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**SINGLE-WORD INCORPORATIONS
IN UKRAINIAN-ENGLISH BILINGUAL DISCOURSE:
LITTLE THINGS MEAN A LOT**

A Dissertation

by

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Submitted to the School of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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Single-Word Incorporations in Ukrainian-English Bilingual Discourse: LITTLE THINGS MEAN A LOT

ABSTRACT

This research develops theory-independent diagnostics for identifying the status of single-word incorporations of one language occurring in the discourse of another. Our investigation is based on the premises of Variation theory requiring systematic evaluation of a spoken-language corpus, and exhaustive quantitative analysis of inherent variability not only in mixed or bilingual language, but more innovatively in the unmixed or monolingual vernaculars, which are in contact. We hypothesize that 1) if the contentious lone items are code-switched, i.e. produced by the donor language, their patterns of behavior should be similar to those of their unmixed donor-language counterparts, while at the same time differing from those of their unmixed recipient-language counterparts; 2) if such items pattern similarly to their unmixed recipient-language counterparts, while differing from their unmixed donor-language counterparts, we infer that they were produced by the recipient language, and hence are borrowed; and 3) if their patterns follow neither donor- nor recipient-language counterparts, they could be produced by some other language contact phenomena.

We test this hypothesis by analyzing natural performance bilingual data involving two typologically different languages, Ukrainian (a Slavic language) and English. Numerous morpho-syntactic differences between these two languages provide a wide range of 'conflict sites', which allow us to observe the differences in their patterns, and hence, to reveal unambiguously the language membership of the items in question.

The results showed that lone English-origin items occurring in Ukrainian discourse were not produced exclusively by one process. The majority of them were borrowed, whereas some were code-switched. None, however, were produced by any other phenomena. Borrowed items, either nonce or established, were shown to acquire all morpho-syntactic features required for a particular part of speech, and applied those features with the same variability as their Ukrainian counterparts. Code-switched English-origin utterances clearly failed to fulfill Ukrainian requirements (with respect to gender assignment, different types of agreement, syntactic position, etc.), and exhibited behavior similar to their unmixed English counterparts. We have also found that a switch site constitutes a 'barrier' for language-specific features, but not for the universal ones.

Having succeeded in applying this diagnostics to code-switching/borrowing identification, this study reveals a detailed view of what the process of integration is at the moment of borrowing, i.e. on the synchronic level. It consists of applying the patterns of the language in which they are incorporated, either standard or non-standard, to other-language items in exactly the same way, as to the recipient-language counterparts. Thus, this research provides clear indication that the source grammar of inherently ambiguous forms in bilingual discourse can be empirically determined by using a comparative method applied to an entire corpus of natural performance data, using appropriate diagnostics, focusing on language-specific features, and making use of, rather than avoiding, inherent variability.

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Chapter 1

INTRODUCTION

1.1 Background

If someone wants to build a house, s/he can build it anyway s/he wants. S/he can choose a brick over a stone building, a Victorian over a bungalow style, three and a half levels instead of one, big and wide windows over narrow and small ones, etc. S/he can also paint it blue and yellow or beige and white. Much depends on a person's 1) financial means, 2) tastes, and 3) the current fashion. However, s/he can only build so far as the laws of physics allow. For example, no matter how someone wants to build the frame of a house, the law of gravity will always apply, and if the design of the house does not comply with it, the house will collapse. This is exactly what happens in discourse. Someone can use only one, or more than one language in speech, depending on the same matching factors: 1) that person's abilities (i.e., knowledge of another language), 2) that person's own attitude towards language mixing and 3) the community norm. However, no one can mix languages to produce a single discourse against linguistic 'laws'.

Over the last two decades linguists have argued over the question how 'the house has been built', or what are the causes and mechanisms of using more than one language simultaneously in discourse. This broad and long-lasting debate has pitted those who champion extra-structural constraints, i.e., sociolinguistic, psycholinguistic, or pragmatic ones (Annamalai 1989; Bentahila & Davies 1991, 1995; Bokamba 1989; Clyne 1987; Genishi 1981; Gumperz 1976/82, 1971; Gumperz & Hernandez-Chavez 1975; Huerta-Macías 1981; Hymes 1972; McClure 1981; Myers-Scotton 1993b; Valdés 1976, 1981, etc.), against those who advocate internal structural constraints (Di Sciullo et al. 1986; Kachru 1978; 1983; Klavans 1985; Lipski 1978; Muysken 1995; Naït M'Barek & Sankoff 1988; Pandit 1990; Sankoff & Poplack 1981; Singh 1981; Woolford 1983; 1985; etc). Our

contention is that although language mixing is undoubtedly a discourse phenomena, it may take place, especially within a clause boundary, only if linguistic constraints permit it. In other words, when the combination of two or more languages in a single utterance is permitted by linguistic constraints, it may occur, or it may not occur depending upon the presence of social motivation for it (Budzhak-Jones 1996a, Poplack 1987). If, however, linguistic constraints do not permit such combination, then it will not occur even if there is social motivation for it.

Among the linguists who do agree that linguistic constraints control language use in bi- or multilingual discourse, there is also a debate over the mechanisms of control for mixed structures. Some suggest that the two grammars overlap and, the area of overlap belongs to both languages (Sankoff & Poplack 1981; Woolford 1983). Many other scholars propose that all grammars remain separate in the interaction unless meshed according to a series of constraints (Belazi et al. 1994; Berk-Seligson 1986; di Sciullo et al. 1986; Hyltenstam 1995; Joshi 1985; Lederberg & Morales 1985; Myers-Scotton 1993a, 1995; Pfaff 1979; Poplack 1980; Sridhar & Sridhar 1980; etc.). Within this group of scholars, however, there is no consensus as to whether these constraints are language specific (An 1985; Kamwangamalu 1989; Timm 1975) or universal (Bokamba 1989; Meisel 1994; Myers-Scotton 1993a; Poplack 1991; Rubin & Toribio 1995); whether they hold for the majority of attested language contact phenomena (Budzhak-Jones & Poplack 1997; Meechan & Poplack 1995; Poplack & Meechan 1995) or whether they make all-or-nothing claims (Bentahila & Davies 1983; Berk-Seligson 1986; di Sciullo et al. 1986; Eliasson 1990; Gardner-Chloros 1987; Nartey 1982). Among other frequently debated issues are the following: 1) are the constraints linear or structural; 2) do they apply top-down or left-to-right; 3) is there a hierarchy of CS; 4) is CS relationship symmetrical or asymmetrical, etc.

This on-going debate rests mostly on numerous critiques of already proposed constraints and ideas, based on occasional facts and counterexamples (see section 1.3 for

details). However, before rushing to pose constraints or criticize the already proposed ones, we find it necessary to distinguish between different outcomes of language contact phenomena: code-switching (CS), borrowing (BOR), constituent insertion, convergence, calquing, semantic shift, interference, etc. Categorizing CS and BOR remains the most controversial topic in the current literature. Since both of these phenomena overtly involve other language material, they may at times appear to be identical in their surface realizations, even though produced by different mechanisms. When not considered separately any bilingual behavior exhibited by them is obscured, causing a great deal of confusion (Poplack 1993; Poplack et al. 1987), and hence, rendering the proposed linguistic constraints inadequate and/or questionable.

1.2 Code-Switching Versus Borrowing

The fragment in (1.1) is an example of a bilingual discourse where multi- and single-word segments of English have intermingled with the Ukrainian ones. For years scholars in different linguistic fields have debated the many possible mechanisms that would/could have created such utterances, but two in particular have proven the most plausible, and interestingly the most controversial: code-switching (CS) and borrowing (BOR).

- 1.1¹. 'Je odna robota, **one opening**, kaže, je na **janitor**'. A
 is/are one-F.Nom job-F.Nom says is/are for janitor-Ø And
 ja kažu: **Explain it to me**', b-- bo takož ne znaju. A vin kaže:
 I say-1sg because also not know-1sg And he says

¹ Each example is identified by cassette number and count number. The data show phonological variability which is not necessarily represented in the orthography. Ukrainian utterances are transliterated from Cyrillic alphabet (see Appendix A for transliteration system adopted). Single-word English-origin utterances occurring in Ukrainian discourse are spelled according to English orthography as much as possible. All examples are glossed with the corresponding English lexical item with grammatical labels of a Ukrainian noun, unless the grammatical information is conveyed by the translation itself. Grammatical markers are coded in the following way: F = feminine, M = masculine, N = neuter; sg = singular, pl = plural; Nom = nominative, Acc = accusative, Gen = genitive, Dat = dative, Ins = instrumental, Loc = locative, Dim = diminutive, Refl = reflexive, Cl = clitic, Cond = conditional auxiliary, 1/2/3 = person, Imp = imperative, Perf = perfective, Fut = future, Pass = passive, Ø = missing overt inflection. Since grammatical gender is usually distinguished only in the singular, gender marks also imply singular, unless otherwise specified.

‘Well, bh-- [laughs] mop-pu [laughs]. Ja si tak zasmijav i kažu:
 mop-F.Acc I Refl. so laughed-M and say-1sg

‘Beautiful my friend, I have to ask my wife how to mop the floor
 because I never did it in my life’ [laughs], mopuvaty pidlohu. (22/159)
 mop-Inf floor-F.Acc

‘‘There is one job, one opening as a janitor’, he says. And I say: ‘Explain it to me’, because I also do not know [what it is]. And he says: ‘Well, bh--’ [laughs], a mop [laughs]. I have laughed so much and said: ‘Beautiful my friend, I have to ask my wife how to mop the floor because I never did it in my life’ [laughs], to mop the floor’.

Identifying multiword incorporations like the ones in (1.1): **Beautiful my friend, I have to ask my wife how to mop the floor because I never did it in my life; explain it to me; one opening**, as unambiguous manifestations of code-switching, is relatively simple, since the other language utterance retains the linguistic system of its origin (Bokamba 1988, Muysken 1987, Poplack & Sankoff 1988, Romaine 1989). Accounting for single-word utterances, like the English-origin words *janitor*, *mop-pu* and *mopuvaty* in (1.1), however, is much more difficult. Both *single-word* CSs and loanwords overtly involve other language material, and thus their surface realizations may appear to be identical (Meechan and Poplack 1995, Poplack and Meechan 1995, Sankoff et al. 1990).

Many potential solutions have been put forward. First, it has been suggested that all single-word incorporations should be classified as BORs, given that multiword CSs have their own discernible internal syntactic structures, and obviously single-word utterances cannot (Gingràs 1974; Reyes 1974). Second, it has been proposed that single-word incorporations are ‘hybrid’ forms, i.e., they belong to both codes simultaneously (Alfonzetti 1992; Berruto 1989; Clyne 1987; Gardner-Chloros 1991; 1995). Third, it has been argued that all such incorporations are CSs (Boeschoten 1990; Eliasson 1989; Myers-Scotton 1992; 1993a; 1997; Romaine 1989). And fourth, it has been asserted that such words may result either from CS or BOR, and further that their status may be operationally

distinguished (Eze 1997; Meechan & Poplack 1995; Poplack & Meechan 1995; Poplack et al. 1987; Sankoff et al. 1990; Turpin 1995).

The first solution is not plausible given that CS may occur at different structural levels (Poplack 1980), and therefore, it is not unreasonable to assume that this might include single words (Meechan and Poplack 1995). The second and third approaches are theoretically unacceptable, since even in strictly monolingual analyses seemingly similar surface structures may result from different linguistic phenomena. For example, consider the Ukrainian sentence in (1.2), where the noun phrase (NP) *jakis' cvity* is not in its base-generated position. One could argue that it has been moved by scrambling, topicalization or even object shift.² Hence, all three phenomena could have resulted in the same surface structure.

- 1.2 Tak samo *jakis'* *cvity* peredav abo šos'. (25/009)
 So same some-pl.Acc flowers-pl.Acc has-sent-M. or something
 'I also had sent her some flowers or something else'.

Only the last approach empirically tests for differences between CS and BOR, and distinguishes the products of these two phenomena according to the peculiarities of their behavior. CS and BOR are in fact two different mechanisms. CS usually implies the *alternation* of two different codes, whereas BOR connotes an *adaptation/assimilation* of a linguistic unit from one language into the grammatical system of another (Haugen 1950, 1956; Poplack 1980; Poplack & Sankoff 1984; Weinreich 1953).

Many scholars have approached the problem of categorization of CS and BOR by invoking Poplack's (1980) free morpheme constraint (FMC). Using her Spanish-English data Poplack concluded that a switch between a free and bound morpheme is not permitted, a point which was confirmed by a number of studies (Berk-Seligson 1986; Eze 1995b; Lipski 1978; Pfaff 1979; Poplack et al. 1987; Sankoff et al. 1990). However, Poplack intended her FMC for other language utterances longer than a single word, as exemplified

² See, e.g., Mahajan (1990) or Muller (1993) for the discussion of different types of syntactic movement and their surface realizations.

in (1.3), where *el hombre* is a part of a monolingual Spanish stretch, and/or *'s car* is a segment of the monolingual English stretch.

- 1.3 *...el hombre's **car**... (Spanish/English from Sankoff & Poplack 1981:13)
the man's car

Nevertheless, many linguists who have applied the FMC, especially those posing counterexamples, have not differentiated between multi- and single-word incorporations (Backus 1992; Bentahila & Davies 1983; Clyne 1987; Eliasson 1990; Gardner-Chloros 1987: 106; Lanza 1990; Mithun 1990: 9-10; Myers-Scotton 1992: 23; Nartey 1982; Petersen 1988; Romaine 1989: 113). Most counterexamples, in fact, are based on single-word items, as exemplified in (1.4) and (1.5) and are usually cited out of context, as in (1.6) and (1.7).

- 1.4 Majemkinnif **ndefiniha** ana.
'Me, I can't define it' (Arabic/French from Bentahila & Davies 1991: 394).

- 1.5 ... wewe ulikuwa umejikunja kwa corner u-na-m-**time** tu.
2nds-PROG-her-time just
'... you had folded yourself in a corner (and) you were just 'timing' her'
(Swahili/English from Myers-Scotton 1992: 23).

- 1.6 **shoppā** 'shops' (Panjabi/English from Romaine 1989: 113)

- 1.7 wa -na -wa -**monitor**
3pl Pres 3pl monitor
'They are monitoring them' (Kiswahili/English from Kibogoya 1994: 120)

The most abundant criticism of the FMC has been with respect to nonce borrowings, first described by Weinreich (1953). Borrowed on the spur of the moment such elements fail to satisfy the only one requirement of an established loan, i.e., widespread diffusion (Poplack & Meechan 1995; Sankoff et al. 1990). Many scholars argue that such items are nothing but single-word CSs (Backus 1992: 14; Bentahila & Davies 1991; Gardner-Chloros 1995; Giesbers 1994: 161-2; Myers-Scotton 1993a; Scotton

1987, etc.), and assert that the notion of nonce-borrowing has been put forward without any motivation (Giesbers 1994: 82; Myers-Scotton 1995:245), 'just to save the day' (Boeschoten 1990: 88) protecting the FMC from 'potentially disconfirming data' (Eliasson 1990: 26, as well as Bentahila & Davies 1991: 371; Romaine 1989; Santorini & Mahootian 1995: 286).

1.3 Empirical Basis of the Debate

Such dramatically divergent arguments in distinguishing CS from BOR stem, first of all, from different methods of ascertaining the status of ambiguous manifestations of language contact. Some linguists rely primarily on the investigator's intuitions, acceptability judgments or sentence repetition (Belazi et al. 1994; Lance 1975; Sridhar & Sridhar 1980; Timm 1975; Toribio & Rubin 1993/to appear). Although this kind of data elicitation permits control of linguistic environments, 'there is no guarantee that all crucial factors will be held constant; or that sentences would/could have occurred naturally' (Pfaff 1979: 294). Moreover, acceptability judgments or sentence repetitions often represent stereotypes about verbal behavior rather than actual behavior (Rickford 1975). This is especially true of situations when CS is socially stigmatized in a particular community (Poplack 1987).

Second, the types of data-sets used by different researchers vary significantly. Some linguists use (informal) tape-recorded conversations (Backus 1992; Bentahila & Davies 1991; Eze 1997; Gardner-Chloros 1991; Poplack 1989; Poplack et al. 1987; Sankoff et al. 1990; Turpin 1995), others extract data from fiction (Kachru 1983) or popular songs (Kamwangamalu 1989); some 'collect' data from other scholars' papers (Boeschoten 1990; Eliasson 1990; Giacalone Ramat 1995; Kamwangamalu 1989; Moyer 1994), while yet others use their students' data recorded surreptitiously (Giacalone Ramat 1995). Without taking into consideration the differences in data gathering techniques, many scholars then mix different examples in one analysis, even though it has been shown

that conversational speech differs from the literary variant (Pfaff 1979), or the vernacular speech is substantially different from the standard variety (Poplack 1981) with respect to the types of switches used.

Another problem concerning data-sets is that some researchers rely upon very limited data (Backus 1992; Halmari 1993; Mahootian 1993; Treffers 1990; Wentz 1977; Wentz & McClure 1976), while many others never even mention the size of the corpora they operate within (Annamalai 1989; Belazi et al. 1994; Eliasson 1994; Ewing 1984; Goyvaerts & Zembele 1992; Gysels 1992; Santorini & Mahootian 1995; Singh 1994). Although it has been repeatedly shown that it is impossible to establish, for a single token, the mechanisms by which a particular surface structure was produced (Meechan & Poplack 1995; Poplack & Meechan 1995; Poplack et al. 1988; Poplack et al. 1987; Sankoff et al. 1990), most researchers never report the frequencies of occurrence for particular bilingual structures (Boumans 1994; Eliasson 1990; Giacalone Ramat 1995; Kamwangamalu & Lee 1991; Kibogoya 1994; Obondo 1994; Sebba 1994; etc.), which makes it difficult to infer whether the discussed utterances are idiosyncratic, represent a pattern, or are simply performance errors (cf. Meisel 1994).

Third, since different studies on bilingual discourse have been performed in various linguistic fields and theoretical frameworks, their terminology is not uniform. The same terms have been used to refer to different phenomena, or different terms to categorize identical phenomena (cf. Köppe & Meisel 1995; Poplack 1991; Poplack 1993; Toribio & Rubin 1993/to appear). For example, some scholars use the term 'code-mixing' to refer indiscriminately to both intrasentential code-switching and borrowing, and ascribe the term 'code-switching' only to alternation of intersentential fragments belonging to different codes (Bokamba 1989: 278, di Sciullo et al. 1986: 1, Kachru 1983: 194, Kamwangamalu 1989). Other scholars use the term 'code-mixing' to refer to the violation of linguistic constraints on code-switching (e.g., Redlinger & Park 1980), while yet the others use the term 'fusion' to refer to the same phenomenon (Köppe & Meisel 1995: 277). This

inconsistency in terminology has led to a great deal of confusion, since many researchers never state how they define particular structures as CS, BOR or some other language contact phenomena (Treffers 1990). Many speculate over the status of a certain item as a CS without any evidence why and how it differs from being a BOR (Backus 1992; Boeschoten 1990; Eliasson 1990). Some scholars notice variability in the monolingual speech of their informants, but fail to see it in the bilingual speech of the same informants or vice versa (Backus 1992; Berk-Seligson 1986).

Thus, strikingly different analyses and results are not surprising given that most of the critiques have exhibited confusion over terminology, misinterpreted phenomena, incomplete analysis, non-empirical speculations and highly selective use of evidence. The (un)reliability of research and scholarly predisposition of researchers (cf. Wald 1995) render a considerable portion of recent work on language contact phenomena questionable. Therefore, an extensive and detailed study of language use on both the individual and community levels (Pfaff 1979; Poplack 1987; Poplack et al. 1988) is needed.

1.4 The Contribution of Ukrainian

Ukrainian-English bilingual discourse presents a vital test for the CS-BOR debate. First of all, it involves two typologically very different languages. English, from the Germanic group of languages, is mostly an analytical language with considerably restricted word-order. Ukrainian is one of three Eastern Slavic languages, besides Russian and Bielorrussian. Contrary to English, it is a highly inflectional, fusional language with so-called free word order. It usually requires overt marking of gender, number and case expressed by a fused single surface form for all nouns and parts of speech with adjectival form (i.e., adjectives, adjectival verbs, ordinal numerals and different types of pronouns). In (1.8), for example, noun *ližko* 'bed' has an inflection *-o*, denoting neuter singular accusative; noun *kanapu* 'sofa' is inflected with *-u* for feminine singular accusative. Adjectives *kuchonnyj* 'kitchen-type' and *staru* 'old', as well as interrogative pronoun

jakus ‘some’ are overtly marked for all three grammatical categories as well. Verbs are marked by a number of affixes (similar to agglutinative languages), each of which delivers an independent grammatical information. For example, *kupyla* ‘bought’ is inflected with the past tense suffix *-l-* and singular feminine marker *-a*. Adjectival and verbal overt affixation is always mandatory. Some nouns, however, may remain bare. These are usually masculine singular inanimate nouns in nominative and accusative, like *stil* ‘table’ in (1.8).³

- 1.8 *Kupyla* *vona* *nam* *ližko,* *kredenc* *kuchonnyj,* *i*
 Bought-F she we-Dat bed-N.Acc cupboard-M.Acc kitchen-type-M.Acc and

 šo *šče...* *i* *stil,* *nu* *i* *jakus'* *staru* *kanapu*
 what else and table-M.Acc well and some-F.Acc old-F.Acc sofa-F.Acc

 dala. (18/109)
 gave-F

‘She bought us a bed, a kitchen cupboard, and what else... and a table, well, and [she] gave us some sort of old sofa’.

Furthermore, there is a complex system of agreement in Ukrainian. It requires all dependent elements of adjectival form to agree with their head nouns in gender, number and case, like *jakus* ‘some’ and *staru* ‘old’ in (1.8) which are marked for identical grammatical information (i.e., feminine singular accusative) as their head noun *kanapu* ‘sofa’. Verbs show overt agreement with their subject, like *kupyla* ‘bought’ (1.8), which agrees with its subject *vona* ‘she’ in gender and number.⁴ Both rich inflectional marking and the agreement system allow Ukrainian words to move in syntax⁵ almost without restriction. In the first clause of (1.8), for example, the subject *vona* ‘she’ occurs between the verb *kupyla* ‘bought’ and its pronominal object *nam* ‘us’, instead of preceding the

³ The type of singular accusative marker in Ukrainian also depends on animacy of the noun. We will discuss this issue later in Chapter 4 with respect to nouns.

⁴ Other types of agreement include, e.g., gender/number agreement of predicative adjectives and adjectival verbs with the verb and its subject, gender/number agreement of relative pronouns with the noun of the preceding clause, etc.

⁵ We have conducted our syntactic analysis within the framework of Government and Binding (see, e.g., Chomsky 1981, Chomsky & Lasnik 1991).

verb. The modifier *kuchonnyj* 'kitchen-type' in the same clause follows its head noun *kredenc* 'cupboard', instead of preceding it. In the second clause the subject is null, since all grammatical information is marked on the verb *dala* 'gave', and the NP *jakus' staru kanapu* 'some old sofa' surfaces before the verb, which assigned accusative case to it, instead of following it. The word order within the NP *jakus' staru kanapu* 'some old sofa', however, remains unchanged, i.e., base-generated. We will discuss Ukrainian morpho-syntax in detail with respect to nouns, adjectives, verbs and adverbs in the corresponding chapters.

Interestingly, given these features of a fusional language some scholars argue that different morphological typologies of interacting languages, especially those involving a fusional language, will exclude single-word other language items from bilingual utterances altogether (Eliasson 1990: 41). Muysken (1995: 192), for example, claims that fusional morphology makes fusional languages highly resistant to borrowings, generally allowing only nouns to be borrowed, since they may occur uninflected. In this study we will test these claims empirically by examining natural performance Ukrainian-English bilingual discourse. Moreover, since Ukrainian and English are so distinct typologically, our project will also enable us to verify those statements claiming that the FMC does not hold for structurally different language pairs.

This research is also important on the grounds that it will be the first extended variationist study of spoken Ukrainian. It has been in contact with English in North America for over a century (Lupul 1982; Lushnycky 1976), and it has been the object of considerable scholarly research (Budzhak 1987, Chumak-Horbatsch 1987; Gerus-Tarnawecka 1983a, 1983b; Lupul 1985; Nahirny & Fishman 1966; Rudnyckyj 1969, 1971; Shymkiw 1988; Żluktenko 1964; etc.). However, most of these studies concentrate either on historical, demographic, and socio-political aspects of the Ukrainian-English bilingualism in North America, or describe lexico-semantic and phonological peculiarities of Ukrainian in this new linguistic environment. The only attempt to establish the status of

English-origin incorporations in Ukrainian discourse has been undertaken by Budzhak-Jones & Poplack (1997). By applying the variationist methodology and implementing multivariate rule analysis, they were the first to distinguish the lone English-origin nouns in Canadian Ukrainian as products of CS or BOR in the bilingual discourse of two generations. Nonetheless, their sample was comparatively small and hence, did not comprise a representative cross-section of the Canadian-Ukrainian community investigated. Furthermore, their study was limited to analysis of English-origin nouns exclusively. And, in their analysis English-origin nouns were only compared to monolingual Ukrainian, and not also to their monolingual English counterparts, since longer stretches of monolingual English were virtually absent in their data. Therefore, this will be the first research to investigate the intricate details of Ukrainian morpho-syntactic marking and its variability in the bilingual speech of Ukrainians, from an extensive sample of a Ukrainian-American community in the United States.

1.5 Hypothesis

The main goal of this research is to scientifically analyze natural performance Ukrainian-English bilingual data in order to determine the status of lone English-origin incorporations occurring in otherwise Ukrainian context, as CS or BOR. Based on the assumption that a CS retains its original grammar, and a borrowed item is assimilated into the grammatical system of the recipient language (as discussed earlier in section 1.2), we hypothesize that:

- I. *Code-switched* items will not participate in the requirements of the recipient code. In particular, it will be expected that they will obey neither the syntactic nor morphological rules of Ukrainian where these differ from those of English, irrespective of whether they have an overt Ukrainian inflection or not (in case of word-internal CS). Their inflectional marking will be constrained by different factors than that of unmixed Ukrainian items; and

their behavior will reflect the one established by their monolingual English counterparts in the speech of the same informants.

II. *Borrowed* English-origin items used in otherwise Ukrainian discourse will be expected to participate in the requirements of Ukrainian grammar in the similar fashion as do their Ukrainian counterparts. Particularly, not only will they be subject to Ukrainian inflectional marking, either overt or null, in the same manner as the native Ukrainian items, but their marking will be variable to a similar extent and conditioned by the same factors as in the Ukrainian corpus. Furthermore, borrowed English-origin items will participate in agreement with a similar frequency to Ukrainian words. And finally, their syntactic position will be similarly (un)restricted to that in the native Ukrainian data.

III. If nearly all lone English-origin items with an *overt* Ukrainian morphology do establish Ukrainian-like behavior with respect to all factors considered, we will conclude that there are few if any word-internal CSs to English in our data, and therefore, that any violations of the FMC are merely a minor phenomenon. On the contrary, if such single-word English-origin utterances with overt Ukrainian inflections show patterns of variability distinct from the monolingual Ukrainian nouns, but parallel to monolingual English nouns, we will consider them word-internal CSs and conclude that switching between a bound and a free morpheme is possible, refuting the FMC for Ukrainian English bilingual data.

IV. In the event that patterns of inflectional variability for lone English-origin items in the Ukrainian context follow neither Ukrainian nor English monolingual behavior, the possibility of yet another manifestation of language contact will be investigated.

(Detailed predictions with respect to each grammatical category and part of speech are given in the corresponding chapters).

1.6 Linguistic Manifestations of Ukrainian-English Contact

We will test our hypotheses on natural performance Ukrainian-English bilingual data, collected by the author in a Ukrainian-English retirement community (see Chapter 2

for details). The final sample on which this research is based, comprises 36 hours of one-to-one sociolinguistic interviews with Ukrainian-English bilinguals, whose native language is Ukrainian, and who have lived in the United States for over 40 years.

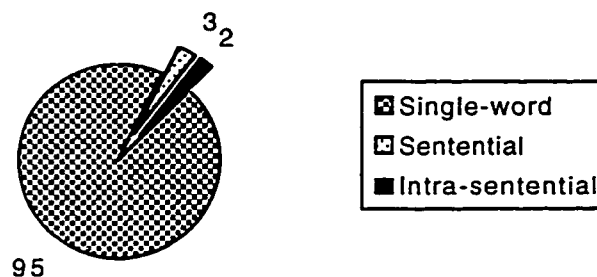


Figure 1.1. Distribution of types of English-origin incorporations in the Ukrainian discourse.

All interviews were carefully searched for English-origin utterances. They amounted to 1,931 English-origin multi- and single-word utterances. Their structural composition is quite interesting (see Figure 1.1). Sentential (or inter-sentential) CSs, like *Beautiful my friend, I have to ask my wife how to mop the floor because I never did it in my life* in (1.1), account for only 3% of all bilingual utterances in our corpus. Intra-sentential CSs, like *one opening* in (1.1), occur 2% of the time. The overwhelming majority of English-origin tokens in our data are single word items (95%), like *janitor*, and *mopuvaty* in (1.1). This is contrary to the claims of some researchers that single-word utterances will be absent in bilingual data involving a fusional language (as discussed in section 1.4). Since lone English-origin utterances constitute most of our bilingual data, and their status as to whether they are code-switched or borrowed is most ambiguous, they will be the primary focus of our investigation.

As illustrated in Figure 1.2, 89% (N=1637) of lone English-origin incorporations in our corpus are nouns. Verbs constitute only 6% (N=104) of all single-word tokens, adjectives⁶ - 4% (N=81) and adverbs are the least frequent (i.e., 1%, N=21). This is not at

⁶ We reported adjectival verbs together with adjectives, since their number was very small (N=14), and their morpho-syntactic features in Ukrainian similar to those of adjectives.

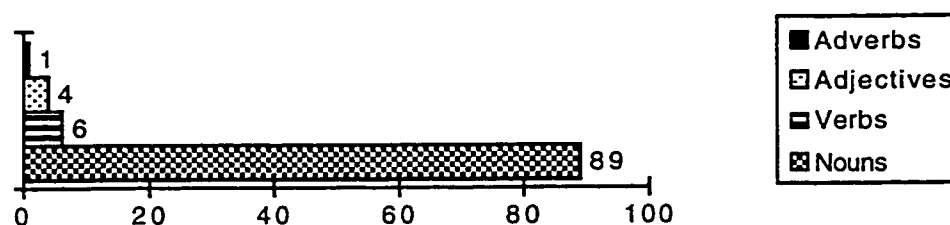


Figure 1.2. Distribution of lone English-origin items with respect to parts of speech.

all surprising, since it has been widely reported in the literature that nouns constitute the largest part of any empirically studied bilingual corpus (Berk-Seligson 1986; Eze 1997; Ghafar Samar 1996; Poplack & Meechan 1995; Poplack et al. 1988; Turpin 1995). See corresponding chapters for examples and detailed discussion of each part of speech.

Neither sentential, nor intra-sentential English-origin incorporations occurring in otherwise Ukrainian discourse showed any overt Ukrainian morphology. Lone English-origin items, however, were overtly marked with Ukrainian inflections in various degrees depending on the part of speech (see Figure 1.3). Verbs were almost categorically inflected with Ukrainian affixes (96%), 75% of adjectives and 62% of adverbs occurred with overt Ukrainian inflections, as well. Almost half lone English-origin nouns (49%) exhibited an overt Ukrainian inflection. Recall that Muysken (1995) predicted only uninflected other-language nouns could be borrowed by a fusional language (as discussed earlier in section

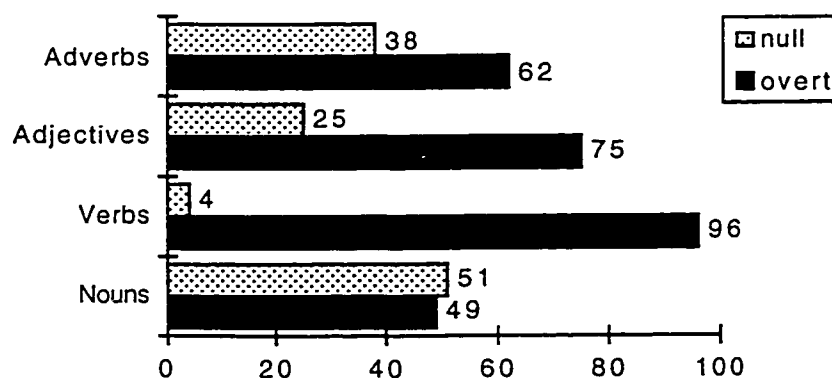


Figure 1.3. Distribution of overt Ukrainian marking of lone English-origin items with respect to parts of speech.

1.4). If so, what is the status of these 49% of overtly inflected English-origin nouns? And are all 51% of null marked nouns actually borrowed? What is the status of the other parts of speech? And, why are tokens in some parts of speech almost categorically inflected with Ukrainian markers, whereas in others they are not? We will address all these questions in the following chapters.

1.7 Organization of the Thesis

This dissertation is organized in the following way. The Ukrainian-English bilingual community, fieldwork, sampling techniques as well as the social factor stratifications across the community are described in Chapter 2. In Chapter 3 we outline our methodology based on the variationist approach and three-way comparison, develop diagnostics for determining the status of lone English-origin items occurring in otherwise Ukrainian discourse, and discuss the three kinds of corpora employed in this research. The next two chapters focus on lone English-origin nouns. In Chapter 4 we diagnose language-specific features which will help us to determine which grammar produced nouns with overt Ukrainian morphology, and investigate the behavior of overtly marked nouns with respect to those language-specific features. Chapter 5 concentrates on the same issues with respect to English-origin nouns which occur without any Ukrainian inflection (i.e., bare) in the Ukrainian context. In Chapters 6 we define language-specific features with respect to the verbal morphology in both Ukrainian and English, and examine lone English-origin verbs in that regard. Chapter 7 provides similar analysis of lone English-origin adjectives and adjectival verbs, and Chapter 8 examines lone English-origin adverbs with respect to relevant language-specific features. In Chapter 9 we investigate the community norms and social conditioning of BOR and CS. The conclusions of our research are summarized in Chapter 10.

Chapter 2

FIELDWORK AND THE COMMUNITY

2.1 Ukrainians in North America

Most Ukrainians immigrated to North America in one of three major waves. A few individual Ukrainians did find their way before large scale immigration. Ukrainian names are found among the early settlers of Jamestown colony in Virginia, as well as among the combatants in the American Revolution and Civil War (Subtelny 1991: 12-13). However, the first mass immigration from Ukraine (estimate number of 500,000 people) started circa 1870 and lasted until the outbreak of the First World War (Lushnycky & Pazuniak 1976: 11). It consisted mostly of hard-working peasants from the western Ukrainian lands, predominantly young men. The second 'wave' of immigration to North America took place between the two World Wars, but was limited by government quotas, more so in the USA than in Canada and resulted only in a comparatively small number of Ukrainian immigrants (around 15,000) (Subtelny 1991: 102; Żluktenko 1990: 22). And the last, or 'third' wave of Ukrainian immigration started at the end of World War II and lasted until the mid-1950s. By 1951 there were already over 45,000 Ukrainian newcomers in the USA (Stebelsky 1992: 66); and unlike the earlier waves, the last one consisted largely of post-war, nationalist refugees, many of them highly educated (Subtelny 1991:190).

The majority of third wave immigrants gravitated toward large urban areas where Ukrainian communities had already been established by the earlier immigrations. New York, Philadelphia, Chicago, Detroit, Cleveland, Rochester, Buffalo and Syracuse were the most favored destinations. According to the Federal Census of 1970 Pennsylvania was the second largest state after New York populated by Ukrainian-speaking immigrants (over 49,000 people) (cited after Lushnycky & Pazuniak 1976:17). Almost two-thirds of them lived in Philadelphia and surrounding areas in Eastern Pennsylvania.

2.2 The Ukrainian Community in Lehigh

The research community which we selected for this research project was founded, organized and is still led by post-war, third wave immigrants. It is a bilingual Ukrainian-English community on the outskirts of Lehigh, Pennsylvania (USA). It is populated mostly by retired senior citizens. Many of them are first generation Ukrainian speakers who moved to the Lehigh homestead either from Philadelphia, or from the surrounding cities and towns.

In the mid-1960's the Philadelphia Ukrainian community bought a tract of forest land in the high valley of Lehigh for a summer retreat. First, they built an Assembly Hall and a Youth camp there. However, the expense was greater than expected, so they decided to sell plots of land to members for summer cottages. Since that time Ukrainian families from Philadelphia and the surrounding area have purchased land there. They have since cleared lots, brought trailer homes or built little cabins, and come up on weekends for family vacations.

