CHAPTER EIGHT
FOREIGN-LANGUAGE GRAMMAR
INSTRUCTION VIA THE MOTHER TONGUE

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Ang hindi marunong lumingon sa pinanggalingan
ay hindi makararating sa paroroonan

[He who does not look back to where he came from
will not reach where he is headed]
—ancient Tagalog proverb

Introduction

The overwhelming majority of EFL language course books and grammar reference materials on the market provide English-language explanations and totally ignore the relations holding between the students’ mother tongue (L1) and the target language (TL). Such books are moulded along a generic approach in the sense that they are supposed to cater to the learners’ needs irrespective of their L1.1

And yet, it is received wisdom that the learner’s L1 has a strong influence on learning another. On the one hand, features of the L1 intrude into learners’ interlanguage (IL). There is ample evidence that particular transfer errors occur in whole populations sharing the same L1, and that certain L1-influenced structures get fossilised in the learners’ IL (Ellis 1994, 337f.). On the other hand, the influence can be advantageous in the sense that language transfer can be turned into a learning strategy when the learner relies on existing knowledge to facilitate new learning. Turning L1 transfer into a strategy, however, requires consciousness-raising, since only those “rules” and structures that the learner is aware of can consciously be transferred (e.g. Meisel 1980).

In this chapter I make a plea for a contrastive/comparative approach to pedagogical grammar. I will report evidence that TL grammatical
competence can be fostered by relating TL features to the learners’ NL competence (which is known as the extension hypothesis).

Experienced language teachers know that it is frequently easy to establish a language rule in learners’ minds by contrasting two forms that are only different in one or two respects. Many newly introduced grammar structures or items can usefully be compared with others in order to contrast their form, meaning, and use. This can be done on both the interlingual and intralingual level: it can explicate differences between the structure in focus and other similar previously taught TL constructions, but also between the TL and the corresponding NL form. This awareness-raising practice may be especially beneficial with regard to commonly mistaken structures that invoke negative transfer (in order to prevent both intralingual and interlingual interference). Komorowska (1980, 120ff.) argues that the method is likely to be more effective than merely demanding repetition of the correct structure, as it helps the learner mentally engage in drawing conclusions concerning the differences between the L1 and L2. Lewis (1993) also makes a strong point in this regard (albeit with regard to lexis rather than grammar):

Meaning is essentially differential – based on contrast(s) between language items […] This […] has considerable methodological implications for language teachers, suggesting that certain types of contrastive presentation are essential to the establishment of certain types of meaning and mutual intelligibility. Some single items cannot be understood except in contrast to other items […] (op. cit., 61)

Language items are defined by contrast with other language items, rather than the inherent properties of the object or situation to which they refer […] Meaning is created by contrast […] instead of trying to say ‘what a word means’ it is easier and more valuable to present contrasting items. (op. cit., 79)

Vygotsky already observed in 1934 (1962, 121) that “success in learning a foreign language is contingent on a certain degree of maturity in the native language”. Knowledge of the mother tongue can serve as a springboard for foreign language (FL) development as “interlingual associations […] provide a key to the mysteries of the FL” (James 1994, 212). Also Selinker (1992, 171) argues that learners frequently fall back on their knowledge of the L1 when they encounter a new linguistic form in the input.

However, many students and teachers are not fully aware of the common properties of the TL and their L1, which could be put to use in the teaching and learning process. It is helpful if the teacher (or materials writer) has good knowledge not only of the learners’ TL but also of their
Already at the beginning of the past century, Harold Palmer observed that “[t]he first and foremost qualification of the ideal teacher is a thorough knowledge of both the foreign language and the student’s native tongue” (1917).

The learners’ L1 has been utilised in a gamut of purposes: to convey meaning, dissect language, teach grammar, explain errors, discuss cross-cultural issues, assess comprehension, give instruction, and manage the classroom (Atkinson 1987; Auerbach 1993; Schweers 1999; Cook 2001; Deller and Rinvuluci 2002; Schultz et al. 2002). Yet its place and use in the L2 classroom was frowned upon and advised against during a good portion of the past century: “[i]t is assumed throughout that the teacher’s success is judged by the rarity of his lapses into the foreign tongue” (Thorley 1910). Many teachers feel guilty if the learners’ L1 has been let in. With the advent of the Direct Method—to be superseded by communicative Language Teaching (CLT)—came the expurgation of the mother tongue and translation in the classroom. Its apologists seemed unaware of the fact that (unless they are intended for highly advanced learners) grammar explanations given in the learner’s mother tongue are “a more accessible and cost-effective alternative to the sometimes lengthy and difficult target-language explanation” (Ur 1996, 17; Lucas and Katz 1994, 539). If the immediate aim of a teacher’s intervention is to help learners understand a grammar point, for example, then resorting to translational equivalence is probably most economical,

given its speed and efficiency, and especially at elementary level where explanations in the target language may be over the heads of the students.

