
 “The kangaroos have tails./Kangaroos have tails.”
- b. *Picture showing blue sunflowers, test condition*
I girasoli sono blu.
 the sunflowers are blue
 (T = specific, F = generic)
 “The sunflowers are blue./Sunflowers are blue.”

The response “true” (T) to a statement about canonical properties of the kind (e.g., kangaroos having tails, as in (23a)) indicates a generic interpretation of the subject DP;

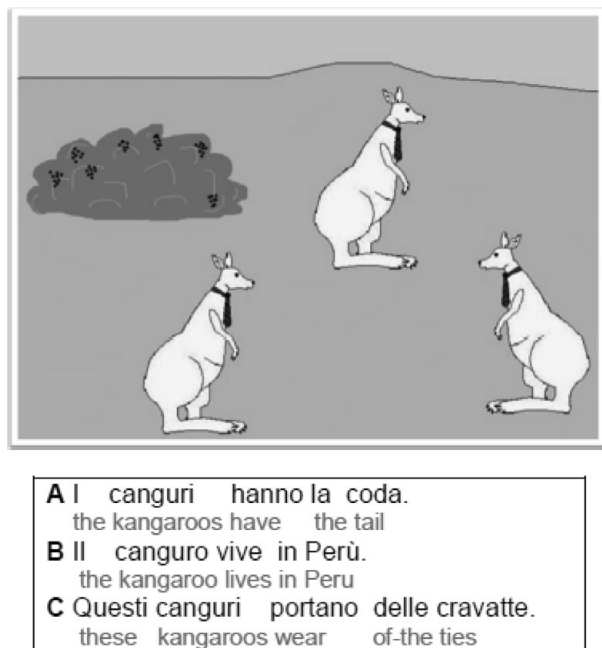


Figure 3. Test item in TVJT.

the response “false” (F) indicates a specific interpretation. Conversely, the response “true” to a statement about atypical (i.e., noncanonical) properties of the kind (e.g., blue sunflowers, as in (23b)) indicates a specific reading; the response “false” indicates acceptance of a generic interpretation.

Importantly, the major condition indicates a “preference” for one of two possible readings of definite DPs in Italian. It was expected that different preferences arise depending on whether there is CLI from Standard German, where such DPs can only have specific readings.

The second condition contained demonstrative controls ($n = 12$), which always yielded specific readings. Again, sentences displayed made statements either about a canonical property of the kind, as in (24a) – and were false with respect to the picture – or about a noncanonical property, as in (24b) – and then were true with respect to the picture.

- (24) a. *Picture showing blue sunflowers, demonstrative control*
Questi girasoli sono gialli.
 these sunflowers are yellow
 (F = specific, *T = generic)
 “These sunflowers are yellow.”
- b. *Picture showing tailless kangaroos with ties (Figure 3), demonstrative control*
Questi canguri portano delle cravatte.
 these kangaroos wear of.the ties
 (T = specific, *F = generic)
 “These kangaroos wear ties.”

The third condition consisted of singular controls ($n = 12$). These were subdivided depending on whether their truth value could in principle be gathered from the picture, see (25a) below, or whether their truth value required world knowledge that could not be gained from the picture, see (25b).

- (25) a. *Picture with three fishes; the rightmost fish turns its head towards the left, singular control*
Il pesce di destra guarda a sinistra.
 the fish of right looks to left
 (T = specific)
 “The rightmost fish looks to the left.”
- b. *Picture with tailless kangaroos (see Figure 3)*
Il canguro vive in Perù.
 the kangaroo lives in Peru (T = generic)
 “The kangaroo lives in Peru./Kangaroos live in Peru.”

Such items controlled whether the participants paid attention to the meaning of the sentences. For example, if a participant answered “false” with respect to (25a), she may not have looked at the picture carefully enough. If a participant did not know the answer to the question in (25b), he may have lacked the required world knowledge or may not have paid attention. A further purpose of the controls was to increase participants’ awareness that test statements could in principle be interpreted with respect to the picture or with respect to the world.

Singular controls always appeared between the other two statements, while the order of statements containing plural articles and demonstratives varied between the other two positions. Out of three statements, at least one (and maximally two) could be interpreted as true. (In each picture, demonstrative and singular controls had different truth values.)