Retired Ukrainians have volunteered to help take care of the homestead. With their help a chapel of carved wood with outdoor seats for summer services was built in the heart of the homestead. There was actually no physical need to build a new church there, since there are several Greek Catholic and Greek Orthodox churches in the vicinity (5-10 minutes drive from Lehigh, e.g., in Palmerton), but the chapel was an important cultural symbol for many community members. And next to the chapel a monument to the nationalist dissident Ukrainian poet, Oleh Ol'žyc, after whom this homestead is named, was also erected. It is surrounded by several tiers of circular flower beds, with flowers blossoming there from early spring till late autumn. Obviously, the Ukrainians in Lehigh are very proud of their culture and try to preserve it far from their native land for future generations.

The Ukrainian homestead in Lehigh is often used by the Ukrainian community in Philadelphia as the summer arena for different festivals, meetings, concerts and other cultural events. For this purpose there is a big wooden convention hall as well as an open-

air wooden stage near the center of the homestead. These events draw large crowds from Philadelphia, Easton, Allentown, Wilkes-Barre, Hazleton as well as smaller towns around Lehighton.¹ A long barrack-style building serves as a hotel for special guests, performers and far-away visitors, often from Ukraine. There is also a large well-kept swimming-pool in the homestead for members, though anyone can use these facilities for a small annual fee.

Both the isolated location and well preserved Ukrainian culture make this homestead a popular retirement location. Many senior citizens from Philadelphia as well as other smaller towns have been attracted to this community and moved in. Those Ukrainians who already had summer homes there improved their cabins or trailers by adding a new and sturdy basement, garage, sunscreen, one or two porches, larger windows, or even extra rooms. Those who have more recently purchased land have built small, brick (sometimes multicolored) one or two storied buildings. There were a few people who ordered prefabricated houses. The community also provided the oldest and poorest people with tiny, summer-cottage style, two-room single buildings or duplexes.

All homes are very well kept, suggesting that these people own and take pride in their houses. There is, at least, a flower bed, if not a flower garden in front of every house. On the back or beside each building there is also a vegetable garden. Fruit trees are planted in every possible spare place or corner. All these observations suggest that these people: 1) like to work on the land; 2) originally come from rural areas of Ukraine, and/or 3) are proud of the appearance of their homes.

Young people can be seen around only during the weekends, when they come to visit their parents or grandparents. On weekdays the older Ukrainians visit each other, and thus, know everything about everybody in the community. The Ukrainian language can often be heard in the streets, yards and on the porches. All these considerations create a very welcome atmosphere for elderly Ukrainian people.

¹The highlight of a summer festival is the annual 'surprise' appearance of Jack Palance, formerly Palahnjuk, the son of Ukrainian immigrants from Hazleton, PA.

Many Ukrainians have settled in Lehighton permanently. Some, however, still own houses in Philadelphia and spend some time there, especially in the winter. Many elderly people find it difficult to cope with severe winter conditions (i.e., unplowed roads and driveways), owing to poor health and/or financial problems. Summertime, on the other hand, brings them all back to Lehighton, where they can plant flower and vegetable gardens, take care of their homes and yards, and talk with their neighbors and friends for hours. But most of all, they enjoy the beautiful scenery and hilly landscape so reminiscent of the Ukrainian sub-Carpathian areas, the birth- and youth-place for most of these immigrants.

2.3 Sampling in the Community

The aim of this research was to approach most of the Ukrainians currently residing in the community and to obtain speech samples from them most closely approximating the vernacular, which is shown to be least constrained by linguistic and social factors (Labov 1972a, Poplack 1981). A random sampling technique, however, was impracticable in this Ukrainian community for several reasons:

- 1) While there are a number of Ukrainian-American families living in and around the Ukrainian homestead, only forty of them include first generation speakers – the focus group for this research. And, not all of these forty families live in Lehighton all year round.

- 2) Most first generation speakers from the third wave of immigration experienced the horrors and hardships of World War II – military service or exhausting and demeaning labor in Germany – which considerably undermined their health. Therefore, many of the elderly people were in failing health (according to the head of the community), and thus some were not able to participate in the research.

- 3) Many Ukrainians living in this community are elderly and live alone or with a seriously ill spouse. They are afraid of any stranger, and when one does call, they often

suspect fraud, robbery, or annoying sales pitches. Therefore, to guard their privacy some residents do not have their telephone numbers listed, and this makes searching through the phone book for interviewees an incomplete identification method.

4) There are some people in and around the community with Ukrainian surnames, but who do not speak Ukrainian. They are descendants of the earlier waves of Ukrainian immigration (i.e., the first or second ones), and most do not communicate with the post-war immigrants. There are also some non-Ukrainian families living in the area. Their number increases proportionally as one travels out from the center of the Ukrainian homestead.

Taking into consideration these few problems, locating a sufficient number of informants and scheduling interviews with them required a more thorough, sustained door-to-door effort. Hence, data for this research were collected using participant observation combined with sociolinguistic interviewing, carried out in the most clustered sectors of the Ukrainian settlement, in the far southwest side of Lehighton.

2.4 Fieldwork

Fieldwork in the Ukrainian community at Lehighton was mainly carried out by the author, a native Ukrainian speaker, over a period of three years. During the first two years, she occasionally visited Lehighton for a day or two at a time. She stayed with Ukrainian-American relatives of her friends from Ukraine, whom she met on her first visit to the United States in 1991. They drove her around, showed her all the Ukrainian landmarks, talked a lot about the history of Ukraine and their own family. Once she stayed in the community for an entire week, but unfortunately, there were severe snowstorms and she was forced to spend most of the time indoors. During the first two years, however, she did get acquainted with several neighbors, and information about her: that she was a friend of a local family and was a Ukrainian studying in Canada, subsequently circulated quite widely in the community. Several people sent correspondence with her to Ukraine

when she flew home to visit her parents. A few, including the lady she usually stayed with, Mrs. Nasha,² visited the researcher's family and friends in Ukraine during short summer tours to see their families there. But although she was in good standing with several Ukrainian Lehigh residents, most people there did not know her personally.

During the third year, in the summer, the author arrived at the community with her mother, a native Ukrainian speaker in her early sixties, who was visiting from Ukraine. Her mother eagerly volunteered to help with the project. She stayed in Lehigh for over a week, visited several Ukrainian families, mentioned her daughter's research on the Ukrainian language in America, and even taped three very informal conversations with the women she met. These communications with a person of their own age, with similar life experiences, who explained in their own terms the goal and the necessity of the research, helped considerably to break the ice with many community members.

Several weeks after her mother's visit, the researcher came to stay with Mrs. Nasha for three weeks. During this period she accomplished the following:

First, she met with the head of the Ukrainian homestead, Mr. Oliak, who provided information about the community and a list of people residing permanently at the Ukrainian homestead.

Second, she attended the performance of a Ukrainian bard from Lviv (Western Ukraine) at the community convention hall with one of her informants, Mr. Jarema. Most of the community was there, and she was personally introduced to several new people.

Third, with another informant, Mrs. Fedora, the researcher went to St. Volodymyr's church in Palmerton to participate in their weekly pirogi-making fundraiser. There she observed interaction between third wave or 'new' immigrants and descendants of earlier Ukrainian immigrations. Every other Thursday the Ukrainian women gather at 6 a.m. in the basement of this Greek Catholic church, and make Ukrainian *varenyky* 'pirogies' for from five to seven hours, depending on how many orders they have to fill.

² In order to ensure confidentiality, we use pseudonyms instead of informants' real names.

The money earned helps with church expenses. Interestingly, when united by the goal of helping their Ukrainian church, women (and one man) of all generations work together, despite not always sharing the same views or political affiliations (see discussion below).

Fourth, the author attended a Ukrainian festival which attracted many spectators from Philadelphia and other surrounding towns. There she got acquainted with several other new people and also scheduled some interviews.

During this first extended stay in the community nine people were interviewed. Although all interviews were conducted very informally, some of them were more successful in eliciting vernacular speech than others. There were several factors which caused the speakers to remain reserved during substantial portions of their interviews. First, the presence of a tape-recorder and especially the microphone put them in a very formal mood. Even if they had been laughing, joking and behaving quite naturally minutes earlier, once they became aware of the equipment they measured their speech carefully. The interviewer tried to make them forget about the equipment, telling them funny stories about herself, asking them simple questions, evoking emotional memories, etc.; and while this helped to a certain extent, they returned to a more formal style at first opportunity.

Second, talking about their past or family history made the speakers very insecure and reserved. Many of my informants, and probably all of the men, had once been either prisoners of war or political refugees. Many were involved in different political, ideological and nationalistic organizations which led them to join different Ukrainian armies during the Second World War. One of these, the 'Galychyna' division, was allied with the Nazis. Therefore, some informants had experiences they did not wish to talk about, and any question about their past made them extremely cautious and unfavorably disposed towards the interviewer.

Third, the last wave of immigrants had little but their language upon their arrival here. This cultural 'authenticity', however, did give them authority in church, and in the social life of the established Ukrainian immigrant communities. Thus, their language skills

became a matter of duty and pride for the new immigrants. Also, as members of various nationalistic and political organizations which had failed in Ukraine, they were determined to preserve their national identity and the language in their new country. This goal united all post-war immigrants irrespective of education, socio-economic class or dialect. Unfortunately, the absence of contact with the native speakers in Ukraine, combined with constant communication with people using different dialects, and daily interaction with non-Ukrainian speakers, resulted in divergence of the Ukrainian language of Ukrainian Americans from standard Ukrainian spoken in Ukraine. Standard Ukrainian, too, it should be noted, changed during this period, as it was considerably influenced by Russian and other foreign languages, especially in the fields of science and technology. This divergence of standard Ukrainian and American Ukrainian has become even more evident during the last decade. The process of divergence, therefore, has made the first generation feel that they are failing to fulfill their principal goal - to preserve 'good' Ukrainian. Thus, they become very sensitive and self-conscious if they suspect that their language is going to be observed or studied.

This brings us to the fourth problem: informants with the lowest level of education, i.e., only several years of the formal education, were wary of being tape-recorded while speaking in Ukrainian. All their lives they were concerned with Ukrainian language skills since these had come to represent 'good' Ukrainian speech in the Ukrainian Americans community and was the key to their acceptance. Therefore, for them being taped was like being tested.

Finally, the fact that the interviewer was a much younger, highly educated person recently arrived from Ukraine put many people on their guard and intensified the previously mentioned problems of language and politics. Remember that all our informants are retired people who have plenty of time for talking and spreading news, especially about the new person in the community. By the time the author was collecting data everybody already knew her biography (i.e., birthplace, education, family, studies, etc.) by heart.

Thus, after several interviews in this community it became clear that there were two subjects which should not be mentioned: language and events in Ukraine (either historical or contemporary). Language made people, especially those with little education, very tense and sensitive to the fact that the pride of their life, their way of speaking may be tested or even put under question. Ukraine connected them with their past, which they did not want to talk about. Ukraine also linked them with the present, which they always discussed in church, local meetings or social conversations, and current events in Ukraine were on the radio every day, or in Ukrainian newspapers each week. Thus, these topics were very familiar to them in a Ukrainian language context, and discussion of them would not elicit many English-Ukrainian contact manifestations, if any.

The only things which could be successfully talked about were those which did not touch upon the aforementioned topics, and which would result in praise for their efforts and achievements in preserving their Ukrainian identity. It became clear that the most effective topic was their life in America: how they survived in the new culture without speaking a word of English, what they experienced physically and emotionally, and how they cope with present problems. Moreover, since everybody knew that the author was not only originally from Ukraine but also was doing her research at a Canadian University, either language could have been used. English thus was neither encouraged nor discouraged. It was left totally to the discretion of interviewees.

Interviews conducted in this new direction yielded better results than the first set. If informants wanted to talk about their past they were not interrupted, but they were not asked about it either. It is obvious that for a community of displaced persons and/or political refugees like the Ukrainian community in Lehigh, there should be a special research methodology. They cannot be approached on the same basis as either economic immigrants or minority groups with a long-term history of coexistence in a bilingual society.

After a one week break, the researcher returned to Lehighton for three more weeks. This time she attended Sunday services in the chapel and realized that people were much friendlier toward her. Many stopped to chat with her. There were even a few people who asked to be interviewed or invited her to visit them again. One lady was even upset that it took so long to come to interview her, although she was among those who initially had refused to participate in the research.

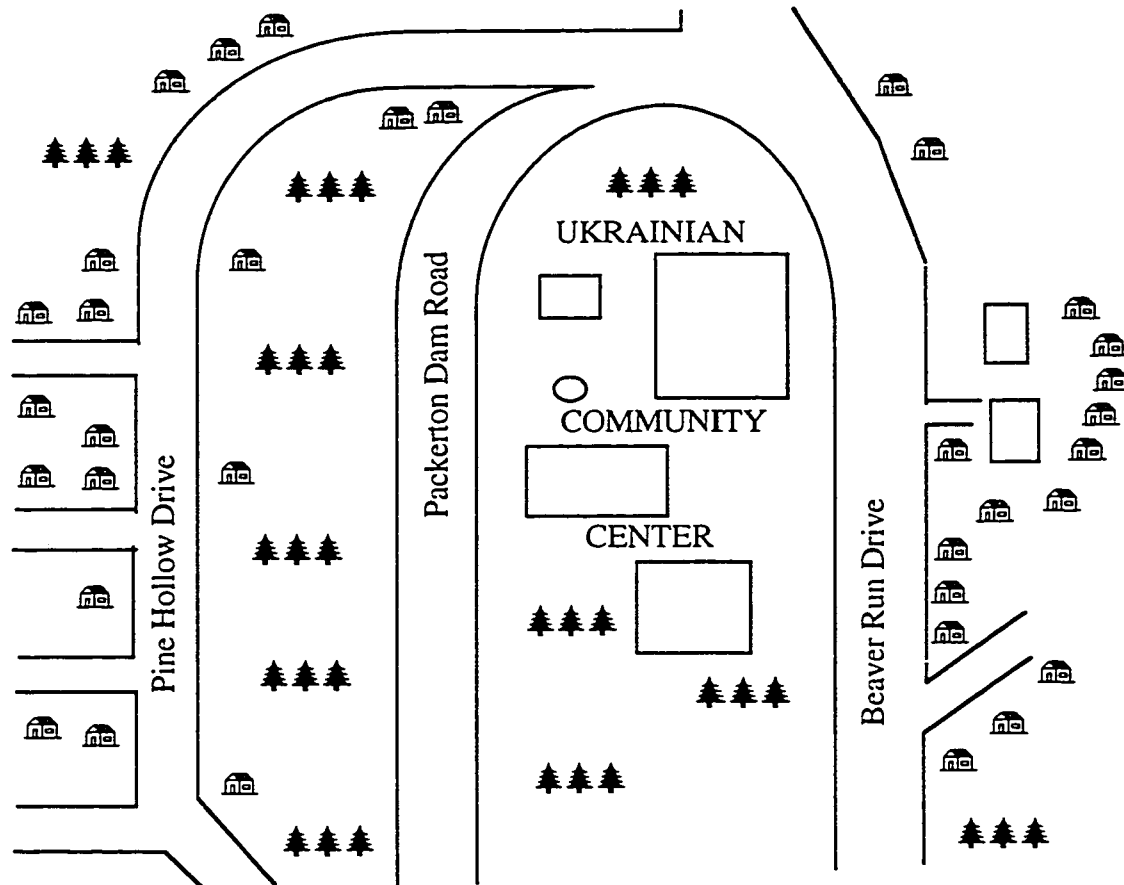


Figure 2.1. A general map of the Ukrainian settlement in Lehighton.

2.5 Entering the Community.

The Ukrainian settlement (see a general map in Figure 2.1) can be approached from highway 209 on a narrow, winding uphill one-way road. In five minutes it leads to a beautiful high valley with plenty of green pines and leafy trees. There is thick grass along the road and an abundance of fragrant fresh air. Several miles from the highway a large

treeless meadow appears. The road gets wider but it is still unpaved. There are no sidewalks, and no people can be seen walking on the road, with the exception of one man wandering along the road, crossing it several times, and stopping from time to time lost in his own thoughts. Later the author learned he is mentally handicapped and does this all day. Everyone knows him, and people are always extra careful driving when he is on the road. Cars or small trucks occasionally pass by, but generally there is little traffic. It is a very tranquil and peaceful place.

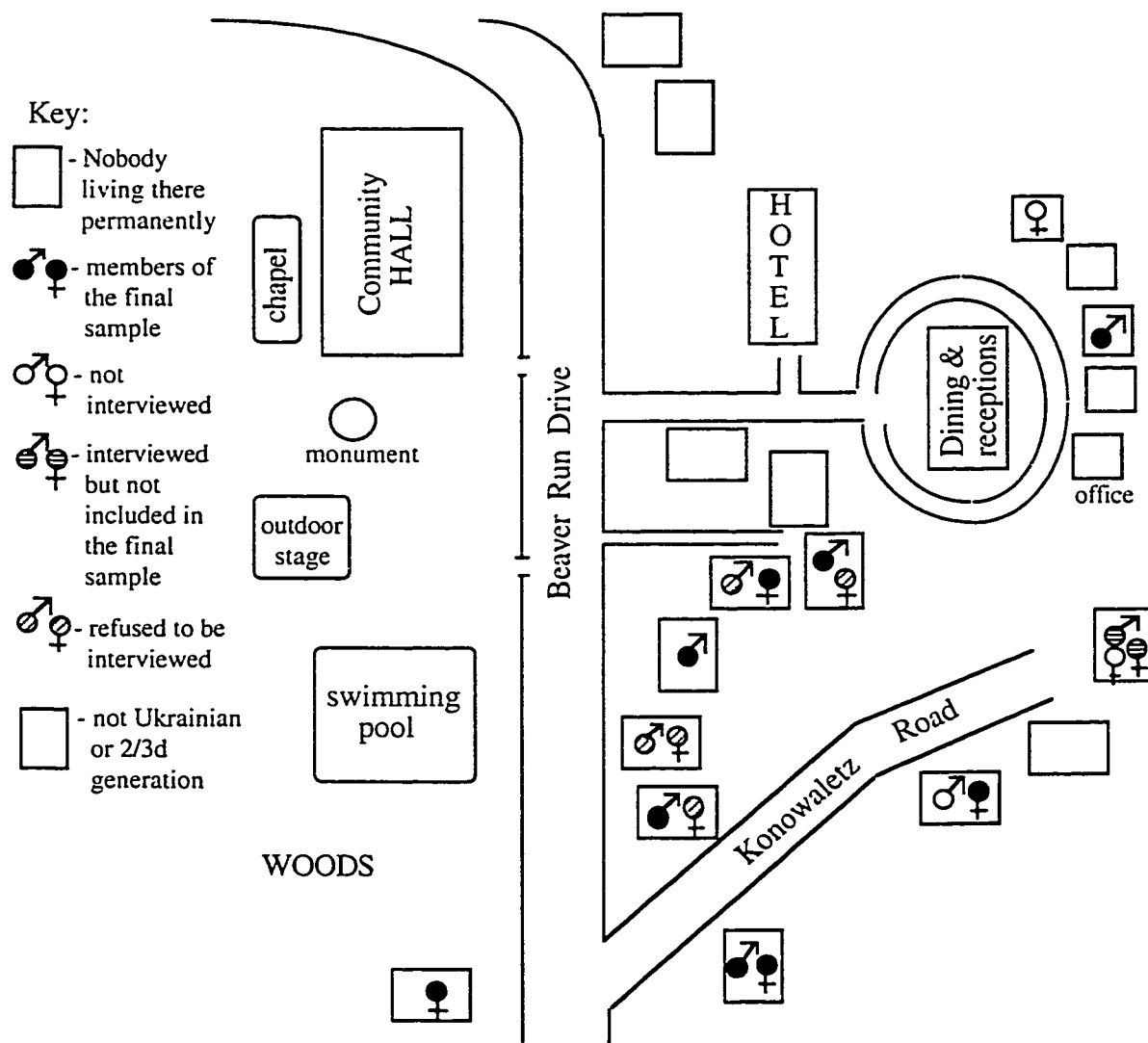


Figure 2.2. Location of informants in the Beaver Run Drive area.

At the far end of the meadow there is a big building which looks like a church. Its silhouette is gracefully outlined by the huge pine trees in the background. It is the main convention hall. Most of the mailboxes along the road approaching the hall have Ukrainian names on them, written in English. Finally, the big sign on the side of the road reads in English and Ukrainian (see pictures in Appendix B) that this is the Ukrainian Homestead, and the site of the Ukrainian Gold Cross Children's Camp. The other sign (mostly in Ukrainian) points across the road to the Ukrainian Homestead office. The reception hall, a small community hotel, and homes for low-income and elderly people are clustered together with the office (see Figure 2.2).

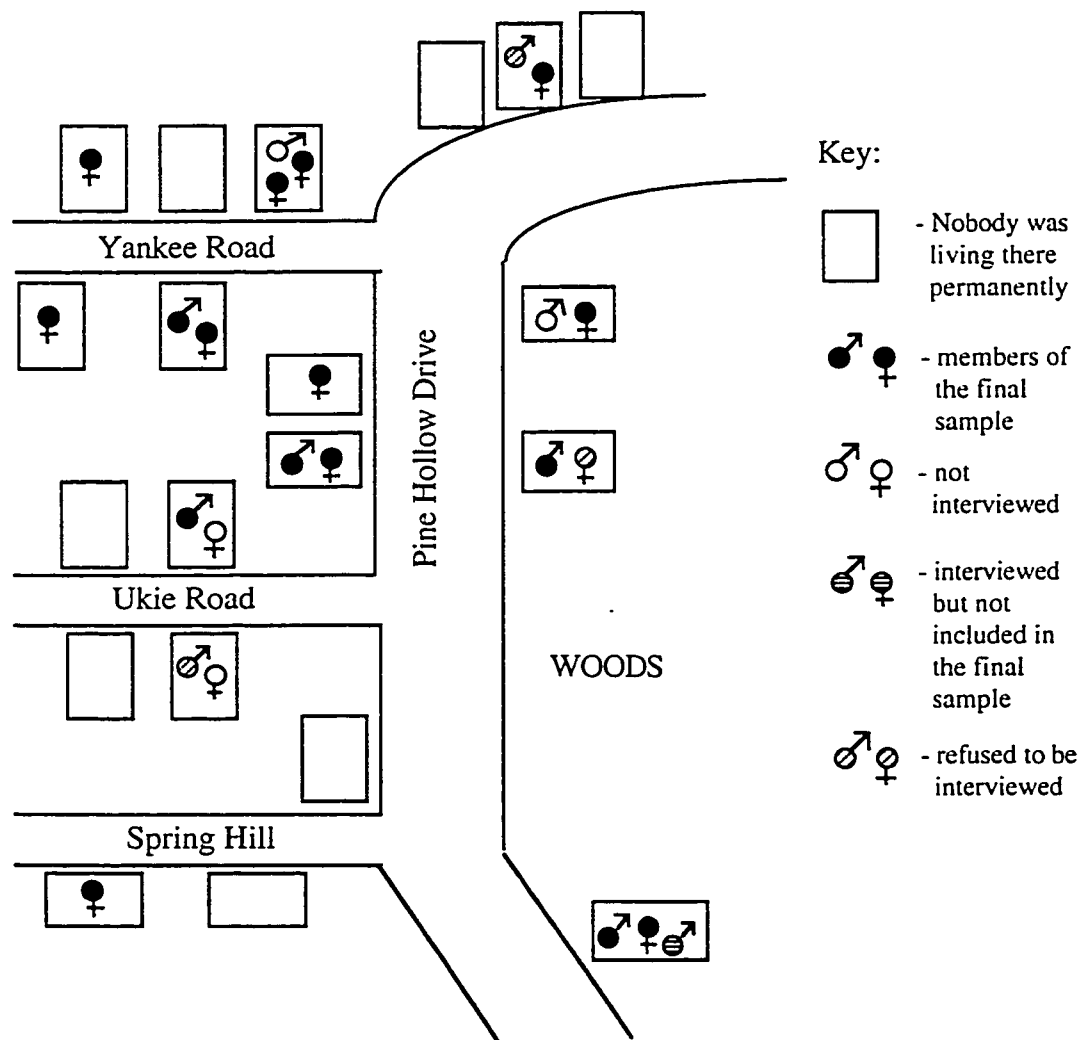


Figure 2.3. Location of informants in the Pine Hollow Drive area.

elderly, in their late 80's, and in poor health. Thus, organizing the remainder of the project depended on the researcher and her friends.

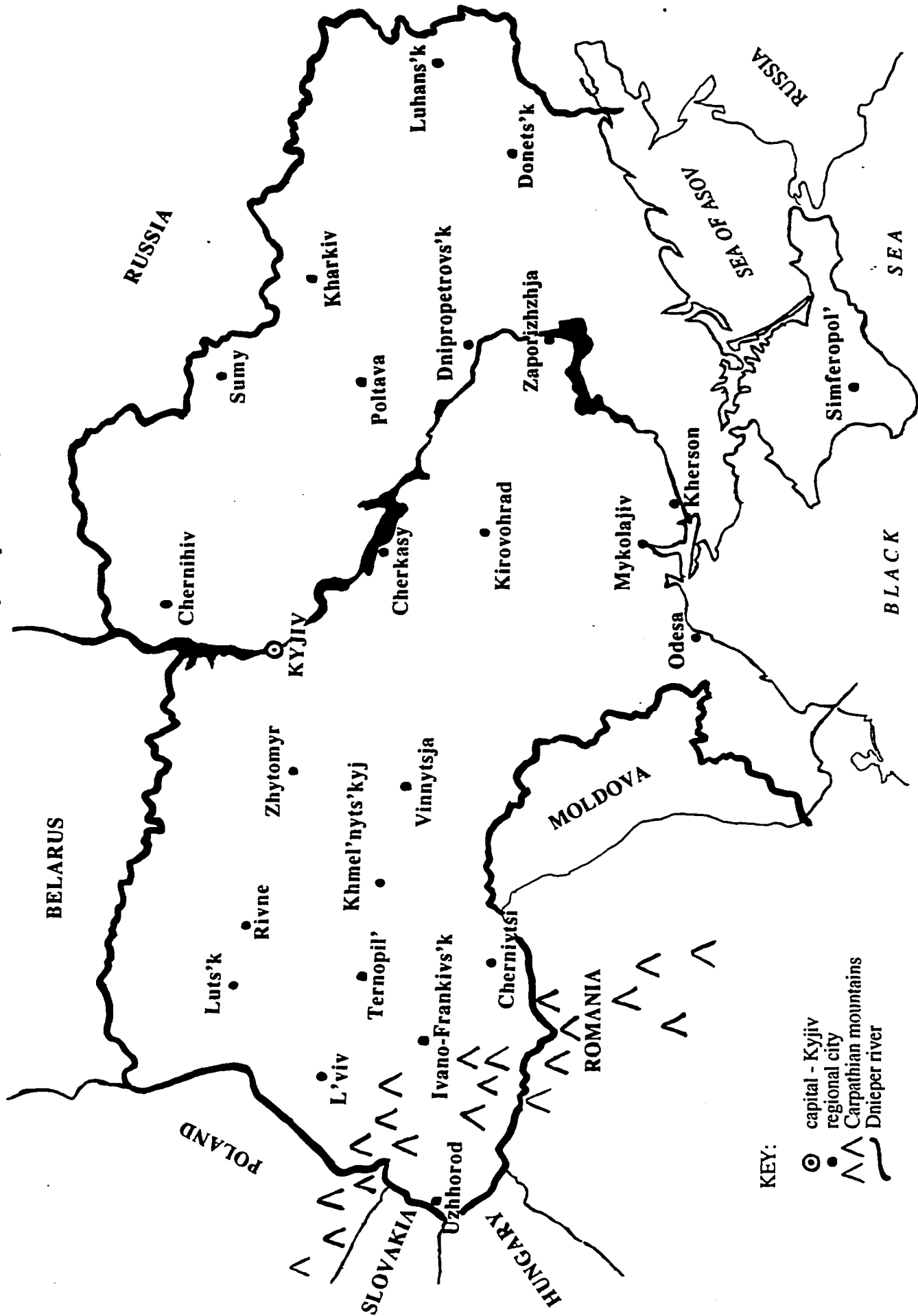
Although everybody knows each other in the community, it was not easy to make contacts and arrange interviews. Social life in the community is subdivided into two groups, which form their own, separate dense social networks. Membership in one or the other group is based on political affiliation, and roughly coincides with the neighborhoods (see the previous section). Furthermore, men and women also form their own separate, social sub-networks within each group.

During previous visits to Lehighton the author secured some contacts in the banderite group since she stayed in their neighborhood. The lady she stayed with, Mrs. Nasha, is very active in that neighborhood, and is a core member of the banderite female social sub-network. She contacted many people in her neighborhood personally, and helped to arrange several interviews. There was also another woman in this sub-network who was always interested in what was going on, but repeatedly refused to be interviewed. She did, however, help to arrange an interview with her husband.

The leader of the male social network in the banderite group, Mr. Fedora, lives next door to Mrs. Nasha. With his help the researcher approached several Ukrainian speakers in the neighborhood. He also tried to arrange some interviews with people in the melnykite group but was unsuccessful.

Mrs. Nasha also introduced the author to a young Ukrainian-American who was a Republican candidate for the US Congress. Through him the researcher was able to approach a few speakers from the melnykite camp. Finally, Mrs. Nasha also contacted a lady from the melnykite neighborhood who came from the same home region in Ukraine. Via this new contact the author was able to approach a few people in that neighborhood. The rest of the speakers the researcher contacted by herself. The longer she stayed in the community, the less often people refused to meet with her. See also Figure 2.4 for contact sequence.

Map 1. Contemporary Ukraine.



KEY:

- capital - Kyjiv
- regional city
- ^ ^ ^ Carpathian mountains
- Dnieper river

To conclude, interviews were conducted in 21 houses (see Figures 2.2 and 2.3 for details). With the exception of one interview, all were carried out on at informants' homes. The only exception was an interview recorded in the reception hall upon the request of the interviewee, who lived in a community low-income house. However, after the interview the informant insisted on the interviewer visiting his home, proudly showing the researcher his Ukrainian library. Very ill, elderly people were not contacted, neither were non-first generation Ukrainians. Only two families refused to be interviewed unequivocally. One family was on an extended visit in Ukraine. It is safe to assume that key participants in different social and political groupings are well represented in the data, and that this should provide a representative picture of speech in this Ukrainian community.

2.7 Social Factors

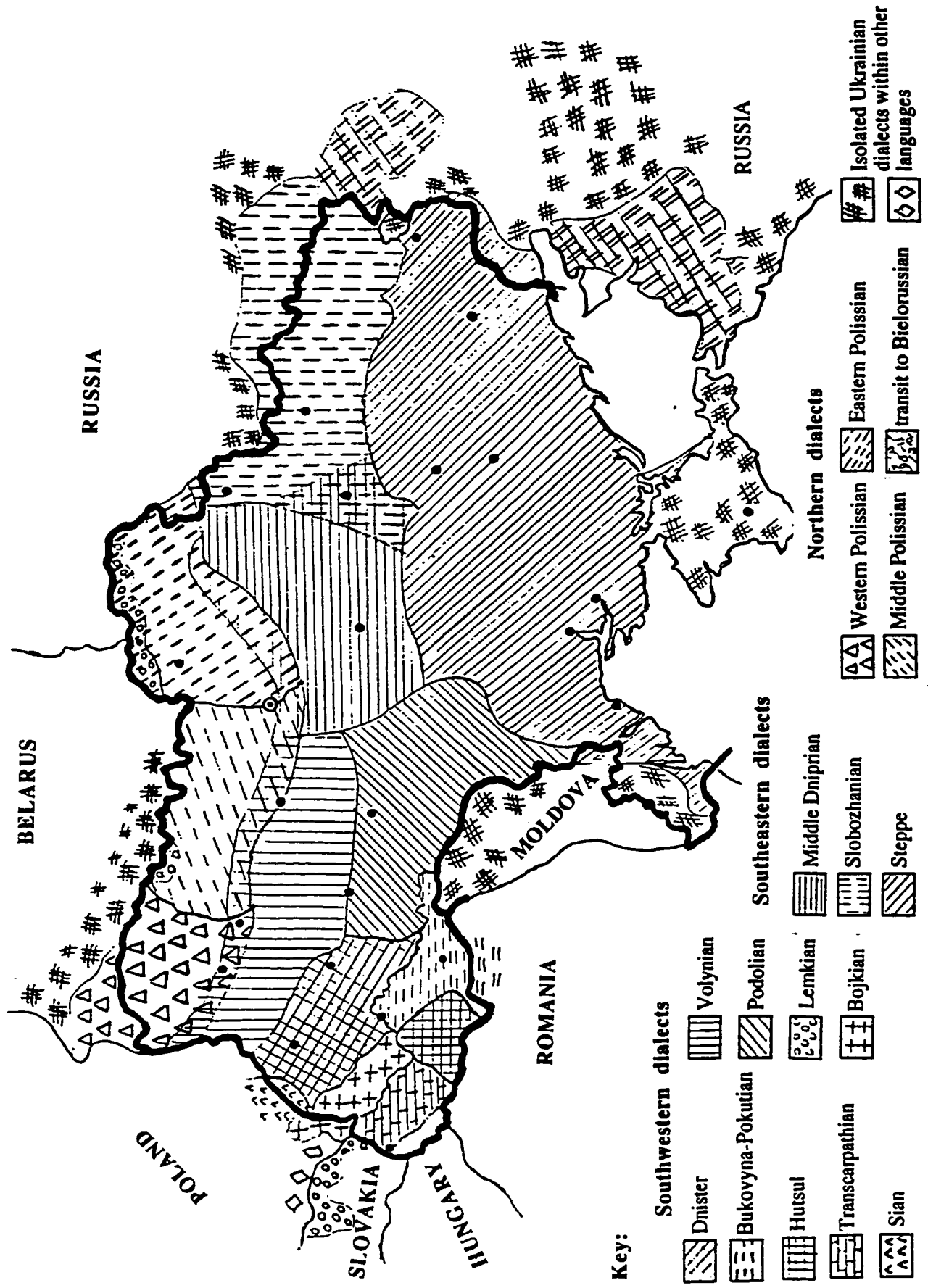
2.7.1 Characteristics of the informants

Of the 28 adults originally interviewed in Lehigh, 25 informants between the ages of 56 and 86 were included in the final sample. First, only members of this community³ were considered in the study, in order to establish this community norm constraining the linguistic variation of these speakers. Second, only informants who were first generation speakers were left in the research sample to assure that everyone's Ukrainian was of the same status.⁴ Hence, all informants were born and raised in Ukraine, most of them left Ukraine in their late teens or twenties and also spent at least thirty-five years in the United States. Only two women left Ukraine with their parents in their early adolescence. These two remained in the sample since they spent all their lives in Ukrainian communities and were later married to Ukrainian men of the first generation.

³The two speakers from Chicago who were visiting Lehigh on vacation at the time of the interviews were disregarded, since their linguistic behavior may be subject to different community norms (cf. Poplack 1987).

⁴It has been shown that the status of a language as L1 or L2 is a crucial determinant of the outcome when these languages are combined in the bilingual discourse (Budzhak-Jones & Poplack 1997).

Map 2. Dialect map of the Ukrainian language (adapted from Żylko 1958)



All speakers but one originate from four Southwestern regions of Ukraine: Lviv, Ternopil, Ivano-Frankivs'k and Chernivtsi, which coincide with the Carpathians and the Sub-Carpathian ethnographic area (see map 1). The only exception was born and raised in Kyjiv region (Eastern Ukraine), but has been married to a man from the Carpathian region for over forty years. Therefore, this sample of the Ukrainian community is comprised almost exclusively of Western Ukrainian dialects (see map 2). Although there are some distinctions in lexical, phonological, morphological, and syntactic features⁵ between Western Ukrainian dialects (Bevzenko 1965, Bulyk 1965, Žylko 1958), they do form the Southwestern dialectal formation (Gerus-Tarnawecka 1983a: 158) which is differentiated from the other dialectal formations in Ukraine. The similarity in the speakers' origin, moreover, insures similar processes conditioning language variation within their monolingual Ukrainian. It also excludes geographic origin as a possible explanatory factor for the behavior of these individuals.

The informants consist of ten men and fifteen women, a distribution reflecting the preponderance of widows in this community. But although women are in the majority, this community remains highly male-dominated. The head of the community is a man. Immediately after his interview he recommended the author interview another man. The list of people to be interviewed which he wrote for the research study, designated the households by their male head and only identified women if they were widows. In a chain reaction, men attempted to take over the introduction process without even questioning whether the researcher might be interested in talking with their wives. When the researcher did ask to interview their wives, many men refused without consulting their spouse. Women themselves were not uniform in their behavior. Some would refuse the first time, but then agree after a second or third request. Others were not talkative and very shy, especially if their husband was present during the interview. Attitude of male dominance

⁵ The most significant differences, for example, include the existence of clitics in Hutsul (Budzhak-Jones 1996b) and other Western dialects and their absence in Central and Eastern dialects (Zales'kyj 1969), the use of Past Participle in Future in Dnister dialects of Ternopil region (Dejna 1957), first person distinction in complex Past (Bevzenko 1969), etc.

were often reflected in the speech of some informants, who instead of their wife's name, usually used the possessive pronoun *mine*, as illustrated in (2.2).