A refusal to translate may also mean that learners make their own unmonitored and possibly incorrect translations (Thornbury 1999, 41)

Careful, judicious, and timely use and position of the L1 in the classroom which helps the students get the maximum possible benefit from the lesson should thus be countenanced. I acknowledge that overuse of the L1 risks trimming down the volume of exposure students get to the TL, but there are times when there are clear advantages in selectively and sparingly using the L1, “an acknowledgement that many teachers will welcome” (Grant 1993, v). SLA research has demonstrated that the use of the learners’ NL while they are acquiring English not only has no detrimental effect on the learning process, but in fact aids TL development and academic learning (Thomas and Collier 1999).

In this chapter I propose the employment of what I call the Language Interface Method.
The Language Interface Method

The proposed method forges an interface between the learner’s L1 and the TL. This is supplemented (especially in areas not fully amenable to the interface instruction, but also in others as an auxiliary measure) by an explication of the underlying grammatical system, thus leading to a better understanding of the “how’s” and “why’s” of the material to be mastered. But let us first delineate the modus procedendi step by step:

1. The method usually begins with initial exposure (Gozdawa-Gołębiewski 2003, 196ff; James 1994) of new language material – the learner encounters a new structure in its natural context and is offered a direct translational equivalent.

2. Imprinting – the same invariant sequence of words will be exposed to the learner a few more times at reasonable intervals until TL-NL meaning equivalence has been established.

3. Explication of how the “rules” of a given grammar area operate in the learners’ L1: examining, demonstrating, and bringing to the surface relevant features of the source language that are only subconsciously known to the students, thus leading to L1 awareness. That is, the learner is introduced to facts s/he intuitively knows, but which s/he may have never consciously pondered upon. Thus for instance, when introducing conditional clauses, the learners may be asked to consider whether such constructions cannot be found in their language as well, while the phenomenon of “reported speech” ought to be taught by elucidating the nature of English tenses, which have absolute value, i.e. relate the message to the moment of speaking – just as in Dutch or French, for that matter. Learners may be asked to consider the following sentences:

   (3) He said he is ill.  – He is still ill now.
   (4) He said he was ill.  – He was ill.
   (5) He said he had been ill.  – He had been ill and then he said so.
   (6) Hij zei dat hij ziek is.  – Il a dit qu’il est malade.
   (7) Hij zei dat hij ziek was.  – Il a dit qu’il était malade.
   (8) Hij zei dat hij ziek geweest was.  – Il a dit qu’il avait été malade.

and to discover the difference in temporal reference themselves (cf. also Gozdawa-Gołębiewski 2000, 96ff; 2003, 220–23). This will allow them to realise that the backshift—rather than to be considered yet another special
apparatus to be mastered—is a straightforward reflection of the general principles of past tense use in English.

More attention here is typically being paid to higher-order heuristics of use than lower-order rules of formation as, at least in the case of the research carried out, the latter did not pose too many problems for the already fairly advanced learners.

The reason why we commence with showing similarities and contrasts with the L₁, rather than plunging directly into an explanation of the newly introduced constructions and underlying systematicity, is our instinctive need for safety.

Thus, the first major step is getting the learners to observe and notice patterns in their NL. Things that have once been explicated have the preponderance of not becoming obliterated and can be recalled as the need arises. This has one more advantage: we can explicate only those L₁ items that are relevant to the L₂, disregarding ones that may cause confusion. We should also bear in mind the fact that learners often cope with structures that are totally different from their equivalents in the students’ native language precisely because they are so unexpected and “bizarre” and stick in memory. We can thus further enhance retention (what and how well is remembered overtime).

