

Regularizing the regular

The phenomenon of overregularization in Esperanto-speaking children

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This article deals with the phenomenon of overregularization in a language already extremely regular, i.e. Esperanto, in children who are learning it as their mother tongue together with one or two other national languages. It consists of an analysis of the diaries kept by Esperanto-speaking parents, tracing the development of five children who were brought up speaking Esperanto as one of their two or three mother-tongues. The children were all of European origin, and their ages ranged from one to five years. The different forms of overregularization have been subdivided into three levels of complexity based on the number and type of morpheme compositions used, and the degree of semantic elaboration. Detailed comments are provided on the forms and meanings of the various examples representing each level, showing the correlation between the age of the children and the growing complexity of the forms. This study can be seen as a first step towards a more systematic analysis of the typologies of overregularization specific to this category of early bilingual children and a better understanding of their language development profile.

Introduction

Overregularization in a language already extremely regular, i.e. Esperanto, in children who are learning it as their mother tongue together with one or two other national languages, is a particularly stimulating area of study, as can be inferred from the apparent contradiction between the two terms “overregularization” and “regular.” It can be broken down into three distinct disciplinary areas.

1. The concept of overregularization comes from *developmental psycholinguistics*, and particularly the work of Chomsky. The fact that very young children apply regularities already learnt even to irregular forms, and thus *against* the adult models provided by the surrounding linguistic community, was seen by Chomsky as a strong argument against Skinner's conception of language development, fundamentally based on imitation and reinforcement by adults (Skinner 1957). D. I. Slobin, one of the most important scholars in the Chomskyan line, in a well known introduction to psycholinguistics (1971), quoted examples of overregularization in many languages to support the thesis of the universal nature of this developmental step, which would in turn highlight the intrinsically creative nature of language development in human beings. Today, after several decades of cross-cultural studies on universals of language under the guidance of Slobin himself (1985) our knowledge of overregularization has grown considerably, and overregularization is now considered both a canonical stage of language development and a typical ingredient of developmental psycholinguistics handbooks. However, this view is independent of the epistemological use that Chomsky and his followers have made (for a discussion see Steinberg, Nagata & Aline 2001). In other words, the overregularization behaviours of children can be considered today as early forms of reelaboration of adult input that do not necessarily confirm the innate character of language development nor its special creativity. Rather, they confirm the fact that the child constructs and reconstructs meanings and forms of what she hears around her, even at the cost of definite divergence from adult models (Devescovi & Pizzuto 1995). This constructivist approach has also been adopted by the authors of the present article.

2. Speaking of creativity and of reelaboration ability in bilingual children, such as those considered in this study, we shift our attention from the field of general developmental psycholinguistics to that of *early bilingualism psychology*, and more precisely to aspects of cognitive processing. In a previous article (Pinto & Corsetti 2001), two of the present authors, studied the metalinguistic correlates in the Italian language of pupils learning Esperanto at school. The authors reviewed the experimental antecedents of similar studies on the metalinguistic benefits of bilingualism, and reexamined the main outcomes of international research on the relationship between bilingualism and cognitive development. As is well known, the literature has gradually confirmed the idea of a greater cognitive flexibility in children who learn two languages early on compared to their monolingual counterparts. This concept was first developed by E. Peal and W. A. Lambert in a well known article (Peal & Lambert 1962). The

forms of thought that this flexibility assumes can be extremely variable, from the perception of space to logical-mathematical reasoning, to various aspects of language processing, in particular in metalinguistic tasks (for a review, see Reynolds 1991, Baker & Prys-Jones 1998, Pinto 2002). In this light, the data that we examine here regarding overregularization appear to be emblematic expressions of this typical early flexibility of the small bilingual child. In other words, if overregularization is in itself a form of reelaboration of adult input in the monolingual child, we can hypothesise that this phenomenon assumes a more sophisticated form in the case of a bilingual child, highlighting its divergent nature.

3. But the early bilingual child that we have chosen to study is a very special bilingual, not one with two national languages, but a very particular language: Esperanto on the one hand, and at least one and sometimes two national languages on the other. Furthermore, the overregularizations that we consider here are those produced in Esperanto, the more regular of the two or three languages that the child is learning simultaneously. Thus the third scientific field that this study draws on is the *psycholinguistics of Esperanto*, which aims at understanding the kind of cognitive processing typically activated when learning this language as related to its specific structure and how this learning can have a positive fallout on others (for a recent review, see Pinto & Corsetti 2001). With reference to the present study, our hypothesis is confirmed that the combined effects of early bilingualism on the one hand, and the peculiar structure of Esperanto on the other, can activate particularly elaborate forms of overregularization. However, before examining the empirical data, it is useful to recall precisely the structural principles of Esperanto, to which we have referred only implicitly so far.