2.2 A *moja* kaže: Čekaj jak pryjde naši
 And mine-F.Nom says wait-2sg.Imp as come-3sg.Fut our-pl.Nom

s'vjata, ja jim vyšyju ručnyk. (06/601)
 holidays-Nom I them will-embroider-1sg towel-M.Acc

'And my [wife] says: 'Wait, when our holidays come, I will embroider a [Ukrainian] towel for them'.

The only two women who participated equally with their husbands during the interview were the youngest in the sample. One of them was still working in a store in Philadelphia and was considerably younger than her current (second) husband. The other was retired, but previously helped her husband in managing their family business.

The differential status of men and women in this community is also conditioned by different life experiences, which can be categorized as being male or female. Men were involved in political and nationalistic organizations in pre-war Ukraine, and during World War II, experienced both combat and POW camps in Germany or Italy. Later they went through multifaceted experiences in the displaced persons (DP) camps in post-war Germany. Women were forced to leave Ukraine for Germany by the Nazis, worked mainly on farms as servants doing hard physical labor, and ended up in the same DP camps at the end of the war. Therefore, the sex of informants will be considered as one of the explanatory factors constraining their bilingual behavior.

Most speakers in the Lehighton community experienced different socio-economic life cycles (see Table 2.1). While most were intellectually-oriented, middle class people back in Ukraine prior to immigration (64%), when they first arrived in the United States, nearly all these Ukrainians became unskilled laborers (as did most of the other displaced persons after World War II (Lushnycky & Pazuniak 1976: 12, see also Isajiw 1992). All informants worked in Pennsylvania, a popular destination for postwar immigrants because its large Ukrainian communities provided sponsorship and/or employment. The newcomers

usually did manual labor first on farms, and then in mines, zinc or steel plants, or on various construction projects. Women initially did either domestic work (i.e., cleaning and cooking), or were housewives. A strong work ethic, a frugal way of life and the desire to make a better life for their children significantly advanced the social status of these informants; only 16% remained in the working class 30 years later. Note that their children advanced even further, with 80% being middle-, and 18% lower middle class.

Table 2.1. Social class mobility in the Ukrainian community at Lehighton.

Socio-economic class ⁶	MIDDLE		LOWER MIDDLE		WORKING	
	N	%	N	%	N	%
In Ukraine	16/25	64	n/a ⁷	-	9/25	36
Upon coming to the USA	0/25	0	2/25	8	23/25	92
At present	8/25	32	13/25	52	4/25	16
Their children	35/44	80	8/44	18	1/44	2

The overall educational level of the sample members is rather high, especially in comparison to the immigrants of the first and second waves (see, e.g., Subtelny 1991). The majority of speakers (68%) graduated from public school in Ukraine, which at that time required seven years of study. Moreover, 65% (11/17)⁸ of them studied further at a Gymnasium,⁹ teachers' college or institute. The remaining 35% received some secondary education, but did not finish, often owing to the outbreak of World War II. A third of the sample (32%) never finished public school, and have less than seven years of education.

In the United States, however, only three men received formal education: two earned a Bachelor's degree in engineering, and one finished a five year mechanical program at a navy yard. Eleven more speakers did have some apprenticeship and/or English training

⁶ See section 2.7.2.4 for the discussion of criteria determining socio-economic class of speakers.

⁷ There was sharp social stratification between classes, and hence low middle class was not distinguished.

⁸ Two of these informants finished their education in Ukrainian Gymnasiums which operated in the camps for displaced persons in post-war Germany (Subtelny 1991:193)

⁹ Gymnasium was a private secondary school in pre-war Ukraine, preparing students to enter a University.

in Germany, the United States or other countries they lived in for a time en route. Although the informants were not questioned in order to evaluate their English proficiency, it is understood that these people had to acquire English while surviving in a new society and advancing on the social scale.

The majority of speakers (68%) immigrated to the United States during the late 1940's and early 1950's. They waited for their visas in Germany for at least four years while living in Ukrainian camps for displaced persons (cf. Subtelny 1991). During this waiting period many attended English special classes and some even received their higher education in newly organized schools and universities. Those informants who did not want to wait first immigrated to Belgium, Scotland, England, Argentina, or Canada. Thus, they arrived to the USA considerably later than those who came directly from Germany, i.e., the late 1950's or even early 1960's. These informants usually acquired English on their own, with the distinct accents and dialects of the countries they lived in during the transit period. Therefore, it can be assumed that English of people who came to the United States directly from Germany may differ from that of those who arrived via other countries.

Since arrival, many first generation speakers have established extended families in the United States. While children and grandchildren of third wave immigrants have learned Ukrainian, English is the dominant language for the majority of them, particularly for grandchildren. This is especially apparent in inter ethnic marriages. Frequent interaction with children and grandchildren may also have influenced our speakers' usage of English. Hence, we will include the frequency of contact with (grand)children as a potential explanatory factor influencing the informants' bilingual behavior.

2.7.2 Traditional social factors

We first note that social factors included as potentially explanatory in the analyses of the bilingual behavior of our interviewees can be categorized in two sets: 1) *traditional* social factors, or those which can be generally applied to any speech community; and 2)

specific social factors or those that are relevant only to this particular community. Among traditional social factors we have included sex, socio-economic class, education (Ukrainian and English) and linguistic marketplace. The category of age is excluded from consideration in this research since the younger Ukrainian speakers are ruled out by the design of the study, which focused on only first generation speakers born in Ukraine with at least 30 years living experience in the USA. With regard to more traditional social factors our speakers are distributed in the following way (see Table 2.2, as well as Chart B.1 in Appendix B):

2.7.2.1. *Sex*

Speakers were distinguished on the basis of sex. Sixty percent of the informants in the sample are female and 40% are male.

2.7.2.2 *Education in Ukraine*

With respect to education received in Ukraine, the speakers are divided into three educational groups: low, i.e., under seven years (32%), middle, i.e., seven to eleven years (24%), and high, i.e., twelve years or more (44%).

2.7.2.3 *English training*

With regard to formal education in English, the speakers in this community also fall into three groups. The first group (44%) includes those who have no formal training in English. The second group (44%) is represented by those who have some English-language training in the form of evening classes, school courses, or special DP language programs in Germany. The remaining 12% of informants have received higher education in English, and hence, they form the third group.

Table 2.2. Distribution of traditional social factors across the community sample.

Factor-groups	Factors	% & N
SEX	<i>Male</i>	40% (N=10)
	<i>Female</i>	60% (N=15)
EDUCATION IN UKRAINE	<i>Low</i>	32% (N=8)
	<i>Middle</i>	24% (N=6)
	<i>High</i>	44% (N=11)
ENGLISH TRAINING	<i>None</i>	44% (N=11)
	<i>Some</i>	44% (N=11)
	<i>Higher education</i>	12% (N=3)
SOCIO-ECONOMIC CLASS	<i>Working</i>	16% (N=4)
	<i>Lower middle</i>	52% (N=13)
	<i>Middle</i>	32% (N=8)
LINGUISTIC MARKETPLACE	<i>Index (1)</i>	16% (N=4)
	<i>Index (2)</i>	48% (N=12)
	<i>Index (3)</i>	24% (N=6)
	<i>Index (4)</i>	12% (N=3)

2.7.2.4 *Socio-economic class*

Since all informants had different life experiences, or different socio-economic life cycles (see Table 2.1), it was difficult to classify them by socio-economic class. Many of them belonged to one socio-economic class (SEC) in Ukraine, but then experienced upward and/or downward mobility several times throughout their life. We did not consider SEC of speakers in Ukraine as a separate factor, since it usually coincides with their level of education: urban working people or peasants had very little if any access to secondary or higher education. Early twentieth century Western Ukraine society had virtually ascribed status and very limited social mobility.

For the purpose of this study we distinguished the present day class status of speakers based on their wealth, property, labor and technical knowledge (Davis and Moore 1966: 45-50).¹⁰ Speakers who owned small family businesses, received a university

¹⁰The boundary between the middle class and the lower middle or working classes is not clear cut and in fact is quite complicated in modern American society (Giddens 1973:106, Hamilton and Hirszowics 1987: 129). It was even more difficult to draw class boundaries in our study because we could not always elicit the necessary information from the informants. We followed the broad outlines of Davis and Moore (1966), but

education and/or held professional employment were categorized as middle class (32%). They also possess two houses (one in Lehigh, one in Philadelphia), a car (often two), and have helped all their children attend university. Those informants who were skilled, trained and/or unionized workers, who own at least one house and a car, and have helped their children receive an education are regarded as lower middle class (52%). Unskilled laborers who were not unionized, do not own a car, have only one home, and could not afford to help all their children receive a post-secondary education were categorized as working class (16%). If a woman was a housewife all her life, or her work experience was less than her husband's, she was nevertheless placed in the same SEC as her spouse.

2.7.2.5 *Linguistic marketplace*

In order to survive, much less work and function in English-speaking society, all informants had to acquire English. Some of them were required to use more English than others, depending on their employment. Following Sankoff and Laberge (1978), a linguistic market index was assigned to each speaker based on the correlation between their socio-economic status and the necessity to use standard English in everyday interaction. Thus, informants who did not work most of the time or whose job did not require interaction in English (e.g., cleaning), were assigned the lowest index (1) in the English linguistic market (16%). Those speakers who had everyday jobs which required some knowledge of English, but which involved very limited communication (e.g., machine-tool or sewing machine operators), were considered to have a somewhat higher level of English proficiency, and hence, received index 2 in the linguistic market (48%). If informants held positions which required a good knowledge of English in order to keep them up to date in professional literature and/or other published material (which was always in English), or which required frequent interaction with their English-speaking colleagues (e.g., an engineer), they were assigned index 3 (24%). The highest place in the linguistic market,

drew the lines ourselves. Therefore, the class distinctions we employed were rather subjective and tailored to the standards of this community.

index 4, required constant everyday interaction in English, e.g., an insurance agent, or a store salesperson (12%). Since the linguistic market index depended highly on the knowledge and usage of standard English, this social factor was also used to determine the English language proficiency of our speakers.

2.7.3 Community specific social factors

Among social factors specific to this bilingual community, the speakers were distinguished with regard to political affiliation, immigration route and contact with children (see Table 2.3, as well as Chart B.1 in Appendix B).

Table 2.3. Distribution of community specific social factors across the sample.

Factor-groups	Factors	% & N
POLITICAL AFFILIATION	Melnykivci	56% (N=14)
	Banderivci	44% (N=11)
IMMIGRATION ROUTE	Via Germany	68% (N=17)
	Via other countries	32% (N=8)
CONTACT WITH CHILDREN	Frequent	76% (N=19)
	Rare/none	24% (N=6)

2.7.3.1 *Political affiliation*

Although speakers in the Ukrainian community are united by one goal, to preserve their ethnicity and therefore their native language, differences in their political beliefs may be significant in constraining bilingual behavior in this community. The rivalry between two political factions, Melnykivci and Banderivci (see section 2.5 for detailed discussion), is carefully hidden from outsiders, but the community is implacably divided into two opposing camps and this divide is always an important issue for insiders (as illustrated in 2.1). It is possible that speakers may emphasize their membership in a particular group by using specific linguistic features. Recall that the melnykite group comprises an older, more traditional and liberal faction of Ukrainian nationalists, usually associated with more

educated people of higher socio-economic class, whereas the *banderite* group is a younger, more militant, nationalist faction, associated with soldiers, less educated people, and lower socio-economic classes. We therefore included political affiliation as one of the relevant social factors. Since usually only men are formal members of political parties, women in the sample were considered the supporters of their husband's party. Fifty six percent of informants participating in the project are *melnykivci* and the remaining 44% are committed *banderivci*.

2.7.3.2 *Immigration route to the USA*

The path and time-frame of immigration divided our informants into two separate groups (as described earlier in section 2.6.1). The first includes those who arrived to the United States direct from Germany (68%). The second group consists of those speakers who came to the USA via some other country after the camps in Germany (32%). The latter differs from the former in several important respects. First, the speakers who initially left Germany for countries other than the USA had also been exposed to the languages of these countries of residence (e.g., Portuguese, Spanish). Second, they acquired either regional dialects of English (e.g., Scottish) or learned English among non-native speakers in the countries where they lived prior to immigration to the USA. Third, the informants from the second group came to the US via other countries much later than those who waited in Germany to immigrate directly to the USA, and hence, they became members of the Ukrainian community in Philadelphia and surrounding areas much later as well. We may, therefore, expect that speakers may show specific linguistic behavior based on their immigration route to the United States.

2.7.3.3 *Contact with children and/or grandchildren*

As discussed earlier (section 2.6.1), many informants participating in our research study are parents and some are grandparents. Some of them communicate with their

children, grandchildren and their (usually) English-speaking friends quite often. We may, therefore, anticipate that the linguistic behavior of our informants, their usage of Ukrainian and English, may be conditioned by frequency of contact with their (grand)children. Thus, the sample was divided into two groups in this respect. The informants whose children and/or grandchildren visit them very often (every week – every month) were distinguished from those Ukrainians whose children live far away and visit only once per year or less (76% vs. 24% respectively). Informants without children were considered together with the latter.

Chapter 3

METHODS AND DATA

3.1 Theoretical Framework

Our research will be based on the premises of Variationist theory (Guy 1993; Labov 1971, 1972b, 1984; Poplack 1993; Sankoff 1982, 1988; Sankoff 1974; Sankoff & Labov 1985; Wolfram 1993), which is concerned with the investigation of language use and structure in connected discourse. The variationist framework rests upon four major principles:

1) the use of appropriate data, which is obtained by creating the appropriate interactional conditions to enable the researcher to access *vernacular*, taken to represent the most systematic form of language use prior to conscious control, imposed by combined pressures of group membership and the social meaning assigned to a linguistic variable within that group (Poplack 1993);

2) the use of appropriate informants, which entails that the choice of speakers participating in the research should ensure representative sample of the community and the knowledge of what they represent;

3) the principle of accountable reporting, which means that not only all the relevant examples of a studied phenomenon should be incorporated in the analysis, but also all those contexts in which it could have occurred, but did not (Labov 1966);

4) circumscription of the variable context, or defining the object of study. This principle includes a) defining the variants of a particular phenomenon, and b) determining the envelope of variation, i.e., defining the contexts where it is possible or impossible for the variable to occur (Guy 1993).

The main goal of variationists is to determine the *patterns* of occurrence of particular language forms correlated with the relative frequency of occurrence or co-occurrence of

structures, rather than simply to their existence or grammaticality (Poplack 1993). This is achieved through scientific accounting for natural performance data by employing a number of quantitative methods, including variable rule analysis, tables and graphical displays, scattergrams, principal components analysis, and tests of significance.

3.2 Methodology

Our methodology is based on a three-way comparison (following Poplack & Meechan 1995, and others¹), shown in Figure 3.1. We will compare the behavior of lone English-origin items occurring in otherwise Ukrainian discourse to their monolingual, or *unmixed*, counterparts in both Ukrainian and English produced by the same informants. It has been shown by Budzhak-Jones & Poplack (1997), however, that there is inherent morphological variability in the monolingual Ukrainian of Ukrainian-English bilinguals. Therefore, in this project, we will first compare all data to an external point of reference, i.e., standard grammar requirements, in order to establish the patterns of variability in each corpus, and then compare these patterns to each other. In other words, we will examine not only the compliance of English-origin items with prescriptive Ukrainian and English rules, but also the correspondence of unmixed *Ukrainian* and unmixed *English* items with such rules.

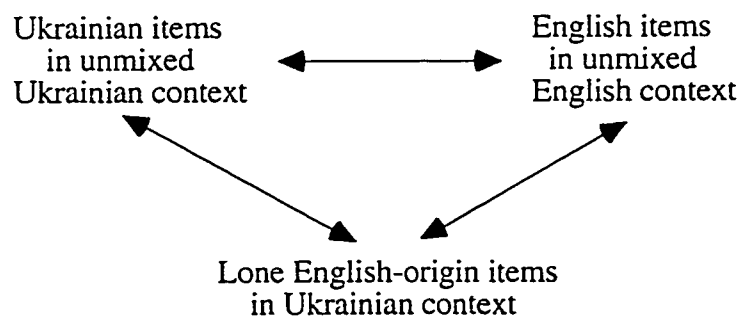


Figure 3.1. Three-way comparison of lone English-origin nouns in Ukrainian context.

¹Such comparative methods of disambiguating the language phenomena by analyzing both monolingual and bilingual data have been successfully employed by Poplack and her associates (Budzhak-Jones & Poplack 1997; Eze 1995a; Ghafar Samar 1996; Meechan & Poplack 1995; Moinszadeh 1996; Turpin 1995).

To that end, we will compare the patterns of morphological variability established by English-origin utterances to those featured by their unmixed counterparts in both Ukrainian and English. If the distribution and the patterns of variability established by lone English-origin items are conditioned by the same factors as they are in the unmixed Ukrainian data, yet differ from those in the unmixed English corpus, we will conclude that those English-origin utterances have been integrated into Ukrainian, and hence are *borrowed*. If the lone English-origin items in question replicate the patterns of behavior found in the unmixed English data, yet differ from those in the unmixed Ukrainian corpus, we will infer that such English-origin tokens retained their original properties, and therefore, are *code-switched*. Thus, by using one and the same method we will determine which language system produced lone English-origin items: English, Ukrainian, both of them simultaneously, or neither of them (cf. Meechan & Poplack 1995).

Note, however, that establishing patterns of behavior of monolingual English items with respect to exactly the same factors as in monolingual Ukrainian will not always be possible, since English and Ukrainian are typologically very different, and hence, do not share the same morpho-syntactic properties (see Chapters 1 and 4 for discussion). Therefore, wherever it is not possible to establish patterns of inflectional variability in unmixed English utterances, we will instead refer to the properties of the English language in general.

Our conclusions, therefore, will be drawn based *not* on direct comparison of speaker behavior with an external point of reference, i.e., standard grammar, but rather on comparison of speaker behavior with regard to each other and to each language of origin. For English we will consult the *Comprehensive Grammar of the English Language* (Quirk et al. 1985) and the *Grammar of the English Language* (Curme 1977). For Ukrainian, 'standard' marking will be defined following *Ukrajins'kyj pravopys* 'Ukrainian grammar

and spelling' (Ditel' 1990), *Sučasna ukrajins'ka literaturna mova* 'Contemporary Literary Ukrainian' (Pljušč 1994), among others.²

3.3 CS and BOR Diagnostics

We will approach the issue of determining the status of lone English-origin items in Ukrainian discourse with the assumption that CS implies the alternation between 'two different grammatical systems or subsystems' (Gumperz 1976/82: 59), whereas a borrowed item is integrated into the grammatical system of the recipient language, conforming to its morphological and syntactic rules. This means that in CS each constituent on either side of a switch, irrespective of whether the switch occurred within a word boundary or not, should operate under the rules of its own grammar. The structure of a (lone) CS is schematically represented in Figure 3.2a, and a CS within a word boundary is shown in Figure 3.2b, where different codes are illustrated by different patterns.

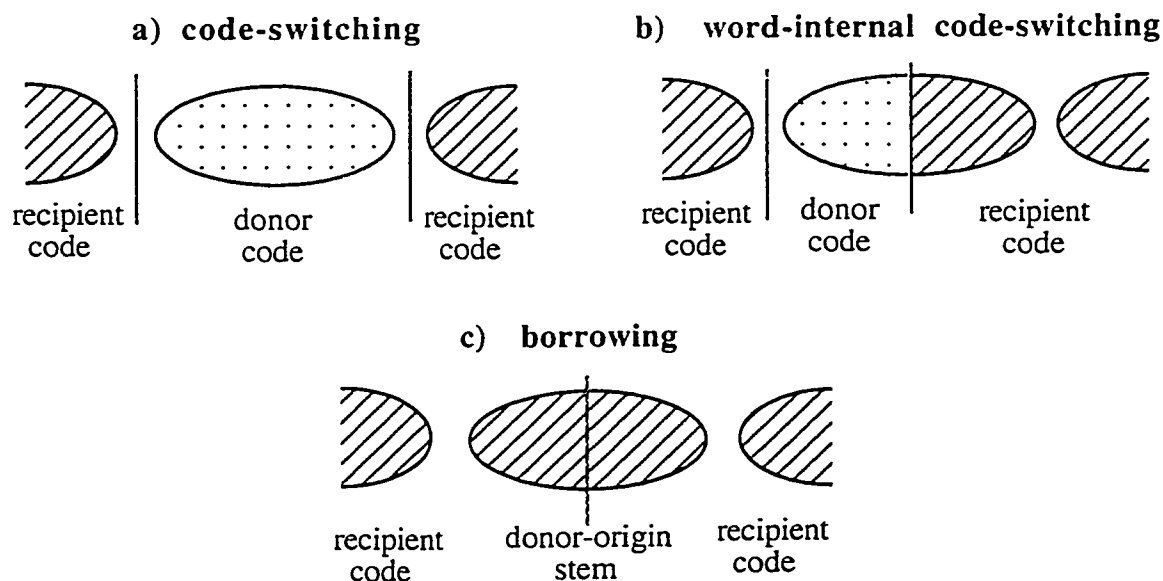


Figure 3.2. Schematic representation of code-switching and borrowing involving a lone other-language item.

²As opposed to Ukrainian spoken in the USA and/or Canada.

In contrast, BOR implies that there is no difference in linguistic features between a borrowed stem and its recipient-language inflection, or between a borrowed word in its surrounding environment, since both segments/words belong to the same code, despite of their etymology. In Figure 3.2c the structure of borrowing is illustrated by one pattern, since all constituents are governed by the same grammar.³

To determine which code, or grammar, produced a lone English-origin item in question, we propose the following *test*:

If a specific feature is needed for an inserted item to satisfy the requirements of the recipient code, this feature will be fulfilled according to the properties of the recipient code, even if the inserted item does not originally possess that property, if the item is borrowed. Conversely, this feature will be fulfilled according to the item's original properties, if the item is code-switched.

To implement this diagnostic, we will first define which language-specific features of Ukrainian and English will result in eventual conflict with respect to a particular part of speech. And the more dissimilar these features are, the sharper and more evident the distinction between code-switched and borrowed utterances will be. We will then compare how those language-specific features are applied (e.g., gender assignment, agreement, or null subject occurrence) with respect to lone English-origin items as well as their monolingual Ukrainian and English counterparts. If such features are realized in the English-origin corpus in the same way as they are in the unmixed Ukrainian data, this will be taken as evidence that such English-origin items behave as if they were Ukrainian, i.e., they are produced by the same grammar, and hence such English-origin items are most likely to be borrowed. When the examined language-specific feature is realized similarly by English-origin tokens and their unmixed English counterparts, we will infer that both of them are produced by the same grammar, i.e., English, and hence such English-origin

³ The line dividing a borrowed word implies a possible word formation boundary (i.e., a stem + an inflection).

tokens are most likely to be code-switched. For example, language-specific features of a Ukrainian adjective include mandatory overt affixation, and ‘triple’ grammatical agreement (i.e., gender, number, and case) with their head nouns. If lone English-origin adjectives participate in these Ukrainian requirements, i.e., they appear overtly marked with required Ukrainian markers, and agree with their nouns in the same manner as their Ukrainian counterparts, then we will conclude that they are produced by Ukrainian grammar, irrespective of their etymology. If lone English-origin adjectives do not establish these Ukrainian language-specific features of adjectives, they may be produced by English grammar, since English adjectives do not possess such features. Instead, they can show their English language-specific behavior, with regard to syntactic placement in the clause. Adjectives produced by English grammar will occur mostly in their base-generated positions, as required in English. (We will discuss in detail language specific features with respect to each part of speech examined in the corresponding chapters 4-8).

Language specific features will be defined with respect to all three criteria: morphological, syntactic, and phonological, since a borrowed item is assumed to be syntactically, morphologically and (oftentimes) phonologically assimilated into the recipient language (Poplack 1993: 255). Note, however, that the syntactic criterion alone is not sufficient to determine which grammar produced a particular item in an English-Ukrainian language pair. The comparatively free word order in Ukrainian (see Chapters 1 and 4) means there will rarely be violations of Ukrainian word order, if any. Phonetic adaptation alone is also a poor predictor of the language status⁴, since it is variable in either monolingual or bilingual data (Boyd et al. 1991; Mougeon 1981; Poplack et al. 1988), and moreover, indistinguishable from a ‘foreign accent’ phenomenon. Finally, Myers-Scotton (1990: 73) argues that the morphological criterion is not useful in distinguishing CS from BOR because morphological integration is not consistent (or variable) even for long-established loans. However, in this project we will demonstrate that variable morphology

⁴ But see Eze (1995b) for the implementation of the phonological criterion in the analysis of Igbo-English discourse.

can be a powerful tool in categorizing lone other-language utterances as CSs or BORs. And, together this matrix of all three criteria considered in combination will provide important evidence in defining which grammar produced the items in question.

We will rely on morphological assimilation of lone English-origin items as our *principal* criterion in diagnosing their status. Morphological criteria (including gender, number, case, tense, different types of agreement, etc.), will be determined according to language-specific requirements of each part of speech, and discussed in the corresponding chapters. Important evidence will also be provided by a syntactic criterion. We will use base-generated structure,⁵ equivalent in both languages, and the variations in its surface realization, as a vehicle for measuring syntactic assimilation. Since the surface realization of a clause can be the result of many different syntactic operations, either involving an item in question or not, we will further focus on a minimal projection within which that item was generated. Base-generated position will be defined for particular parts of speech in the corresponding chapters.

Phonological criteria, however, cannot be exploited to the same extent as the two previous criteria in determining the status of other-language utterances. Even though phonological assimilation features prominently in the research on borrowing (e.g., Haugen 1953, Poplack et al. 1988, Romaine 1989), it is not as revealing in distinguishing BOR from CS. Unfortunately, both phonological assimilation in the process of borrowing and the ‘foreign accent’ phenomenon⁶ result in phonetic adaptation of English phonemes to a speaker’s native language. And therefore, it is not always possible to test whether the pronunciation of a lone English-origin item in question reflects the status of that item. What can be tested for, however, is full phonological assimilation. For example, in (3.1) the English-origin nouns *elegance* is pronounced as *elegancija* [ələgánt^osija], where the last

⁵ Following Kayne (1994), we assume that SVO is the universal base-generated structure.

⁶ Laponce (1987: 7) illustrates that much research has shown that after puberty the ability to learn new languages declines considerably. The later a speaker learns a foreign language, the more difficult it is for him/her to reproduce the foreign language phonemes. Recall that our informants learned English as a foreign language in their late teens-to-mid-twenties. Their ability to pronounce English phonemes, therefore, is rather restricted, and their monolingual English is characterized by a heavy ‘foreign accent’.

consonant [s] is substituted by [tʰs], the stress is shifted from the first syllable (in the standard variant) to the third one, and vowels are articulated differently: both first vowels are pronounced as [ə], and the third one - as [a]. Such full phonological assimilation shows radical changes in the original pronunciation of the English noun. It differs considerably from a 'foreign accent' phenomenon which usually entails some partial assimilation within minimal phoneme pairs (i.e., involving allophones).⁷ Thus, we will limit our phonological criterion to a test for full phonological assimilation, which is characteristic of an established loanword and not CS, and thereby provide supplementary evidence confirming the status of borrowed items. We will not be able to use phonological assimilation to discern the status of those items which did not show full phonological assimilation, since their pronunciation can be equally suitable for either CS or BOR.

- 3.1 To vže je šos', znajete, ostannja **elegancija**. (16/270)
 It already is/are something know-2pl last-F.Nom elegance-F.Nom
 'It is already something, you know, it's the top elegance'.

3.4 The Variable Context

3.4.1 English-origin corpus

To ensure that the researcher does not make a priori assumptions as to the language membership of ambiguous items, we first extracted *all* bilingual, or *mixed*, utterances from conversations where Ukrainian and English coexisted, following the two major principles of the variationist methodology: 1) accountable reporting and 2) circumscription of the variable context (Poplack 1993). These mixed utterances constitute the bilingual corpus on which our research is based. Then, as a first approximation we identified unambiguous

⁷ For example, the adjective *plasticovu* [plastikóvu] in (A) exhibits partial or 'light' phonological assimilation, involving only a stress shift, and a change in the first vowel's pronunciation ([a] instead of [æ]). Such assimilation could have equally resulted either from a 'foreign accent' or phonological assimilation in the process of borrowing.

A. Jak vony trochy vystynut' i ja daju... v tu **plasticovu** torbyнку.
 As they little cool-off-Fut-3pl and I give-1sg to that-F.Acc plastic-F.Acc bag-Dim-F.Acc
 'When they cool off a little, I put them in that plastic bag'. (10/413)

CSs, i.e., multiword stretches of unmixed English (as described in Chapter 1). Full clauses were categorized as *sentential code-switches* as in (3.2).

- 3.2 A vin kaže: “**She is too young**”, a vona kaže: “**What do you mean**
And he says and she says
too young?” (18/144)

‘And he says: ‘She is too young’, and she says: ‘What do you mean too young?’

Multiword English-origin fragments such as **one opening** in (1.1) repeated here as (3.3), which consist of more than one word functioning independently, were considered unambiguous *intra-sentential code-switches*. All lone English-origin incorporations whose status as CS or BOR is ambiguous were grouped separately irrespective of the part of speech and the presence or absence of Ukrainian morphology. These are represented by *mopuvaty* and *janitor* in (3.3).

- 3.3 ‘Je odna robota, **one opening**, kaže, je na **janitor**’. A ja
is one-F.Nom job-F.Nom says is for janitor-Ø And I
kažu: ‘**Explain it to me**’, b-- bo takož ne znaju. A vin kaže:
say-1sg because also not know-1sg And he says
‘Well, bh-- [laughs] **mop-pu...** [laughs]. Ja si tak zasmijav i kažu:
mop-F.Acc I Refl. so laughed-M and say-1sg
‘**Beautiful my friend, I have to ask my wife how to mop the floor**
because I never did it in my life’ [laughs], **mopuvaty** pidlohu. (22/159)
to-mop floor-F.Acc

“‘There is one job, one opening as a janitor’, he says. And I say: ‘Explain it to me’, because I also do not know [what it is]. And he says: ‘Well, bh--’ [laughs], a mop [laughs]. I have laughed so much and said: ‘Beautiful my friend, I have to ask my wife how to mop the floor because I never did it in my life’ [laughs], to mop the floor’.

Lone English-origin incorporations were then divided into several sub-corpora according to their part of speech. These include: 1) nouns, like *janitor* in (3.3), 2) verbs, like *mopuvaty* in (3.3), 3) adjectives, like *elegants’ki* in (3.4), 4) adjectival verbs, like in

zaparkovane in (3.5); and 5) adverbs, like *perfectno* in (3.6). These sub-corpora will be detailed in the corresponding chapters.

3.4 Oto **elegants'ki** **movies**, *teperka nema.* (05/116)

That elegant-pl.Nom now not-have
'Those [were] elegant movies, but no more'.

3.5 Tam **jakes'** eh **jakes'** **auto** **bulo** **za-- zaparkovane**
There some-N.nom eh some-N.Nom auto-N.Nom was-N za-- parked-Perf.N

tak šo ne duže bulo vydno. (16/060)
so that not very was-N visible-N

'There was some eh some car parked [there], so that not much was seen'.

3.6 Vony rozumily obydvi movy **perfectno.** (22/033)

They understood-pl both-F.Acc languages-Acc perfectly
'They understood both languages perfectly'.

We originally distinguished two subsets of nouns in English-origin corpus. The first one consisted of single words, or singletons, exclusively, as e.g., **grinderku** and **sandblast** in (3.7) or **caroju** in (3.8). Compounds like **fabrication shopy** in (3.7), which function as a single noun, constituted another subset in order to test whether they were incorporated into Ukrainian discourse in the same way as singletons. However, we did not pursue this division further, since it has been aptly demonstrated by Budzhak-Jones (1996a) that singletons and compounds establish parallel behavior in otherwise Ukrainian discourse; and hence such a division is unwarranted.

3.7 Ale pizniše daly mene tak jak do **fabrication...** **shopy** na
But later gave-pl me-Gen so as to fabrication shop-F.Gen for

grinderku i **sandblast**, *značyt'si piskom čystyty žyliza.*
grinder-F.Acc and sandblast-M.Acc meaning-Refl sand-M.Ins to-polish irons-N.pl

'But later they sent me to some kind of fabrication shop for grinding and sandblasting, that is to polish iron with sand'. (23/170)

3.8 Ja sjohodni jichala **caroju.** (11/319)

I today went-F.sg car-F.Ins
'I went by car today'.

Tokens with a homonymous form in Ukrainian, but which were given an entirely new meaning in the conversations, were included in the corpus. For example, the noun *caroju* in (3.8) is used to mean ‘a car’. The Ukrainian homonym *kara* does not have this meaning. It instead denotes ‘a punishment’.

3.4.2 Exceptional distributions

Since our corpus is based on performance data, there are interrupted, out of context tokens, as *mop-pu* in (3.3). These were excluded from consideration. So were interjections, exemplified by *well* in (3.3) and *no* in (3.9), since these are not eligible for inflectional marking, and usually occur inter-sententially.

3.9 [Interviewer: Ale mjasa ne možna?]
But meat is not allowed, is it?

No, no, peršyj večir nje, ne d-- ne bulo mjasa,
No, no first-M.Nom evening-M.Nom no, not not was-N meat-N.Gen,

no. (07/229)
no

‘No, no, not in the first evening, there was no meat, no’.

Proper and geographical names (3.10 and 3.11 correspondingly) were also excluded from the corpus, since these may be subject to different rules than common nouns (cf. Givon 1984)⁸.

3.10 Ne vse sluchaju v šostij hodyn, bo t-- novyny, bo
not always listen-1sg at six-F.Loc hour-F.Loc because news because

todi sluchaju v odynejatij, ale sluchaju eh... **Current affair** i
then listen-1sg at eleven-F.Loc but listen-1sg Current affair and

sluchaju eh... še tam šos’ inše, **ET** čy šos’. (33/369)
listen-1sg also there something other, ET or something

⁸ Givon (1984), for instance, argues that proper names have referentially unique physical and cultural entities.

'I do not always listen to the news at six o'clock, because then I listen at eleven, and I listen to 'A Current Affair', and I also listen to something else, like 'ET' (Entertainment Tonight), or others'.

- 3.11 Ja jichala sama avtobusom s **Philadelphiji** do **Buffalo**.
 I went-F myself-F bus-M.Inst from Philadelphia-F.Gen to Buffalo
 'I went by myself from Philadelphia to Buffalo'. (15/028)

Words of foreign origin with ambiguous etymology were also not taken into consideration. These are usually old, well-established Ukrainian loanwords, like *harmoniju* and *akordion* in (3.12). Such words are now part of the literary Ukrainian lexicon, they function in Ukrainian in exactly the same way as native words, and are registered by a Ukrainian dictionary (Bilodid 1977).

- 3.12 Ja **harmoniju** duže ljubyla, toj **akordion**. (10/194)
 I harmonica-F.Acc very loved-F that-M.Acc accordion-M.Acc
 'I liked harmonica very much, that accordion'.

Since our informants have lived for some time in several European countries before immigrating to America (see Chapter 2), their vocabularies have been enriched by words from German, French, Spanish, Polish, etc., like the German *Arbeitsamt* 'work administration' or *bauery* from the German *Bauern* 'farmers' in (3.13). Such utterances were also excluded from consideration in this research, because they are not a part of the variable context.

- 3.13 Tam nas **arbeitsamt**, nimec'kyj urjad...
 There us-Acc work-administration German-M.Nom government-M.Nom
 obstupyv i **bauery** [bavóry] pryjšly j vybyrajut' sobi
 surrounded-M and farmers-Nom came-pl and choose-3pl self-Dat
 robitynykiv na robotu. (18/054)
 laborers-Gen for work-F.Acc

'There Arbeitsamt, German government... surrounded us, and the farmers came, and were picking laborers for work on their farms'.

sub-corpora will also be discussed in detail with regard to each part of speech in the following chapters. Although the resulting monolingual English corpus is rather small (the largest sub-corpus of nouns amounts to 174 tokens), it is nevertheless composed of natural English utterances produced by the speakers without any pressure or requirements, and hence, reflects language use in a natural environment.

3.4.4 Monolingual Ukrainian corpus

The monolingual Ukrainian corpus consists of Ukrainian tokens extracted from the interviews of the same informants. Since these interviews were conducted largely in Ukrainian, the extraction of every Ukrainian item from 36 hours of tape-recorded conversations would result in a disproportionally large monolingual Ukrainian corpus, several times bigger than our English-origin corpus. Considering, however, that the quantitative method is based on relative proportions of certain structures in the corpus expressed in percentages, we decided to extract only an approximate number of Ukrainian tokens roughly equal to the number of ambiguous English-origin tokens. This was performed as follows: Based on our largest sub-corpus of lone English-origin items, i.e., nouns, we 1) determined the average number of English-origin nouns produced by a single speaker by dividing the number of all lone English-origin nouns by the number of speakers ($1637/25 \approx 66$); 2) calculated the number of Ukrainian nouns occurring on one page of a transcribed interview; 3) divided the average number of English-origin nouns (i.e., 66) by the number of Ukrainian nouns per page; and 4) transcribed as many pages per informant as it was necessary to achieve at least 66 nouns per speaker. Interviews were usually transcribed starting from the second half, since it is less formal than the beginning, and hence reflects the most naturally occurring speech. Afterwards, all monolingual Ukrainian nouns were extracted from the transcribed data, resulting in 1950 monolingual Ukrainian tokens (i.e., 78 nouns per person). Monolingual Ukrainian sub-corpora of other parts of

speech were extracted from these same transcribed portions of unmixed Ukrainian speech. They will also be discussed in the corresponding chapters.