4. A passage is then made to the explanation of relevant L₂ rules—something more novel this time, being the target proper of the instruction, raising the learners’ consciousness of FL features (insight into what they do not yet know in the FL, without necessarily directly instilling the rules; Rutherford 1987), revealing the underlying TL pattern behind the data imprinted in learners’ memory and offering a first-approximation rule (frequently through a discovery technique), but formulated in relation to the L₁ rule, showing parallels between both languages. Language-awareness tasks sensitise the learner to language phenomena which are present in both his/her L₁ and the TL, but whose overt realisation in the two languages may differ. Learners discover whether the L₁ rules are operative in the L₂ and vice versa. The teacher’s task is to demonstrate to them through comparative analysis that they already know something which they have so far regarded as mysterious. This eases the burden and is greatly facilitative in lowering the affective filter—a factor not to be disregarded.

It is essential to note at this point that the two stages—especially at early levels of proficiency or where the subject-matter is complicated or would require the introduction of complex taxonomy otherwise—the explanations had better be done in the mother tongue of the learners. When introducing a new concept or piece of information about the
language system, care should be taken to ensure that the learners concentrate on the content of the rule, rather than direct all intellectual effort at painstakingly deciphering metalinguistic wording. A FL learner will, even at very advanced stages, still think in the L1 when performing more and less complex mental operations, such as e.g. mathematical calculations (Paradowski 2007). Similarly, many errors had better be discussed via the L1.

5. Once the relevant material has been explained, an interface—a contact area between the two language systems—is forged, usually consisting in modifying the L1 rule to accommodate relevant L2 data and an explicit presentation of this ultimate rule. Sometimes no modification will be necessary. For instance, English constructions with modal verbs are frequently ambiguous. This is especially the case when a modal auxiliary is followed by the perfect, as in sentence (9):

(9) Paul could have got murdered.

This may mean either that (a) we have no idea what has become of Paul and it might be that he is deceased (internal perfect, have belonging semantically to the complement of the modal, with present epistemic modality reading), or that (b) the possibility existed but was not actualized – he is alive and kicking but if things had fallen out otherwise he would not have been so lucky (external perfect, have having extended scope over the modal, with past dynamic modality reading). Although at first sight learners may find it difficult to perceive the two meanings, they should not have such problems when presented with the semantic explication of the equivalent—equally equivocal—sentence which their language may allow, as French does:

(10) Ils ont pu assassiner Paul.

Subsequent practice first expects the learner to apply the FL rules to L1 (sic!) examples. Precisely that: foreign rules are to be applied to mother-tongue texts. For instance, the learners may be presented with a text in their NL where they are asked to insert the appropriate determiners in accordance with the principles of the English article system:

(11) ____ inżynier nadzorujący ____ budowę w ____ dzikich 
ostępiech ____ Birmy wybierał się do ____ miasta ____
samochodem prowadzonym przez ____ młodego miejscowego __
konstruktora. Tuż przed ____ odjazdem ____ kierowca spojrzał 
na ____ dłoń ____ inżyniera i powiedział zadowolony: „____
Only then does the teaching move to more traditionally sanctioned TL exercises, but even then in a progressive fashion: the first assignments being translational equivalents of the L1 examples (in order to preserve the familiarity appeal), subsequently moving on to entirely novel ones, where the learner tackles the tasks without the aid of a déjà vu, as in real-life contexts.

This may look like building the L2 on the L1—which, to a certain extent, it is—but the mother tongue only acts as the foundations upon which the construction proper is mounted, which become invisible, but remain present at all times.

6. **Competence expansion** – making the learners collapse their already conscious knowledge of the FL system with their already explicit reflection of their subconscious L1 competence and integrate the rules. This is effected through wisely constructed tasks involving the learners’ switching into the analytic mode with a focus on form (Łukasiewicz 2006:30), ultimately expecting submersion and absorption of the rules. Although formula memorisation poses a lighter learning burden, rule internalisation is undeniably more successful. James (1994) maintains that in order to forge the interface a “common denominator” has to be discovered. Metacognition can be this denominator as one can have metacognition of both the native and foreign language.

By such a gradual, multi-stage method the learners gain command of the TL system before actually starting to use the operational principles in the TL itself. A cognitive inferential (deductive) task-based approach (rather than discrete grammar point teaching) gets them (at least mentally) more engaged in the learning process (“you learn best what you’ve done yourself”), while the juxtaposition and use of L1 and L2 rules alongside help the latter merge with the former and thus, hopefully, submerge to the subconscious. By practising the TL rules in the safe grounds of the L1 first, the learner feels more comfortable and at ease.