Five methodological decisions were made which distinguish the design from previous studies. First, prior to testing, participants were explicitly instructed that sentences could either be related to the picture or to the world. The reason for this instruction was that during the pilot some participants gave one and the same type of interpretation throughout the test (only specific or only generic). The disadvantage is that participants might have intuitively guessed what the test was about. Second, as mentioned above, participants were instructed to listen to all three statements before giving a truth value judgment. This way, they heard and read sentences containing subject DPs of different types (e.g., with a demonstrative and a definite article) one after the other. This measure was used to make the different surface structure of sentences as evident as possible. Third, there was no context in the form of a preceding story or introductory sentence in order to avoid a bias towards either the generic or the specific reading through context. Fourth, there were no semantic clues that could have triggered

Table 5. *Responses in the TVJT*.^a

	Plural DPs (% specific answers)		Singular DPs (% correct answers)	
	Demonstrative control (n = 12)	Test item with definite article (n = 12)	Only specific answer possible (n = 6)	Only generic answer possible (n = 6)
2L1 strong Italian (n = 8)	85/90 (94%)	34/88 (39%)	45/45 (100%)	39/44 (89%)
2L1 weak Italian (n = 12)	135/140 (96%)	77/142 (54%)	69/70 (99%)	64/71 (90%)
L2 Italian (n = 15)	168/180 (93%)	120/179 (67%)	88/90 (98%)	79/90 (88%)

^a Object DPs in the test sentences contained either a singular definite DP or a plural indefinite DP (compare (i) and (ii)):

- (i) I cavalli portano **degli occhiali**.
the horses wear of-the glasses
(ii) Gli uccelli hanno **il becco**.
the birds have the beak

This variation between indefinite and definite object DPs was included to test whether definite object DPs would consistently bias speakers' judgments towards the specific reading and definite object DPs towards the generic reading. This was not the case, although all groups were more inclined to give a generic response when the object DP was definite.

specific or generic interpretations, such as “here” or “in general”. Fifth, each character had two anomalies, so the test question and the demonstrative question referred to different properties.

Procedure

Stimuli were presented in PowerPoint, and participants were instructed that they would see a series of pictures, each with three statements they could hear and read, and which they had to judge as being true or false. They were explicitly instructed that statements either could or could not be related to pictures, and that they had to listen to and read all three statements before making a judgment. They were also told that at least one but maximally two statements were true. There were two semi-randomized test versions.

Results

Responses were counted as specific interpretations if they were congruous with the pictures, and as generic interpretations if they were not. In case participants changed their mind, their final judgment was counted. Table 5 summarizes the results.

Statements with singular DPs for which the proper judgments could be found in the pictures yielded mostly specific interpretations (98–100%). Statements with singular DPs that could not be judged on the basis of the pictures (but required world knowledge) yielded mostly generic responses (around 90%). The number of incorrect judgments was slightly higher for the latter, probably because some participants lacked the required world knowledge (e.g., “The horse was domesticated more than 500 years ago”).

Control sentences containing plural demonstratives yielded predominantly specific answers (93–96%).¹⁹ In the test condition, where specific and generic interpretations were possible, 2L1ers with Italian as the stronger language showed a preference for generic readings (61% of all cases). 2L1s with Italian as their weaker language accepted both readings without showing a clear preference for any of the two (46% generic interpretations), while L2ers showed a specific bias (33% generic interpretations) (see Figure 4).

A multiple logistic regression analysis did not yield significant differences between the individual groups in the demonstrative condition, neither between the two bilingual groups ($B = -0.59$, $SE = 0.73$, $z = -0.81$, $p > .5$) nor between the 2L1s with strong Italian and the L2ers ($B = 0.18$, $SE = 0.63$, $z = 0.28$, $p > .5$), nor between the 2L1 with weak Italian and the L2ers ($B = 0-0.77$, $SE = 0.61$, $z = -1.26$, $p > .5$). In the condition with definite articles, the comparison was not significant between the two bilingual groups (-1.24 , $SE = 0.87$, $z = -1.43$, $p > .5$) and between bilinguals with Italian as the weaker language and the L2ers ($B = 0.78$, $SE = 0.73$, $z = 1.06$, $p > .05$). Only between 2L1ers with Italian as the stronger language and L2ers did the comparison yield a significant difference ($B = -2.01$, $SE = 0.83$, $z = -0.42$, $p < .05$).