Esperanto is part of the history of artificial languages. The creators of these languages initially aimed to create the perfect language. Later the aim became to create a philosophical language, and eventually an international language. This history has been well described by Umberto Eco (1993) and before him by Alessandro Bausani (1974), who also shed light on the motivations which inspired the creators of such languages.¹ Blanke (1985) provides a more rigorous classification of these languages on linguistic grounds. Within the vast array of international planned languages Esperanto can be classified as an *a posteriori*² language (i.e. a language whose vocabulary is borrowed from national languages) with an original grammatical system, which gives it a central place in the group of inflected, agglutinative and isolating languages. In particular, in Espe-

ranto there are elements of all these types of languages (see Gledhill 1998). In practice the vocabulary of Esperanto is derived mainly from languages of the Latin/Romance group (but with considerable input from other groups too).

The way the language functions, on the other hand, is completely original. Besides the lexical morphemes, for example: *bicikl-* (the general concept of a bicycle), *tabl-* (the general concept of a table), *prav-* (the general concept of being right), *fajr-* (the general concept of fire), *ir-* (the general concept of going), *klopod-* (the general concept of trying) etc., there are a series of a grammatical morphemes which specify the significance of the root within the sentence. The main ones are the endings *-o* (the concept of a noun), *-a* (the concept of quality, an adjective), *-e* (the concept of an adverb, manner, place, means, etc.), *-as*, *-is*, *-os*, etc. (the concept of action, a verb, in the present, past, future etc.). Complements are indicated by prepositions or by the ending *-n*.

The vocabulary is enlarged by means of various lexical morphemes, which function as prefixes and suffixes, to create such words as *mal-san-ul-ej-o* = hospital. This word can be broken down as follows: the opposite of + health + person + place + noun, i.e. the place of individuals who are not healthy = the place of the sick = a hospital.

To summarize the situation in the words of Wells (1989:37) Esperanto is:

- a. extremely agglutinative
- b. not highly synthetic
- c. with regular morphemes
- d. with only one declension and one conjugation.

The originality of this structure was clear to Zamenhof himself, the creator (or initiator, as he liked to call himself) of Esperanto, who wrote:

I have organized the language in such a way as to permit the analysis of ideas into independent words, so that the entire language rather than being made of words in different grammatical forms is made only of non-variable words... a language structure of this kind is completely foreign to Europeans... the word *fratino*, for instance, actually consists of three words: *frat-* “brother”, *in-* “woman”, *-o* (something which is or exists) (= something which is a brother-woman = sister)... (Zamenhof 1903/1954; authors’ translation)

It is obvious that in practice these principles are followed only when they do not clash with other needs. While speakers use *malprava* (the opposite of right/true), they do not use *malpensi* (the opposite of thinking), because they are unable to infer its sense, which is not thinking but doing an action which is the opposite of thinking. This is, in fact, the first limitation of a semantic nature to

the development of vocabulary in Esperanto. Another limitation derives from the existence of lexical roots which already express the concept that could be expressed with compound words. We shall see that the children we encounter normally do in fact break this rule, since they have not yet learnt the already existing morphemes which are in a certain sense redundant.

Another aspect which speakers of Indo-European languages find particularly hard to grasp is the fact that every root may have any role in the sentence, as long as it has the right ending to fit its role. For example, while *bicikl-o* means "bicycle," *bicikl-i* is the corresponding verb (to do the action which is done with a bicycle = to cycle), and *bicikl-a* the adjective (having a quality connected with bicycles), etc. As we shall see, the spirit of the language in this area is easily understood by native speakers.

An important but unresolved issue, which will have to remain unresolved for the time being, concerns the number of Esperanto speakers. Since they are all people who speak it as a second language and who for the most part have taught themselves, it is genuinely difficult to evaluate their number. Estimates vary from 15 million (Pei 1969) to 50,000 (Large 1985). In this field everyone can make their own guesses. The most credible ones vary from 1 to 2 million (Corsetti 1987).