Chapter 4

NOUNS WITH OVERT UKRAINIAN MORPHOLOGY

4.1 Introduction

Nouns provide the largest body of data in our bilingual corpora. They are also the most complicated part of speech in Ukrainian with respect to their morpho-syntactic features. Moreover, unlike verbs or adjectives categorically requiring overt Ukrainian morphology, nouns allow null marking under certain well-defined conditions (see section 4.2). Hence, the status of a noun like *license* in (4.1) is inherently ambiguous, since the chances of its being produced by either Ukrainian or English grammar are the same.

- 4.1 U pjatdesjat' tretjomu ja zrobyv license. (03/163)
 In fifty third-M.Loc I made-M license-?/M.Acc
 'I got the license in 1953'.

A noun like *shopa* in (4.2), on the other hand, exhibits a Ukrainian inflection and hence, it could be produced by Ukrainian grammar, though some researchers would argue that it can also be code-switched within word boundaries (e.g., Bentahila & Davies 1991, Eliasson 1994, Halmari 1993, Myers-Scotton 1993a, 1997, etc.)

- 4.2 To bula shopa taka velyka. (33/131)
 It was-F shop-F.Nom such-F.Nom big-F.Nom
 'It was such a big shop'.

We therefore are faced with the dilemma that two qualitatively different phenomena may have resulted in the same output. And, if the number of tokens of one phenomenon is greater, and hence larger in scale than the number of tokens of the other, we may obtain results which conceal the less frequent phenomenon. Sankoff and Rousseau (1991) encountered a similar problem in distinguishing whether the variable presence of a linguistic form in question is the result of the absence of a particular variable, or simply its

non-insertion. They have shown that the application of ‘mixed’ rules give similar results, and do not reveal which rule generated a certain surface realization. To solve this problem, and make our investigation clearer and more efficient, we will eliminate each possible scenario one by one. We will first determine whether lone English-origin nouns with *overt* Ukrainian marking are most likely to be code-switched at morpheme level or borrowed. Then we will proceed with examining the other scenarios for CS at word level or BOR of bare forms. We therefore separated lone English-origin nouns with overt Ukrainian morphology, like *shopa* in (4.2), from those ones which occurred bare, like *license* in (4.1).

4.2 Ukrainian nouns

4.2.1 Inflectional marking

Since Ukrainian is a highly inflectional, fusional language, a noun produced by Ukrainian grammar usually has to be marked with an inflection encoding all three grammatical categories, i.e., gender, number and case. In (4.3.), for example, the noun *vesillja* ‘wedding’ has an affix *-ja* marking neuter gender and accusative case, and the noun *čas* ‘time’ is marked by an inflection *-u* for masculine, singular, and genitive case. Some nouns, however, may appear null marked for all three grammatical categories, like *čas* ‘time’ in (4.3). These include masculine singular nouns in the nominative, masculine singular inanimate nouns in accusative, feminine inanimate nouns of declension III (discussion follows) in the nominative and accusative, and some feminine and neuter plural nouns in the genitive case¹.

4.3	Tam	<i>vesillja</i>	roblja	<i>čas</i>	vid	<i>chasu</i> . (01/365)
	There	wedding(s)-N.Acc	make-3pl	time-M.Nom	from	time-M.Gen
	‘[They] have weddings there from time to time’.					

¹ Feminine and neuter nouns in the plural genitive often have their root vowel changed (e.g., *slovo* ‘word’-N.Nom versus *sliv* ‘words’-N.Gen), or an inserted vowel (e.g., *vyšnja* ‘sour cherry’-F.Nom versus *vyšen* ‘sour cherries’-F.Gen).

4.2.1.1 Case

The choice of an inflection is dependent on information drawn from three different sources simultaneously. Case is determined structurally according to the case assigner, and it can be either overtly or null marked. Two structural cases, i.e., nominative and accusative, are usually null marked for case (with the exception of animate and some feminine inanimate nouns in the accusative). These are exemplified by *cas* ‘time’ in (4.3) which is null marked for all categories, and *vesillja* ‘wedding’ (4.3), which is null marked for case, but overtly marked for gender. Five inherent cases, i.e., genitive, dative, instrumental, locative, and vocative, are almost categorically overtly marked for case (with the exception of some feminine and neuter plural nouns), like *času* ‘time’-Gen in (4.3) derived from *čas* ‘time’-Nom.

4.2.1.2 Number

There are two numbers in Ukrainian: singular and plural. Singular is an unmarked form and plural is usually overtly marked, like *movy* ‘languages’ in (4.4). There are some exceptions, however, including pluralia tantum (e.g., *štany* ‘pants’), and singularia tantum (e.g., *njasa* ‘meat’).² Some neuter nouns may have the same form for both singular and plural nominative, like *vesillja* ‘wedding’ (4.3), which can have either plural or singular concord without changing its form. Although number is a lexical feature of a noun, depending on the noun’s ability to be pluralized, it is usually determined by context³.

- 4.4 Ti dvi movy lyš majut’ bahato podobnyh sliv. (15/380)
 Those two-F languages-F only have-3pl many similar-pl.Gen words-Gen
 ‘Those two languages only have many similar words’.

² As in English, singularia tantum nouns can be pluralized in Ukrainian with the change in the meaning of that noun, e.g., **dva njasa* ‘two meats’ is ungrammatical, whereas *njasa* ‘meats’, referring to different kinds of meat, is grammatical.

³ Here we imply that if number is not semantically determined as plural, it remains unmarked, corresponding to a noun’s singular, unless otherwise specified by a noun’s form (cf. Hurford 1987).

Plural nouns usually do not have gender distinctions, whereas singular nouns differ in their marking according to their gender. Therefore, if a noun is marked for gender, it also means singular number, and if it is marked for plural, then it usually entails no grammatical gender.

4.2.1.3 Gender

There are three grammatical genders in Ukrainian: masculine, feminine, and neuter (Zovtobryuch & Kulyk 1959: 201-05, Pljusc et al. 1994: 200-03). The gender of animate nouns is usually semantically determined by the biological sex of the referent, and can be marked lexically (as in *mama* 'mom' and *tato* 'dad'), formally (like *likarka* 'she-doctor' in 4.5 versus *likar* 'he-doctor' in 4.6), or syntactically, i.e., through agreement. For example, the noun *likar* 'doctor' can occur with a masculine concord as in *likar pryjšov* 'a doctor came-M', or feminine agreement like in *likar pryjšla* 'a doctor came-F', depending on the physiological gender of the person.

- 4.5 Tam jiji *likarka* ličyt zastrykamy. (10/007)
 There her-Acc doctor-F.Nom treats injections-Ins
 'A woman-doctor gives her injections there'.

- 4.6 Vujko buv *likar* ditočyj. (25/028)
 Uncle-M.Nom was-M doctor-M.Nom children's-M.Nom
 '[My] uncle was a pediatrician'.

Some animate Ukrainian nouns are indifferentiable with regard to semantic gender, but their grammatical gender is defined in the same way as inanimate nouns. For example, *chudoba* 'cattle' in (4.7) is animate, but its gender cannot be semantically determined. It is always feminine, because of its phonological form (i.e., ending in *-a*).

- 4.7 To bula taka šorstka trava, jaku ne
 It was-F such-F.Nom coarse-F.Nom grass-F.Nom which-F.Acc not
 jila *chudoba*. (15/038)
 ate-F cattle-F.Nom

‘It was such coarse grass, that cattle did not eat it’.

The gender of inanimate nouns is inherent to a noun exclusively. It can be inferred through a number of semantic and formal criteria. The latter comprise phonological form and the declensional type of a noun.⁴ Nouns which end in *-(j)a* in nominative, *-y*, *-(j)i* in genitive, and *-oju*, *-(j)uju* in instrumental singular (i.e., declension I), are feminine, like e.g., *trava* ‘grass’ in (4.7). Nouns also ending in *-(j)a* in nominative, but *-(j)a* in genitive and *-(j)am* in instrumental, are neuter, like *žyttja* ‘life’ in (4.8). If such nouns have a geminate consonant preceding the inflection, they belong to declension II; if an additional suffix *-(j)at-* or *-en-* appears during the conjugation such nouns constitute declension IV.

- 4.8 I take moje žyttja, šo zrobyš. (34/303)
 And such-N.Nom my-N.Nom life-N.Nom what do-2sg.Fut
 ‘And such is my life, what can you do’.

Masculine nouns usually have a null inflected stem in the nominative singular, *-(j)a*, *-(j)u* inflections in genitive and *-om*, *-(j)em* in Instrumental (i.e., declension II). These are exemplified by nouns like *cas* ‘time’-Nom and *casu* ‘time’-Gen in (4.3).⁵ Nouns with null marking in nominative, but *-i* in genitive and *-ju* in instrumental are feminine (i.e., declension III), like *nič* ‘night’ in (4.9). These nouns, however, are quite infrequent.

- 4.9 Ja ne mala času, bo ja-ja robyla... na nič. (12/220)
 I not had-F.sg time-M.Gen because I- I worked-F at night-F.Acc
 ‘I did not have time, because I worked at night’.

Nouns ending in *-o*, *-e* in nominative, *-(j)a* in genitive and *-om*, *-(j)em* in instrumental are usually neuter (e.g., *ližko* in 4.10). They belong to declension II, similar to masculine nouns.

⁴ See Budzhak-Jones (1997) on details of gender assignment in Ukrainian.

⁵ A few masculine nouns of the same declension may end in *-o* (e.g., *tato* ‘dad’) or *-a*, but these are mostly animate nouns. Their gender is semantically determined, but they are conjugated according to the rules of the gender which usually ends in that particular vowel. Thus, masculine nouns ending in *-a* are conjugated exactly like their feminine counterparts; masculine nouns ending in *-o* have the same declensional paradigm as their neuter counterparts.

- 4.10 *Ližko* musilo bulo zasteleno. (20/193)
 Bed-N.Nom had-N was-N covered-up-N
 'The bed had to be made'.

Table 4.1 illustrates possible noun endings for each declension. Each noun takes one inflection for each case and number depending on its gender, animacy and the type of the final phonological segment of the stem. See Appendix C for examples of noun conjugation in different declensions.

Table 4.1. Generalized schema of noun conjugation in Ukrainian.

DECLENSION	I	II	III	IV
Singular				
Nominative	-(j)a	-Ø, -o, -e, -(j)a	-Ø, [-y] ⁶	-(j)a
Genitive	-u, -(j)i	-(j)a, -(j)u	-i	-(j)at-y, -en-i, -ja
Dative	-(j)i	-ovi, -(j)evi, -(j)u	-i	-(j)at-i, -en-i
Accusative	-(j)u	-Ø, -o, -e, -(j)a	Ø	-(j)a
Instrumental	-oju, -(j)uju	-om, -(j)em, -(j)am	-ju	-(j)am, -en-em
Locative	-(j)i	-ovi, -(j)evi, -(j)u, (j)i	-i	-(j)at-i, -en-i
Vocative	-o, -(j)e	-o, -e, -(j)u	-e, [-Ø/-y]	-(j)a, -en-e, -ja
Plural				
Nominative	-y, -(j)i	-y, -(j)i, -a, -(j)a	-i	-(j)at-a, -en-a
Genitive	-Ø ⁷ , -ej	-(j)iv, -Ø	-ej, [-iv]	-(j)at-Ø, -en-Ø
Dative	-(j)am	-(j)am	-(j)am	-(j)at-am, -en-am
Accusative	-Ø, -y, -ej, -(j)i	-iv, -(j)i, -(j)a	-i, [-iv]	-(j)at-(a), -en-a
Instrumental	-(j)amy	-(j)amy	-(j)amy	-(j)at-amy, -en-amy
Locative	-(j)ax	-(j)ax	-(j)ax	-(j)at-ax, -en-ax
Vocative	-y, -(j)i	-y, -(j)i, -(j)a	-i	-(j)at-a, -en-a

4.2.2 Agreement.

A Ukrainian noun enters into different types of concord with respect to each category. With respect to case it is in agreement only with its modifier(s). For number and gender the concord is wider and includes both modifier(s) and predicate(s). However, not every predicate requires both number and gender agreement. For example, the verbs

⁶ Inflections of declension III shown in brackets are relevant only to the conjugation of a noun *maty* 'mother'.

⁷ Null marking in genitive and accusative plural is usually connected with the insertion of a vowel in a stem (e.g., *sestry*-Nom.pl versus *sester*-Gen/Acc.pl 'sisters'), and hence it differs from null marking in Nominative singular.

spersja ‘leaned’ and *molyvsja* ‘prayed’ agree with *pesyk* ‘doggie’ in (4.11) in both number and gender (but not case), whereas the verb *ličyt* ‘treats’ in (4.5) needs to agree with its subject *likarka* only in number. Agreement rules are schematically illustrated in Figure 4.1.

- 4.11 I mij pesyk tak samo tak spersja i
 And my-M.Nom dog-Dim-M.Nom so same so leaned-M.Refl and

 molyvsja zi mnoju. (33/028)
 prayed-M.Refl with me-Ins

‘And my doggie also leaned in the same way and prayed with me’.

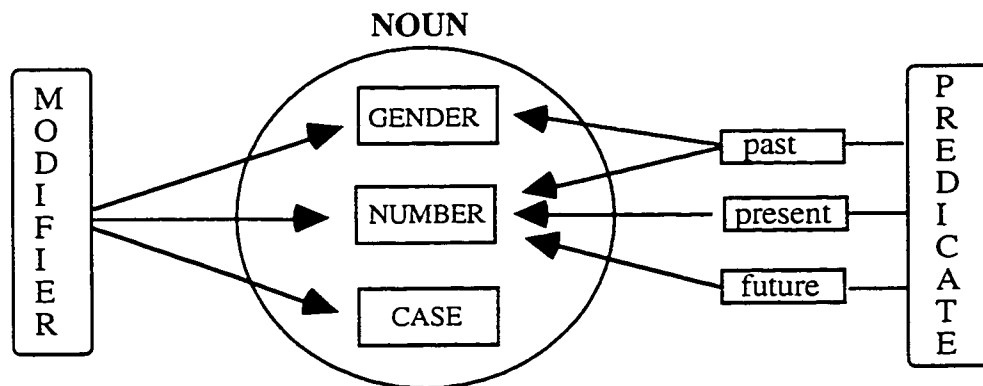


Figure 4.1. Agreement system in Ukrainian.

Note that unlike predicates, all modifiers irrespective of their part of speech, i.e., adjectives, all pronouns of the adjectival type (e.g., demonstrative, relative, interrogative, etc.), numerals (except ordinal ones from *p'jat* ‘five’ and on), and adjectival verbs, obligatorily have to be overtly marked for gender, number and case in concord with their head noun. For example, the adjective *čudove* ‘wonderful’ in (4.12) is marked for neuter singular accusative since its head noun *misce* ‘place’ has the same characteristics. Another adjective in (4.12) *velyka* ‘big’ is marked with a different suffix, *-a*, denoting feminine singular nominative, information received from its head noun *kimnata* ‘room’.

- 4.12 Ja by mala misce dlja neji čudove, onó -
 I Cond had-F place-N.Acc for her-Loc wonderful-N.Acc over-there

kimnata velyka. (10/039)
 room-F.Nom big-F.Nom

'I would have had a wonderful place for her, a big room over there'.

While the endings of agreeing elements do not have to be identical in form, their grammatical indices must be the same. For example, the endings of both modifiers *čudove* 'wonderful' and *velyka* 'big' in (4.12) coincide with their head nouns' inflections *misce* 'place' and *kimnata* 'room' correspondingly. Whereas the modifier *mij* 'my' in (4.11) does not have the same ending as its head noun *pesyk* 'doggie', neither does the modifier *moje* 'my' in (4.8) whose head noun is *žyttja* 'life'.

4.2.3 Syntactic position

Ukrainian nouns are base-generated in the same positions as in English: subjects precede predicates, like *ljudyna* 'person' in (4.13); and objects follow verbs, like *žyttja* 'life' in (4.13). Modifiers usually precede their head nouns, like *kožna* 'every' and *svoje* 'self' in (4.13). Predicative adjectives and adjectival verbs immediately follow their verbs, like *zasteleno* 'covered-up' in (4.10).

4.13 Kožna ljudyna maje pravo borotysja za svoje
 Every-F.Nom person-F.Nom has right-N.Acc to-fight-Refl for self-N.Acc
 žyttja. (23/063)
 life-N.Acc

'Every person has the right to fight for his/her life'.

The rich inflectional and agreement systems of Ukrainian, however, permit nouns⁸ as well as other parts of speech to move overtly in syntax, resulting in a phenomenon traditionally referred to as 'free' word order. Since the grammatical information, i.e., gender, number, and case, is morphologically marked on a noun and its dependent

⁸ For the purpose of this research we will not distinguish between phrases and heads alone, since we refer to singly occurring nouns.

element(s), it does not have to be inferred from the position of that noun.⁹ For example, the noun *rodyna* 'family' in (4.14) occurs between its modifier *odna* 'one' and the prepositional phrase (PP) *na druhij vulyci* 'in the other street'. Together with its modifier *odna* 'one' the noun follows the verb *bula* 'was' instead of preceding it. Moreover, the predicative adjective *ukrajins'ka* 'Ukrainian' which would typically have followed the verb *bula* 'was' appears at the end of the clause after the PP.

- 4.14 Bula odna rodyna eh na druhij vulyci,
 was-F one-F.Nom family-F.Nom eh on other-F.Loc street-F.Loc
- ukrajins'ka i syn ss-- s tam tych synom
 Ukrainian-F.Nom and son-M.Nom with there their son-M.Ins

bavyvsja. (25/140)
 played-M.sg

'There was one Ukrainian family in the next street, and our son played wi-- with those people's son'.

4.3 English nouns

As in Ukrainian, English nouns also possess all three grammatical categories, gender, number, and case, as evidenced by number (e.g., *table/tables*), case (as in *people's money*), and even gender (as in *lion/lioness*) marking (Quirk et al. 1985). However, the realization of these grammatical categories in English is very different. Unlike Ukrainian, English has two structural cases and only one inherent (i.e., possessive) case. Gender is semantically determined for animate nouns as masculine or feminine. All other English nouns of 'semantic residue' (Corbett 1991), i.e., inanimate nouns, have no overt grammatical gender¹⁰ and are referred to as *it*. English nouns have two numbers: singular and plural, which are realized similarly in both languages, i.e., singular is an unmarked form and plural is usually overtly inflected with the plural marker, *-(e)s*. All

⁹ For instance, case is structurally determined in English, and hence, the syntactic position of English nouns is more restricted than that of Ukrainian ones.

¹⁰ Grammatical gender was clearly marked in Old English through inflections and modifier-noun agreement (Krapp & Marckwardt 1969: 54). However, it has been lost in Modern English.

English grammatical categories are predominantly null marked, like *people* in (4.15), with the exception of plural marking, and the semantic gender of a few animate nouns.

4.15 I need four *people*. (22/123)

There are very few agreement requirements in English. These include number agreement of demonstrative pronouns with their head nouns, as in *this table* versus *these tables*, and some gender agreement exhibited by possessive and personal pronouns. The latter can be seen in contrasting two sentences: ‘As for my sister, she runs fast’, and ‘As for my car, it runs fast’. The pronoun carries the gender of the noun it refers to and where it is inanimate, the most consistent gender used is generally the neuter. English nouns also show number agreement with verbs in the present (i.e., third person singular), as well as with the verb *to be* in the past.

The syntactic position of an English noun is structurally determined, and hence, all nouns usually occur in their base-generated positions, i.e., subject-verb-object, as in (4.15). Modifiers usually precede their head nouns.

4.4 Word-Internal CS versus BOR Diagnostics

4.4.1 Morpho-syntactic features

From our description of Ukrainian and English nouns, it is clear that the two languages differ considerably in some respects, but nevertheless are similar in the others. Therefore, we will next define language-specific features distinguishing nominal systems of these two languages, and use these features to test whether lone English-origin nouns with overt Ukrainian morphology occurring in Ukrainian discourse are the product of word-internal CS or BOR.

If a noun is generated by Ukrainian grammar, irrespective of whether it is etymologically native or *borrowed*, it will be capable of processing case information

assigned syntactically,¹¹ as well as number information defined by context,¹² and convert this information into a single fused form, i.e., an overt inflection, according to its gender. It then will also be able to pass this fused information of case, gender, and number to its modifier, as well as necessary gender and number information to the predicate, resulting in agreement between the noun and its agreeing elements. The schema of morphological marking of a Ukrainian noun is generalized in Figure 4.2.

In order to examine the possibility of an English noun to be code-switched word-internally, i.e., to appear in a noun's slot in Figure 4.2, it is first necessary to clarify

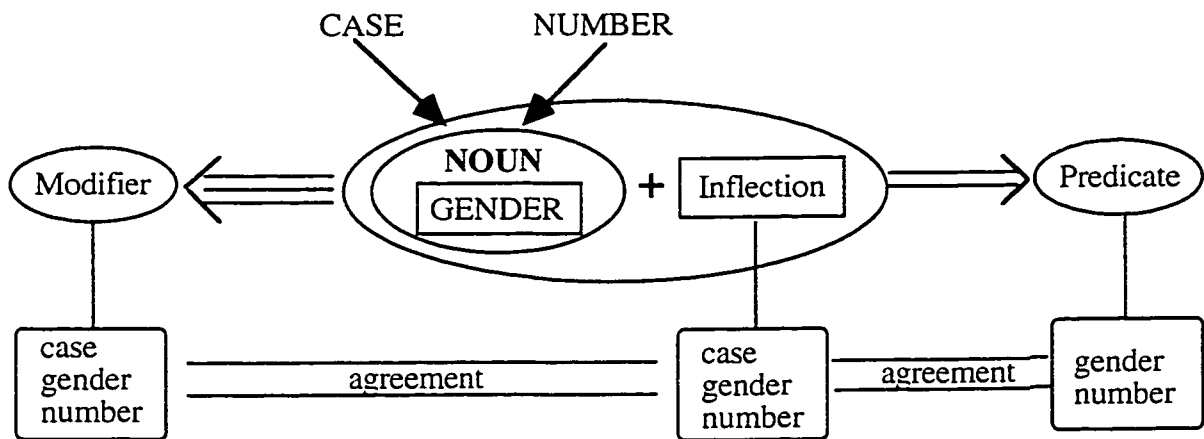


Figure 4.2. Morphological marking in Ukrainian.

whether a word-internal code-switch may structurally take place in this language pair. Such a word will have two switch sites: 1) before the noun, and hence, outside word boundaries, and 2) between the noun and a Ukrainian inflection, i.e., within word boundaries. Given the Equivalence constraint (Sankoff & Poplack 1981), which allows CS to occur at points around which the surface order immediately adjacent to and after the switch point is not excluded in either language, switching outside the word boundary will be determined by overt syntactic realization of each token in the clause. And since both

¹¹ We assume that case is assigned by an external case assigner to a syntactic position occupied by a noun phrase (see, e.g., Chomsky 1981).

¹² Here we imply that if number is not semantically determined as plural, it remains unmarked, corresponding to a noun's singular, unless otherwise specified by a noun's form (Greenberg 1963; Hurford 1987: 221).

English and Ukrainian allow the same basic word order, each noun occurring in a base-generated position may be eligible for CS at the switch site outside the word boundary. With respect to the other switch site, i.e., within a word boundary, the structure ‘noun + inflection’ is not forbidden in English-Ukrainian, since in English a noun may be followed by an inflection (as e.g., in *table/tables*), and in Ukrainian an inflection may follow a noun stem (as in *stil* ‘table’/*stoly* ‘tables’). Beyond structural equivalence, moreover, the grammatical parameters of both constituents involved in the formation of a noun also appear to be the same: a Ukrainian inflection requires information on case, number and gender; while an English noun may provide that information, as evidenced by number (e.g., *table/tables*), case (i.e., possessive), and even gender marking (as in *lion/lioness*) in English. Thus, theoretically, a switch between an English noun and a Ukrainian inflection may take place in Ukrainian discourse.

We next need to determine whether such a switch actually does take place, and its consequences for the system of morphological marking illustrated in Figure 4.2. If an item inserted in a noun’s slot is a product of English grammar, and retains its original language-specific features, it then should not be able to fulfill the requirements of Ukrainian as described above. This can be observed in the following: a Ukrainian inflection must receive information from a noun in order to be overt. And if a Ukrainian inflection follows the information provided by an English noun, its form should be ‘null’ most of the time (as it is in English). Such tokens are excluded from this chapter, however, since we focus on word-internal CS (see the following chapter for the discussion of null marked nouns). Word-internal CS requires an overt inflection from the recipient language. Therefore, in this chapter we examine nouns with overt Ukrainian inflection, and how this inflection can be realized if such nouns were CSs to English.

Since case and number information may be received by a Ukrainian inflection from outside, i.e., without reference to a noun, the only information required from the noun itself is its gender. And if a noun is English, a Ukrainian inflection should be conditioned

by gender information available in English. All animate English nouns, therefore, should feature their semantic gender, and all inanimate English nouns should surface with a neuter Ukrainian inflection. Since the gender of animate nouns in Ukrainian is also semantically determined in most cases, inanimate nouns will be the most useful for diagnosing the underlying grammar.

Recall, however, Figure 3.2b. What if language-specific features, including English gender information, are not accessible to a Ukrainian inflection following an English-origin noun, as would be the case if the switch from one code to the other constituted a barrier to the transfer of language-specific information?¹³ What form would the Ukrainian inflection then take? There are two options possible in this situation. First, English-origin nouns may all be assigned to one and the same Ukrainian gender, i.e., a default option, probably masculine since it often serves as a default gender in standard Ukrainian. Second, the phonetic form of an English-origin noun may phonologically condition the form of a Ukrainian inflection, since the latter is partially dependent on the phonological form of the noun stem in Ukrainian, along with all other criteria in gender assignment (discussed in the previous section). In this latter case, there may be a strict correlation between the final phonological segment of the English noun and the form of the Ukrainian inflection.

Thus, if a switch took place between a noun and an inflection, the following results may be observed: 1) if the switch site does not constitute a barrier for transferring language-specific information, English nouns may feature their original English gender (semantic or neuter), or 2) if a word-internal switch site does constitute a barrier for transferring language-specific information from one code to the other, English gender information may not be available for a Ukrainian inflection. This would give rise to one of two outcomes: a) all English nouns will receive the same Ukrainian default gender; or b)

¹³ The notion of a 'barrier' for language-specific information across a switch boundary requires further investigation. For the purpose of this project, we assume both possibilities, i.e., a switch may or may not be a 'barrier' for transferring language-specific information from one code to the other.

the phonetic form of the English noun will entirely determine the form of its Ukrainian inflection, since no other criteria for gender assignment operating in Ukrainian are offered by the English noun.

With respect to agreement, a noun with English properties will not be able to transfer the ‘triple’ grammatical information overtly to its modifiers and/or the ‘double’ information to its predicates,¹⁴ as is required from Ukrainian nouns. This may show up as an increased incidence of non-agreement between the information conveyed by the noun’s inflection and the agreeing elements, the latter being always overtly marked in Ukrainian. Furthermore, speakers may avoid placing English nouns in those constructions which require the transfer of gender, number, and case information. In this instance, English nouns code-switched word-internally may show a greater tendency to occur unmodified.

Finally, given all the dissimilarities between English and Ukrainian morphological marking with regard to gender, number, case, and agreement marking discussed above, English-origin nouns code-switched word-internally may display a higher incidence of non-standard marking than either Ukrainian or borrowed nouns.

With respect to syntactic criteria, it is possible that English nouns code-switched word-internally will occur most often in their base-generated position (see sections 4.2 and 4.3), as they would in monolingual English, whereas borrowed English-origin nouns should not be restricted to base-generated positions only, and appear in other syntactic positions as frequently as their native Ukrainian counterparts.

4.4.2 Pronunciation

As we pointed out earlier (see Chapter 3), phonological features were shown to be variable, and hence, an unreliable criterion in determining the status of other-language incorporations as CSs or BORs. Nevertheless, we may anticipate that borrowed English-origin nouns will show a tendency to be fully phonologically assimilated. Moreover, since

¹⁴ English nouns may transfer such information ‘covertly’ since there is evidence of agreement in English (as discussed in section 4.3). However, they may not be able to do it overtly, as do Ukrainian nouns.

such tokens are overtly inflected by Ukrainian morphemes, their phonological assimilation may be facilitated by immediately preceding or following Ukrainian phonemes. Conversely, items code-switched word-internally will retain their original English pronunciation (to the extent of speakers' ability), even though they are followed by Ukrainian phonemes. This can serve as additional evidence of BOR status.

4.4.3 Extralinguistic features

Additional evidence for diagnosing the status of English-origin nouns featuring overt Ukrainian morphology can be provided by 'flagging'. It has been noticed that by means of production flags (e.g., meta-linguistic speech, false starts, audible pauses, etc.), speakers often interrupt their speech flow in the environment of a switch, and circumvent grammatical constraints at a CS boundary (Poplack 1987: 64, 72, Budzhak-Jones & Poplack 1997: 238). Poplack et al (1987: 50) also demonstrated that determiners or demonstrative pronouns (where the former are lacking) may also be used as a flagging device to signal other language incorporations.¹⁵ Hence, it is logical to expect that, if the chain passing grammatical information either between the noun and its inflection or between the noun and its agreeing elements is broken, the speakers should be sensitive to this, and draw attention to such conflict sites through different kinds of flagging. Therefore, flagging in the vicinity of English nouns involved in word-internal CS should be considerably higher than around their monolingual counterparts.

4.5 Predictions

Based on the diagnostics developed in the previous section, we hypothesize that if lone English-origin nouns with overt Ukrainian inflection occurring in an otherwise Ukrainian context are *code-switched word-internally*, they will show the following behavior:

¹⁵ We discuss demonstrative pronouns in Chapter 5 in more detail.

I. With respect to morphological marking -

- (a) If a switch site is not a barrier for language-specific information, inanimate English nouns will receive neuter gender in Ukrainian while animates will show semantic gender;
- (b) If a switch site constitutes a barrier for transferring language-specific information from one code to the other, it can be expected that -
 - i. Either English-origin nouns will be assigned to the same gender in Ukrainian;
 - ii. Or their gender will be determined categorically by the phonetic form of a noun. This would be observed by a high correlation between the form of the Ukrainian inflection and the phonetic form of the English noun.

II. With respect to agreement -

- (a) English nouns will appear less often in those constructions where agreement is required than unmixed Ukrainian nouns;
- (b) English nouns that do appear in structures with required agreement will show more non-standard marking than unmixed Ukrainian nouns.

III. In all contexts, there will be a higher incidence of non-standard marking exhibited by English nouns than by native Ukrainian nouns.

IV. English nouns will occur more often in base-generated positions than unmixed Ukrainian nouns, but at a rate similar to unmixed English nouns.

V. English nouns will show little if any full phonological assimilation.

VI. With respect to flagging -

- (a) There should be a higher incidence of production flags in the vicinity of English nouns code-switched word-internally, especially if CS resulted in non-standard marking;
- (b) English nouns should prefer different types of flagging than either Ukrainian or borrowed nouns;

- (c) There should be an increased incidence of demonstrative pronouns used in the vicinity of English nouns.

If English-origin nouns featuring an overt Ukrainian inflection and appearing in Ukrainian discourse are *borrowed*, it will be expected that:

VII. With respect to morphological marking -

- (a) They will feature all three grammatical genders, as do Ukrainian nouns, assigned on the basis of the same semantic and formal criteria as in unmixed Ukrainian.
- (b) The distribution of genders assigned to English-origin nouns will parallel that of native Ukrainian nouns.

VIII. With respect to agreement -

- (a) English-origin nouns will appear in syntactic structures requiring agreement at a rate parallel to that of their Ukrainian counterparts;
- (b) Rates of non-standard marking with respect to agreement will be parallel for English-origin and Ukrainian nouns.

IX. The overall correspondence of inflectional marking to the prescriptive rules of standard Ukrainian should be the same for English-origin and unmixed Ukrainian nouns.

X. Borrowed English-origin nouns will be overtly realized in their base-generated position as frequently as their unmixed Ukrainian counterparts, but less frequently than the unmixed English nouns.

XI. A considerable number of such English-origin nouns will exhibit full phonological assimilation.

XII. With respect to flagging -

- (a) The frequency of production 'flags' in the vicinity of English-origin nouns will be the same as in the vicinity of unmixed Ukrainian nouns;

- (b) They will co-occur with the same type of flagging with the similar frequency as will unmixed Ukrainian nouns;
- (c) The frequency of occurrence of demonstrative pronouns will be similar for English-origin and unmixed Ukrainian nouns.

4.6 Coding

To test these predictions, we have coded nouns in all corpora for a number of morphological, syntactic, phonological and discourse factors. Unmixed English nouns were coded only for those factors which were relevant to English grammar, and hence were possible to test.

4.6.1 Morphological factors

4.6.1.1 Variable marking

Every token with overt Ukrainian marking in both the English-origin and Ukrainian corpora was analyzed according to whether it is prescriptively marked according to Ukrainian grammar, i.e., whether its inflection corresponds to all Ukrainian requirements of case, number, gender, and agreement. Tokens marked in accordance with prescriptive grammar, such as, e.g., *consternacija* in (4.16), are referred to as *standardly* inflected. Non-prescriptively marked tokens, exemplified in (4.17) by *toolmakera*, which is overtly marked for Genitive, instead of the required Instrumental (i.e., *toolmakerom*), are referred to as *non-standardly* inflected.

4.16 Nu i počalasja taka malen'ka **consternacija**.
 Well, and started-fem.Refl such-F.Nom small-F.Nom consternation-F.Nom
 'Well, and such a small consternation has started'. (25/080)

4.17. **Toolmakera** vin buv. (18/062)
 Toolmaker-M.Gen he was-M
 'He was a toolmaker'.

4.6.1.2 Gender assignment

English-origin and Ukrainian nouns were coded for gender actually assigned, as assessed by the gender information conveyed by the Ukrainian inflection and gender agreement if available. Each gender constitutes a separate factor. For instance, *consternacija* in (4.16) was coded as *feminine* because of its overt feminine inflection *-ja*, and the feminine gender of its gender carriers: the verb *počalasja* ‘started’, demonstrative pronoun *taka* ‘such’ and the adjective *malen’ka* ‘small’. *Storu* in (4.18) was coded as *masculine* since it has a masculine genitive marker. *Parkovannja* in (4.19) was coded as *neuter* because of its neuter marking: *-CC-+ ja*, and neuter agreement with the modifier *ote* ‘that’ and predicate adjectives *najbil’she* ‘most’ and *osnovne* ‘main’.

- 4.18 To ty jdeš do storu des’ iskupytyjsja. (12/111)
Then you-sg go-2sg to store-M.Gen somewhere to-shop-Refl
‘Then you go somewhere to the store to shop’.

- 4.19 Pislja kil’ka hodyn jizdy uže perše j
After several hours-F.Gen driving-F.Gen already first-N.Nom and

najbil’she osnovne je ote parkovannja. (22/195)
most-N.Nom main-N.Nom is that-N.Nom parking-N.Nom

‘After several hours of driving, that parking is the first and the most important [thing]’.

If a Ukrainian inflection could be used by more than one gender in a particular case, and there was no gender agreement available to disambiguate it, the token was coded as ambiguous with respect to gender. This is exemplified in (4.20) by the English noun *corneri*, since the Ukrainian inflection, *-i*, is ambiguous as to gender in the locative.

- 4.20 I policej tam stojav na corneri [koneri:] v nočy.
And policeman-M.Nom there stood-M on corner-?-Loc in night-F.Loc
‘And the policeman was standing there at the corner at night’. (23/389)

Nouns overtly marked for plural without any clues as to their gender, as *drapesy* in (4.21), were also coded as ambiguous.

- 4.21 Ale šo vin robyt teper fa-- v tim u tij fabryci eh
 But that he works now fa-- in that-M.Loc in that-F.Loc factory-F.Loc eh

de materjaly na **drapesy** robljat. (10/232)
 where fabrics-Acc for drapes-Acc make-3pl

‘But now he is working in that- at that factory, eh, where they make fabric for drapes’.

4.6.1.3 *Phonetic form*

Since the phonetic form of the noun is the only information offered by English nouns relevant to the choice of a Ukrainian inflection, we coded English-origin and Ukrainian nouns according to the final segment in their citation form. English-origin nouns were coded prior to Ukrainian inflection, and Ukrainian nouns were coded according to their nominative singular form. In both corpora, nouns ending in a consonant (e.g., *corneri* in 4.20 and *drapesy* in 4.21) were coded as having a masculine-like form, since most Ukrainian masculine nouns have consonantal endings. Nouns ending in *-a*, *-ja* (i.e., typical feminine endings) were coded as having a feminine-like form (e.g., *sodu*, *sody* from *soda* in 4.22).