Such a multistage method greatly stimulates students’ continual involvement and interest in the learning process. With its use learners are taught grammar from their own perspective; they obtain a bridge linking the FL with their NL. New structure are introduced through the prism of the learners’ L1, the only language in which they are (and—unless raised in a bi-/multilingual environment from an early age—will ever be) fully
competent. Explicit exposure to contrastive linguistic input expedites the acquisition of given L2 forms; consciousness-raising (C-R) elucidates the gap between the learner’s production and that of native speakers. As Lewis (1993, 154) notes, the “process of acquisition is best aided by making students aware of features of the target language, and, in due course, of how their production of the target language differs from its norms.” Engaging terminology-free contrastive cross-linguistic comparisons may be viewed as an acquisition facilitator, much more straightforward than employing grammatical explanations (which not infrequently take a convoluted form). A fluent speaker of a FL does not think of rules when s/he uses the L2, although they are “stored, ready to be recalled at some higher level of the conscious knowledge about the language” (Marton 1972/81, 157). Comparing two languages, and conscious knowledge about the structures which are different in the L1 and L2 and therefore prone to be transferred, does not constitute an impediment to fluent language usage. C-R does not even require the learner to be able to verbalise the rules s/he has learnt. The ideal solution for a Polish learner of English would be a textbook written by a Polish author aware of the areas of potential difficulty as well as those in which positive transfer can be invoked.

When the learners remember, internalise, proceduralise and possibly automatise the rules on the go, we can profess that we teach grammar as process, not merely as content, even if eventually arriving at a product. Utilising awareness- and consciousness-raising, as it is done in the Language Interface Method, “fulfils a process rather than product role: it is a facilitator, a means to an end rather than an end in itself” (Nunan 1991, 150). Adhering to this procedure the teacher may trust the learners know more than just the surface structure of the utterances taught.

C-R contrasts with traditional grammar instruction in that it devotes much greater attention to form-function relationships. On top of that, it attains to situate grammatical forms and structures within a broader discoursal context. It enables the learner to see how grammar operates in discourse and how meanings are realised by grammatical features. Rutherford (1987, 26) believes that C-R may result in better production and a wider scope of contexts in which the learner will be able to employ the rules.

Rather than as a productive skill, C-R views grammar as a receptive skill. In contrast with traditional practice exercises, although consciousness-raising may not demand of the learner to actually produce sentences for immediate mastery, it will instead get him/her to notice and understand a particular grammatical feature and to apply cognitive
strategies to systematising the language. While production practice amplifies the learner’s control over grammatical structures, input-oriented practice develops deeper understanding of the meaning and function of the constructions and in so doing increases learners’ confidence in using these. Thus, the two approaches ought to complement each other. Grammar practice activities must involve both process- and product-oriented perspectives on grammar and recognise both productive and receptive skills.

The cognition-based part of the Language Interface Method may also fall back on the underlying syntactic structures, particularly where no direct L1:L2 correspondence can be established. Thus, for instance, the fact that structures such as (12) or (13):

(12) *this her aunt
(13) *deze haar tante

are ill-formed in English or Dutch, contrary to perfectly grammatical Slavic equivalents, can be accounted for if we explain (simplifying matters somewhat) that English does not allow more than one determiner per noun phrase. A bit of syntax will also come useful when dealing with the notorious erroneous utterances learners of English produce of the type:

(14) *I’m looking forward to meet you.

The problem will be solved if we show that the “to” does not function as an infinitive marker, but is just a preposition. As such, just as in other languages, it can only be followed by a nominal expression. A gerund is of course a deverbal nominal, hence the correctness of:

(15) I’m looking forward to meeting you.

This explanation can be carried over to further constructions of the type, e.g. to be used to, to be close to, to be given to, to resort to, to object to, to face up to, to own up to, to stand up to, to lead up to, to commit oneself to, etc.