Noticeable individual variation could be observed. The number of subjects who interpreted 75% or more of statements with plural subject DPs as generic was four out of eight Italian-dominant subjects, four out of 12

¹⁹ Generic answers in this condition occurred mostly for one item (*Questi uccelli hanno le branche* “These birds have claws”). A plausible explanation is that some participants did not know the word *branche* “claws”.

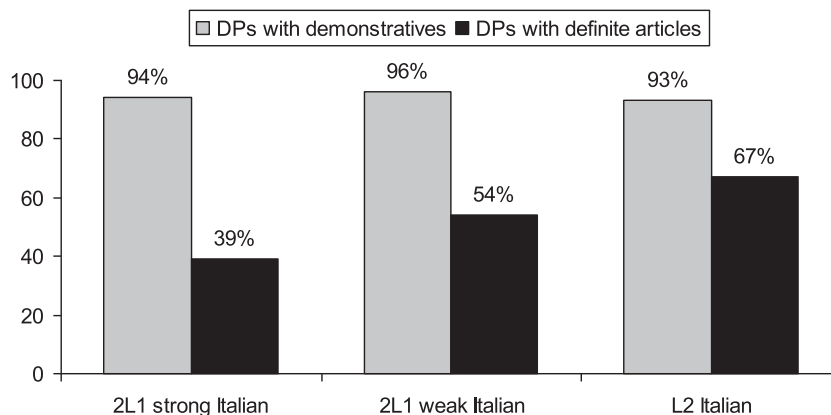


Figure 4. Specific answers with demonstrative plurals and definite articles in TVJT.

bilinguals with Italian as the weaker language, compared to only one out of 15 L2ers.

Comparing the results of the two test modes, the AJT shows more quantitative similarities between bilinguals with strong Italian and L2ers (i.e. more than between the two groups of 2L1ers), while the TVJT shows more quantitative similarities between the two groups of 2L1ers (i.e. more than between the bilinguals with strong Italian and the L2ers). One could ask whether these findings point to a disadvantage for bilingual speakers in AJTs as compared to tasks requiring more intuitive judgments. What speaks against this conjecture is that participants heard and read sentences in both the AJT and the TVJT, and had to provide spoken answers in both cases. However, a difference between the two tests was that, in the TVJT, participants could determine the speed themselves and then tended to respond rather quickly. In contrast, the response time in the AJT was pre-programmed and appeared to be too long for many participants. The relatively long response time in the AJT may have induced access to explicit knowledge, which would have been especially advantageous for L2ers, most of whom had some formal instruction in Italian.

5.4 Summary

The AJT has shown that bilingual German–Italian speakers who grew up in Italy perform at ceiling (accuracy 97–100%) in judging the grammaticality and acceptability of bare, indefinite and definite nominals in Italian, regardless of how these properties are realized in German. L2ers and bilinguals with Italian as their weaker language accept grammatical DPs regardless of how these are realized in German. However, the latter face significantly more problems in correcting ungrammatical and inappropriate Italian DPs whose German equivalents have a different structure, compared with correcting DPs whose German equivalents look the same. In the TVJT

definite plural articles were more likely to be interpreted as generic provided Italian was the stronger language.

6. Discussion

Returning to the questions raised in the beginning, and based on the results presented in the previous section, implications for models of CLI, methodology and terminology are now discussed.

6.1 Differences between the weaker and the stronger language

German–Italian bilinguals who grew up in Italy have been shown to perform at ceiling (accuracy 97–100%) in judging the grammaticality and acceptability of bare, indefinite and definite nominals in Italian. In contrast, German–Italian bilinguals who grew up in Germany faced considerable problems correcting bare subject NPs if these were embedded in a generic context. They were slightly better at correcting indefinite subject DPs and they faced no problems correcting bare NPs in specific contexts. That is, deviances between the stronger and the weaker language were restricted to contexts in which Italian differs from German.