- 4.22 Vin tam prodavav **sodu**, vsjaki taki rody
 He there was-selling-M soda-F.Acc various-pl.Acc such-pl.Acc kinds-Acc

sody. (30/047)
 sodas-F.Gen

‘He was selling soda there, different kinds of soda’.

Nouns with typically neuter endings (i.e., *-o*, *-e*), were coded as having a neuter-like form (e.g., *piana*, *piany* from *piano* in 4.23).

- 4.23 Distav robotu tam de **piana** eh... struny robljat
 Got-M job-F.Acc there where pianos-Nom/Acc eh strings-Acc make-3p.pl

do **piany**. (19/154)
 for piano-F.Gen

‘[He] got a job where pianos eh... [they] make strings for a piano’.

All other nouns with non-typical Ukrainian gender endings (i.e., *-(j)u*, *-i*), were coded as having a non-Ukrainian form. Hence, *hosiera* in (4.24) was coded in this category since its final phonological segment in citation form is [i]¹⁶ (as in *hosiery*).

- 4.24 Tam bula eh *hosiera*, jak tut po-amerykans'ky kažuť, šo
 There was-F eh hosiery-F.Nom how here in-American say-3p.pl that
 pančochy vyrobljali. (03/308)
 stockings-Acc made-pl
 'It was, eh, a hosiery there, as they say here in American, where they made stockings'.

4.6.1.4 Animacy

We next distinguished *animate* from *inanimate* nouns, since the gender of animate nouns can be semantically determined based on the biological sex of the referent in both languages. Animate nouns are exemplified by *toolmakera* in (4.17), and inanimate nouns are represented by nouns like *consternacija* in (4.16), *corneri* in (4.20), and *drapesy* in (4.21).

4.6.2 Agreement

4.6.2.1 Required agreement

To test for eventual conflict between a noun and its agreeing elements, we coded all nouns according to whether they appear in constructions with required agreement or not. Nouns like *consternacija* in (4.16), *sody* in (4.22), and *hosiera* in (4.24), which must agree with their modifiers and/or predicates in gender, number and case, were coded as requiring agreement. Nouns like *storu* in (4.18) and *corneri* in (4.20) were coded as not needing to transfer gender/number/case information since they did not appear in modifier-noun structures.

¹⁶ The final segment [i] in citation form usually denotes plural in Ukrainian, which is indifferent to gender distinctions.

4.6.2.1 *Type of agreement*

To ensure that the occurrence of lone English-origin nouns in agreement constructions is not due to chance, we also coded nouns which participate in agreement according to the type of required agreement. Recall (Figure 4.2) that Ukrainian nouns must agree in gender, number and case with their modifiers, and in gender and/or number with their predicates. Nouns, like *renty* in (4.25), which have to agree only with their modifiers were coded as requiring *modifier* agreement.

- 4.25 Vony ne- nam ne platyly nijakoji **renty**, ničoho. (06/096)
 They not we-Dat not payed-pl none-F.Gen rent-F.Gen nothing
 ‘They not-- did not pay us any rent, nothing’.

Nouns occurring without modifiers, but which have to agree with their verbs or predicates (e.g., *unionija* in 4.26), were coded as participating in *predicate* agreement.

- 4.26 Ale tam bula **unionija** [junija]. (03/148)
 But there was-F union-F.Nom
 ‘But the was the Union there’.

Nouns like *consternacija* in (4.16) which appeared in the most complicated type of agreement, requiring a noun to agree with both modifier and predicate, were coded as requiring *modifier+predicate* agreement. Nouns like *corneri* in (4.20) and *drapesy* in (4.21), occurring in constructions with no required agreement, were excluded from this factor group.

4.6.3 Other factors

4.6.3.1 *Syntactic position*

We coded nouns in all three corpora with respect to their position in a clause. Since the surface realization of a clause can be the result of many different syntactic operations, either involving a noun or not, we will focus on the minimal projection within which that

noun was generated.¹⁷ Recall that a base-generated position is equivalent for both languages. Thus, a noun which occurred in subject position was coded as surfacing in a *base-generated* position if it preceded the predicate (like *toura* in 4.27). Direct object following the verb (e.g., *sodu* in 4.22), indirect object following direct object, and modifiers preceding the noun within a noun phrase (NP) (e.g., *sody* in 4.22) were all coded as a being realized in their original position, and hence *equivalent* in both languages. Subjects, like *hosiera* in (4.24), which followed the verb *to be* in existential constructions, as well as nouns in PPs occurring without modification, and following the preposition (like *corneri* in 4.20) were also coded as being realized in a base-generated position.

- 4.27 Cila **toura** jichala, tak. (01/041)
 Whole-F.Nom tour-F.Nom. went-F yes
 ‘The whole tour went, yes’

Nouns occurring in other positions, like *toolmakera* in (4.17), *living-roomu* in (4.28) and *apartmentiv* (4.29) were coded as being overtly realized in a position which does not correspond to their base-generated position on either side of a noun (irrespective of whether this resulted from movement of the noun itself, or some other element in the environment surrounding the noun).

- 4.28 A v **living-roomu** to lyšyly vse. (30/093)
 And in lining-room-M.Dat-? well left-pl all
 ‘And in the living room we left everything.’
- 4.29 Tam duže bahato je **apartmentiv** dorohych. (22/387)
 There very many is/are apartments-Gen expensive-pl.Gen
 ‘There are very many expensive apartments there’.

4.6.3.2 Pronunciation

English-origin nouns which exhibited considerable phonological changes when compared to their English counterpart, like *consternacija* in (4.16) and *unionija* in

¹⁷ Our discussion of a syntactic position is based on the premises of Government and Binding theory (see, e.g., Chomsky 1981).

(4.26), were coded as *fully phonologically assimilated*. All other nouns were coded as *comparatively unchanged*.¹⁸ These include nouns like *drapesy* in (4.21), *living-roomu* in (4.28), and *plasticu* in (4.30), whose pronunciation could have been a result of a 'foreign accent'.

- 4.30 Vin pracjuvav v tij fabryci **plasticu** [pljestuku]. (20/284)
 He worked-M in that-F.Loc factory-F.Loc plastic-M.Gen
 'He worked in that factory [producing] plastic'.

4.6.3.3 Flagging

We coded the entire corpora according to different types of flagging devices. Nouns accompanied by *meta-linguistic commentary* were coded as one factor. These are exemplified in (4.31) where the noun *comicy* is followed by the phrase *znajete so to je* 'do you know what that is?'. Other instances of metalinguistic speech include phrases like *znacyt'si* 'meaning', *jak kazaly v nas* 'as we used to say', *jak vony nazývajúť* 'as they call it', etc.

- 4.31 Prynosyla meni **comicy**, znajete šo to je? (34/075)
 Brought-F I-Dat comics know-3pl what that is
 '[She] was bringing me comics, do you know what that is?'

We also coded nouns accompanied by a *translation* or *explanation*, like *shifta* in (4.32), separately.

- 4.32 Ty robyš na den', i *znina* **shifta** [ʃɪxta] odyń
 You-sg work-2sg on day-M.Acc and shift-F.Nom shift-F.Nom one-M.Acc
 tyžden' na den', a dryhyj tyžden' na nič.
 week-M.Acc on day-M.Acc and second-M.Acc week-M.Acc on night-F.Acc
 'You work during the day, and the shift is a day shift one week, and a night shift the other week'. (03/132)

¹⁸ We do not refer to exact English phonetic characteristics as described in, e.g., Pullum & Ladusaw (1986). To this end, we would require special equipment. Moreover, monolingual English stretches produced by our speakers are often articulated with entirely Ukrainian sounds (e.g., Zilyns'kyj 1979).

Discourse phenomena were coded in two groups. The first group consists of nouns being marked with a *false start/hesitation*, like *departmenti* in (4.33). We also coded nouns like *helikopteriv* (4.34) in the same group, although the hesitation did not occur exactly on the noun itself.

4.33 Ja pracjuvala pry takim pensijnim depan-- **departmenti**. (20/301)
I worked-F at such-M.Loc pension-M.Loc depan-- department-M.Loc
'I work at such a retirement depan-- department'.

4.34 Robyly častyny do- do **helikopteriv**. (18/622)
made-pl parts-Acc for for helicopters-Gen
'[We] made parts for- for helicopters'.

The second discourse phenomena group includes tokens, like *petroliju* in (4.35), which were pronounced with an audible *pause* preceding the noun.

4.35 Čolovik pracjuvav pry tych zbirnykach... **petroliju**.
Husband-M.Nom worked-M at those-Loc storage-tanks-M.Loc petroleum-M.Gen
'My husband worked at those petroleum storage tanks'. (36/067)

Nouns with more than one 'flag' used simultaneously were coded as having *multiple* flagging. For example, *hosiera* in (4.24) is accompanied by a type of hesitation, i.e., *eh*, as well as metalinguistic commentary, *jak tut po-amerykans'ky kažut* 'as they say here in America'.

Nouns like *consternacija* in (4.16), *toura* in (4.27), *living-roomu* in (4.28), which occurred in smooth uninterrupted speech, were coded as having *no* flagging.

4.6.3.4 Demonstrative pronouns

We also coded nouns in the English-origin and Ukrainian corpora for the presence of a demonstrative pronoun, since it has been found that other language incorporations may also be accompanied by host language determiners or demonstrative pronouns when determiners are not the part of the host language lexicon (Poplack et al. 1987: 49-50). However, many demonstrative pronouns in our data co-occurred with nouns marked by the

types of flagging discussed above. For example in (4.36) the noun *sheety* is modified by the demonstrative pronoun *toj* ‘that’, as well as flagged by a pause and meta-linguistic speech (i.e., *jak vono toj* ‘how is it?’). We therefore had to code nouns for the presence of a demonstrative pronoun in a separate factor-group. Nouns accompanied by Ukrainian demonstrative pronouns like *toj* ‘that’ (exemplified in 4.36), *taka* ‘such’ (4.16), and *ote* ‘that-one’ (4.19), were coded as having a demonstrative pronoun.

- 4.36 Nu, dav *toj* **foreman** dav... *toj* **sheety**,
 Well gave-M that-M.Nom foreman-M.Nom gave-M that-M.Acc sheets-Acc

jak vono toj.
 how it that-M

 ‘Well, the foreman gave you those sheets, or how is it’. (12/285)

All other nouns were coded as having no demonstrative pronoun, as *living-roomu* in (4.28) and *apartmentiv* (4.29).

4.7 Results

Following our three-way comparative method (see chapter 3), we will compare lone English-origin nouns which occurred in Ukrainian discourse carrying an overt Ukrainian inflection with their exact counterparts in the unmixed Ukrainian data, i.e., nouns marked with an overt grammatical inflection. Unmixed English nouns are omitted in those cases where English grammar does not allow us to perform an adequate comparison with the other two corpora. When we do use these nouns, all unmixed English nouns are considered (irrespective of having an overt English inflection or not) for two reasons: 1) there were very few nouns in this corpus with overt English morphology; and 2) since English-origin nouns could have been code-switched or borrowed with or without English morphology, we needed to establish the pattern of behavior of unmixed English nouns in

general, and not just for nouns with overt English marking. Moreover, English-origin nouns themselves had very few English inflections prior to Ukrainian marking.¹⁹

Table 4.2. The correspondence of phonetic form of English-origin nouns to their assigned genders across corpora.

Assigned gender	PHONETIC FORM							
	Masculine-like		Feminine-like		Neuter-like		Non-Ukrainian	
	N	%	N	%	N	%	N	%
INANIMATE NOUNS								
Masculine	127	21	0	0	0	0	2	6
Feminine	258	42	14	88	0	0	26	84
Neuter	6	1	0	0	19	70	0	0
Ambiguous	219	36	2	12	8	30	3	10
TOTAL	611/686	89	16/686	2	27/686	4	31/686	5
ANIMATE NOUNS								
Masculine	59	51	0	0	0	0	0	0
Feminine	14	12	0	0	0	0	0	0
Neuter	0	0	0	0	0	0	0	0
Ambiguous	42	37	0	0	0	0	2	100
TOTAL	115/117	98	0/117	0	0/117	0	2/117	2

4.7.1 Morphological marking

We first examine the type of gender actually assigned to lone English-origin nouns with overt Ukrainian inflection, and the correlation between assigned gender and the phonetic form of an English-origin noun (see Table 4.2). First of all, note that 85% (686/803) of English-origin nouns in our corpus are inanimate nouns. If the language boundary does not constitute a barrier for transferring language-specific information, and these nouns are grammatically English, they should have been assigned neuter gender, by virtue of being English. However, only 4% of inanimate nouns (25/686) were unambiguously assigned neuter in Ukrainian. This suggests that 1) linguistic information specific to the donor language is blocked by the switch site, and hence, English gender is

¹⁹ There were only 5 tokens in English-origin corpus where nouns were inflected with Ukrainian and English inflections at the same time, e.g., *drape-s-y* in (4.21).

inaccessible to a Ukrainian inflection; or 2) English-origin nouns are assigned Ukrainian and not English gender.

Recall hypothesis Ib. If there is a barrier to transferring language specific information from one code to the other, two situations were predicted: i) all English-origin nouns should be allotted to the same, or default, gender; or ii) the phonetic form of English-origin nouns would categorically determine the form of the Ukrainian inflection. Table 4.2, however, confirms neither scenario: English-origin nouns are not clearly assigned to one gender, nor is there direct correlation between their phonetic form and the gender of the Ukrainian inflection. Contrary to scenario (i), English-origin inanimate nouns are assigned to all three genders in Ukrainian, and most of them appear with unambiguously feminine (43%), like *shopa* in (4.2), or masculine (19%) gender, like *storu* in (4.18), both alien to inanimate English nouns. The higher incidence of feminine gender in my data can be explained by the fact that masculine gender allows null inflectional marking,²⁰ while feminine is almost obligatorily overtly marked.

With respect to scenario (ii), note that most English-origin nouns resemble masculine nouns in Ukrainian, by virtue of ending in a consonant (i.e., 89% inanimate and 98% animate nouns). If phonetic form were the only criterion conditioning the form of the Ukrainian inflection, they should have been assigned masculine. Instead, most inanimate nouns unambiguously receive an overt feminine inflection (42%), like *shopa* in (4.2). This suggests that the phonetic form of an English-origin noun is not the only criterion for determining gender of the noun's inflection. Rather, as in Ukrainian gender is assigned according to a number of different criteria.

Nouns whose phonetic form corresponds to Ukrainian feminine or neuter are very rare in the English-origin corpus. They account for 2% and 4% respectively of the inanimate group, and are entirely absent from the animate group. For most of these nouns, gender assignment is correlated with form: 88% feminine and 70% neuter. Hence, they do

²⁰ Recall that nouns with null marking were excluded from this research, since it is limited to the study of word-internal code-switching, which by definition requires an overt other-language morphology.

Table 4.3. Distribution of actually assigned gender across corpora.

Assigned gender	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
INANIMATE NOUNS				
Masculine	381	24	129	19
Feminine	670	53	298	43
Neuter	175	14	27	4
Ambiguous	33	3	232	34
TOTAL	1259		686	
ANIMATE NOUNS				
Masculine	136	36	59	50
Feminine	115	30	14	12
Neuter	0	0	0	0
Ambiguous	129	34	44	38
TOTAL	380		117	

tentatively support hypothesis Ib(i). However, their number is so limited (N=16 and 27 versus 760) that this result may simply be due to chance. It is also possible that the phonetic form of these nouns coincided with the other criteria operating in Ukrainian, which assigned gender to such nouns.²¹ In fact, following Poplack et al. (1982) we examined gender of the Ukrainian translation for these nouns. Nine of 16 (56%) tokens with feminine-like phonetic form had feminine analogical gender (e.g., *sodu* from *soda* in (4.22) could have been substituted for (*solodka*) *vodyčka* ‘sweet water’, or *hazovana voda* ‘bubbling water’ in Ukrainian, both of which are feminine). All the other tokens (44%) had several translations of different genders, and hence it was not possible to predict definite analogical gender for such nouns. However, among the possible Ukrainian translations for such nouns, these were nouns with feminine gender as well. Similarly, English-origin nouns with neuter-like form had 67% (18/27) of definitely neuter Ukrainian counterparts, and the rest (33%) were ambiguous as to what gender their Ukrainian analog could have had. Thus, English-origin nouns with feminine- and neuter-like forms could

²¹ See Budzhak-Jones (1997) for the discussion of gender assignment to English-origin nouns in bilingual discourse.

have been assigned their gender either according to their phonetic form, or according to the gender of a Ukrainian translation.

To resolve the problem raised by the results in Table 4.2, we compared the distribution of assigned genders in the lone English-origin and unmixed Ukrainian corpora. If assignment to the various genders is parallel across corpora, choice of gender cannot be due to chance, but is the product of the application of the same gender assignment rules for all nouns irrespective of their etymological origin. Table 4.3 shows that assignment of genders to English-origin nouns exhibits a strikingly similar distribution to that of their unmixed Ukrainian counterparts. With the exception of ambiguous gender assignment,²² the hierarchy of genders assigned to inanimate nouns is exactly the same in both corpora, i.e., most overtly marked nouns are feminine (43% and 53%), followed by masculine and then neuter nouns. This obviously suggests that the distribution of genders in each corpus is subject to the same grammar.

The hierarchy is also preserved for animate nouns, although there is a greater proportion of masculine nouns in the English-origin corpus. Since animate nouns receive their gender semantically, this difference is likely due to differences in the referential context.

Based on the results in Tables 4.2 and 4.3, we infer that English-origin nouns with overt Ukrainian morphology neither retain their original gender (as predicted in hypothesis Ia), since Ukrainian inflections do not refer to it, nor do they differ from Ukrainian nouns (hypothesis Ib), since they neither exhibit the same gender, nor show any strategy based solely on the noun's phonetic form. On the contrary, Tables 4.2 and 4.3 show clear evidence that English-origin nouns are assigned gender in exactly the same way as it is assigned to their Ukrainian counterparts. Nouns in both corpora are distributed across

²² Since some English-origin nouns appear with overt Ukrainian inflections which can be featured by nouns of different genders (as discussed in the section on *coding*), and their gender was not possible to disambiguate (due to inherently absent gender for inanimate nouns in English, as well as absence of gender agreement), the incidence of ambiguous gender is much higher for English-origin nouns than for their monolingual Ukrainian counterparts.

different genders with very similar frequencies. This entails that gender assignment is governed by the same rules in both English-origin and Ukrainian data. Thus, with respect to noun-inflection conflict, lone English-origin nouns behave as if they are *borrowed* (as in hypotheses VIIa and VIIb).

4.7.2. Agreement

4.7.2.1 Required agreement

Contrary to hypothesis IIa, lone English-origin nouns do not avoid agreement structures (see Table 4.4). On the contrary, they occur in constructions requiring agreement (like *shopa* in 4.2) with strikingly similar frequency to their unmixed Ukrainian counterparts (45% versus 48% correspondingly), exhibiting, on this diagnostic as well, the behavior expected of borrowed nouns (as per hypothesis VIIIa). Furthermore, not only is the frequency of distribution the same with respect to agreement in both corpora, but more telling, the ratio of non-standard marking with respect to agreement structures displayed by lone English-origin nouns is also very similar to the one exhibited by unmixed Ukrainian nouns, confirming another prediction for BOR (hypothesis VIIIb), and rejecting the one for CS (hypothesis IIb). In fact, the incidence of non-standard marking in those constructions where agreement is required is identical in both corpora (i.e., 14% each). This suggests that English-origin nouns transfer gender, number, and case information expressed

Table 4.4. Distribution of nouns and their non-standard marking with respect to agreement structures.

AGREEMENT	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Required	787	48	363	45
Not required	852	52	440	55
NON-STANDARD MARKING				
Required agreement	108/787	14	52/363	14
Not required agreement	69/852	8	46/440	10

through agreement in exactly the same way as their unmixed Ukrainian counterparts. These results indicate that the link between the noun and its agreeing elements has been preserved and the necessary grammatical information has been delivered. This is important evidence that the lone English-origin nouns do not operate under the grammar of English, and subsequently switch to Ukrainian for their inflection.

4.7.2.2 *Type of agreement*

To ensure that the results in Table 4.4. are not a product of chance we examined the constructions with required agreement with respect to their type. Recall that a Ukrainian noun has to participate in two different types of agreement: modifier-noun agreement and noun-predicate agreement (see Figure 4.5). If the distribution of lone English-origin nouns occurring in the structures with required agreement is similar for nouns in both corpora with respect to each type of agreement, then it is less likely that lone English-origin nouns replicated the results of their Ukrainian counterparts in Table 4.4 merely by chance.

Table 4.5. Distribution of overtly inflected nouns with respect to a type of gender concord.

TYPE OF AGREEMENT	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Modifier	464	59	234	65
Predicate	184	23	76	21
Modifier+predicate	139	18	53	15
NON-STANDARD MARKING				
Modifier+predicate	27/139	19	9/53	17
Modifier	66/464	14	33/234	14
Predicate	15/184	8	10/76	13

The results in Table 4.5 are very convincing. First, not only do lone English-origin nouns occur in agreement structures as often as their unmixed Ukrainian counterparts, but they also appear in the same type of agreement constructions with similar frequency. Most nouns in both corpora participate in modifier-noun agreement, as *renty* in (4.25) (65%

English-origin, and 59% Ukrainian); and the least number of nouns occur in the most complicated type, modifier-noun-predicate agreement, like *shopa* in (4.2) (15% English-origin, and 18% Ukrainian). Second, not only are lone English-origin nouns realized in the same types of agreement structures, but the distribution of non-standard marking is also the same in every type of structure. When a noun has to agree in gender, number and case with both modifier and predicate, it shows the most non-standard marking in both corpora irrespective of the noun's etymology (17% English-origin, and 19% Ukrainian). Nouns which agree in gender, number and case only with their modifiers exhibit an identical frequency of non-standard marking (14% each). And nouns in agreement with predicates only (like *unionija* in 4.26), show the lowest rate of non-standard marking in both corpora (13% English-origin, and 8% Ukrainian). This is clear evidence that lone English origin nouns participate in agreement requirements in exactly the same way as do their unmixed Ukrainian counterparts.

Thus, the results in Tables 4.4 and 4.5 again refute our predictions for English-origin nouns code-switched within the word boundary, this time with respect to the diagnostic for agreement conflict. They neither avoid agreement structures, nor do they show a considerably higher occurrence of non-standard marking with respect to agreement. Instead, they display native-like behavior similar to unmixed Ukrainian nouns, not only by occurring in structures where agreement is required, but also by surfacing in the same type of agreement structures with the similar frequency, and exhibiting the same pattern of non-standard marking with respect to all these structures.

4.7.3 Overall inflectional variability

Next, we compare the overall correspondence of inflectional marking to the requirements of standard Ukrainian in both the unmixed Ukrainian and English-origin corpora. Recall that if English-origin nouns were code-switched word-internally, they should show an increased incidence of non-standard marking in general, since they would

be operating under English, and not Ukrainian, grammar. Contrary to this expectation (see hypothesis III), however, Table 4.6 shows that all nouns, irrespective of their etymology, exhibit almost identical proportions of non-standard marking (12% English-origin and 11% Ukrainian). Despite differences in language-specific features pertinent to Ukrainian and English, lone English-origin nouns with overt Ukrainian morphology participate in all grammatical operations required by Ukrainian grammar, and in precisely the same way as Ukrainian nouns. Eighty-eight percent of overtly marked English-origin nouns show standard Ukrainian morphology, just as 89% of their Ukrainian counterparts do. This striking similarity in inflectional variability is another important piece of evidence that English-origin nouns with overt Ukrainian morphology behave in a native-like manner, supporting hypothesis IX, that they are borrowed, and refuting hypothesis III, that they are code-switched.

Table 4.6. Distribution of Ukrainian inflectional marking across corpora.

UKRAINIAN INFLECTION	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Standard marking	1462	89	705	88
Non-standard marking	177	11	98	12

Thus, the predicted scenario for word-internal CS of English-origin nouns has failed to occur. Neither the results for gender assignment, nor agreement, nor overall inflectional marking support our expectations. English-origin nouns exhibit exactly the same behavior as native Ukrainian nouns with respect to the same linguistic factors, suggesting that all these nouns are produced by the same grammar, i.e., Ukrainian.

4.7.4 Syntactic position

If lone English-origin nouns with overt Ukrainian morphology are indeed the product of BOR, as shown in the two previous sections, then they will also occur in non-base-generated positions as frequently as their Ukrainian, but not their English counterparts

(as per hypotheses IV and X). Table 4.7 demonstrates that lone English-origin nouns are not restricted to their base-generated position, as they should if they were English, since unmixed English nouns appear in their original position 97% of the time. Instead, English-origin nouns are realized in base-generated position (like *helikopteriv* in 4.34), as frequently as their unmixed Ukrainian counterparts (65% and 62% correspondingly). Moreover, not only is their syntactic movement as free as it is in Ukrainian, but the distribution of non-standard marking with respect to different syntactic positions is also the same in the English-origin and Ukrainian data: 13% of English-origin nouns and 11% of Ukrainian nouns exhibit non-standard marking in base-generated position, and 11% of nouns in each corpus have non-standard marking in other positions. This is in sure contrast to unmixed English nouns, which exhibit non-standard marking only in base-generated position (9%).

Table 4.7. Distribution of nouns across corpora with respect to their syntactic position.

SYNTACTIC POSITION	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Base-generated	1012	62	518	65	169	97
Not base-generated	627	38	285	35	5	3
NON-STANDARD MARKING						
Base-generated	109/1012	11	67/518	13	15/169	9
Not base-generated	68/627	11	31/285	11	0/5	0

The results in Table 4.7 provide further evidence that lone English-origin nouns with overt Ukrainian morphology behave as if they were Ukrainian, but not English. With respect to syntactic position, they are not as restricted as unmixed English nouns, and are as free as their unmixed Ukrainian counterparts. This supports our hypothesis X in favor of BOR, and refutes hypothesis IV, predicted for nouns code-switched word-internally.

4.7.5 Pronunciation

Since English and Ukrainian differ with respect to their phonology, it is reasonable to anticipate that borrowed nouns will be more likely to change their original English phonemes in the immediate neighborhood of Ukrainian phonemes, whereas code-switched nouns may remain considerably unchanged in their English pronunciation more often (as per hypotheses V and XI). Table 4.8 shows that the majority of lone English-origin nouns with overt Ukrainian morphology (54%) underwent *full* phonological assimilation (like *shif**ta* [ʃɪxta] in 4.32). Forty-six percent of English-origin nouns retained their English pronunciation comparatively unchanged (like *shee**ty* in 4.36). These results again support our expectations for borrowed, but not for code-switched nouns.

Table 4.8. Pronunciation of lone English-origin nouns.

PRONUNCIATION	English-origin verbs in Ukrainian	
	N	%
Considerably changed	434/803	54
Comparatively unchanged	369/803	46

4.7.6 Flagging

4.7.6.1 Overall flagging

Our final evidence in determining the status of lone English-origin nouns with overt Ukrainian morphology comes from a discourse factor, flagging. We next check the possibility of more frequent flagging in the vicinity²³ of code-switched English-origin nouns, especially with respect to non-standard marking. Table 4.9 shows that English-origin nouns are flagged just as often as their Ukrainian counterparts (20% versus 17%),

²³ In the case of word-internal code-switching one should expect flagging either immediately preceding the noun, or between the noun and its inflection. However, the latter would result in breaking up the entity of a word. Furthermore, flagging never took place between a noun and its inflection in my data. Therefore, we refer to flagging in the vicinity of a code-switched noun, instead of specifying its actual place of occurrence.

but less than twice as frequently as unmixed English nouns (20% versus 43%). Furthermore, non-standard marking of English-origin nouns is flagged with the same frequency as it is in the unmixed Ukrainian data (22% versus 20%). Speaker awareness of non-standard marking, therefore, is the same for English-origin and Ukrainian nouns, irrespective of their etymology. This again refutes the claim that some English-origin nouns in our data are code-switched, since there is no increase in production ‘flags’ in their vicinity (see hypothesis XIIa). Instead, it supports our expectations for borrowed nouns (i.e., hypothesis VIa) since all nouns in both corpora are flagged with the same frequency, irrespective of being standardly marked.

Table 4.9. Distribution of ‘flagging’ across all corpora.

FLAGGED	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
All nouns	275/1639	17	158/803	20	74/174	43
Non-standard only	35/177	20	22/98	22	4/15	27

4.7.6.2 *Types of flagging*

We next examine the type of flagging devices used in each corpus. Table 4.10 shows that English-origin nouns occur most often in the vicinity of some kind of discourse phenomena (51%), as do unmixed Ukrainian nouns (59%). With the exception of reported speech, the hierarchy of different types of flagging is the same between the two corpora. Moreover, non-standard marking of English-origin and Ukrainian nouns is flagged by the same devices and in a similar fashion: most non-standardly marked nouns are preceded by discourse phenomena (45% and 69% correspondingly), and the rest of non-standard marking are flagged meta-linguistic commentaries (32% and 14%), or by more than one ‘flag’ simultaneously (23% and 14%). Unlike English-origin and Ukrainian nouns, unmixed English tokens occur most often as a part of reported speech (41%) or are

accompanied by meta-linguistic commentaries (31%). And, the very few flagged tokens with non-standard marking are accompanied mostly by meta-linguistic speech alone (75%).

The results in Table 4.10 suggest that speakers treat lone English-origin nouns with overt Ukrainian morphology similarly to native Ukrainian nouns, not only with respect to the types of flagging used in both corpora, but also with respect to flagging their variable marking. This supports our predictions for lone English-origin nouns as borrowed (hypothesis VIb), and rejects the ones for nouns code-switched word-internally (i.e., hypothesis XIIb).

Table 4.10. Distribution of nouns across corpora with respect to different types of flagging.

ALL NOUNS	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Discourse phenomena ²⁴	162	59	81	51	20	27
Meta-linguistic speech ²⁵	35	13	46	29	23	31
Multiple flagging	19	7	27	17	1	1
Reported speech	59	21	4	3	30	41
NON-STANDARD MARKING						
Discourse phenomena	24	69	10	45	0	0
Meta-linguistic speech	5	14	7	32	3	75
Multiple flagging	5	14	5	23	0	0
Reported speech	1	3	0	0	1	25

4.7.6.3 *Demonstrative pronouns*

We finally checked whether there is any preponderance in demonstrative pronoun usage in the vicinity of lone English-origin nouns. It has been shown by Poplack et al. (1987: 50) that CSs may be ‘flagged’ by determiners or demonstrative pronouns if the former are missing in the recipient language. There are no determiners in Ukrainian, but there are a variety of demonstrative pronouns. If lone English-origin nouns are the product

²⁴ We combined pause and false start since they were similarly distributed across corpora and they represent the same phenomenon.

²⁵ We combined meta-linguistic speech with ‘translation/explanation’ since there were limited instances of these types of ‘flags’ in both corpora.

of word-internal CS, there should be a notably increased number of demonstrative pronouns in the vicinity of such nouns. Table 4.11, however, shows the opposite. The occurrence of demonstrative pronouns is equally frequent in both corpora, irrespective of their etymology (16% English-origin, 11% Ukrainian). Furthermore, nouns with non-standard marking are accompanied by demonstrative pronouns with the same frequency in both corpora, as well (11% English-origin, 14% Ukrainian). This suggests that demonstrative pronouns fulfill the same role in the English-origin corpus as they do in the unmixed Ukrainian data. Hence, they are not used as a flagging device to signal material from another language, providing one more piece of evidence that lone English-origin nouns with overt Ukrainian morphology are not produced by CS within word boundaries. This obviously refutes our hypothesis for lone English-origin nouns as code-switched (i.e., hypothesis VIc), and supports our predictions for borrowed nouns (i.e., hypothesis XIIc).

Table 4.11. Distribution of Ukrainian demonstrative pronouns across corpora.

DEMONSTRATIVE PRONOUN	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
All nouns	178/1639	11	129/803	16
Non-standard only	25/178	14	14/129	11

4.7.7 Potential word-internal code-switches?

For the sake of the argument we examined those overtly marked English-origin tokens which could be considered ‘potential’ word-internal CSs – nouns with a masculine-like form and overt neuter agreement, as per hypothesis I(a). Recall that there were only 6 such tokens (see Table 4.2). All of them were standardly marked according to Ukrainian grammar. None exhibited English inflectional marking. All appeared in smooth speech. Four out of six (67%) occurred at a base-generated position, similarly to unmixed

Ukrainian, but not English, nouns (see Table 4.7). And only one of them was accompanied by a demonstrative pronoun. Thus, these ‘potential’ CSs did not pattern any differently from other overtly marked tokens, either English-origin or unmixed Ukrainian. Hence, we conclude that overtly marked English-origin tokens with original masculine-like form and assigned neuter gender can only be borrowings.

4.8 Summary

Based on the morpho-syntactic features of Ukrainian and English we have illustrated that lone English-origin nouns with overt Ukrainian morphology did not retain their original English properties. Instead, they have acquired the properties of the recipient language. Furthermore, not only were they variably inflected with Ukrainian morphology, but this inflectional variability was parallel to that of their Ukrainian counterparts. The choice of a Ukrainian inflection, based on gender assignment, was conditioned in the same way by the English-origin nouns as it was by native Ukrainian nouns. English-origin nouns transferred gender/number/case information through modifier-noun and noun-predicate agreement as precisely as unmixed Ukrainian nouns. The overall correspondence of overt inflectional marking to the requirements of standard Ukrainian was the same for all nouns irrespective of their etymology. They were not restricted to base-generated position like unmixed English nouns. And, a large number of overtly marked English-origin nouns were fully phonologically assimilated. Finally, additional evidence was provided by the discourse factor of ‘flagging’, showing that there was no significant increase in the production of flagging devices of any kind in the vicinity of the overtly marked English-origin nouns in our corpus. Hence, English-origin nouns with overt Ukrainian morphology were not different from Ukrainian nouns in any respect considered. Thus, we found no evidence for word-internal CS of lone English-origin items in our Ukrainian-English bilingual data, and therefore conclude that the English-origin nouns with overt Ukrainian morphology in our data are borrowed.

Chapter 5

BARE NOUNS**5.1 Introduction**

It was mentioned in the previous chapter that nouns without overt Ukrainian marking (henceforth *bare*), like *ambulance* in (5.1), might be produced either by Ukrainian or English grammar, since in English most nouns are bare, and in Ukrainian, nouns *can* be bare under certain conditions (see section 4.2).

- 5.1 Joho **ambulance** vzjav do špytalju. (18/245)
 Him ambulance-M.Nom took-M.sg to hospital-M.Gen
 ‘An ambulance took him to the hospital’.

However, if a noun, like *ambulance* in (5.1), occurring within a Ukrainian clause is the product of Ukrainian grammar, it would be expected to fulfill the functions required from that noun in Ukrainian. That is, it has to convert case, number and gender information into a single fused form (either overt or null), and then transfer this ‘triple’ information of gender/number/case overtly to its agreeing elements (as shown earlier in Figure 4.2). In the previous chapter we demonstrated that lone English-origin nouns with *overt* Ukrainian morphology participated in these rules in exactly the same way as did their unmixed Ukrainian counterparts. Will the nouns without overt Ukrainian marking also participate in the same requirements? Or, are they simply code-switches to English at word level? In this chapter we will try to determine the status of such nouns as CS or BOR, based on our three-way comparative method (see Chapter 3) and the diagnostics developed in Chapter 4.

5.2 Code-Switching Versus Borrowing**5.2.1 Null marked Ukrainian nouns**

It is first necessary to define what circumstances allow nouns to surface bare in Ukrainian. This is usually a structural case, i.e., nominative and accusative, of nouns

which are unmarked for gender and number. Specifically, all masculine singular nouns in the nominative (like *čolovik* ‘husband’ in 5.2), and inanimate masculine singular nouns in the accusative (like *den* ‘day’ in 5.3) have no grammatical affixes.

- 5.2 Jiji *čolovik* buv **auto dealer** [auto di:ljer]. (18/233)
 Her husband-M.Nom was-M auto dealer-Ø
 ‘Her husband was an auto dealer’.

A small group of inanimate feminine nouns of declension III can also surface bare at structural cases. These are exemplified by *nič* ‘night’ in (5.3).

- 5.3 Ja ne mala času, bo ja-ja robyla... na *nič*, a v
 I not had-F time-M.Gen because I- I worked-F at night-F.Acc and at

den’ to vže treba bulo tak: i popraty, i šos’
 day-M.Acc it already it-necessary was-N this and wash-Inf and something

 jisty zhotovyty.
 eat-Inf prepare-Inf

 ‘I did not have time, because I worked at night, and during the daytime it was
 necessary to do something like to wash or to cook’. (12/220)

Sometimes, feminine and neuter plural nouns may omit their overt gender marking to mark genitive. For example, in (5.4) the feminine marker *-a* of the noun *hodyn-a* ‘hour’ has been dropped to form plural genitive (i.e., *hodyn* ‘hours’).