After having given a brief description of the Language Interface Method, let us now turn to a controlled classroom experiment that was set up to evaluate the relative effectiveness of this Method.
Research question

The primary goal of the empirical study was to measure the impact of language-interface training on improvements in the linguistic accuracy of EFL learners, relative to results obtained from control groups instructed in the same areas of grammar via the employment of other methods. The targeted areas of grammar were: articles, relative pronouns and adverbs, expletives, *as vs. like*, reported speech and conditional structures. Of primary importance was an examination of the role of L₁ awareness and interfacing training in developing enduring results.

Method

Participants

The experiment was conducted during the 2003/2004 school year at an elite Warsaw secondary school with an extended English-language programme. Participants were 144 second-year pupils (16-17 years of age) with an approximately upper-intermediate level of proficiency. This population was divided over eight naturally occurring groups (N 13 to 17, 14 pupils on average). All the pupils had taken an entry test and subsequently followed the same English-language syllabus during their first year of secondary education; a language awareness/competence test was additionally administered in order to ascertain their proficiency. No statistically significant differences between the groups regarding EFL competence were evidenced prior to the experiment, which started at the beginning of their second year.

Two groups were taught by the experimenter, and six control groups were taught by six other teachers. Thus, the experimental group (EXP) comprised 28 pupils from two groups, and there were 6 controls (CTR).

Procedure

A pre-test was administered which consisted of a diagnostic test and a grammaticality judgment test. Then pupils followed by a regular EFL course interspersed with instruction in grammar areas that were targeted in the experiment (see above). In the experimental groups, this instruction was given (by the experimenter) along the lines of the Language Interface Method that we sketched above. In the control groups, the six other teachers employed their own methods for teaching grammar, which relied much less on comparisons with the pupils’ L₁. These 45-minute periods in
which the targeted grammar areas were dealt with ended in follow-up progress tests administered right after the instructional treatment.

The students received five 45-minute periods of English per week from September 2nd until mid June with an indigenous teacher shared with a NS instructor: 4 + 1 hr one term and 3 + 2 hrs the other, respectively (though not necessarily in this order for all the groups). Naturally, the six targeted grammar areas canvassed constituted but a small part of the pupils’ total English classroom time (to say nothing of extra-school opportunities for language contact). Each grammar area was covered in a one period and the time spent on each area was comparable across the eight groups. The six grammar instruction periods were distributed over time, i.e. spread over the school year.

As we have said before, the aim of the experimental treatment was to sensitise the students to the workings of their L1 grammar, and to use this as a passage to TL rules. The treatment instructions required, amongst others, the finding of correct English-language counterparts of relevant grammatical items in Polish texts, filling gaps in Polish texts with suitable English lexico-grammatical markers, the comparison of structures in Polish and English, rule-discovery, analysis of labelled syntactic tree diagrams, developing grammar algorithms, and other contrastive and cognitive tasks. Not only did they enhance focus on form and metalinguistic awareness, but they also enforced cooperative engagement, as in several cases one worksheet handout was initially distributed per pair of students, and resulted in whole-class discussions, consequently activating speaking skills as well.

At the end of the school year, an unannounced deferred paper-and-pencil post-test on the targeted grammar areas (consisting of gap-filling and transformation tasks) was administered in order to assess the long-term effects of the instructional condition. Given the distribution of the six grammar instruction periods over time, this meant that the pupils were confronted with test items about grammar points they had been taught about two to eight months previously. It should also be pointed out that no intentional teaching about the same grammar areas had occurred in the meantime.

Results and discussion

Only a synopsis of the results will be presented here. For a detailed account, see Paradowski (2007). Figure 1 represents average attainment in the six distinct areas of grammar in the deferred post-test. The diagram indicates better performance of the EXP group over all control groups.
(CTR1-CTR6). Application of the $t$-test formula reveals that the EXP group significantly outperformed each of the control groups at $p<.05$ (one-tailed).

We also computed the progress of the pupils in the respective grammar areas by comparing their performance on the diagnostic test which had been administered at the start of the school year with the deferred post-test results. Unfortunately, at the time of writing results for both the diagnostic and the deferred post-test in the areas tested were only available for three control groups. As shown in Figure 2, the experimental group was found to have made more progress than each of those three control groups.