The idea of teaching Esperanto to one's own children from birth appeared very early in the history of the Esperanto-speaking community. Around the beginning of the last century the first attempts took place, the most documented of which concerns an English family,³ and they have continued since then. Currently the phenomenon seems to be on the increase, although still numerically restricted. However the phenomenon is quite widespread in the Esperanto speaking world, as is proved by the existence of meetings, usually held in the countries of Central Europe, which are exclusively intended for Esperanto-speaking families, and also the "children's congresses"⁴ which are organized every year in parallel with the so-called World Congress of Esperanto. Estimates based on the data of "Family Circle,"⁵ an organization for Esperanto-speaking families, suggests that there are probably about a thousand families in the world, today, who use Esperanto as one of their languages.⁶ These families, as far as we know, are more concentrated in Europe, both Western, Central and Eastern, than in all the other continents. We can assume, then, that probably around 2000 children are involved. The fact that this phenomenon occurred so early in the history of the Esperanto movement, has led to the existence of third- and even fourth-generation Esperanto speakers. On the other hand there are practically no scientific developmental studies, but only observations,

the most systematic of which are precisely the type of diaries which constitute the object of our analysis.

Objectives and hypothesis

Our goal was to study various types of overregularizations in bilingual Esperanto-speaking children through reported utterances in diaries. More specifically, we intended to analyse these forms on both structural and semantic grounds in search of a possible graduation in complexity. In this sense the current study is *explorative*, since the subject does not seem to have been tackled in literature about early learning of Esperanto, and *descriptive*, in as much as a numerically restricted sample does not allow for precise comparisons within an experimental design. However, within these limits, it was hypothesised that the forms of over-regulations found would fall within a rising scale of sophistication, which at least tendentially would be reflected, in turn, in the age-progression of the children considered.

Subjects

The research is based on the systematic reading of the diaries kept by Esperanto-speaking parents of five children who learned Esperanto from birth, namely:

1. Gavan, born 19 April 1979, parents English,
2. Rolf, born 23 November 1980, parents English,
3. Gabriele, born 10 December 1982, parents Italian and English,
4. Andrea, born 17 July 1993, parents Serbian (members of Hungarian-speaking minority),
5. Milena, born 21 August 1998, parents German and Serbian.

The diaries were kept by the father in the case of Rolf and Gavan, by both the mother and the father in the case of Gabriele, by the mother in the case of Milena, and in the form of audio recordings in the case of Andrea.

Categories

As the subject of the study involved daily observations of speech of infants in a natural environment, it was necessary to keep track, often with the parents keeping very detailed notes regarding the non-linguistic context and the spoken language of others present at the time of observation (Taeschner & Volterra 1986), in order to understand the significance of what was said.

Once the contextual meanings were clarified, *the nature of the overregularizations in this precise Esperantophone context* could be specified. These are defined as those forms resulting from the application of principles of morpheme composition, theorised in Esperanto, which meet the following criteria:

- a. perfect acceptability from the Esperanto grammar point of view (principle of *consistency in relation to the theoretical system*);
- b. contrast with some standard usages which, for historical and empirical reasons, are less consistent than expected (principle of *greater consistency than the actual system*);
- c. impossibility for the child to have heard similar examples from the reference adults (principle of *distance or divergence from the adult input*).

The purpose of these definitions is to clarify the conceptual grounds of “overregularization” in the present context, given that the term was born within the tradition of natural languages with different forms from those we are referring to here. Our aim is to explain the character both of *regularity* (reflected in the “regularization” part of the word) and of its *extreme application* (reflected in the “over” part of the term), and thus legitimate the idea of a strongly personalised type of processing by the child. As we have already stated, however, different degrees of complexity can be identified within the general category of overregularization. Three levels were identified in the material studied here: basic, intermediate and high, defined on the basis of the following parameters:

- *type and number of composition procedures* put into practice in the overregularised form;
- *nature of the lexical roots* to which the composition procedures are applied by the child;
- *depth of the semantic effect* achieved through this type of application.

Results: The three levels of overregularizations

1. Basic level

At the ground level of elaboration we find combinations of one morpheme, generally a prefix or a suffix with a given root, the outcome of which is surely unusual but quite acceptable. At the same time, this usage of the prefix or suffix in question is clearly repetitive and thus meets the criterion of productivity. Let us consider some examples:

- the prefix /mal/, meaning the opposite of what is conveyed in the root to which it applies;
- the suffix /in/, conveying the feminine gender;
- the suffix /ej/, conveying the place where some activity takes place;
- the suffix /uj/, conveying a container of something;
- the suffix of /ema/, conveying the action of tending towards something;
- the suffix /ig/, conveying the cause of something.