- 5.4¹ Pislja kil’ka *hodyn* jizdy uže perše j
 After several hours-F.Gen driving-F.Gen already first-N.Nom and

 najbil’še osnovne je ote **parkovannja**. (22/195)
 most-N.Nom main-N.Nom is that-N.Nom parking-N.Nom

 ‘After several hours of driving, that parking is the first and the most important
 [thing]’.

However, such changes in the original form of a feminine or neuter noun are usually accompanied by a change of the root vowel or the insertion of an epenthetic vowel preceding the final consonant in the stem. In (5.5) for example, the neuter noun *sliv*

¹ This is a repeated example (4.19).

‘words’ has no neuter marker (-o), and its root vowel has been changed from [o] to [i], *slov-o* ‘word’ transformed into *sliv* ‘words’. Since most such nouns in the plural genitive require the omission of the final vowel of their citation form, and usually require phonological changes in the stem, we will not consider bare English-origin nouns in this respect. The bare form of English-origin nouns with no changes in their citation form is therefore not comparable with Ukrainian plural genitive.

- 5.5² Ti dvi movy lyš majut’ bahato podobnykh *sliv*. (15/380)
 Those two-F languages-F only have-3pl many similar-pl.Gen words-Gen
 ‘Those two languages only have many similar words’.

Despite having no overt inflection, a bare Ukrainian noun does transfer gender, number and case information to its agreeing elements (modifiers and/or predicates), which are always overtly marked in Ukrainian. For example, *čolovik* ‘husband’ in (5.2) agrees with the predicate *buv* ‘was’ in masculine singular, and *zakrut.* ‘turn’ in (5.6) agrees with its modifier *ostrýj* ‘sharp’ in masculine singular nominative.

- 5.6 Tam pivtora kilometra pered holovnym dvircem
 There one+half kilometer-M.Gen before main-M.Ins railway-station-M.Ins
 je ostrýj *zakrut.* (08/010)
 is sharp-M.Nom turn-M.Nom

‘There is a sharp turn one and a half kilometer from the main railway station’.

5.2.2 Null marked English-origin nouns

Thus, if a lone English-origin noun with null Ukrainian marking is produced by Ukrainian grammar it will only appear in certain positions, and it should be able to transfer gender, number and case information to its agreeing elements. However, if such a noun is a product of English grammar, it will not be restricted to singular nominative and accusative, and it will not be able to pass on gender/number/case information in the same

² This is a repeated example (4.4).

way (i.e., overtly) as a Ukrainian noun would.³ This may be observed by 1) an increased incidence of non-standard marking of English nouns in Ukrainian discourse (i.e., failing to be marked according to their position), and 2) avoiding Ukrainian constructions where agreement is required. Furthermore, if English nouns do occur in structures with overt agreement, they may fail to deliver this information as required more often than do nouns produced by Ukrainian. This may cause confusion between agreeing elements, when there are more than one element to agree, again resulting in a higher rate of non-standard marking in constructions with required agreement.

Recall that agreement consists of three categories: gender, number and case. A Ukrainian agreeing element must always be overtly marked for all of them in case of modifiers, or for gender and number in case of predicates (see the discussion in the previous chapter, Figure 4.2). Moreover, this ‘triple’ or ‘double’ grammatical information is received from a noun. However, an English noun does not have grammatical gender,⁴ nor can it transfer overt agreement information to the agreeing element. Therefore, this situation may result in the following:

I. If a switch site does not constitute a barrier for language specific information (see Figure 3.2a) the following scenarios might be observed:

a) All inanimate English nouns should be rendered as neuter by Ukrainian agreeing elements, since this is the gender they would have in English. All animate nouns will be marked according to their semantic gender. But since the gender of animate nouns can also be semantically determined in Ukrainian, we will focus only on inanimate nouns in this respect;

b) English nouns retaining their English plural marking should be rendered as plural through overt Ukrainian plural agreement.

³ See Beard (1995) for the discussion of overt and covert agreement percolation from a noun to its dependent elements.

⁴ See Chapter 4 for discussion of grammatical gender in English and Ukrainian.

II. If a switch site is a barrier for language-specific information (e.g., gender marking), then we may expect the following:

a) With respect to gender marking, all English nouns will have their modifiers and/or predicates marked for a default gender in singular (probably masculine);⁵

b) It is also possible that English nouns will be treated by Ukrainian agreeing elements according to the noun's phonetic form (as discussed in Chapter 4 for overtly marked nouns), resulting in a direct correlation between the gender of a Ukrainian modifier/predicate and the noun's form.

c) With respect to number marking, nouns with English plural inflection may be treated as singular.

The latter three scenarios, however, will not render clear results in our data. The arguments with respect to gender are circular because 1) most Ukrainian nouns with null marking are masculine, which coincides with the default gender; and 2) since most English nouns (as illustrated in the previous Chapter, Table 4.2) have a masculine-like form in Ukrainian by virtue of ending in a consonant, it is impossible to test whether the masculine gender of agreeing elements was simply conditioned by the phonetic form of a noun, or actually assigned to a noun. The arguments with respect to number are also circular when we invoke the notion of a 'barrier'. A borrowed noun should be treated grammatically as unmarked for number (i.e., singular), irrespective of having English *-(e)s* plural marker; and if the switch site constitutes a barrier, then a code-switched noun will also be treated as an unmarked form, i.e., singular.⁶

To resolve this dilemma we will proceed by process of elimination, and rely on other factors: i.e., syntax, pronunciation, and flagging.⁷ We will first identify those nouns

⁵ The citation form for all parts of speech of adjectival form in Ukrainian is masculine (see, e.g., Bilodid 1977, or Mel'nyčuk 1985). To predict the default form for verbs is more complicated since their citation form is an infinitive. But we assume that verbs in past (which require gender marking) will be marked for masculine as well, by analogy with adjectives.

⁶ Unlike gender, number information can be obtained semantically, i.e., without reference to the noun. Hence, we should distinguish between number *information* and number *marking*, since the former is universal, and the latter language-specific.

⁷ See also Chapter 4 for a detailed discussion of each additional factor.

which are most likely to be the product of English. They will probably include nouns retaining their English morphology,⁸ occurring at equivalent sites, and flagged by meta-linguistic commentaries interrupting the speech flow. We will then examine this group of CS candidates with respect to their rate of non-standard marking in Ukrainian in general, and with respect to agreement in particular, their frequency of occurrence in a base-generated position, and the frequency and types of flagging used in their vicinity. If CS candidates show: i) a considerably higher rate of non-standard null marking with respect to Ukrainian, especially in those structures where agreement is required; ii) retain their English morphology; iii) surface in the base-generated position most frequently; and iv) prefer the same type of flagging as unambiguous CSs, we will consider these nouns as most likely the product of CS.

All other nouns in the English-origin corpus, i.e., non-candidates for CS, will be also scrutinized in a similar manner with respect to these same factors. If such nouns are also code-switched, they will show the same results as the group of CS candidates and unambiguous CSs. However, if these nouns are borrowed, they will: i) show less non-standard marking, especially with respect to agreement, ii) appear less frequently in the base-generated position, and iv) occur less flagged than the code-switched nouns, and similar to unmixed Ukrainian nouns, using the same types of flagging to a similar extent. If their rates with respect to these factors will be higher than those of unmixed Ukrainian nouns, but the hierarchies of effect will remain the same across all factors, we will consider such nouns to be less well-integrated borrowings.

In addition, we will examine whether bare nouns, both candidates or non-candidates for CS, occur more frequently in the vicinity of Ukrainian demonstrative

⁸ They may also retain their English pronunciation. However, since our speakers have a heavy 'foreign accent' it was impossible to determine whether phonological adaptation of English phonemes to Ukrainian ones was a result of this accent speaking English, or phonological assimilation in the process of borrowing. None of bare English-origin nouns showed full phonological assimilation, as discussed in the previous chapter. We therefore did not consider phonological assimilation as one of the criteria in determining the status of bare English-origin items (see also Chapter 3).

pronouns.⁹ Since English nouns usually require determiners, generated in the position preceding the noun, while Ukrainian lacks such determiners, it is possible that Ukrainian demonstrative pronouns will be used to fulfill the role of determiners required in English. The appearance of a Ukrainian demonstrative pronoun will not only call attention to the noun following it, but will also ‘construct’ a bridge between Ukrainian and English structure. Since demonstrative pronouns are also generated in the position preceding the noun in both languages, similar to English determiners, this will make the following position equivalent in both languages. Therefore, it is expected that bare English-origin nouns which are code-switched will exhibit a considerably higher incidence of demonstrative pronouns in their vicinity than unmixed Ukrainian nouns. Bare nouns that are borrowed will not show this tendency, but instead will exhibit a similar rate of demonstrative pronouns to their unmixed Ukrainian counterparts.

5.3 Predictions

Based on the diagnostics developed in the previous section, we hypothesize that if lone English-origin nouns with overt Ukrainian inflection occurring in an otherwise Ukrainian context are *code-switched*, they will exhibit the following behavior:

- I. They will not be restricted to specific null marked positions in Ukrainian, but will occur in other positions as well, resulting in a high incidence of non-standard null marking according to Ukrainian grammar.
- II. With respect to agreement –
 - (a) There will be fewer bare English nouns in those constructions where agreement is required than in the unmixed Ukrainian corpus;
 - (b) The rate of non-standard marking in agreement-required positions exhibited by English nouns will be higher than that for native Ukrainian nouns.

⁹ See also Chapter 4 for discussion.

III. With respect to gender assignment –

- (a) If a switch site is not a barrier for language-specific information then all inanimate English nouns will occur with neuter gender agreement in Ukrainian;
- (b) If a switch site constitutes a barrier for transferring language-specific information from one code to the other, it can be expected that:
 - i. All English-origin nouns will be assigned to the same (default) gender in Ukrainian;
 - ii. There will be a direct correlation between the phonetic form of a noun and its assigned gender.

IV. Nouns with overt English plural marking will be accompanied by plural Ukrainian concord.

V. English nouns will occur more often in base-generated position than unmixed Ukrainian nouns, but similarly to unmixed English nouns.

VI. With respect to flagging -

- (a) There will be a higher incidence of production flags in the vicinity of code-switched nouns, especially if CS resulted in non-standard marking;
- (b) Demonstrative pronouns will accompany English nouns more often than unmixed Ukrainian nouns.

If English-origin nouns with null Ukrainian inflection occurring in otherwise Ukrainian discourse are *borrowed*, it is expected that:

VII. Their surface realization will be restricted to those positions where null marking is allowed in Ukrainian, and hence result in a similar ratio of non-standard marking to that in the unmixed Ukrainian data.

VIII. With respect to agreement –

- (a) Such nouns will not avoid agreement structures, and will appear in positions requiring agreement at a rate parallel to that of their Ukrainian counterparts;
- (b) Rates of non-standard marking with respect to agreement will be parallel for English-origin and Ukrainian nouns;
- (c) The distribution of genders assigned to English-origin nouns as evidenced by agreement, will parallel that of native Ukrainian nouns.

IX. Borrowed English-origin nouns will be restricted to their base-generated position to the same extent as unmixed Ukrainian, but will be less restricted than unmixed English nouns.

XII. With respect to flagging –

- (a) The frequency and the type of production ‘flags’ in the vicinity of English-origin nouns will be the same as in the vicinity of unmixed Ukrainian nouns;
- (b) The distribution of demonstrative pronouns in the vicinity of borrowed nouns will be the same as in the unmixed Ukrainian data.

5.4 Coding

To test these predictions, we have coded nouns in all corpora for a number of morphological, syntactic, and discourse factors. Unmixed English and unambiguously code-switched nouns were coded only for those factors which were relevant to English grammar.

5.4.1 Factors relevant to morphological marking

5.4.1.1 *Variable Ukrainian null marking*

We first coded each bare noun (i.e., without an overt Ukrainian inflection) in both the English-origin and Ukrainian corpora according to whether it was prescriptively null marked with respect to Ukrainian grammar. A noun which occurred in a position where

null marking is allowed in Ukrainian, and which had a phonological form which did not violate agreement requirements, was referred to as *standardly* null marked. For example, *groundhog* in (5.7) was coded as standard, since it occurs in the singular nominative and its predicate *bih* ‘ran’ is marked for masculine, which coincides with the masculine-like form of the noun.

- 5.7 Sjohodni toj **groundhog** bih, to toj
 Today that-M.Nom groundhog-M.Nom ran-M it that-M.Nom
- bursuk po-ukrajins’ky. (10/122)
 badger-M.Nom in-Ukrainian

‘That groundhog was running today, it is the badger in Ukrainian’.

Nouns which occurred without a Ukrainian inflection, but should have been overtly marked according to standard Ukrainian requirements, were coded as being *non-standardly* null marked. For example, *mop* and *store* in (5.8) are in a position where an overt genitive marker was required, as assigned by the preposition *vidnosno* ‘as to’, but both nouns remained bare.

- 5.8 Tak samo jak ja skazav vidnosno **mop** č-- čy... **store.** (11/317)
 so same as I said-M as-to mop-Ø or... store-Ø
 ‘It is similar to what I said about a mop o-- or... a store’.

Recall that some feminine nouns (i.e., declension III) may also be null marked in Ukrainian. This created a problem for coding English-origin inanimate nouns like *high school* in (5.9), with a typically masculine-like form and feminine agreement. If these were feminine nouns of declension III, then their null marking was standard. However, if they failed to exhibit an overt feminine marker, then they were non-standardly marked. To solve this dilemma, we did the following calculations. Since Ukrainian feminine nouns of declension III are quite rare (see Chapter 4 for details), we first examined these nouns in the unmixed Ukrainian corpus. There were 32 feminine nouns of declension III in our unmixed Ukrainian data (less than 2% of the entire data). Seventy-eight percent of them

were *overtly* marked for other cases, and only 22% occurred bare in nominative/accusative cases. None of the English-origin nouns with feminine agreement exhibited the same conjugation as Ukrainian nouns of declension III. This suggests that it is very unlikely that any English-origin nouns with a masculine-like form and feminine agreement are nouns of declension III. Moreover, since most Ukrainian feminine nouns belong to declension I, requiring an overt feminine marker (95% = 632/670 inanimate nouns), we considered bare English-origin nouns with a masculine-like form which appeared with feminine concord, like *high school* in (5.9), as non-standardly null marked.

- 5.9 Pišla do duže, duže takoji **exclusivnoji** **high school** v
 Went-F to very very such-F.Gen exclusive-F.Gen high school-Ø in
 Filadelfiji. (20/173)
 Philadelphia-F.Loc

‘[She] went to such a very, very exclusive high school in Philadelphia’.

Nouns realized as part of a participial construction can be variably marked in Ukrainian (e.g., Rusanivs’kyj et al. 1991), i.e., sometimes they are required to be overtly marked for instrumental, and sometimes they may be in the nominative. For our project, we followed Ivcenko’s observation (1965: 395) that nouns having constant interpretation should be marked as nominative, whereas nouns implying temporary reference should be marked as instrumental (which is always overt in Ukrainian). Therefore, nouns like *lawyer*¹⁰ in (5.10) were coded as standardly marked, since they are used in the present denoting a continual (i.e., constant) idea. Nouns like *welder* in (5.11) were coded as non-standardly marked, since they are used in past and refer to a temporary event. Hence, *welder* in (5.11) should have been overtly marked for instrumental (i.e., *welder-om*).

- 5.10 Vona je **lawyer**, ale u- u školi. (30/040)
 She is/are lawyer-M/F.Nom but in in school-F.Loc

¹⁰ Although *lawyer* is not overtly marked for feminine in agreement with the pronoun *vona* ‘she’ we coded it as standardly marked since in standard Ukrainian animate nouns themselves do not necessarily have to be overtly marked for gender. It is their agreeing elements which must be overtly marked according to semantic gender.

‘She is a lawyer, but at school’.

- 5.11 Vin buv **welder**. (12/195)
 He was-M welder-Ø
 ‘He was a welder’.

Nouns like *apartment* in (5.12) which have mixed agreement, i.e., its verb *buv* ‘was’ is masculine, but its modifier *čystoju* ‘clean’ is feminine, were also coded as non-standard. So were nouns like *story* in (5.13). Although it does not have an overt Ukrainian inflection, it ends in [i], the typical ending for Ukrainian plural nouns in the nominative and accusative. Moreover, its modifier *ti* ‘those’ is also marked for plural which could have been a standard combination in Ukrainian. However, its predicate and the other adjectives are marked for singular neuter, resulting in non-agreement.

- 5.12 Duze ne čystoju... **apartment** buv. (23/294)
 Very not clean-F.Ins apartment-Ø was-M
 ‘The apartment was very dirty’.
- 5.13 Kolys’ bulo starše harniše ti **story**. (03/397)
 Formerly was-N older-N.Nom better-N.Nom those-pl.Nom story-pl.Nom
 ‘Earlier those older stories were better’.

We also coded nouns like *benefits* in (5.14) as being non-standardly null marked with respect to Ukrainian grammar, since their modifier *dobri* ‘good’ is overtly marked for plural, but the noun itself lacks an overt Ukrainian plural marker.

- 5.14 Ja maju duže dobri **benefits**. (20/306)
 I have-1sg very good-pl.Acc benefits-Ø
 ‘I have very good benefits’.

5.4.1.2 *English plural marking*¹¹

English-origin nouns which had an English plural *-s* marker, like *benefits* in (5.14), were coded as having an overt *English* inflection. Nouns which did not have any

¹¹ We have not considered English overt case marking, since there were only three tokens in the English-origin corpus. And they were ambiguous as to whether they denoted plural, possessive or both (as in *lady’s room*, versus *ladies’ room*).

English inflection, like *apartment* in (5.12), or *story* in (5.13), were coded as having null English marking.

5.4.1.3 Agreement

We next coded nouns as to whether or not they participated in agreement structures. Nouns like *apartment* in (5.12), or like *benefits* in (5.14), which have to agree in gender, number and/or case with their agreeing elements, were coded as occurring in a position with *required agreement*. Nouns, like *mop* and *store* in (5.8), which were realized in a position where no agreement was necessary, were coded as '*agreement not required*'.

5.4.1.4 Gender of agreeing elements

In this factor-group we coded nouns according to the gender featured by their agreeing elements. English-origin nouns, like *high school* in (5.15), whose modifiers and/or predicate were overtly marked for masculine (usually -*yy*, -(*j*)*ij*, -*v* affixes¹²), were coded as having *masculine* agreement.

- 5.15 To buy znov chlopjacyj **high school** tak samo jak toj
 It was-M again boy's-M.Nom high school-M.Nom so similar as
 toj divočyj. (20/191)
 that-M.Nom girl's-M.Nom

'Again, that was a high school for boys similar to the one for girls'.

Nouns like *high school* in (5.9), or *trolley* in (5.16), whose modifiers and/predicates were marked for feminine, usually featuring -(*j*)*a*, were coded as having *feminine* agreement.

- 5.16 A **trolley** jšla. (12/345)
 And trolley-Ø went-F

¹² Suffixes -*yy*, -(*j*)*ij* imply nominative/accusative marking. In other cases different markers are used (see the corresponding chapters for details on adjectival and verbal marking).

‘Well, the trolley went [there]’.

Nouns with *neuter* agreement, like *bungalow* in (5.17), were coded correspondingly. Their modifiers were usually inflected with *-e* (i.e., singular nominative and accusative), and their predicates had the ending *-o*.

- 5.17 Naše perše misce tam je take
Our-N.Nom first-N.Nom place-N.Nom there is such-N.Nom

bungalow [bungalɔ]. (18/548)
bungalow-N.Nom

‘There is such a bungalow there, our first place’.

Nouns with Ukrainian plural concord, usually marked by the endings *-i*, *-y*, were coded as having plural agreement, since gender is not distinguished in the plural. These nouns are exemplified by *benefits* in (5.14) and *show* in (5.18).

- 5.18 Ta vsiljaki časom show je dobri. (06/159)
Well various-pl.Nom sometimes show-Ø is/are good-pl.Nom
‘Well, sometimes there are different good shows’.

If a noun (like *apartment* in 5.12, or *story* in 5.13) had more than one agreeing element and mixed agreement (as described in section 5.2.1), we coded it as having *ambiguous* agreement. A noun realized in a position where no agreement was required, like *mop* or *store* in (5.8), was excluded from this factor group.

5.4.1.5 *Phonetic form*

Like nouns with overt marking, we also coded bare nouns for their phonetic form. Nouns ending in a consonant, e.g., *ambulance* in (5.1), *high school* in (5.15), were coded as having masculine-like form, since most Ukrainian masculine nouns have consonantal endings. Tokens ending in [j], like *driveway* in (5.19), were coded in the same group, since Ukrainian nouns ending in *-j* (e.g., *kraj* ‘countryside’) also have masculine gender (but they are very infrequent).

- 5.19 Pozadi bulo takyj šyrokyj driveway. (10/281)
 Behind was-N such-M.Nom wide-M.Nom driveway-Ø
 ‘There was such a wide driveway behind [it]’.

Nouns ending in [a], [ja], i.e., typical feminine endings, were coded as having a feminine-like form (e.g., *replica* in 5.20).

- 5.20 To taka replica takoji toji sukonky. (17/170)
 It such-F.Nom replica-F.Nom such-F.Gen that-F.Gen dress-F.Gen
 ‘And it was such a replica of that dress’.

Nouns with final vowel [o] or [e], i.e., typically neuter Ukrainian endings, were coded as having a neuter-like form. The noun *bungalow* in (5.17) was coded in this group, since it was pronounced as [bungalɔ]. Nouns ending in [i], [u], [ju], i.e., non-typical citation endings in Ukrainian, were coded as having *ambiguous* phonetic form with respect to Ukrainian grammar. These are exemplified by *story* in (5.13) and *barbecue* in (5.21).

- 5.21 A v nedilju to robyly smo toj barbecue... eh
 And in Sunday-F.Acc it did-pl Refl.clitic-1pl that-M.Acc barbecue-Ø eh
 v garažu. (10/245)
 in garage-M.Dat
 ‘And on Sunday we had that barbecue... eh, in the garage’.

5.4.1.6 Animacy

We also distinguished *animate* from *inanimate* nouns, since the gender of animate nouns can be semantically determined in both languages, but the gender of inanimate nouns is language-specific. Animate nouns are exemplified by *lawyer* in (5.10), and *welder* in (5.11).¹³ All other nouns were coded as inanimate, e.g., *high school* in (5.9), *trolley* in (5.16), *bungalow* in (5.17), etc.

¹³ We had originally coded for animals separately, since they are variable with respect to their gender marking in Ukrainian. Some of them may have semantic gender, whereas others are sex-indifferentiable (as evidenced by sentences like *Sobaka pobih* ‘a dog ran’-M versus *Sobaka pobihla* ‘s dog-ran’-F). However, there were only three such tokens in our data, and two of them denoted dogs. We therefore collapsed them together with humans, as animate nouns.

5.4.2 Other factors

5.4.2.1 Syntactic position

We coded nouns in all three corpora with respect to their position in a clause. Nouns which occurred in a *base-generated* position, which is also equivalent in both languages (as described in section 4.6), like *driveway* in (5.19) and *barbecue* in (5.21), were coded separately from nouns which appeared in any other position, like *pharmacist* in (5.22), which precedes the verb *pracjuvav* ‘worked’ instead of following it.

- 5.22 U ditočomu špytali jako **pharmacist** pracjuvav paru
 At children’s hospital-M.Loc as pharmacist worked-M couple-F.Acc
 hodyn. (37/359)
 hours-F.Gen

‘[He] worked as a pharmacist in the children’s hospital for a few hours’.

When it was unclear as to whether the noun actually moved from its base-generated position, we coded such nouns as being in a non-original position if their surface word order was not equivalent to English. For example, *soccer* in (5.23) is an object immediately following the verb *ljublju* ‘like’, which corresponds to the base-generated position. However, the noun’s modifier *toj* ‘that’ follows the noun instead of preceding it. Since there is no clear evidence that the noun did not move, only that the modifier did, we cannot claim there was no syntactic movement in (5.23). Moreover, since noun-modifier structures are usually ungrammatical in English, we referred to nouns like *soccer* in (5.23) as not occurring in the original spot.

- 5.23 Ja ljublj **soccer** toj, eh- nu ta eh- sport,
 I like-1sg soccer-M.Acc that-M.Acc eh well so eh sport-M.Acc
 kopanyj mjač. (06/234)
 kicked-M.Acc ball-M.Acc

‘I like that soccer, eh, well, eh, a sport, ‘kicked ball’.

Nouns, like *architect* in (5.24), on the other hand, were coded as being realized in base-generated position. Although there is no overt copula between *Rita* and *architect*, it does not suggest that there could have been any movement of the noun from its original position (since copula is absent in the clause).

- 5.24 Rita **architect**, ta je medyčnyj technik. (17/252)
 Rita architect-F.Nom that-F.Nom is medical-M.Nom technician-M/F.Nom
 'Rita is an architect, the other one is a medical technician'.

5.4.2.2 *Flagging*

Similar to nouns with overt Ukrainian morphology, we coded the three corpora for different types of flagging. Nouns which occurred in the vicinity of any kind of meta-linguistic speech, translation or explanation, were coded as being accompanied by *meta-linguistic commentary*. For example, *groundhog* in (5.7) is explained in Ukrainian as what the speaker meant by 'a groundhog'. In (5.25) the noun *forklift* is followed by the phrase *tak si nazyvaje* 'so-called'.

- 5.25 Poklykaly mene na druhu robotu, na **forklift**, tak si
 called-pl me-Acc for other-F.Acc job-F.Acc for forklift-F.Acc so Relf
nazyvaje. (23/185)
 called-3sg
 'They asked me for another job, for so called forklift'.

Nouns preceded by any production 'flags', like an audible pause, e.g., *apartment* in (5.12), any kind of hesitation, or false start, e.g., *store* in (5.8) or *college* in (5.26) were referred to as being flagged by *discourse phenomena*.

- 5.26 Obydva- oby dva pišly do k-- **college**, nu. (05/074)
 Both both went-pl do k-- college-Ø yes
 'Well, both- both of them went to k-- college'.

Nouns like *stop sign* in (5.27) were coded as being a part of *reported speech*.

- 5.27 Vin kaže: 'Jid'!', a ja kažu: 'Stop sign', tak, tak. (09/160)
 He says go-Imp and I say-Isg stopsign-M.Acc yes yes
 'He says: Go!, and I say: Stop sign, yes, yes'.

Nouns with more than one 'flag' used simultaneously were coded as having *multiple* flagging. For example, *sirloin-steak* in (5.28) is pronounced with a false start and then is followed by a detailed explanation in Ukrainian of what kind of meat it is.

- 5.28 I buv takyj s-- sirloin-steak, take jakes'
 And was-M such-M.Nom sirloin-steak-M.Nom such-N.Nom some-N.Nom
 melete mjaso, vono s-- eh tak jak spresovane j s...
 ground-N.Nom meat-N.Nom it s-- eh so as pressed-N.Nom and with
 sousom, i rollsa, i ice-cream. (12/131)
 sauce-M.Ins and rolls-F.Nom and ice-cream-M.Nom
 'And there was such s-- sirloin-steak, some kind of ground meat, it is s-- eh sort of pressed, with s... sauce, and a roll, and ice-cream'.

Nouns like *ambulance* in (5.1), *story* in (5.13), or *ice-cream* in (5.28), which occurred in smooth uninterrupted speech were coded as having *no* flagging.

5.4.2.3 *Demonstrative pronouns*

We have also coded English-origin and Ukrainian nouns for the presence of a demonstrative pronoun, since they may be used as a bridge to the other language, resulting in an increased incidence of demonstrative pronouns in the vicinity of code-switched nouns. Nouns, like *soccer* in (5.23) accompanied by the Ukrainian demonstrative pronoun *toj* 'that', and *bungalow* in (5.17) preceded by another demonstrative pronoun *take* 'such', were coded as occurring together with a Ukrainian *demonstrative pronoun*. Nouns featuring no demonstrative pronoun in their vicinity, like *ambulance* in (5.1), *apartment* in (5.12), or *show* in (5.18), were coded separately.

5.5 Results

5.5.1. All null marked nouns

5.5.1.1 Null marking

We will first examine the distribution of null marking with respect to Ukrainian grammar. Recall that bare nouns produced by Ukrainian grammar should be restricted to certain positions and genders, whereas English nouns may surface in any position irrespective of gender, resulting in a higher incidence of non-standard marking (as per hypothesis I and VII). Table 5.1 shows that the hierarchy of distribution of non-standard marking is the same across corpora, i.e., most nouns in both corpora are standardly null marked with respect to Ukrainian, like *groundhog* in (5.7) (73% English-origin and 88% Ukrainian). However, the amount of non-standard marking (e.g., *mop* and *store* in 5.8) is more than doubled in the English-origin corpus when compared with the unmixed Ukrainian data (27% versus 12% correspondingly). Note also that the frequency of bare nouns in the English-origin corpus is considerably higher than it is in the unmixed Ukrainian one (51% versus 16%). These results suggest that there is a pronounced preference for English-origin nouns to occur null marked, though they may not all be produced by the same process. Before making any inferences, we need to examine these nouns with respect to other factors.

Table 5.1. Distribution of null marking across corpora.

NULL MARKING	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Standard	273	88	606	73
Non-standard	38	12	228	27
TOTAL	311/1950	16	834/1637	51

5.5.1.2 Agreement

Further evidence as to the status of bare English-origin nouns is provided by agreement. Since English nouns usually do not participate in overt agreement, we predicted that bare nouns produced by English grammar would appear less frequently in agreement structures (as per hypothesis IIa). Table 5.2 shows an interesting result: the English-origin nouns do appear less frequently in positions with required agreement than do their Ukrainian counterparts (48% versus 70% respectively), but more frequently than do unmixed English nouns (48% versus 27%). In fact, there is a slight preference for English-origin nouns to occur in constructions where agreement is not required (52% versus 48%). Furthermore, the amount of non-standard marking exhibited by English-origin nouns in agreement structures (like *apartment* in 5.12) is more than doubled when compared with their unmixed Ukrainian counterparts (34% versus 14%). Note that the rate of non-standard marking with respect to agreement is very similar in both monolingual corpora, suggesting that speakers have similar rates of marking variability with respect to bare nouns in each language. English-origin nouns, however, are non-standard much more frequently when they surface bare in Ukrainian discourse. These results, therefore, support our expectations for code-switched (i.e., hypothesis IIa and b), but not borrowed nouns (i.e., hypothesis VIIa and b).

Table 5.2. Distribution of nouns with respect to agreement.

AGREEMENT	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Required	218	70	397	48	64	27
Not required	93	30	437	52	110	63
NON-STANDARD MARKING						
Required	31/218	14	137/397	34	10/64	16
Not required	7/93	8	41/437	9	5/110	5

5.5.1.3 Gender assignment

We next need to establish whether our predictions for gender will also support a scenario for code-switched nouns. We will examine English-origin nouns with respect to gender assignment as evidenced by agreement and the correspondence of assigned gender with the form of a noun. Since only nouns with agreeing elements can be tested in this regard, we excluded nouns which were not accompanied by any agreeing elements from the calculations in this section. Animate nouns were also excluded, since their gender is semantically determined, and they are not obligated to be overtly marked for gender.

Table 5.3. The correspondence of phonetic form of inanimate English-origin nouns to their assigned genders.

Gender of mod/pred	PHONETIC FORM							
	Masculine-like		Feminine-like		Neuter-like		Non-Ukrainian	
	N	%	N	%	N	%	N	%
Masculine	187	89	5	45	0	0	9	45
Feminine	8	4	5	45	0	0	5	25
Neuter	11	5	1	10	9	100	5	25
Ambiguous	4	2	0	0	0	0	1	5
TOTAL	210/250	84	11/250	4	9/250	4	20/250	8

Contrary to our hypothesis IIIa for code-switched nouns, English-origin nouns are not overwhelmingly assigned neuter gender, as would be expected based on their original English properties (see Table 5.3). In fact, only 10% (26/250) of bare English-origin nouns were accompanied by neuter agreement (like *bungalow* in 5.17). This obviously suggests that 1) either a switch site constitutes a barrier for transferring gender information from one code to the other, or 2) these nouns are not code-switched.

Part (b) of the hypothesis III has not been supported by our data either (see Table 5.3). There is no clear evidence that all nouns without exception received masculine agreement. Although 81% (201/249) of inanimate nouns exhibited masculine agreement, there were nouns with feminine and neuter agreement as well. This refutes our

expectations that all code-switched nouns will receive the same gender by default (as per hypothesis IIIb(i)).

Note also that 84% of bare nouns in this corpus have a masculine-like form. If the phonetic form was responsible for the assignment of Ukrainian gender, there would have been a direct correlation between the noun's form and the assigned gender. But the direct correlation is observed only with respect to nouns with neuter-like form which categorically exhibit neuter agreement. Only 45% of nouns with feminine-like form are accompanied by feminine agreement. And nouns with a non-typical Ukrainian ending are also distributed across genders (e.g., *trolley* in 5.16). Nouns with masculine-like form do appear with masculine concord in most cases (89%) (e.g., *groundhog* in 5.7). But these nouns end in a consonant, and hence, are most likely to be assigned masculine in Ukrainian anyway. (Recall that feminine nouns of declension III which could have been null marked in Ukrainian constituted only 2% of all unmixed Ukrainian data, and only 22% of these nouns surfaced bare). These results again do not fully confirm our expectations for code-switched nouns, since there is no strict correlation between assigned genders and the phonetic form of the noun (i.e., hypothesis IIIb(ii)).

Table 5.4 shows the distribution of assigned genders to bare nouns, as inferred through agreement, in both the English-origin and Ukrainian corpora. The overall distribution of assigned genders is very similar in both corpora. The vast majority of nouns, irrespective of etymology received masculine gender (80% English-origin and 82% Ukrainian). This was to be expected since most null marked nouns in Ukrainian are masculine, and most English-origin nouns end in a consonant corresponding to a masculine-like form in Ukrainian. The hierarchy of feminine and neuter agreement, however, is reversed. This result is puzzling. However note that the number of tokens with feminine and neuter agreement is much less than nouns with masculine agreement, which may have influenced the results in Table 5.4. Hence, it is not possible to infer

whether the distribution of genders in both corpora was assigned similarly (as per hypothesis VIIIc), or whether it was simply coincidental.

Table 5.4. Distribution of actually assigned gender across corpora.

Gender agreement	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Masculine	88	82	201	80
Feminine	12	11	18	7
Neuter	5	5	26	10
Ambiguous	2	2	5	2
TOTAL	107		250	

The results in Tables 5.1 through 5.4 showed that bare English-origin nouns exhibited the behavior predicted for code-switched nouns in some respects, and for borrowings in others. They occurred null marked more often than unmixed Ukrainian nouns, showed an increased incidence of non-standard marking, appeared less often in structures requiring agreement, and showed a much higher rate of non-standard null marking in those structures. These are all characteristics predicted for code-switched nouns (as per hypotheses I-III). However, they did not exhibit overwhelming neuter agreement, nor were they assigned masculine only, expected for code-switched nouns. This suggests that the English-origin corpus may be composed of nouns produced by both grammars, i.e., CSs and BORs. We will return to this issue in section 5.5.2.

5.5.1.3 *Flagging*

Before trying to separate nouns potentially produced by different grammars into two groups, we will examine the speakers' awareness of using different code nouns as evidenced by flagging. Recall that, according to our expectations, speakers may use special discourse devices to signal a switch from one code to another. To make our analysis more revealing we will compare lone English-origin nouns not only to unmixed Ukrainian, but also to unambiguous CSs, like those in (5.29), which we separated from

longer stretches of unmixed English. Within these unambiguous CSs (N=53) there were 10 nouns (i.e., 19%) which appeared at the switch site, like *piece of cake* in (5.30).

5.29 To je ostannyj, vony kažyt **the last resort, to back it up, the bus.**
 It is last-M.Nom they say-3pl
 ‘They say (22/142)’

5.30 Distaješ hornja kavy abo jakoho **piece of cake** [pi:s β kejk]
 Receive-2sg cup-N.Acc coffee-F.Gen or some-M.Gen
 abo šos’. (12/101)
 or what
 ‘[You] get a cup of coffee, or some [kind of] piece of cake, or whatever’.

Table 5.5 shows that null marked English-origin nouns tend to be more frequently flagged than unmixed Ukrainian nouns (34% versus 18%), but are less frequently flagged than unambiguous CSs (34% versus 66%). The non-standard null marking of English-origin nouns is similarly flagged: it is accompanied by flagging much more frequently than in the unmixed Ukrainian corpus (40% versus 8%), but less often than in the unambiguous CS data (40% versus 60%). This suggests that speakers are aware of changing the code, as evidenced by unambiguous CSs, and hence, they may flag lone English-origin nouns produced by the other code more often, as well. This again supports our assumption that the null marked English-origin corpus may consist of two phenomena, CSs and BORs (cf. hypothesis VIa and Xa).

Table 5.5. Distribution of flagging across corpora.