Overall, the results of the experiment clearly suggest that the proposed Language Interface Method is comparatively effective in fostering grammatical accuracy in a TL. Sceptics may argue that perhaps the better results obtained by the experimental pupils might be due to the teacher variable rather than the actual instructional method. After all, both experimental groups were taught by the experimenter himself, i.e. a teacher who may have been especially successful at conveying his own confidence in (his type of) grammar instruction to the pupils. Still, there is no ground for believing that the six teachers who taught the control groups were not equally confident in their own methods for teaching grammar. The fact that no fewer than six control groups, each taught by a different teacher, were involved in the experiment should suffice to counter the teacher-variable criticism.
We nevertheless have to acknowledge some of the limitations of the study. For one thing, it is not clear whether all grammar areas are equally suited for instruction along the Language Interface Method. We found some variation in the degree of its effectiveness across the six areas that were targeted in the experiment (see Paradowski, 2007 and forthcoming, for details), and so it is not absolutely certain that the benefits of the method are generalisable over TL grammar instruction at large.

It is also worth recalling that learner gain in the experiment was measured by means of a discrete-point test, i.e. consisting of test items that each targeted knowledge of precise grammar points. We do not know to what extent this kind of knowledge is transferred to the pupils’ actual language production in integrative, ‘real-time’ communication.

![Figure 2: Average progress](image)

Conclusions and perspectives

The results of our study indicate that the Language Interface Method can effectively help learners appreciate the workings of grammar and foster grammatical accuracy in a target language. The proposed method seems a useful addition to pedagogical grammar at large.

With such promising results in terms of linguistic accuracy, it is only natural to begin thinking of exploring the effects of a Language Interface Method in other fields of TL competence. For instance, in a course on TL writing conventions, discourse organisation, structure of information and
information packaging, the learners could first experimentally be taught the principles and asked to apply these in their mother tongue—say, a guided composition or two—before producing an English text, which will probably provide several other challenges than just requiring to remember the principles that were mentioned during one or two classes at most. If the learners manage to successfully apply L\textsubscript{2} strategies in L\textsubscript{1} texts, thus becoming better trained in learning to “think” in the way preferred in the target language, success lies within reach. By such differences I mean for instance, in terms of clause combining, the preference for coordination in English contrasted against more intensive use of subordination devices found in French, as pointed out by Chuquet and Paillard (1987), or the English preference for non-finite clauses vs. tensed ones in French, mentioned by Vinay and Darbelnet (1995); both claims corroborated through an analysis of a bidirectional translation corpus carried out by Cosme (2006). An equally insightful textual area is the characteristics of the academic styles (including patterns of argumentation, reader friendliness, and text organisation) of different cultures and the transfer of these, illuminatingly explicated by Konovalov (2006). The writings of authors from post-Soviet states, raised in the Teutonic intellectual tradition, display strong traces of this influence, as well as some additional peculiarities. Yet, with the ever-increasing role of the English language in the academic world, and the growing preference for the dialogic formula, the ability to “convert” to the Saxon style will soon be a prerequisite for any endeavour to “speak out.” Again, it would be sensible to assume that this can be trained on properly conceived L\textsubscript{1} texts before delving into publications proper.

Last, but not least, of beneficial influence on the development of communicative competence is the combination of intensive communicative practice with explicit awareness-raising, e.g. observation tasks in which the learner’s attention is directed at specific characteristic communicative features of interactional FL behaviour (cf. e.g. Bardovi-Harlig \textit{et al.} 1991; Rose 1997), especially at the pragmatic contrasts between linguistic behaviour in the L\textsubscript{1} and the TL (House 1997:82f.). The awareness of pragmatic and discourse phenomena in FLL should include an understanding of the contrasts and similarities in these areas between the TL and the L\textsubscript{1} (L\textsubscript{2}, L\textsubscript{n},…). Pragmatic competence would yield perfectly to the language-interface rationale: if the learners transfer pragmatic patterns anyway, let us enable them to transfer ones which will be appropriate; an appropriate research project is already being prepared in this regard.
Notes

1. According to James (1980, 24), this generic approach is “universally valid [but] for purely commercial reasons.”

2. Although some readers may consider the term rule not to be ‘politically correct’ any more, it will be applied throughout this paper interchangeably with ‘principle’ and ‘regularity’ for reasons of its domestication and long entrenchment in the literature.

3. I need to give credit and express my gratitude to Prof. Romuald Gozdawa-Gołębiowski, as the method presented here is based to a considerable extent on his model of pedagogical grammar (Gozdawa-Gołębiowski 2003), with a couple of minor modifications and expansions on my part.

References


Chapter Eight