The prefix /mal/ in Esperanto is an antonymic procedure. For example we have:

bona/malbona = good/bad
rapide/malrapide = fast/slowly
amiko/malamiko = friend/enemy
ami/malami = to love/to hate

For a better understanding of this type of children's production we must recall the fact that this prefix is very productive in Esperanto but not in all the instances in which it could be. In some instances, Esperanto gives two different options for two opposing concepts based on two different roots. The children studied here, though, once they have understood how *mal-* functions, tend to apply it in all possible cases.

1. *plena vorto* / *malplena vorto*

While a complete word is also a full word, an incomplete word is not an empty word (Standard Esperanto [SE]: *malkompleta vorto* / *plena vorto*).

2. *startas* / *malstartas*

While we start an engine, we do not un-start or de-start it (SE: *malŝaltas*).

3. *miksi / malmiksi*

While we mix things up, we generally do not unmix them, but separate them out (SE: *dividi*).

4. *nuna / malnuna*

If something is current, or relating to the present, it is *nuna*, but if it relates to the past, it is not *malnuna*, but (SE) *estinta*.

5. *pluvas / malpluvas*

When it stops raining, it does not un-rain.

6. *scias / malscias*

If I do not know something, I do not un-know it (SE: *ne scias*).

7. *tie / maltie*

While the opposite of *there* may in some sense be *not-there-but-here*, SE has a separate term: *ĉi tie* (here).

8. *fari / malfari*

If I drop a glass and it shatters, I do not un-make it, but break it (SE: *rompi*)

Let us now look at two instances of the suffix /in/, which in Esperanto indicates the feminine form of what is indicated by the basic root. For example:

reĝo / reĝino = king / queen

koko / kokino = cock / hen

patro / patrino = father / mother

9. *peniso / penisino*

In the shower with his parents, one of the children turns to his father, points at the organ in question, and says: “*peniso*” (= penis). Then he turns to his mother, indicates the corresponding organ and says: “*penisino*” (= vagina). The suffix *-in-* is very productive in Esperanto and words like: *knabo/knabino*, *viro/virino*, *patro/patrino* (respectively: boy/girl, man/woman, mother/father) are very frequent. In theory it could apply to the words we are discussing, but in this case the adult language prefers two different words: *peniso* / *vagino*.

10. *lavistino / lavisto*

Less unusual, but also revealing a perfect comprehension of how the system works in Esperanto, is perhaps a back-derivation from the word *lavistino* (= laundress). This word is frequently used by the mother to indicate a

woman who works in a laundry. When the child saw a man who worked in the same laundry, he used the word *lavisto* (= launderer). The mother notes that she has never used that word herself. This case is interesting also because it appears as symmetric to the previous one. Here, the transfer is from masculine to feminine, whereas before we had a transfer in the opposite direction, giving rise, in both cases, to forms which these children could not have heard used by any other adult before.

Similar generative activity with other affixes results in the following examples:

11. *tricklejo*

In Esperanto the suffix *-ej-* indicates the place where some activity takes place:

preĝi / preĝejo = to pray / church

manĝi / manĝejo = to eat / refectory

deponi / deponejo = to deposit / storeroom

The application of *-ej-* to *tricklo*, to describe a place for tricycles, produces a word which is not used in adult language, although perfectly comprehensible and usable.

12. *elektrujo*

One does not normally think of a battery (*baterio*) as a container for electricity (*elektr-uj-o*), though the notion is at some level quite logical, even if not used in adult language.

13. *ventrema*

The suffix */em/* customarily indicates a tendency to do something and hence carries verbal implications (*lud-em-a*, playful; *stud-em-a*, studious; *ludi* = to play, *studi* = to study) If someone has a big belly (*ventro*), he is arguably tending towards belly-ness (*ventr-em-a*), but SE prefers *dika* (fat).

2. Intermediate level

Although intriguing, the basic level that we have just described results from the application of only *one* procedure to create the overregularized form. At the following level *more procedures* or *more transformations* are implemented at one time. We will begin with examples of both a prefix and a suffix inserted in an original way.