Results of the AJT are compatible with previous studies testing the acceptability of bare subject NPs in generic contexts. Montrul and Ionin (2010) found that Spanish heritage speakers corrected ungrammatical bare plural NPs with generic reference in Spanish only 50% of the time. The result is also in line with Serratrice et al.'s (2009) study. Although these authors found that all Italian–English bilingual children scored significantly lower than monolingual controls, bilinguals in Italy outperformed their bilingual counterparts in the UK and showed significant progress with increasing age (*ibid.*, p. 252). This suggests that they may become native-like at a later point in their development, which in turn

Table 6. *Correction of bare subject NPs in AJTs testing Romance languages.*

	Language (combination)	Participants	% of corrections for bare generic NPs
Serratrice et al. (2009)	Italian	Adult 1L1	95–100%
	Italian	Child 1L1 (age 6–10)	95–100%
	Italian (with English) in Italy	Child 2L1 (age 6–10)	~ 50% (6;2–7;9) ~ 70% (8;0–10;2)
	Italian (with English) in the UK	Child 2L1 (age 6–10)	below 20% (6;3–7;6) below 20% (8;4–10;6)
Montrul & Ionin (2010)	Spanish	Adult 1L1	99%
	Spanish (with English) in the US	Adult heritage	50%
This study	Italian as strong L1 (with German)	Adult 2L1	97%
	Italian as weak L1 (with German)	Adult 2L1	33%

Table 7. *Interpretation of definite subject DPs in TVJTs testing Romance languages.*

	Language (combination)	Participants	% of generic interpretations for DPs
Pérez-Leroux et al. (2004)	Spanish	Adult 1L1	72%
	Spanish	Child 1L1	60–70%
Montrul & Ionin (2010)	Spanish	Adult 1L1	81.2%
	Spanish (with English) in the US	Adult heritage	56.7%
Kupisch & Pierantozzi (2010)	Italian	Adult 1L1	72%
	Italian	Child 1L1	71%
	Italian (with German) in Germany	Child 2L1	50%
This study	Italian as strong L1 (with German)	Adult 2L1	61%
	Italian as weak L1 (with German)	Adult 2L1	46%

is consistent with the outcomes of this study. Table 6 compares the results of all three studies.

The TVJT also yielded differences between Italian as the stronger and as the weaker language. With definite DPs – the condition in which Standard German does not allow generic interpretations – participants with Italian as the stronger language were more inclined to give a generic interpretation than participants with Italian as the weaker language. Although this difference was not statistically significant between the two groups, there was a clear tendency for bilingual subjects with a Romance language as their weaker language to provide more specific responses than monolingual speakers or bilinguals for whom the Romance language is stronger, thus weakly confirming results of previous studies (see Table 7).

Taken together, the results of this study suggest that frequency of hearing and using Italian may play a significant role in the development of grammar, here with respect to article use in subject DPs. In fact, among 2L1ers who grew up in Germany, only the participant who had spent two years prior to testing in Italy showed ceiling performance in the AJT (accuracy above 95%). These

results are consistent with previous hypotheses, e.g., by Gathercole (2002) and Serratrice et al. (2009), which stress the role of frequency of exposure and language use in bilingual development.

This study shows further that in the language which constitutes the majority language of a given environment bilinguals will develop the same grammar as monolinguals, suggesting that data from bilinguals' stronger language may be as adequate as control data for the weaker language as monolingual data.

6.2 *Age of onset*

This study shows that, in the TVJT (measuring preferred readings of definite DPs) and in the AJT (measuring the ability to correct indefinite DPs and bare NPs in generic contexts), there were no statistically significant differences between 2L1ers with Italian as their weaker language and L2ers. This in turn implies that the age at which participants had first been exposed to the language cannot have determined their acquisition outcomes.

Instead, the time the two groups had spent in Italy and the length of sustained exposure may have been crucial. L2ers who succeeded in correcting 75% or more bare subject NPs had on average lived seven consecutive years in Italy, compared with the 2L1 weak Italian group having on average lived in Italy for only two years. Moreover, the L2ers were older than the 2L1ers and had been learning Italian for 16 years on average, suggesting that some L2ers may have heard and used Italian even more frequently than the 2L1ers.