	Ukrainian unmixed		English-origin in Ukrainian		Unambiguous code-switches	
	N	%	N	%	N	%
All nouns	55/311	18	282/834	34	35/53	66
Non-standard only	3/38	8	91/228	40	3/5	60

We next examine the distribution of flagged nouns with respect to type of flagging. According to our expectations, meta-linguistic commentaries and/or production ‘flags’

which interrupt speech flow in the environment of a switch may be particularly prevalent in the vicinity of code-switched nouns, allowing them to circumvent grammatical requirements at a CS boundary. Table 5.6 illustrates that English-origin nouns are indeed most frequently flagged by meta-linguistic commentaries (39%) (like *groundhog* in 5.7), which is also used most often in unambiguous CSs (69%). Moreover, cross-tabulation showed that 7/10 nouns in unambiguous CSs which appeared immediately at the switch site were flagged; and all of them were flagged by meta-linguistic speech, as well. The second most frequent type of flagging are production ‘flags’, i.e., different types of discourse phenomena, like pauses, false starts, etc. (33%) (e.g., *college* in 5.26). The same kind of flagging occurs most frequently in the unmixed Ukrainian corpus (55%), suggesting that production ‘flags’ are also often employed by the speakers in their own speech. The third most frequent type of flagging used by English-origin nouns is multiple flagging (27%) (e.g., *sirloin-steak* in 5.28), consisting of both meta-linguistic commentaries and production ‘flags’. Note that this combination is quite rarely employed in either unmixed Ukrainian or unambiguous CSs (4% and 6% correspondingly). Instances of reported speech are almost absent in the English-origin data (only 1%), and in the unambiguous CSs (3%). Based on these observations we infer that nouns produced by English are most likely to be flagged by meta-linguistic commentaries and multiple flagging. English-origin nouns which are flagged by production ‘flags’ alone may mostly

Table 5.6. Distribution of nouns across corpora with respect to different types of flagging.

ALL NOUNS	Ukrainian unmixed		English-origin in Ukrainian		Unambiguous code-switches	
	N	%	N	%	N	%
Discourse phenomena ¹⁴	30	55	92	33	8	23
Meta-linguistic speech	13	24	110	39	24	69
Multiple flagging	2	4	77	27	2	6
Reported speech	10	18	3	1	1	3

¹⁴ We combined pause and false start since they were similarly distributed across corpora and they represent the same phenomenon.

be produced by Ukrainian, since this kind of flagging is widely used in unmixed Ukrainian speech. Hence, the results in Table 5.6 again indicate that bare English-origin nouns may consist of those nouns which are code-switched, as well as those which are borrowed.

5.5.2 Candidates for CS versus other nouns

We will now attempt to separate the nouns which are most likely to be code-switched from those nouns which may be borrowed. The first candidates for CSs are those nouns which retained their English plural marking. We will then examine such nouns alone.

5.5.2.1 *English plural marking*

Table 5.7 shows that there were 33 tokens in the English-origin corpus with overt English plural marking (i.e., 4% = 33/834), like *benefits* in (5.14). They appeared overwhelmingly with plural Ukrainian concord (90%), similar to unmixed English nouns which always had plural concord when inflected with an -s marker. This supports the hypothesis that nouns with overt English plural marking should have plural concord in Ukrainian if they are code-switched (i.e., hypothesis IV).

Table 5.7. Distribution of English-origin and unmixed English nouns with -s plural marking with respect to agreement.

AGREEMENT	English-origin in Ukrainian		English unmixed	
	N	%	N	%
Plural	18/20	90	8/8	100
Singular	2/20	23	0/8	0
Not required	13/33	39	9/17	53

5.5.2.2 Overall non-standard marking

Based on our observations in the two previous sections, we can now suggest that English-origin nouns with null Ukrainian marking which retain their English morphology, and/or are accompanied by meta-linguistic commentaries and multiple flagging, are most likely to be code-switched. We therefore separated them from all the other null marked nouns, and hereafter we will refer to these tokens as *CS candidates*. The remainder of the English-origin corpus consists of the most ambiguous nouns with regard to their producer, and therefore, those *less likely* to be code-switched, referred to hereafter as *LL candidates* for CS. Table 5.9 shows that the rate of non-standard marking of CS candidates is considerably higher than that of LL candidates (39% versus 25%),¹⁵ and it is much higher than that of the unmixed Ukrainian nouns (39% versus 12%, cf. Table 5.1). The results exhibited by CS candidates, therefore, are in line with our predictions for code-switched nouns (as per hypothesis I). The considerably lower amount of non-standard marking exhibited by LL candidates suggests that they are not produced by the same process as CS candidates, supporting our predictions for borrowed nouns (i.e., hypothesis VII). Their higher rate of non-standard marking in comparison to that of unmixed Ukrainian nouns (25% versus 12%, see table 5.1) may indicate that these nouns are less well-integrated into Ukrainian.

Table 5.9 Distribution of non-standard null marking across two groups in the English-origin corpus.

NULL MARKING	CS Candidates		LL Candidates for CS	
	N	%	N	%
Standard	90	61	516	75
Non-standard	57	39	171	25
TOTAL	147/834	18	687/834	82

¹⁵ That is, 39 is 56% more than 25.

5.5.2.3 *Non-standard marking with respect to agreement*

Table 5.10 also shows changes in the results with respect to agreement when English-origin nouns are separated in two groups. Non-standard marking constitutes 54% of CS candidates occurring in positions with required agreement. The other group of nouns, the LL candidates, show only half as much non-standard marking (29% versus 54%). Although it is still much higher than the rate of non-standard marking established by unmixed Ukrainian nouns (29% versus 14%, see Table 5.2), the increase in the ratio of non-standard marking from structures with no agreement to structures with required agreement is very similar between this group of English-origin nouns and their unmixed Ukrainian counterparts (29% and 21% versus 14% and 8% in Ukrainian). This may be taken as further evidence that the group of LL candidates may in fact be less well-integrated borrowings.

Table 5.10 Distribution of non-standard marking of two groups of English-origin nouns with respect to agreement.

AGREEMENT	CS Candidates		LL Candidates for CS	
	N	%	N	%
Required agreement	44/81	54	93/316	29
Non-required agreement	13/66	20	78/371	21

5.5.2.4 *Demonstrative pronouns*

If the candidates for CS are indeed CSs we would expect to observe a higher occurrence of demonstrative pronouns in their vicinity, acting as a bridge to the other code. Table 5.11 shows that candidates for CSs have a tendency to be accompanied by demonstrative pronouns more often than other nouns in the same corpus (27% versus 19%), and much more often than null marked Ukrainian nouns (27% versus 11%). Moreover, non-standard null marking of CS candidates co-occurs with demonstrative pronouns 43% of the time. This is the highest rate among all three groups of nouns

compared in Table 5.11. These results support our expectations for code-switched nouns (i.e., hypothesis VIb), suggesting that candidates for CS may in fact be produced by English grammar. As for the other group of English-origin nouns (i.e., LL), we will return to them in the following sections.

Table 5.11. Distribution of demonstrative pronouns in the English-origin and Ukrainian corpora.

Demonstrative pronouns	Ukrainian unmixed		CS Candidates		LL Candidates for CS	
	N	%	N	%	N	%
All nouns	35/311	11	39/147	27	132/687	19
Non-standard only	2/35	6	17/40	43	33/138	24

5.5.2.5 Syntactic position

The distribution of nouns with respect to syntactic position is shown in Table 5.12. Interestingly, all nouns occur more often at their base-generated position across groups, with CS candidates in the lead (73% versus 70% Other, 65% Ukrainian). However, the distribution of non-standard marking at base-generated and non-base-generated positions is quite different across these groups. More than half of CS candidates are non-standard at non-base-generated positions (57%). They also show the highest rate of non-standard marking at base-generated positions, when compared with the other two groups (33% versus 24% LL candidates, 12% Ukrainian). This is further evidence that our CS candidates may be produced by English, since their behavior with respect to syntactic placement supports our predictions for code-switched nouns (i.e., hypothesis V). LL candidates again showed a similar pattern in the increase of the ratio of non-standard marking from base-generated to non-base-generated positions to that for the unmixed Ukrainian corpus (i.e., 24% and 27% versus 12% and 13% correspondingly), although with higher rates. This is another indicator that such null marked English-origin nouns behave as if they are Ukrainian, but also are less well-integrated.

Table 5.12. Distribution of null marked nouns with respect to their syntactic positions.

SYNTACTIC POSITION	Ukrainian unmixed		CS Candidates		LL Candidates for CS	
	N	%	N	%	N	%
Base-generated	202/311	65	107/147	73	479/687	70
Other	109/311	35	40/147	27	208/687	30

NON-STANDARD MARKING						
Base-generated	24/202	12	36/107	33	113/479	24
Other	14/109	13	21/40	57	58/208	27

5.5.2.6 *Flagging*

Table 5.13 shows that CS candidates replicate the pattern of unambiguous CSs with respect to distribution of flagging. In equivalent positions the majority of CS candidates (90%) as well as unambiguous CSs (62%) are flagged. Moreover, the majority of nouns with non-standard null marking are also flagged in both these groups (78% and 60% correspondingly). LL candidates are much less frequently flagged than either CS candidates or unambiguous CSs (24% versus 90% and 62%). Their non-standard marking in equivalent positions is also the least flagged among all nouns (27% versus 78% and 60%).

Table 5.13. Distribution of flagged nouns with respect to their syntactic position and non-standard null marking.

Syntactic position/ AND FLAGGING	Unambiguous code-switches		CS Candidates		LL Candidates for CS	
	N	%	N	%	N	%

EQUIVALENT POSITION						
Flagged all	31/50	62	96/107	90	114/479	24
Flagged non-standard	3/5	60	28/36	78	31/113	27

NON-EQUIVALENT POSITION						
Flagged	3/3	100	34/40	90	37/208	18
Flagged non-standard	0/3	0	15/21	71	16/58	28

In non-equivalent positions CS candidates are overwhelmingly flagged (90%), much like unambiguous CSs which are categorically flagged in the same environment. LL candidates, however, show even a smaller amount of flagging than they did in base-generated positions (18% versus 24%). In fact, this is exactly the same proportion of flagged nouns as in the unmixed Ukrainian corpus (see Table 5.5). The proportion of flagged non-standard marking is also much lower for LL candidates than it is for CS candidates (28% versus 71%), providing important evidence that LL candidates are not produced by the same grammar as CS candidates. Nevertheless, the number of flagged non-standard tokens is still much higher for LL candidates than for unmixed Ukrainian nouns (28% versus 8%). If the difference in the ratio of flagged non-standard marking between the latter two groups would be indicative of speakers signaling a switch to a different code, we would have observed an increased incidence of non-standard marking of LL candidates when compared at equivalent and non-equivalent positions. However, the rate of non-standard marking of such nouns remained the same irrespective of their position. This suggests that the speakers are not flagging the other code utterance, but are sensitive to less integrated borrowings, and therefore flag them more often.

5.6 Summary

Using the same comparative method as in Chapter 4, we have demonstrated that some null marked English-origin nouns occurring in otherwise Ukrainian discourse are produced by English, whereas others by Ukrainian grammar. Nouns which exhibit their English plural marking, appear at base-generated (i.e., equivalent) positions, and are frequently flagged, especially by meta-linguistic commentaries and/or multiple production ‘flags’ allowing to circumvent the requirements of the other code, are most likely to be code-switched. Nouns which exhibit less frequent non-standard marking according to Ukrainian grammar, are less restricted to base-generated position, show notable changes in their pronunciation, and remain less flagged than unambiguously code-switched nouns, are

most likely to be produced by borrowing. Some of these borrowings, however, are less well-integrated into Ukrainian than the overtly marked nouns discussed in the previous chapter. Nevertheless, the patterns of behavior for such nouns are much more similar to unmixed Ukrainian nouns, than to unmixed English or code-switched nouns.

Since we have shown that some null marked nouns in our English-origin corpus are code-switched, we have also shown that the switch site *is* the barrier for transferring certain linguistic information. Thus, information on English gender was not transferred from English to Ukrainian, because only a very small amount of nouns appeared with Ukrainian neuter agreement – much smaller than the number of potential CSs. This suggests that information on grammatical gender as a language-specific feature cannot be obtained across the switch site. The transfer of number information across the switch site remains questionable. Although nouns with overt English number marking were accompanied by Ukrainian plural concord in most cases, it is not clear whether Ukrainian agreeing elements received number information semantically, i.e., without the reference to the noun, or it was in fact transferred from an English noun to a Ukrainian modifier. This suggests that language-specific features which can be only obtained from a switched item are blocked by the switch site barrier; but if information can be received externally, i.e., without reference to that switched item, the presence (or absence) of a barrier does not impinge on the results.

Chapter 6

VERBS

6.1 Introduction

In this chapter we will examine the behavior of lone English-origin verbs occurring in otherwise Ukrainian discourse in order to determine which grammar, Ukrainian or English, produced verbs like *watchuje* in (6.1). Following our strategy for diagnosing the status of English-origin utterances as either CSs or BORs, we will first determine the language-specific features of Ukrainian and English verb systems. We will then examine how lone English-origin verbs participate in the requirements of each grammar with respect to these language-specific features, and systematically compare them to their unmixed counterparts in Ukrainian and English.

- 6.1¹ Dechto *watchuje* v večeri do jakoji tretoji
 someone-Nom watches in evening-M.Loc to somewhat-F.Gen third-F.Gen
 hodyny. (12/199)
 hour-F.Gen
 ‘Someone watches [TV] in the evening, probably up until three o’clock [in the morning]’.

6.2 Ukrainian Verbs

Ukrainian verbs are formed from verbal stems by affixation. Each affix usually delivers specific grammatical information, such as tense, aspect, voice and mood. In (6.2), for example, the verbal stem *-kaza-* is marked by a prefix *s-* (perfective), and two suffixes: *-l-* (past), *-y-* (plural). The infinitive *za-bra-tysja* ‘to take off’ in (6.2) is formed

¹ Grammatical information on verbs is marked in the same way as on nouns in the previous chapters. For convenience we repeat some abbreviations specific for verbs only: Imp = imperative, Perf = perfective, Cond = conditional, Refl = reflexive, Inf = infinitive, Fut = future; 1, 2, 3 = person.

from a stem *-bra-* with the help of a perfective prefix *za-*, an infinitival suffix *-ty-* and a reflexive suffix *-sja*.

- 6.2² *S-kaza-ly* *šo* *ja* *muš-u* *z* *toho* *liagru*
 Told-Perf.pl that I must-1sg from that-M.Gen camp-M.Gen

za-bra-tysja. (23/036)
 take-off-Perf.Inf.Refl

‘[They] said that I had to leave that camp’.

Most verbal morphology in Ukrainian is synthetic, i.e., grammatical information is carried by bound morphemes attached to a verb. These include present, ‘simple’ past, ‘simple’ future, ‘simple’ imperative. The verb *skazaly* ‘said’ in (6.2) exemplifies simple past, and the verb *kynu* ‘will throw’ in (6.3) shows simple future.

- 6.3 *Jak budu* *jty* *popry* *chatu,* *ja* *jij* *kynu*. (25/149)
 As be-Fut.1sg go-Inf by house-F.Acc I her-Dat throw-Fut.1sg
 ‘When I go by the house, I will throw [it] to her’.

Some tenses and moods may require auxiliary verbs, i.e., free morphemes, along with bound morphemes.³ These are ‘complex’ past (or pluperfect), ‘complex’ future, conditional, and ‘complex’ imperatives. In (6.3), for example, the verb *budu jty* ‘will go’ is formed by the finite auxiliary *budu* ‘will be’ and the infinitive *jty* ‘go’, both of which are marked with bound morphemes as well, i.e., *-du* (1 person singular, future) and *-ty* (infinitive) correspondingly.

Ukrainian verbs agree in gender and number in past tenses (indicative and conditional). This is exemplified in (6.4), where the main clause verb *mav* ‘had’ agrees with its subject *ja* ‘I’ (a male speaker) in gender and number (i.e., masculine singular), and the predicate of the subordinate clause *zacasja* ‘started’ is marked for feminine singular, as is its subject *vijna* ‘war’.

² Verbal stems are separated from affixes for demonstration.

³ Here we follow Beard’s distinction between bound and free morphemes, implying that affixes are bound morphemes, and auxiliaries are free morphemes (Beard, 1995: 102).

- 6.4 Ja *mav* šist' rokiv, jak perša vijna *začalasja*. (09/209)
 I had-M six years-Gen as first-F.Nom war-F.Nom started-Perf.F.Refl
 'I was six years old when the First [World] War started'.

All other tensed verbs (including imperatives) are conjugated, changing their endings according to person and number.⁴ In (6.5), for example, all verbs – *osterihajut* 'warn', *davaj* 'give', *dyvysja* 'look', and *jid'* 'go', show person and number marking.

- 6.5 To vony vse *osterihajut*: *davaj* **signal** i *dyvysja*
 So they always warn-3pl give-Imp.2sg signal-M.Nom and look-Imp.2sg.Refl
 na dva boky, todi *jid'*. (03/016)
 at two-M.Acc sides-Acc then go-Imp.2sg
 'So they always warn you: give a signal and look at both sides, and then go'.

In some cases affixation may also be accompanied by phonological changes in the verbal stem. Compare, for example, verbs *bižyt'* 'runs' in (6.6) and *bih* 'ran' in (6.7). Both verbs are formed from the stem *bih-*, however in the former the final stem consonant *-h-* is changed into *-ž-* before the present tense marker.

- 6.6 Odnoho dnja toj staryj *bižyt'* na horu. (37/109)
 One-M.Gen day-M.Gen that-M.Nom old-M.Nom runs on top-F.Acc
 'One day that old [man] runs upstairs'.

- 6.7 Sjahodni toj **groundhog** *bih*, to toj
 Today that-M.Nom groundhog-M.Nom ran-M it that-M.Nom
 bursuk po-ukrajins'ky. (10/122)
 badger-M.Nom in-Ukrainian

'That groundhog was running today, it is the badger in Ukrainian'.

Note also that the verb *bih* 'ran' in (6.7) exhibits no overt morphology. Such cases are very infrequent with respect to verbal marking, and may occur only with some verbs either

⁴ There are two main classes of verbs in Ukrainian whose conjugation in present and future is based on a 'theme' vowel. Four verbs have 'athematic' conjugation. For details see Ditel' (1993), Rusanivs'kyj, et al. (1979), etc.

in the past to mark singular masculine (as in 6.7), or in the imperative mood to indicate second person singular (e.g., *stav* ‘put-Imp.2sg’ from *stav-yty* ‘to put’ (Ditel’ 1993:95)).

Rich verbal morphology allows subjects to be dropped in Ukrainian since they can be recovered based on the verbal morphology. In (6.2), for example, the verb *skazaly* ‘said’ introducing the subjunctive clause has no overt subject, but the verb’s overt morphology indicates that it refers to third person plural. In (6.5) all the imperative verbs, i.e., *davaj* ‘give’, *dyvysja* ‘look’, and *jid* ‘go’ have no overt subject either. But since their morphology corresponds to second person singular, the absence of a subject does not obfuscate the context.⁵

Similarly to nouns, the position of verbs in Ukrainian is not structurally restricted. Although its basic position is subject-verb-object (SVO), it may appear in many other positions in the clause besides SVO. In (6.8), for example, one verb *zakinčylas* ‘finished’ precedes its subject *vijna* ‘war’, whereas the other verb, *pišov* ‘went’ (6.8), follows its subject and the adjunct *vže* ‘already’. In (6.3) the verb *kynu* ‘will throw’ occurs in an SOV structure, since it follows its object *jij* ‘her-Dat’, which was syntactically raised to a higher position.⁶

- 6.8 *Šče ne zakinčylas’ vijna, jak vin vže pišov.* (02/172)
 Yet not finished-Perf.F.Refl war-F.Nom as he already went-Perf.M
 ‘The war was not over yet, but he already left’.

Ukrainian verbs assign case to their complements which can be morphologically realized as overt or null. For example, in (6.9) the verb *perežyv* ‘outlived’ assigns accusative to its complement *dvi vijny* ‘two wars’, which is morphologically null-marked

⁵ Recall that unlike English imperatives which are null marked do not require overt subjects, and always refer to second person plural, Ukrainian imperatives are conjugated, i.e., they have different inflections for second person singular, first and second persons plural.

⁶ For discussion of scrambling and VP movement in conversational Russian, a sister language of Ukrainian, see Budzhak (1994). There are as yet no prominent studies of the same processes in Ukrainian.

for case.⁷ The verb *staly* 'became' in (6.10) assigns instrumental case to its complement *stoljaramy* 'carpenters', which it is morphologically overt.

6.9 Ja *perežyv* dvi vijny. (09/208)
 I outlived-Perf.M two-F.pl.Acc wars-Acc
 'I lived through two wars'

6.10 Perevažno naši panove *staly* stoljaramy. (33/169)
 Mostly our-pl.Nom gentlemen-Nom became-pl carpenters-Ins
 'Most of our gentlemen became carpenters'.

6.3 English Verbs

In comparison to Ukrainian, English verbal morphology is much simpler (Quirk et al. 1985). Affixes are used to mark simple past, progressive, and number/person agreement. The latter is used exclusively to indicate third person singular in the present, as in *says* (6.9). And, the verb *to be* is the only English verb which is conjugated according to number/person in the present (as in '*is* -> *s*' in 6.11), and only number in the past.

6.11 The girl's *coming* in and *says*: 'Pauline, *don't cry*, *don't cry*!' (02/149)

Free morphemes (i.e., auxiliaries) are required for perfect, progressive, interrogative, negative, conditional and future clauses, exemplified by *is coming* and *don't cry* in (6.11). All other verbs have null morphology, i.e., they are used in their citation form, including infinitives which are marked with a preposition *to*, as shown in (6.12) by *need* and in (6.13) by *do*.

6.12 I *need* four people. (22/124)

6.13 She *does* not *know* how to *do* it. (02/133)

Main verbs in perfect and progressive tenses must be overtly marked with bound morphemes, along with free ones, as in *is coming* (6.11). In other cases a verb usually

⁷ Accusative may be either morphologically null or overt in Ukrainian, depending on the noun's features (see Chapter 4 for discussion).

appears with null morphology whereas the auxiliary may surface with or without a bound morpheme. For example, *does not know* in (6.13) occurs with a bound morpheme on the auxiliary verb *do* and null morpheme on the main verb *know*.

Some ‘irregular’ English verbs exhibit a phonological change in their base vowel, instead of affixation to form past and participle forms (Quirk et al. 1985), exemplified by the verb *came* (from *come*) in (6.14).

6.14 He *came* twice to our house. (02/109)

Word order in English is comparatively restricted (cf. Chomsky 1981), therefore a main verb usually appears in its base-generated position, i.e., SVO order (as in 6.12). Subjects are obligatorily overt in finite English clauses (see, e.g., 6.12 and 6.13). Coordinate clauses, however, allow null subject, as in (6.11), where the second verb *says* appears immediately after the conjunction, and hence, it has no overt subject.⁸

Unlike Ukrainian, English verbs assign syntactic cases which are always covert, i.e., morphologically null, if the complement is a full NP, and overt when the complement is expressed by a personal pronoun (except *you* and *it*). Thus, in (6.15), both the verbs *asked* and *have* assign accusative, but the pronoun *me* shows it overtly, and the noun *insurance* has covert case marking.

6.15 She *asked* me: Did you *have* insurance? (02/015)

6.4 Procedure

It has been shown earlier (see Chapter 1) that lone English-origin verbs appearing in the otherwise Ukrainian context, like *watchuje* in (6.1), are quite infrequent in our data – comprising only 104 tokens. In order to implement our comparative method, discussed in Chapter 3, we extracted approximately similar numbers of unmixed Ukrainian and English verbs from the same interviews of the same informants. Unmixed Ukrainian verbs

⁸ See also Harvey (1997) for the discussion of null/overt subject variation in conversational English.

were extracted from the same interview fragments which were used for extracting nouns (see Chapter 3). Since English-origin verbs occurred with the frequency of 4.2 verbs per person (104/25), we extracted the first five Ukrainian verbs from each interview to constitute our unmixed Ukrainian verb corpus (125 tokens). The verbs were extracted from the end of transcribed Ukrainian portions in order to assure the most informal speech. Unmixed English verbs were extracted from all stretches of monolingual English. Unmixed English speech is comparatively infrequent in our data (see Chapters 1 and 3), so we included all unmixed English verbs to constitute our unmixed English verb corpus (143 tokens). Finally, since lone English-origin verbs in Ukrainian discourse appeared only as main verbs, we have not included unmixed Ukrainian and unmixed English auxiliary and modal verbs in our corpora.⁹ The unmixed English verbs *do*, *be*, and *have* were included only when used as main verbs. For example, the auxiliary *does* in (6.13) was excluded, whereas the infinitive *to do* (6.13) was included in this investigation. Modal verbs, therefore, were excluded all together.

6.5 Coding

6.5.1 Morpho-syntactic factors

Because English and Ukrainian verbs differ with respect to their overt morphology, tense marking, presence of a subject, and syntactic position, we coded all verbs in our data for a number of factors relevant to each phenomenon.

6.5.1.1 Verbal morphology

All verbs irrespective of their origin were first coded according to their morphology.¹⁰ Verbs with *overt* morphology were differentiated between those which are

⁹ Auxiliaries and modals differ in their characteristics from main verbs in both languages.

¹⁰ Similar to nouns, we focused only on grammatical (or inflectional) morphology (Aronoff 1994: 11; Beard 1995: 97). Lexical (i.e., derivational and compounding) morphology was not examined in this research. Verbs like '*dislike*' were considered as having null morphology.

marked only with a suffix, like *watchuje* in (6.1); and those which are inflected with both prefix and suffix, like *zbandazuvaly* ‘bandaged’ in (6.16).

- 6.16 V špytali daly... eh eh pryšyly ti stitci, jak
 In hospital-M.Loc gave-pl eh eh sewed-Perf.pl those-Acc stitches-Acc as
 vovy kažut’ tut..., *zbandaguvaly* [zbándəɟuvály], daly šynu, za--
 they say-3pl here bandaged-Perf.pl gave-pl splint-F.Acc
 vložyly mene v **auto**, pryvezly do chaty. (23B/2045)
 put-Perf.pl me-Gen in auto-N.Acc drove-Perf.pl to house-F.Gen
 ‘In the hospital [they] gave... eh, eh, [they] sewed those stitches in, as they say here..., [they] bandaged [me], gave [me] a splint, za-- put me in a car, drove home’.

Verbs with *null* bound morphemes were also coded in two groups. One factor group encompasses verbs in their citation form with null marking, like *complain* in (6.17). The other factor group consists of verbs like *came* in (6.14), which have null morphology, but overt phonological changes in the verbal stem.

- 6.17 Pryjde taj kaže: Ta to vy til’ko *complain*, a to vony
 Come-Fut.3sg and says well that you only complain-Ø and that they
 tobi ničoho ne roblit. (6/139).
 you-sg.Dat nothing-Gen not do-3pl
 ‘[He] will come and say: Well, you just complain, but they are not doing anything to you’.

Note that there were no verbs with double morphology in our data, i.e., no verbs displayed affixes from both Ukrainian and English at the same time.

6.5.1.2 Type of tense marking

We then coded verbs as to their type of tense marking. Recall that Ukrainian is heavily syntactic in marking tense, whereas verbs produced by English grammar may display various types of tense marking, i.e., null or overt bound morphemes, either alone or in combination with free morphemes. Verbs like *watchuje* in (6.1) and *zbandaguvaly* in (6.16) were coded as having *bound morpheme* tense marking. Verbs like *complain* in

(6.17) were coded as having *null morpheme* tense marking. Verbs for which tense was marked by bound and free morphemes simultaneously, like *budu studijuvaty* in (6.18), were coded as having *both morphemes* (i.e., *-juvaty*, and *budu* correspondingly).

- 6.18 Ja ne budu studijuvaty farmaciju. (16/191)
 I not will-1sg study-Inf pharmacy-F.Acc
 'I will not study pharmacy'.

Verbs with overt free and null bound morphemes, like the English verbs *does [not] know* in (6.13), and *did have* in (6.15), were coded as a separate factor.

6.5.1.3 Null subject

Since English and Ukrainian verbs differ in their ability to occur with null subjects, all verbs were coded as to whether they occurred with *overt* or *null* subjects. The former is exemplified by *watchuje* in (6.1), *complain* in (6.17), and *studijuvav* in (6.18), because all of these verbs appear with their overt subjects in the same clause. Verbs like *zbandaguvaly* in (6.16) and *checkuvaly* in (6.19) do not have overt subject, and, therefore, they were coded as occurring with null subject.

- 6.19 U špytalju checkuvaly jak vona dychaje. (37/072)
 In hospital-M.Loc checked-pl how she breathes
 'They were checking in the hospital how she was breathing'.

6.5.1.4 Syntactic position

We also coded for the syntactic position in which verbs occur in their surface realization, since English verbs are usually restricted to their base-generated position, whereas Ukrainian verbs often move overtly in syntax. Verbs like *mopuvala* in (6.20) were coded as occurring in their base-generated position, i.e., they were immediately followed by their complements (henceforth 'V+Compl' constructions).

- 6.20 A pizniše ja eh... mopuvala pidlohu. (11/292)
 And later I eh mopped-F floor-F.Acc

‘And later I eh... mopped the floor’.

Verbs whose complement appeared syntactically raised, i.e., it did not follow the verb, but preceded it in the same clause, were coded as ‘Compl + V’ constructions. These are exemplified by the verb *pocleanuvaty* in (6.21) which is preceded by its object *šos* ‘something’ instead of being followed by it.

- 6.21 J treba šos’ pocleanuvaty [poklinuvati] v chati. (12/211)
 And necessary something clean-Perf.Inf in house-F.Loc
 ‘And it is necessary to clean something in the house’.

If verbs were separated from their complements by other constituents, such verbs were coded as appearing in ‘V+...+Compl’ constructions. In (6.22), for example, the verb *zreparuvaty* has been syntactically raised and is separated from its object by a prepositional phrase.

- 6.22 My zreparuvaty [zréparuváli] z takym z tym dvadcjat’
 We repaired-Perf.pl with such-M.Ins with that-M.Ins twenty
 visim mašynok. (15/147)
 eight machines-F.Gen

‘We have repaired twenty eight machines with such [one], with that [one]’.

Verbs like *zbandaguvaly* in (6.16) and *complain* in (6.17) which do not have overt complements were not coded for in this factor group.

6.5.1.5 Standard marking

We then coded all verbs according to whether their verbal morphology and syntax corresponded to the requirements of the languages in which they occurred. Verbs like *watchuje* in (6.1) and *zbandaguvaly* in (6.16) were coded as *standardly* marked, since their morphology corresponds to all requirements of Ukrainian grammar. Verbs like *complain* in (6.17) were coded as *non-standardly* marked, since they are used in Ukrainian with no verbal morphology indicating tense, number/person agreement, etc.

Verbs like *maly zliquiduvaty* in (6.23), and *want-Ø* in (6.24), with no subject agreement, were also coded as non-standard. So were verbs like *doing* in (6.25), with no auxiliary (where required).

6.23 Mene *maly* takže *zliquiduvaty* gestapo. (09/044)
Me-Acc had-pl also liquidate-Perf.Inf Gestapo-N.Nom
'Gestapo had to liquidate me as well'.

6.24 He *want-Ø* a hundred dollar. (02/019)

6.25 They never appreciate what you *Ø doing* to them? (22/155)

6.5.2 Flagging

In order to examine speaker awareness of using another code (as discussed earlier for nouns, see Chapter 4), we also coded all verbs with regard to whether their appearance in the clause is marked with any production 'flag'. Verbs like *mopuvala* in (6.20) were coded as being preceded by an audible *pause*. Verbs like *zresignuvaty* in (6.26) were coded as preceded by another discourse phenomenon, *false start*.

6.26 My musily s toho s-- *zresignuvaty* [zrezignuváti]. (38/048)
We must-Past.pl from it-M/N.Gen s-- resign-Perf.Inf
'We had to s-- resign from it'.

Verbs which were either preceded or followed by any meta-linguistic commentary, translation or explanation, as e.g., the verb *speeduvav* in (6.27), were coded as accompanied by *meta-linguistic* speech.

6.27 A vin jak uzjav moje **auto** i duže *speeduvav*, skoro
And he as took-M my-N.Acc auto-N.Acc an very speeded-M fast
jichav. (23B/3118).
drove-M

'And when he took my car, he was speeding very much, drove fast'.

Verbs like *sponsoruvaty* in (6.28), which were accompanied by more than one type of flagging simultaneously were coded as having *multiple* flagging.

- 6.28 Chtos' musyt' na-- eh z-- za nas eh... **sponsoruvaty** jak to
 Someone must-3sg na-- eh z-- with we-Acc eh sponsor-Inf how that
 skazaty po-našomu. (36/092)
 say-Inf in-ours-M.Dat

'Someone must eh... sponsor eh us, how to say it in our [language]'.

Verbs like *complain* in (6.17), were coded as occurring in *reported speech*. And finally, verbs appearing in smooth, non-interrupted speech, like the verbs *watchuje* (6.1), *checkuvaly* in (6.19), *pocleanuvaty* in (6.21), were coded as having *null* flagging.

6.5.3 Pronunciation

Although phonological assimilation is not always a good indicator of which grammar produced a particular item, we noticed that the pronunciation of many lone English-origin verbs in our corpus was notably altered. Since most of them were overtly marked with Ukrainian morphology facilitating phonological changes in a stem, we have also coded verbs with regard to their pronunciation. Verbs with considerable phonological changes (i.e., full phonological assimilation), like *zresignuvaty* in (6.26), which was pronounced as [z-rézɪgn-uvátɪ] instead of [z-ɹezájɪn-uvátɪ] (from English *resign*), or *zbandaguvaly* [z-bándəʒ-uváli] in (6.16), were coded as having *considerably changed* pronunciation. Verbs like *speeduvav* in (6.27), which were pronounced similarly to how they would have been in English (i.e., *speed*), were coded as having *comparatively unchanged* pronunciation.

6.5.4 Type of case assignment

In sections 6.2 and 6.3 we demonstrated that English and Ukrainian verbs differ considerably with respect to the type of case they can assign: English verbs can only assign syntactic case, whereas Ukrainian verbs may also assign morphological, i.e., overtly marked case, to their complements. If an English-origin verb is a product of Ukrainian grammar, it should be able to assign both syntactic and morphological cases. Overt case

realization, however, does not depend on the verb alone, but also on the features of the object receiving the case. For example, the verb *pocleanuvaty* in (6.21) assigns accusative to its object, pronoun *sos'* 'something', which is null marked. In (6.20) the verb *mopuvala*, assigns the same (accusative) case, to its object *pidlohu* 'floor'. But it is overtly marked, since the object receiving that case is feminine (see chapter 4 for discussion of case marking). Hence, overt case marking does not depend solely on the verb's ability to assign case. We will therefore not examine verb's ability to assign morphological cases in further calculations in this chapter.

6.6 Predictions

Based on the dissimilarities between the Ukrainian and English verb systems discussed above, we hypothesize that lone English-origin verbs which are *borrowed* will display the following behavior:

I. With respect to morpho-syntactic features –

- (a) They will appear overtly marked with Ukrainian verbal morphology at a rate parallel to that for Ukrainian verbs;
- (b) Their tense will be marked with bound morphemes more often than free morphemes, as it is in Ukrainian;
- (c) They will appear with null subject at a rate paralleling Ukrainian verbs;
- (d) Their syntactic position will not be restricted to base-generated position, and they will occur in other surface word-orders (i.e., Compl+V, V+...+Compl) also at a rate parallel to Ukrainian verbs;
- (e) Their overall correspondence to the morpho-syntactic requirements of Ukrainian grammar will be as precise as it is for native Ukrainian verbs.

II. With respect to other factors –

- (a) They will be accompanied by the same types of discourse flagging at a similar rate as will native Ukrainian verbs;

- (b) The pronunciation of many English-origin verbs will approximate that of Ukrainian.

If lone English-origin verbs used in Ukrainian discourse are *code-switched* to English, and hence, are produced by English grammar, we will expect the following behavior:

III. With respect to morpho-syntactic features –

- (a) They will feature much less overt verbal morphology than Ukrainian verbs, but will be similar to unmixed English ones;
- (b) Their tense will be marked by free morphemes more frequently than it will in the Ukrainian corpus, and similarly to that of the unmixed English one;
- (c) They will occur less frequently with null subjects than Ukrainian and at a rate parallel to English verbs;
- (d) They will be much more restricted to base-generated position than Ukrainian, but similar to unmixed English verbs;
- (e) Their overall correspondence to the requirements of Ukrainian grammar will be non-standard more often than that of Ukrainian verbs.

IV. With respect to other factors:

- (a) They will be accompanied by flagging more often than unmixed Ukrainian verbs, and they will prefer the types of flagging used by unmixed English verbs;
- (b) Their pronunciation will not be considerably changed and thus remain English in most cases.

V. If lone English-origin verbs are code-switched within word boundaries, they will show the same behavior as predicted for CSs in general, i.e., hypotheses IIIb-e and IV, with the exception of being overtly marked with Ukrainian morphology.

Table 6.1 summarizes the expected behavior of lone English-origin verbs in both case: if they are borrowed and if they are code-switched.