1. *malsandviĉiĝis*

In this instance the child has used both the prefix /mal/ and the suffix /iĝ/, which means “becoming,” producing a word which has the meaning of “it has become something which isn’t a sandwich anymore.” The child is in fact talking about his little brother who, playing with two cushions in such a way as to look like a sandwich, had then changed his position, losing that strange shape.

2. *maltajpilo* (*maltajpi* = delete)

In addition to *mal-* the child also uses the root *tajp-* (= to type) and the suffix *-il-* (= an instrument for doing what is indicated by the root). In the end a completely regular and comprehensible word is produced, meaning “an instrument for doing the opposite of typing” = “deleting what has been typed with the keyboard” = the delete key on the keyboard of a computer.

3. *malstelita*

The verb *steli* (= to star, to be full of stars) is added here to the prefix *mal-* in the passive past participle. The basic sense, which can hardly be understood out of context, is “without a lot of stars around.” The child is talking about the moon, which alone remains visible on a night when the stars cannot be seen. In this case, perhaps the most original procedure is the creation of the verb *steli* from the root *stel-* (= star). This procedure is quite normal although not very frequent in adult Esperanto, and is generally used in clearer contexts (*bicikli* = to ride a bicycle, from *biciklo* = bicycle).

4. *malĝustigis* (*ĝin*)

In this case the child has used the suffix *-ig-*, which has the meaning of doing, making. The basic sense is “he/she has done the opposite of repairing” = “he/she has broken it.” SE would use *rompis*.

The following are instances of transformations of word categories.

Noun → *Verb*. We have already discussed the procedure in Esperanto by which all roots, even the ones which generally refer to a noun, can become verbs by the simple addition of a verb suffix. On the other hand we have pointed out that this procedure is relatively infrequent, mainly for semantic reasons — because it is difficult to understand the meaning of the resulting word immediately and unequivocally. So *aŭtomobil-i* is used fairly frequently with the meaning “to go by car,” while *avii*, in the sense of going by aeroplane, is basically not used, the much clearer *flugi* (to fly) being used instead.

5. *naz-as*

Meaning: rub nose against nose (SE: *frotas la nazojn*)

6. *buŝ-as*

Meaning: to kiss on the mouth (SE: *kisi*)

7. *lang-et-i*

Here, the diminutive suffix *-et-* has been added to the root *lang-* = tongue, with the meaning “to give a little lick.” SE would use *leketi* (*lek-et-i*).

8. *dentumado*

Dentumado is the result of the composition of *dent-* = tooth, *um-* = to do, to engage with, and *ad-* = prolonged action. The result is something along the lines of “to deal with one’s teeth for a long time,” “to be busy with one’s teeth,” “to clean one’s teeth.”

Adjective → *Verb*. The creation of verbs from roots which usually indicate adjectives is more frequent, as in (example 9) *belos* = will be beautiful, from *bela* = beautiful.

Verb → *Noun*. The term *blovilo*, to mean “balloon” (example 10), is an attempt to construct the word balloon round the root “to blow,” even though an incorrect suffix is used. *Blovaĵo* would also diverge from adult usage but would be more correct. The child does not know SE *balono*.

Verb → *adjective*. This transformation is quite common in Esperanto but not in the following cases.

11. *rida*

To describe someone who is often laughing, the child describes him as *rida*, rather than the more common SE *ridema* (having a tendency to laugh) or *ridanta* (laughing).

12. *ventuma*

SE fan is *ventumilo* (*vent-um-il-o* — an instrument for doing or creating breeze), from which the child has created *ventuma* rather than the more common SE *ventofara* (making a breeze). The child has dropped the morpheme, which means “instrument,” and has turned the result into an adjective.

Prepositions used as prefixes → adverbs

We will take a look at a series of unusual but perfectly regular compounds. Prepositions are used as prefixes of words which are then turned into adverbs by applying other suffixes.

13. *perblove*

By blowing, through blowing. SE: *per blonado*

14. *doloreca*

Having the quality of creating pain. SE: *doloriga*

15. *ludeblo*

The possibility of playing. SE: *ebleco ludi*

16. *lacegegegega*

Reduplication of the suffix *-eg-* is part of a language game in Esperanto which has obviously been well understood by the child who says she is “very very very very tired.”

3. Higher level

At a yet higher stage come forms whose originality is essentially semantic, although often associated with the morpheme composition procedures discussed earlier. The distinctive feature of this third step is the semantic effect created by the way a given morpheme is grafted on to a given lexical root. As we shall see from the following examples, this type of grafting creates more complex meanings than those of the previous levels. In addition to this, we still find forms whose complexity is due to structural factors. The following examples cover four types of phenomena.