These results support the conclusion that, for the phenomenon investigated, the impact of age of onset can be overruled by frequent and sustained exposure, regardless of whether exposure took place in childhood or adulthood.

Incomplete grammars?

Recent studies in the domain of heritage language development have proposed that incomplete acquisition is a possible result of insufficient language input and use in the heritage or weaker language (e.g., Montrul, 2008).

This study provides three reasons why the weaker 2L1 and L2 grammars should not be considered “incomplete”. First, participants did not reject definite nominals in generic contexts but merely failed to correct bare NPs. Second, they did not CONSISTENTLY interpret definite nominals as specific (but merely did so PREDOMINANTLY). Third, they often corrected indefinite articles in generic contexts to definite ones, indicating that they did not fail to acquire the generic feature of the definite article.

In this respect, these Italian grammars correspond more closely with what Sorace (1993), in the context of near-native L2ers, has referred to as *DEVIANT* (rather than *INCOMPLETE*) grammars. Incomplete and divergent grammars are two distinct states of grammatical competence in ultimate attainment. The incomplete grammar *LACKS* a particular L2 property, which leads to random judgments. The divergent grammar *INCORPORATES* an alternative representation of an L2 property, which leads to judgments that are consistently different from those of native speakers. Given the rather systematic behaviour of the Italian 2L1ers with German as their stronger language and of the L2ers, the concept of divergent grammars appears to be a more appropriate descriptive term than that of incomplete grammars.

6.3 Models of cross-linguistic influence

It has been shown above that the stronger language of an adult bilingual speaker exhibits the properties of the monolingual target, while this does not hold for the weaker language. Therefore, any standard model of CLI which intends to fully capture such data should take language dominance into account. In this study, the dominant language corresponded with the environment language

during childhood and adolescence, indicating that the quantity of input during childhood may be a factor that determines acquisition outcomes.

The results also support the Semantic Overlap Hypothesis, which predicts that an interpretation present in both contact languages (here: the specific interpretation of DPs) is overused in the language where two different interpretations are available, at the cost of the option available in only one of the two languages (here: the generic interpretation of DPs). Since speakers with German as the dominant language showed a strong inclination to interpret DPs as specific in Italian (compared to Italian-dominant speakers of Italian), the predictions of the Semantic Overlap Hypothesis may count as confirmed by this data.

In contrast, the Structural Overlap Hypothesis predicts that Italian is not subject to influence. However, German-dominant participants (2L1ers and L2ers) overaccepted bare Italian NPs in contexts where DPs are required, thus contradicting this model.

At first glance, however, the results also seem to be consistent with the Economy Hypothesis, according to which learners opt for the syntactically less complex option. Nevertheless, it can be argued that this is not a plausible model for predicting CLI, at least not in adult bilinguals. The first problem the model faces is the existence of German varieties allowing both bare nouns and definite articles with generic nouns (see Section 2 above). If Avoid Structure were a universal or exceptionless linguistic principle, then speakers of a language should never entertain the possibility of projecting DPs whenever projecting an NP is an option in that language. Second, although participants in this study overaccepted bare NPs in generic contexts, they also accepted DPs in the same type of context (instead of correcting them to structurally less complex bare NPs, as Avoid Structure predicts). Third, they corrected semantically inappropriate indefinite DPs to definite DPs, even though these DPs translate into bare NPs in German.²⁰ Taken together, these observations make it rather difficult to interpret the data as evidence for a general dislike of structurally more complex DPs.

To conclude, it appears reasonable to assume that German-dominant speakers showed a preference for the specific interpretation of DPs in Italian because this is the only possible interpretation in Standard German and Italian. In contrast, it appears improbable that German-dominant speakers accept more Italian bare NPs in generic

²⁰ The fact that many participants corrected such indefinite DPs, while failing to correct bare NPs, raises the possibility of a methodological flaw. Since most other items in the AJT required word replacements or word order changes, participants may have been insensitive to cases requiring word insertions. Although plausible, this line of reasoning is weakened by the behaviour of the Italian-dominant bilinguals, who never failed to provide the proper correction.

contexts in order to avoid syntactically more complex structures. An alternative explanation could be that bilinguals try to create or accept syntactic constructions that more transparently reflect the underlying semantic and syntactic relations, as proposed by Andersen (1982, p. 99): bilinguals might have overaccepted bare NPs when the definite article was ambiguous in an attempt to create a one-to-one mapping between syntax and semantics, as they find it in German. If this were indeed the case, fewer problems would be expected in a corresponding German test, something to be explored in future research.