First, we will discuss semantic and morphological transformations within the same category of words. We have chosen instances of words created from */mal/*, the antonymic prefix already presented at the first and second levels. At the basic level the uses of */mal/* mainly form antonyms for action verbs and create radical alternatives: *miksi / malmiksi*, *scias / malscias*, *pluvas / malpluvas*. At the upper level, by contrast, */mal/* is used to create meanings referring to *states or phases of processes*. In the examples at the basic level, the opposition introduced by */mal/* could be replaced by an adverb of negation that simply inverts the positive action indicated by the lexical root. At the upper level, on the other hand, the antonym marks the *arrival point of a process or of a mechanism on the extralinguistic plane*, as we can see in the form “*malgraveda*,”

which indicates the end of a continuing condition (pregnancy). In the same way, “*malmateno*” stands for the end of a continuous process which is also temporal, and “*malvenis*” stands for the end of a process that ends with a screw coming out of its lock. On the other hand, internal and external, something and nothing, expressed by the forms “*malio*” and “*malinterne*”, require abstract representation.

1. *malmateno*

The contrary of the morning, the evening. SE: *vespero*

2. *malvenis (la pordon)*

A screw has dropped out of a lock. The child suggests that it has un-come the door (SE: *venis el la pordo*). This form is very divergent from adult usage in which the use of the accusative to indicate the place of origin is permitted only in certain circumstances (in practice when the preposition of origin *de* is placed before the verb). However from the child’s viewpoint it can be seen just as a regular use of the accusative. If it is possible to say “*Mi venis Milanon*” (I came to Milan) it should be possible to say “*Mi malvenis Milanon*” (I went away from Milan). The adult language in this case prefers “*Mi venis de Milano*” or “*Mi venis el Milano*,” in which the accusative is not used.

3. *malio*

To describe the opposite of something, *io*, the child has used *mal-io*. SE uses a separate term, *nenio*.

4. *malinterne*

The child, seeking a word for “externally,” uses *malinterne*. The word is easily understood but diverges from the adult use *interne / ekstere*.

5. *malgraveda*

The child is talking to her mother and telling her about everything they will do when the mother is no longer pregnant (*ne graveda*).

Our second phenomenon relates to semantic and morphemic transformations from one word category to another.

Noun roots → *Verbs*. In the following examples, roots normally associated with nouns are transformed into verbs.

6. *kuvi*

To have a bath, play in the bath (*kuvo*). SE: *bani sin, esti en la kuvo, ludi en la kuvo*.

7. *sangi / muki*

Immediately after using the normal word *sangis*, meaning “bled” and derived from the root *sang-* (which produces both *sangi*, to bleed, and *sango* blood), the child uses *mukis*, derived from *muko*, snot, and hence normally substantival, to describe the fact that his nose was running.

8. *literiĝas*

This is the child’s awed comment while watching the letters and numbers change on a video recorder which is rewinding a video. Here we have the basic root *liter-* = character, letter or figure, the suffix /iĝ/ in the sense of “becoming”, and the use of the whole as the middle voice of a verb in the following sense: “an automatic change of the letters occurs, without any apparent agent.”

9. *ne seĝu sur la divano*

Here the child creates the verb *seĝi*, with the meaning “to sit” derived from the word *seĝo*. No adult would think of doing this, because the concept “chair” is so strongly marked in the word *seĝo*, and SE has *sidi* = to sit.

Verbal roots → *Adverbs*

10. *Ege halte, ege paŭze, ege salte*

The adverb *halte* derives from the verb *halti* = to stop, *salte* from *salti* = to jump, and *paŭze* from *paŭzo* = a pause. The child wishes to convey the notions “in a very stopping manner, in a very pausing manner, in a very jumpy manner.” This is a latent possibility in the language, but not normally practiced by adults.

Our third phenomenon concerns the original usage of grammatical morphemes, as in the following examples:

11. *mi superruliĝos vin, mi superruliĝos viajn genuojn*

Here the accusative is applied to an intransitive verb. At the simplest level, the final *-n* in Esperanto normally has the function of connecting the object to the verb. The sense is

“I roll over you” or “I roll over your knees.” An adult would say “*Mi ruliĝas super vi*”.

12. *tioj*

In Esperanto *tio* means “that,” which the child has simply pluralised to form *tioj*. There are frequent discussions amongst Esperantists as to whether such plurals make sense or not. Obviously in theory the plural can be regularly formed, but usually in adult language *tiuj* (= those) tends to be used to indicate a group of things which are not named.

Our fourth phenomenon is that of multiple morphological and semantic transformations, as in the following examples:

13. *mezfalĉilo / randfalĉilo*

A grass cutter for trimming edges is called *randfalĉilo* (*rando* = edge). Hence a grass cutter for everything else might logically be called *mezfalĉilo* or middle grass cutter.

14. *samante (kiel mi)*

The adjective *sama* = the same is here turned into a verb, *sami* = to be the same, and then used as a present active adverbial participle. This is a fairly complex form which may be used, as in this case, when the subject of the verb in the subordinate clause (*samante kiel mi*) is also the subject of the main clause. In this case the sense is “being the same as me, you...”

15. *ene estas akve*

The child means “Inside it is wet.” The form deserves attention for a number of reasons. First, *ene* (= inside) is not normally used by adults in prose but only in poetry. It is an adverbial form, regularly derived from the preposition *en* = in. “Wet” (SE: *malseka*) is here derived from the noun *akvo* = water, and moreover the adjective correctly takes an adverbial ending, because the subject of the phrase is undefined: in Esperanto, as in Latin and many other languages, the adverb ending is used to express the neutral form: “*dulce et decorum est...*”

16. *muziĝis en la muzejo*

Here the final sound *eo* of the word *muzeo* is reinterpreted as /ejo/ = place, and a corresponding verb “to museum” is then erroneously constructed. If it is possible to say “*oni preĝas en preĝejo*” (one prays in a church), then “*oni muzas en muzejo*” would also be perfectly acceptable.

Levels of elaboration in relation to age

As we have already stated, we were interested in the average age at which the individual stages of overregularization could be identified in the five diaries studied. All forms that fell under each category were put together and then related to the age, in years and months, at which each of the five children used them. The average age for each level was then calculated, yielding the following results:

Basic: 3 years, 0 months, 8 days

Intermediate: 3 years, 1 month, 21 days

Higher: 3 years, 3 months, 11 days

Although the interval between the average ages for the different levels is fairly small, there is a relationship between chronological order and the order of the complexity of the forms analysed, in line with our expectations.

Discussion and concluding comments

Our main objective in conducting this research was to identify the nature of the early forms of overregularization by Esperanto-speaking children. We can confirm the special richness of this material and its great scientific potential both for developmental psycholinguistics and for early bilingualism psychology.

Compared with the overregularization instances described in children who learn natural languages, the examples we analysed here undoubtedly appear more sophisticated, both structurally and semantically. Examples such as “goed” instead of “went” in English, “ouvri” vs. “ouvert” (open) in French, “facete” vs. “fate” (do) in Italian and others that we have found described in the literature on developmental psycholinguistics, at most apply *one* regular composition procedure, and are immediately obvious to the adult in intent and linguistic regularity. On the other hand, an expert grammatical knowledge of standard Esperanto usage is needed in order to identify the applied structural principles and semantic results produced by Esperanto-speaking children. This simple methodological criterion appears in itself an important confirmation of the central idea that inspired our study, namely the expectation that bilingual children learning Esperanto from birth would show types of overregularizations particularly unpredictable and divergent from standard adult forms. Apparently, a language whose nature is highly combinatory and regular is likely to

stimulate regularity and combination abilities in those who acquire it. As early as our second level, where multiple composition procedures are grafted on to the same root in a totally plausible way, we cannot attribute the results to purely casual or mechanical word play. It is no surprise, then, that the increasing complexity of the forms produced corresponds to age growth.

In the light of the data presented and analysed here, several lines of research could be fruitfully developed:

1. We need to check the consistency of the overregularization categories identified both for distinctive features from level to level and for intra-level variants. To this end, we must access larger corpora from Esperanto-speaking children of the same age range and family background in order to establish more clearly the nature of this type of language processing in the course of development.
2. It would also be interesting to analyse the overregularizations produced by these Esperanto-speaking children in the *other language or languages* that they learn at the same time. In these cases too there may be peculiarities that could be linked, at least indirectly, to their experience of speaking Esperanto.
3. Just as interesting as the study of early forms of overregularization would be an analysis of its decline at later ages generally coincident with progress in the acquisition of standard Esperanto. It would be worth studying the reactions of children when their irregular forms are corrected by adults, or, even more significantly from a metalinguistic perspective, the perception that these children might have of their own overregularizations several years after they first produced them.
4. Finally, from another perspective, the material we analysed here could also be of interest to historians and sociologists of Esperanto, as these forms, creative and grammatical at the same time, can suggest lines of language evolution at the adult community level. In other words, we might hypothesise that the *parole* of young Esperanto-speaking children anticipates the evolution of the adult's Esperanto *langue*.