6.4 Methodological issues in the truth value judgment task

This study attempted to avoid methodological problems potentially arising in previous studies using truth value judgment tasks. As mentioned above, one puzzling fact is that Gelman and Raman's (2003) English-speaking children were more successful than those studied by Pérez-Leroux et al. (2004) in using the presence of the definite article as an indicator of specific reference, even though they were younger. It was speculated that the generic bias in the latter study might have been triggered by particular properties of the introductory sentences. In Serratrice et al.'s (2009) study, failure to interpret adverbs ("here" or "in general") as clues for, respectively, specificity or genericity, may account for some of the problems their participants faced.

This study tried to avoid contextual influences, and refrained from the use of introductory sentences or adverbs that might bias the sentences' interpretation to either a specific or a generic one. However, this move may have created a new problem: The absence of context in this study may have increased the subject's focus on the picture, thereby inducing a specific bias. An indication that this may have been the case is that some bare NPs were interpreted as specific in the German version of the test. Moreover, when looking at a series of pictures with anomalous characters, a participant may think that she has to interpret statements about genericity within the world presented in the pictures. In other words, the participants' judging of pictures from the point of view of imaginary rather than real world knowledge may have obscured the results. Although this may be a possible flaw in the experimental setting, it does not invalidate the measured difference in preferred answers between Italian-dominant bilinguals and German-dominant bilinguals. Nevertheless, future studies should address this issue.

7. Conclusions

This study focussed on the use and interpretation of generic nominals in learners of Italian. Three groups were tested: (i) simultaneous German–Italian bilinguals who

grew up in Germany and had Italian as their weaker language, (ii) simultaneous German–Italian bilinguals who grew up in Italy and had Italian as their stronger language (and German as their weaker language), and (iii) advanced L2ers of Italian with German as their L1. Both groups of German-dominant speakers (i.e., 2L1ers with weak Italian and L2ers) differed from bilinguals with Italian as the stronger language in judging and interpreting nominals in generic contexts: they faced significantly more problems in rejecting bare NPs in generic contexts, and overaccepted sentences like Italian **Donne guidano meglio* (literally: "Women drive better"). Additionally, they were more likely to interpret definite-marked DPs (ambiguous in terms of specific and generic readings) as specific, as in sentences such as Italian *I kanguri hanno la coda* (literally: "The kangaroos have the tail"). Since German and Italian differ in these two conditions, the results can be taken as evidence in favour of CLI from German. In fact, none of the three groups experienced difficulties in test conditions for which German and Italian have overlapping structures and interpretations, as is the case for DPs with specific reference.

While showing CLI, 2L1ers with Italian as their weaker language and L2ers never corrected DPs into bare NPs, and they were not generally insensitive to semantic violations in generic contexts. This speaks against the view that they failed to acquire the generic feature of definite articles. Instead, they consistently and rather uniformly tolerated bare NPs in contexts where Standard German requires them (see also Barton (2011) for similar results with German–French bilinguals), suggesting that their grammars may count as "deviant" from the grammars of speakers who grew up in Italy, rather than "incomplete".

Since Italian-dominant bilinguals provide the same judgments as one would expect from monolingual speakers, one may conclude that bilingualism does not automatically lead to deviant grammars. Rather, deviance may be a result of reduced input and language use during childhood.

The fact that some L2ers perform native-like and on a par with bilinguals whose stronger language is Italian indicates that L1-influence can be overcome at very advanced stages of development. Quantitative and qualitative similarities between Italian as an L2 and as the weaker language in bilinguals imply that frequent exposure and consistent input are more crucial than age of onset, at least for the phenomenon investigated.

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