Notes

1. One of the inventors of such a language is well known to the Italian public: the great pedagogue Comenius. See Komensky 1991.

2. In the so called *a priori* languages, on the other hand, even the vocabulary is invented, either on the basis of philosophical considerations, as in the languages invented by Leibnitz or other authors, or else on the basis of considerations of a different nature, not excluding pure invention, as in Loglan, even though it was justified by abstract logical criteria.
3. The reference is to the Butler family, one of whose five children is still alive. See Lapenna, Lins & Carlevaro 1974:59.
4. *Internacia Infana Kongreseto* in Esperanto, i.e. Children's International Congress.
5. *Rondo Familia* in Esperanto, c/o Universala Esperanto-Asocio, Nieuwe Binnenweg, 176, NL-3015 BJ Rotterdam, Netherlands.
6. This estimate first appeared in Saunders 1988.

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Sommario

Regolarizzazione di una lingua regolare: Il fenomeno della iperregolarizzazione in bambini che parlano l'esperanto

Questo articolo si occupa del fenomeno della iperregolarizzazione in una lingua già estremamente regolare, cioè l'esperanto, da parte di bambini che la stanno imparando come lingua materna insieme ad una o due altre lingue nazionali. Esso consiste in una analisi dei diari tenuti dai genitori esperantofoni, che registrano lo sviluppo di cinque bambini che sono stati allevati parlando in esperanto come una delle loro due o tre lingue materne. I bambini

sono tutti di estrazione europea e le loro età vanno da uno a cinque anni. Le differenti forme di iperregolarizzazione sono state divise in tre livelli di complessità basati sul numero e sul tipo di combinazioni di morfemi e sul grado di elaborazione semantica. Vengono forniti commenti dettagliati sulle forme e sui significati dei vari esempi rappresentativi di ogni livello, che mostrano la correlazione tra l'età dei bambini e la crescente complessità delle forme. Questo studio può essere visto come un primo passo verso una analisi più sistematica delle tipologie di iperregolarizzazione specifiche per questa categoria di bilingui precoci e verso una migliore comprensione del loro profilo di sviluppo linguistico.

Resumo

Reguligo de regula lingvo: La fenomeno de superreguligo en Esperanto-parolantaj infanoj

Ĉi tiu artikolo temas pri la fenomeno de superreguligo en lingvo jam tre regula, tio estas Esperanto, fare de infanoj, kiuj lernadas ĝin kiel gepatran lingvon kune kun unu aŭ du aliaj naciaj lingvoj. Ĝi konsistas el analizo de la taglibroj verkitaj de esperantlingvaj gepatroj. La taglibroj raportas pri la lingva evoluo de kvin infanoj, kiuj kreskis, parolante en Esperanto kiel unu el la du aŭ tri lingvoj lernataj de la naskiĝo. La infanoj estas ĉiuj eŭropaj kaj iliaj aĝoj varias inter unu kaj kvin jaroj. La pluraj formoj de superreguligo estis dividitaj laŭ tri malsimplec-niveleoj, kiuj baziĝas je la kvanto kaj la speco de morfem-kombinoj kaj je la grado de signifo-prilaborado aplikita. Oni liveras detalajn komentojn pri la unuopaj vort-formoj kaj pri la signifoj de la ekzemploj, kiuj reprezentas la unuopajn nivelojn. Ĉi tiuj ekzemploj montras kunvariadon de la aĝo de la infanoj kaj de la pliiĝanta malfacileco de la vortformoj. Ĉi tiu studo povas esti rigardata kiel unua paŝo al pli sistema esploro de la speco de superreguligoj tipaj por ĉi tiu speco de fruaj dulingvuloj kaj al pli bona kompreno de ilia lingvo-evoluo.

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Maria Tolomeo, graduate of the Faculty of Psychology 2, University of Rome La Sapienza, analysed the material described here for her degree thesis, presented at the University in March 2003.