Table 6.1. Predictions for code-switched and borrowed English-origin verbs used in Ukrainian discourse.

Factor-groups	Factors	Borrowed verbs frequency	Code-switched verbs frequency
Inflection	overt	more	less
	null	much less	more
Tense marking	bound morpheme	more	less
	free morpheme	less	more
Subject	overt	less	more
	null	more	less
Syntactic position	V+Compl	less	more
	Compl+V	more	less
	V+...+Compl	more	less
Correspondence to Ukrainian grammar	standard	more	less
	non-standard	less	more
Flagging	present	less	more
	absent	more	less
Pronunciation	unchanged	less	more
	changed	more	less

6.7 Results

6.7.1 Verbal morphology

We first examine the distribution of verbal morphology established by verbs across all corpora. The results in Figure 6.1 are very striking. The overwhelming majority of lone English-origin verbs appear overtly marked with Ukrainian verbal morphology, as do native Ukrainian verbs (96% and 100% correspondingly). Furthermore, the distribution between the two types of affixation is the same for these two corpora. English-origin verbs are overtly marked by suffixation 61% of the time, and by both prefixes and suffixes - 36% (like *watchuje* in 6.1 and *zbandaguvaly* in 6.16), similar to Ukrainian verbs (63% and 37% correspondingly). Most unmixed English verbs (83%) appear with null morphology, 67% of which are verbs in their citation form, and 16% show phonological changes in the root. Only 17% of unmixed English verbs exhibit overt marking (exclusively by

suffixation). Lone English-origin verbs occurring unmarked in Ukrainian discourse (like *complain* in 6.17) are extremely rare, only 4% (N=4). Note that there are no tokens with null morphology in the unmixed sample of Ukrainian speech we have examined, confirming our statement in section 6.2 that null marking is very rare in Ukrainian. Since null verbal morphology is nearly absent in Ukrainian, but quite common in English (as evidenced by Figure 6.1), it is possible that lone English-origin verbs with null morphology used in Ukrainian discourse are code-switched to English. However, their number is so small that their input would be entirely obscured when considered together with overtly marked tokens. We will, therefore, exclude them from the present analysis and return to them at the end of this chapter.

The results in Figure 6.1 support our expectations for borrowed, but not code-switched, English-origin verbs (as per hypotheses Ia and IIIa), especially with respect to the verbs with overt Ukrainian morphology. We will take this as the first evidence that overtly marked English-origin verbs used in otherwise Ukrainian discourse may be borrowed. The behavior of null marked English-origin verbs and their status will be discussed separately in section 6.7.8.

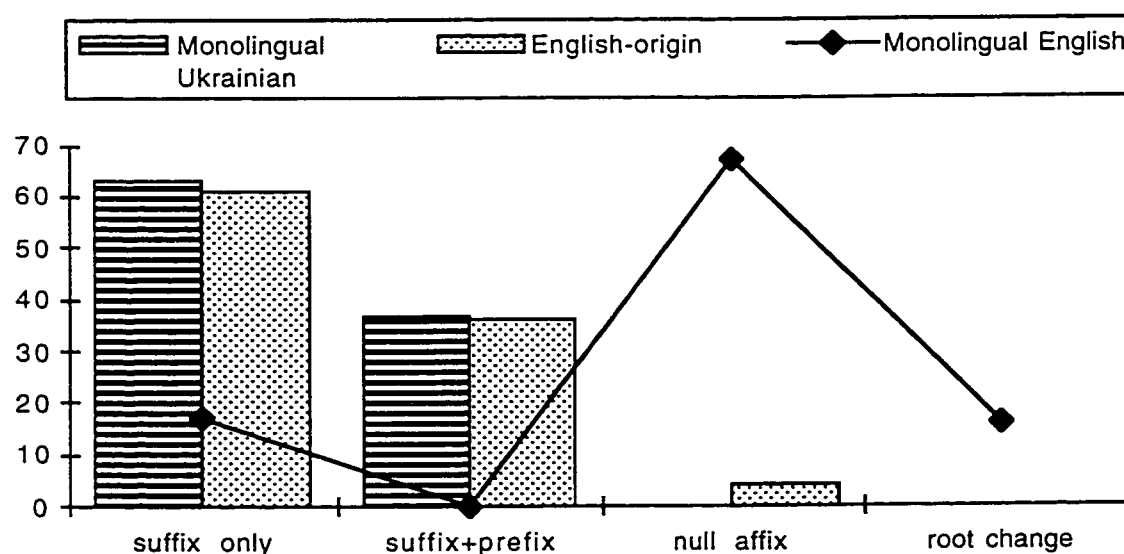


Figure 6.1. Distribution of verbal marking across corpora.¹¹

¹¹ See Table D-1 in Appendix D for numbers.

6.7.2 Type of tense marking

We next examine the type of tense marking displayed by all verbs across corpora. Table 6.2 shows that 81% of lone English-origin verbs exhibit overt bound morphology for tense marking (like *watchuje* in 6.1). This is very similar to unmixed Ukrainian verbs which are also overtly marked 87% of the time. Furthermore, verbs in both corpora mark tense with free and bound morphemes simultaneously (like *budu studijuvaty* in 6.18) with the same frequency, i.e., 19% and 13% correspondingly. Unmixed English verbs, however, use these two types of tense marking less often (10% and 7% correspondingly). Most unmixed English verbs use either null morphology to mark tense (62%), or remain bare but are accompanied by auxiliaries (21%). These results provide another piece of evidence that English-origin verbs with overt Ukrainian morphology have not been produced by English, but Ukrainian grammar (see hypotheses Ib and IIIb).

Table 6.2. Distribution of type of tense marking across corpora.

Tense marking	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Bound morpheme	109	87	81	81	14	10
Free morpheme	0	0	0	0	30	21
Both morphemes	16	13	19	19	10	7
Null morpheme	0	0	0	0	89	62

6.7.3 Null subject

Another verb feature which may be helpful in determining which grammar produced a particular verb, is the ability of that verb to appear in a clause with null subject. Although English does allow null subjects under certain conditions (see section 6.3), it is quite restricted compared to Ukrainian. Thus, verbs produced by English grammar should appear much less frequently with null subjects than verbs produced by Ukrainian grammar. Table 3 shows that lone English-origin verbs with overt Ukrainian morphology appear with

null subjects (see, e.g., *zbandaguvaly* in 6.16) as frequently as their Ukrainian counterparts (i.e., 49% and 53% correspondingly). Unmixed English verbs occur most often in clauses with overt subjects (85%). Unlike Ukrainian or English-origin verbs their subjects are null only in 15% of all tokens. Thus, the distribution results shown in Table 6.3 again support our hypothesis predicting the behavior of borrowed English-origin verbs, and disprove our expectations for code-switched verbs with respect to null subject (see hypotheses Ic and IIIc)

Table 6.3. Distribution of null subjects across corpora.

Subject	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Null	66	53	49	49	22	15
Overt	59	47	51	51	121	85

6.7.4 Syntactic position¹²

We next examine the distribution of verbs across corpora with respect to their syntactic position. Recall that verbs produced by English grammar should be followed by their complements in most cases,¹³ while Ukrainian verbs do not need to, and hence, may appear almost anywhere in the clause. Table 6.4 demonstrates that lone English-origin verbs occur in their base-generated position followed by their complements (like *mopuvala* in 6.20) as often as do their Ukrainian counterparts (56% versus 52% correspondingly). Similarly, English-origin verbs follow their complements (like *pocleanuvaty* in 6.21) as frequently as the Ukrainian verbs (i.e., 36% versus 37% respectively). Verbs in both corpora occur separated from their complements (like *zrepairuvaly* in 6.22) with a similar frequency as well (8% English-origin versus 11% Ukrainian). Unmixed English verbs, however, overwhelmingly prefer V+Compl constructions (94%). And the rest of them, only 6%, are preceded by their complements. Hence, the results in Table 6.4 once more

¹² Verbs with no overt complements are excluded from calculations in this factor group.

¹³ We refer here to main verbs only.

provide evidence that overtly inflected English-origin verbs behave as if they were Ukrainian, i.e., they not syntactically restricted to their base-generated position to the same extent as the English verbs do, but instead appear in other syntactic positions as freely as their unmixed Ukrainian counterparts. This supports our hypothesis I(d) for borrowed English-origin verbs, and refutes hypothesis III(d) for code-switched ones.

Table 6.4. The distribution of verbs with respect to their syntactic position across corpora.

SYNTAX	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Verb + Compl	57/109	52	43/77	56	113/120	94
Compl...+ Verb	40/109	37	28/77	36	7/120	6
V+ ... + Compl	12/109	11	6/77	8	0/120	0

6.7.5 Overall standard marking

We finally examined the overall correspondence of all verbs to the grammars of the discourse in which they occur. If lone English-origin verbs were produced by Ukrainian grammar they should participate in all rules required for a Ukrainian verb, i.e., their morpho-syntactic features (e.g., tense marking, subject-verb agreement, case assignment, surface word order) should comply with Ukrainian grammar to the same extent as their Ukrainian counterparts do. If the English-origin verbs were a product of English, their morpho-syntactic features should correspond to the requirements of English grammar. Table 6.5 shows a very striking result. The correspondence of lone English-origin verbs to the requirements of Ukrainian grammar is very similar (if not more so) to that of the native Ukrainian verbs – only 3% of English-origin verbs and 5% of Ukrainian verbs show non-standard Ukrainian marking. Unmixed English verbs show a considerably higher rate of non-standard marking with respect to their standard requirements than either Ukrainian or lone English-origin verbs (i.e., 17% & 13% versus 3% English-origin and 5% Ukrainian).

Table 6.5. Distribution of non-standard verbal marking across corpora.

Verbal morphology	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Overt affixation	6/125	5	3/100	3	4/24	17
Null affixation	0/0	-	0/0	-	15/119	13
TOTAL	6/125	5	3/100	3	19/143	13

Thus, lone English-origin verbs with overt Ukrainian affixes exhibit not only the same frequency of overt marking as do unmixed Ukrainian verbs (see Figure 6.1), but they pattern similarly with respect to tense marking (Table 6.2), null subject (Table 6.3), and VP placement (Table 6.4). Moreover, their overall correspondence to the requirements of Ukrainian with respect to all morpho-syntactic is the same as it is for the native Ukrainian verbs. This is strong evidence that overtly inflected English-origin verbs behave as if they were Ukrainian and not English (as per hypotheses Ie and IIIe).

6.7.6 Flagging

As an additional means of determining the status of lone English-origin verbs, we examine the distribution of production ‘flags’ and their types in the vicinity of all verbs across corpora. Table 6.6 shows that speakers do not use flagging to accompany verbs very often. Most verbs across corpora appear in smooth non-interrupted speech (71% through 92%). The incidence of flagging appears to be similar for lone English-origin and unmixed English verbs (74% and 71% correspondingly). However, these two corpora differ notably with respect to types of flagging devices employed. Lone English-origin verbs are most often marked with audible pauses or false starts (12%), followed by verbs introduced by reported speech (9%), and meta-linguistic speech (4%). This is the same hierarchy of flagging exhibited by unmixed Ukrainian verbs (i.e., 4%, 3% and 2% correspondingly). Unmixed English verbs, however, clearly prefer reported speech (27%), and do not favor any other type of flagging (1% each). Although the number of

flagged tokens is very small in every corpus, they nevertheless point to the main trends in each and suggest that English-origin verbs employ flagging strategies very similarly to native Ukrainian verbs. Thus, even though lone English-origin verbs are flagged more often than Ukrainian verbs (contrary to our hypothesis IIa for borrowed verbs), they use the same type of flagging as the unmixed Ukrainian, but not English verbs. This is further evidence that lone English-origin verbs are not treated similarly to monolingual English, but rather like their Ukrainian counterparts.

Table 6.6. Distribution of flagging in the vicinity of verbs across corpora.

Type of flagging	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Pause/false start	5	4	12	12	1	1
Meta-linguistic	2	2	4	4	1	1
Multiple flag.	0	0	1	1	-	-
Reported speech	4	3	9	9	39	27
Null	113	90	74	74	102	71

6.7.7 Pronunciation

Finally, we examine how the phonetic representation of English-origin verbs is made to conform with Ukrainian pronunciation. Table 6.7 shows that 58% of overtly marked English-origin verbs have undergone morpho-phonemic changes in their stem (like *zresignuvaty* [zrézɪɣnuvátɪ] in 6.26). Forty two percent of lone English-origin verbs with overt Ukrainian marking retain their original pronunciation.¹⁴ Interestingly, overtly marked English-origin verbs behaved very similarly to Ukrainian verbs with respect to all morpho-syntactic verbal features we examined in sections 6.7.1-6.7.6, but their pronunciation still remained comparatively unchanged in a large number of tokens (42%).

¹⁴ Recall that we do not examine whether a verb is pronounced with Ukrainian or English phonemes (since we cannot factor out speaker's 'foreign accent'), but refer to morpho-phonological changes in the verb (see Chapter 4 for details).

The results in Table 6.7, therefore, suggest that phonological assimilation is often present, but is not always necessary for an item to be produced by the recipient language.

Table 6.7. Pronunciation of lone English-origin verbs.

Pronunciation	English-origin verbs in Ukrainian	
	N	%
Comparatively unchanged	42/100	42
Considerably changed	58/100	58

6.7.8 Bare English-origin verbs

There were four lone English-origin verbs used in otherwise Ukrainian discourse without overt Ukrainian morphology (see Figure 6.1). In this section we examine their behavior with regard to all the factor groups discussed for overtly inflected verbs. First of all, all four bare English-origin verbs are categorically non-standard with respect to Ukrainian grammar in the environments in which they appear. Three of four null marked verbs appear in simple tenses (i.e., without auxiliaries), similar to null marked unmixed English verbs which also appear in simple tenses much more frequently than in complex ones (i.e., 75% = 89/119, see Table 6.2). All four null marked English-origin verbs appear with overt subjects in the same clause, which is also a preferred strategy of unmixed English verbs (85%, see Table 6.3). All four verbs are not followed by complements, and hence, cannot be judged with regard to their complement placement and case assignment. But all of them appear in smooth speech at Equivalent sites, i.e., positions in which the word-order is homologous in both languages. All these facts support our expectations for code-switched English-origin verbs with the exception of hypothesis IVa with respect to flagging. Although it would be expected that speakers may signal the switch to a different code by any type of flagging, null marked verbs appear unflagged. This can be explained in two ways: 1) these verbs occur at positions with no potential violations of both language grammars; and 2) most verbs across all corpora are usually unflagged (as shown in Table

6.6). Therefore, we can conclude that the four lone English-origin verbs which appear with null morphology in otherwise Ukrainian speech show similar behavior to the unmixed English verbs while at the same time differing from their unmixed Ukrainian counterparts. Hence, these verbs are most likely the product of CS.

6.8 Summary

In this chapter we have demonstrated that the status of lone English-origin verbs in otherwise Ukrainian discourse as CSs or BORs largely depends upon their Ukrainian morphology. English-origin verbs with overt Ukrainian marking do not behave differently from Ukrainian verbs, and correspond to all requirements of Ukrainian grammar as precisely as their Ukrainian counterparts. Their distribution with respect to language-specific morpho-syntactic features of the Ukrainian verbal system is the same as it is for unmixed Ukrainian verbs. All verbs with Ukrainian verbal affixes exhibit the same type of inflectional marking, participate in the same types of tense formation, appear with null subjects with the same frequency, and appear in the similar surface word-order with respect to their complements, irrespective of their etymology. Many such verbs exhibited full phonological assimilation. Additional evidence comes from flagging, since both overtly inflected English-origin and Ukrainian verbs prefer the same type of flagging. We therefore conclude that lone English-origin verbs with Ukrainian verbal morphology are most likely the product of Ukrainian grammar, and hence, they are borrowed.

Lone English-origin verbs with null Ukrainian morphology are extremely rare in Ukrainian discourse. Those few verbs that do occur overtly unmarked appear to differ considerably from their overtly inflected counterparts. Although they surface in smooth Ukrainian discourse, their patterning with respect to all morpho-syntactic verbal features considered in this chapter is very similar to that of unmixed English verbs, and notably differs from that of unmixed Ukrainian verbs or English-origin verbs with overt Ukrainian morphology. Although the number of bare English-origin verbs occurring in Ukrainian

discourse is very sparse, their patterning nevertheless suggests that they are most likely produced by English grammar, i.e., they are code-switched. Thus, the same method helped us to determine which English-origin verbs were borrowed and which ones were code-switched.

Chapter 7

ADJECTIVES AND ADJECTIVAL VERBS

7.1 Introduction

In this chapter we investigate the behavior of both lone English-origin adjectives, like *carpenters'kych* in (7.1), and adjectival verbs, like *zaparkovane* in (7.2), since in Ukrainian these two parts of speech have similar adjectival features.

- 7.1 Ja v tych **carpenters'kych** fabrykach robyv. (21/240)
 I in those-Loc carpenters'-Loc factories-Loc worked-M
 'I worked in those carpenters' factories'.

- 7.2 Tam jakes' eh jakes' **auto** bulo za-- **zaparkovane**
 There some-N.nom eh some-N.Nom auto-N.Nom was-N za-- parked-Perf.N

tak šo ne duže bulo vydno. (16/060)
 so that not very was-N visible-N

'There was some eh some car parked [there], so that not much was seen'.

Following our comparative method and diagnostics for determining the status of lone English-origin items in otherwise Ukrainian discourse developed earlier in Chapter 3, we will compare these lone English-origin adjectives and adjectival verbs to their counterparts in unmixed Ukrainian and English. Since there are no adjectival verbs in English, we will compare English-origin verbs with Ukrainian adjectival marking to their closest counterparts in English, participial adjectives. As in earlier chapters, we will concentrate mostly on language specific features pertinent to adjectives, adjectival verbs and participial adjectives in each language.

7.2 Ukrainian Adjectives and Adjectival Verbs

7.2.1 Adjectives

All adjectives in Ukrainian have mandatory overt affixation. Adjectives are formed from the stem of a 'proper' adjective (e.g., *harnyj* 'nice' and *bilyj* 'white' in 7.3), or a

noun (e.g., *ljuds'ki* 'people's' in 7.4)¹ by adding suffixes according to the required agreement with the head noun. Masculine adjectives are marked with *-yj*, *-(j)ij* (like *harnyj* 'nice' and *bilyj* 'white' in 7.3), feminine adjectives receive *-(j)a*, and neuter ones have *(j)e* in nominative singular. Nominative plural is marked with *-i* irrespective of gender (like *ljuds'ki* 'people's' in 7.4).²

- 7.3 Ja sobi zrobyla duže *harnyj* *bilyj* sveter. (16/019)
 I self-Dat made-F very nice-M.Acc white-M.Acc sweater
 'I have made a nice white sweater for myself'.

- 7.4 To **truckamy** perevozyly riči *ljuds'ki*. (29/098)
 It trucks-Ins moved-pl things-Acc people-pl.Acc
 '[They] moved people's things in trucks'.

These endings change according to information received from the head noun (see Appendix C for examples of adjectival conjugation). Hence, all adjectives must agree in gender, number and case with their head noun. Unlike head nouns, adjectival suffixes do not depend on any grammatical features of adjectives, and are conditioned by some adjectives only phonologically (i.e., soft versus hard final stem segment). The citation form for adjectives is masculine singular nominative.

Adjectives have two syntactic functions: 1) attributive, i.e., they modify the head of their noun phrase, like *harnyj* 'nice' and *bilyj* 'white' in (7.3); or 2) predicative, i.e., they are a part of a predicate, like *strašni* 'awful' in (7.5).³

- 7.5 Snihy taki *strašni* buly, to šos' *strašne*.
 Snow-pl.Nom such-pl.Nom awful-pl.Nom were it something awful-N.Nom
 'The snow was so heavy, it was something awful'. (06/211)

¹ The word *ljud-sk-i* is a possessive adjective. Therefore, it also has a possessive suffix *-s'k-* along with the plural marker *-i*.

² A very few Ukrainian adjectives may have a shortened masculine form which does not have overt gender ending, but usually has an adjectival suffix, as, e.g., in *slav-n-yj* 'glorious' versus *slav-en*. Adjectives with null marking in their short form, like *rad* 'glad', are rarer still. In fact, *rad* 'glad' may be the only example of a null marked Ukrainian adjective.

³ Sometimes adjectives may function as nouns if they occur as heads of noun phrases. Their grammatical features will be the same as of a noun which could have occurred in the same position.

Adjectives in a modifying position receive ‘triple’ grammatical information (i.e., gender, number and case) from the head noun. For example, the adjectives *harnyj* ‘nice’ and *bilyj* ‘white’ in (7.3) are marked for masculine singular accusative, since their head noun *sveter* ‘sweater’ is also masculine singular accusative. In (7.6), however, the adjective *likars’koi* ‘doctor’s’ shows different marking, i.e., feminine singular genitive, since it received its ‘triple’ grammatical information from a different noun, *opiky* ‘care’.

- 7.6 Jij treba vidrazu likars’koi opiky. (10/029)
 Her-Dat necessary immediately doctor’s-F.Gen care-F.Gen
 ‘She needs doctor’s care right away’.

Adjectives in a predicative position agree in gender, number, and usually case⁴ with their subjects (Kulyk 1965: 42) if the adjectives occur alone. For example, the adjective *strašni* ‘awful’ in (7.5) agrees in number and case with its subject *snihy* ‘snow’. However, when an adjective occurs within an noun phrase which is a part of a predicate, then the adjective must agree with the head noun, and not with the subject. In (7.7), for example, both adjectives *dobroho* ‘good’ and *rybackoho* ‘fisherman’s’ are masculine singular genitive, as their head noun *rodu* ‘ancestry’, but not feminine nominative, as the subject *vona* ‘she’.

- 7.7 Vona bula dobroho rybac’koho rodu...
 She was-F good-M.Gen fisherman’s-M.Gen ancestry-M.Gen
 ‘She was from a good fisherman ancestry’. (from Rusanivs’kyj et al. 1979: 157)

Ukrainian adjectives are not restricted in their syntactic position and can appear in different positions in the clause, as well as other parts of speech.⁵ Their base-generated position is usually the one immediately preceding the head for modifiers (i.e., A+N), or following a verb for predicative adjectives (i.e., V+A). For example, in (7.3) both the adjectives *harnyj* ‘nice’ and *bilyj* ‘white’ occur in a base-generated position immediately

⁴ Some adjectives in a predicate position may be assigned instrumental instead of nominative, depending on some semantic peculiarities, see Ivchenko (1965: 395) for details.

⁵ For a discussion of Ukrainian word order see Chapters 3 and 4.

preceding their head noun. In (7.4) the adjective *ljuds'ki* 'people's' does not precede its head noun, but instead follows it, since the latter has been moved from its original position. The adjective *strasni* 'awful' in (7.5) occurs in a non-base-generated position, since it precedes the verb *buly* 'were' instead of following it.

Degrees of comparison of Ukrainian adjectives can be formed either synthetically, as in *harnyj* 'nice' - *harnišyj* 'nicer' - *najharnišyj* 'nicest', or analytically, as in *znamenytyj* 'famous' - *menš znamenytyj* 'less famous' - *najmenš znamenytyj* 'least famous'.

7.2.2 Adjectival verbs

Adjectival verbs are formed from a verb by a combination of special participial and adjectival suffixes. Therefore, they possess features of both verbs and adjectives. Like verbs they have tense, mood, and aspect, and can assign case to their complements. Like adjectives they must agree with their head nouns in gender, number, and case. In (7.8), for example, *z-nyšč-en-yj* 'destroyed' is derived from a verb *nyščyty* 'to destroy'. It is in past tense, passive mood, perfective aspect, and is in concord with the subject *odjah* 'clothes' with respect to gender, number and case.

- 7.8 Nu, ale j odjah buv znyščenyj i ne
 Well, but and clothes-M.Nom was-M destroyed-Perf.Pass.M.Nom and not
 bulo z čym... (38/051)
 was-N with what-Ins

'Well, but the costumes were destroyed and there was nothing [to perform] in'.

Since an adjectival verb has the grammatical features of an adjective, it can fulfill the same roles in a clause that an adjective does. It can be used in an attributive (like *zakinčena* 'finished' in 7.9) or a predicative function (like *znyščenyj* 'destroyed' in 7.8).

- 7.9 A mama kaže: Synu, ce je ne
 And mom-F.Nom says Son-M.Voc this-N.Nom is/are not

zakinčena doroha. (08/048)
 finished-Perf.Pass. F.Nom road-F.Nom

'And mom says: Son, this is a road with no end'.

As a modifier, an adjectival verb is generated in the position immediately preceding a head noun, like *zakinčena* 'finished' in (7.9). As part of a predicate, it is originally generated in the position immediately following the verb, like *znyiščenyj* 'destroyed' in (7.8). However, owing to Ukrainian's comparatively unrestricted word order, its surface realization does not always correspond to its basic position, as it is the case for adjectives or many other parts of speech. For example, in (7.10) the adjectival verb *sporoškovane* 'powdered' does not precede its head noun *moloko* 'milk' since it is syntactically moved, surfacing immediately before the verb *davaly* 'gave'. Therefore, the modifier *sporoškovane* 'powdered' is not followed by its head noun, appearing in the surface order N+V+AdjV, instead of V+AdjV+N.

7.10 Moloko davaly poo-- *sporoškovane*. (15/138)
 Milk-N.Acc gave-pl powdered-Perf.Pass.N.Acc
 '[We] were given poo-- powdered milk'

7.3 English Adjectives and Participial Adjectives

7.3.1 Adjectives

Unlike Ukrainian, English adjectives usually do not have any particular adjectival marking, like *good* in (7.11). Some English adjectives, however, are marked with suffixes which are usually associated only with adjectives (Quirk et al. 1985), exemplified by *local* in (7.12).

7.11 Ta j kaže: It's a very *good* idea! (06/316)
 And [he] says:

7.12 I was not on a *local* agreement. (02/155)

Similar to Ukrainian adjectives, they can be used either as modifiers, like *good* in (7.11), and *local* in (7.12), or as a part of predicate, like *nice* in (7.13). However, contrary to Ukrainian neither attributive nor predicative adjectives are required to agree with their head nouns or subjects in number, gender and/or case (cf., e.g., *Italian girl* and *Italian boy*).

7.13 I've got one *Italian* girl, she was so *nice*. (02/150)

The comparatively restricted word order of English usually requires modifying adjectives to appear in the position immediately preceding the head noun,⁶ like *good* in (7.11), or *Italian* in (7.13). Predicative adjectives should follow the verb in English, like *nice* in (7.13).

Degrees of comparison are derived similarly to those in Ukrainian. Both comparative and superlative degrees may be formed either synthetically, as, e.g., in *nice* - *nicer* - *nicest*, or analytically, as in *important* - *more important* - *most important*.

7.3.2 Participial adjectives

Participial adjectives in English usually correspond to participial forms of verbs, i.e., verbs ending in *-ing* and *-ed* (including its irregular variants), e.g., *the expected results* versus *to expect results*. Some participial adjectives, however, do not have a corresponding verb form, e.g., *a talented friend* versus **to talent*.

Like 'proper' adjectives, participial adjectives can occur in attributive as well as predicative functions, as exemplified in (7.14) and (7.15) (from Quirk et al. 1985: 413). Attributive participial adjectives are usually interpreted as passive forms of their corresponding verbs, but need not be, e.g., *the departed guests* (Quirk et al. 1985: 413). Unlike Ukrainian, participial adjectives do not have tense, aspect, and cannot assign case in English.

⁶ When used as adverbs, English adjectives may follow the noun, like in *She likes her hair short* (cf. Quirk et al. 1985: 406).

7.14 The results were *unexpected*.

7.15 The *unexpected* results.

The syntactic position of participial adjectives is identical to that of proper adjectives, i.e., it is restricted to base-generated positions. No overt agreement is required between participial adjectives and their head nouns, as is the case for adjectives.

7.4 Procedure

Both English-origin adjectives and adjectival verbs are very infrequent in our data (as noted earlier in Chapter 1). The former accounts for less than 4% (67) of lone English-origin items occurring in an otherwise Ukrainian context, and the latter less than 1% (14). For our comparative purposes described in Chapter 3, we created two monolingual corpora of Ukrainian and English adjectives, each with approximately equal number of tokens. For the former, we extracted 3 adjectives per each interview, since lone English-origin adjectives occurred with a frequency of 2.7 (67/25) per speaker. These were drawn from the same portions of transcribed monolingual Ukrainian speech that were used for extracting unmixed Ukrainian nouns and verbs.⁷ It resulted in a corpus of 75 tokens. For the unmixed English corpus of adjectives, we extracted all adjectives appearing in stretches of unmixed English.⁸ They amounted to 42 tokens.

For comparing lone English-origin adjectival verbs with their unmixed counterparts, two corresponding monolingual corpora were created. Since adjectival verbs were not very frequent in the transcribed portions of unmixed Ukrainian, we extracted all of them to constitute the unmixed Ukrainian corpus of adjectival verbs (N=26). All participial adjectives occurring in the unmixed English speech of the same informants were drawn to form the unmixed English corpus (N=5). None of the unmixed English

⁷ Similar to verbs, we drew adjectives starting from the end of the transcribed interview portion, extracting each occurring adjective until three tokens were found.

⁸ English nouns used as adjectives (e.g., *bus station*) were not taken into consideration, since we concentrate on 'proper' adjectives only across corpora.

participial adjectives occurred within full clauses of monolingual English. Thus, all five tokens in this corpus were drawn from intrasentential CSs, as illustrated in (7.16).

- 7.16 Buly taki... eh jajcja... mišani, i toast, to
 were such-pl.Nom eh eggs-Nom mixed-pl.Nom and toast-Nom that-N
 amerykans'ke. My to ne bačyly v Nimeččyni, jak tut
 American-N.Nom We that-N not saw-pl in Germany-F.Loc as here
 nazyvajut po-amerykans'ky scamb'd eggs, you know, [Aha, aha] i
 call-3pl in-American [Aha, aha] and
 tam bacon, i tam... pomaranči, i vsjake take.
 there bacon-Nom and there oranges-Nom and various-N.Nom such-N.Nom
 'There were such... eh eggs... mixed, and a toast, that American one. We have
 never seen that in Germany, as they say here in America scrambled eggs, you
 know, and there [was] bacon, and there [were]... oranges, and other things'.
 (03/035)

7.5 Coding

Since our goal is to determine which grammar, English or Ukrainian, produced lone English-origin adjectives and adjectival verbs, we coded all tokens across corpora for a number of factors relevant to language-specific features of both languages. Purely linguistic factors include overt adjectival marking, adjective-noun agreement, and the syntactic position of the token in question. In addition, we examined pronunciation (where possible) and flagging to check whether there are any particular patterns or tendencies exhibited by tokens across corpora.

7.5.1 Morpho-syntactic features

7.5.1.1 Adjectival marking

We first coded all adjectives and adjectival verbs according to type of marking, since Ukrainian and English differ considerably in this respect. For nouns with overt Ukrainian marking, we distinguished between those which are inflected only with overt Ukrainian morphology, like *machinovyj* 'machine-like' in (7.17), and those which feature

both overt Ukrainian and overt English adjectival marking, like *exclusivnoji* in (7.18). It has a Ukrainian ending *-noji* and an English adjectival suffix *-iv-*.

- 7.17 Ja vertajus', chata perevermena, na ližku karabin...
I return-1sg house-F.Nom overturned-F.Nom on bed-N.Loc gun-M.Nom

machinovyj (36/B/121)
machine-like-M.Nom

'I come back, the house is overturned, and there is a gun on the bed... the machine-[gun]'.

- 7.18 Pišla do duže, duže takoji **exclusivnoji** [ekskljuzivnoji]
Went-F to very very such-F.Gen exclusive-F.Gen

highschool v Filadelfiji. (20/173)⁹
highschool-Ø in Philadelphia-F.Loc

'[She] went to such a very, very exclusive highschool in Philadelphia'.

Adjectives and adjectival verbs with null Ukrainian morphology were also coded in two groups: 1) those ones which had overt English affixation, i.e., a typical adjectival ending (e.g., *-ful*, *-less*, *-able*, *-ic*, *-al*, *-ish*, *-y*), or participial ending (e.g., *-ed*, or *-ing*); and 2) those ones which were marked neither by Ukrainian nor by English markers. The former is exemplified by *artificial* in (7.19) and *demolished* in (7.20), and the latter is shown in (7.21) by the adjective *perfect*.

- 7.19 Hi, ne maju, ne maju, krim si-- takych **artificial**...
No not have-1sg not have-1sg besides si-- such-pl.Gen artificial

tych to ja ne maju cvitiv. (21B/035).
those-pl.Gen so I not have-1sg flowers-Gen

'No, I don't have [them], I don't have [them], besides si-- such artificial ones, I don't have flowers'.

- 7.20 No, ne perevernulasja, ale bula cilkovyto **demolished**. (25/314)
No not overturned-Perf.Refl.F but was-F totally demolished-Ø
'No, [it] did not roll over, but was totally demolished'.

⁹ This is a repeated example (5.9).

- 7.21 My ne je **perfect** f-- v anglijs'kij movi, ale
 We not is/are perfect-Ø f-- in English-F.Loc language-F.Loc but
 rozhovorytysja možem. (25/311)
 talk-Perf.Inf.Refl can-1pl

'We are not perfect i-- in English, but we can get into talking'

7.5.1.2 Agreement

We then coded tokens with respect to adjective-noun agreement, since in English there is no such agreement, whereas in Ukrainian this agreement is overt and mandatory. Lone English-origin and Ukrainian adjectives and adjectival verbs which agreed with a head noun and/or subject in all three grammatical categories, i.e., gender, number and case, like *machinovyj* 'machine-like' in (7.17) and *carpenters'kych* in (7.1), were coded as having 'standard agreement'. Those tokens which did not observe the required 'triple' agreement with their corresponding nouns, like *exclusivnoji* in (7.18) and *publicnym* in (7.22) were coded as exhibiting 'non-standard agreement'.

- 7.22 Niby eh ji-- jizdyty pab-- eh **publicnym...** [publiɣnim] **transportacijuv,**
 as-if eh ji-- go-Inf pub-- eh public-M.Ins transportation-F.Ins
 treba sy bulo troška perebraty. (10/361)
 necessary Refl-CI was-N little change-Perf.Inf

'If [you] j-- use pub-- eh public transportation, you would need to change [your clothes] occasionally'.

If adjectives and adjectival verbs appeared alone, and there were no nouns in their clause to agree with, we coded such tokens, as 'agreement not required'. These are shown in (7.23).

- 7.23 Jakby my chotily jich posylaty do **publicnych,** tak, to bulo
 If we wanted-pl them-Acc send-Inf to public-pl.Gen yes that was-N
 zadurno. (17/290)
 for-nothing

'If we wanted to send them to public [ones], yes, that was free'.

Unmixed English tokens were excluded from this factor group since English does not have adjectival agreement.

7.5.1.3 Syntactic position¹⁰

We next coded all tokens across corpora according to the syntactic position they were realized in on the surface, because this is another feature with respect to which Ukrainian and English differ. Recall that English restricts the movement of adjectives in the clause considerably, whereas Ukrainian does not. Since the surface realization of a clause can be the result of many different syntactic operations, either involving adjectives and adjectival verbs or not, we again focused on a minimal projection within which an item in question was generated. Thus, modifying adjectives and adjectival verbs which immediately preceded their head nouns (i.e., A+N), like *exklusivnoji* in (7.18) and *publičnym* in (7.22) were coded as appearing in their *base-generated* positions. So were predicative adjectives and adjectival verbs which occurred in the base-generated position immediately following a verb (i.e., V+A), like *demolished* in (7.20) and *perfect* in (7.21). Modifying adjectives and adjectival verbs which occurred in any other position, but preceding their head nouns, were coded as being in a position '*other than base-generated*'.¹¹ They are exemplified by *machinovyj* 'machine-like' in (7.17) which follows its head noun, instead of preceding it. Predicative adjectives and adjectival verbs, like *zainsurovani* in (7.24) were also coded as occurring in a non-base-generated position. In (7.24), for example, the adjectival verb *zainsurovani* precedes the auxiliary *buly* 'were' instead of following it.

7.24 Vsi kompjutery m-- zipsuvalysja, ale vin na nych mav
All computers-pl.Nom m-- broke-Refl-pl but he for them-Acc had-M

¹⁰ As in the case of verbs, this factor group does not correspond to surface word order. It deals with the overt placement of adjectives and adjectival verbs with respect to their base-generated positions, as discussed in sections 2 and 3.

¹¹ For this project we did not distinguish whether the adjective itself was syntactically moved, or its head noun did it, since in either case the base-generated adjectival phrase was not preserved on the surface.

insurance, **zainsurovani** **buly,** to **vin** 'stav **insurance.** (30/149)
 insurance-M.Acc insured-Perf.pl were so he got-M insurance-M.Acc

'All computers m-- got broken, but he had insurance on them, [they] were insured, so he got the insurance'.

7.5.2 Pronunciation

Similar to nouns and verbs, we have coded lone English-origin adjectives and adjectival verbs with overt Ukrainian morphology with respect to their pronunciation. Tokens like *publičnym* [publiʃnim] in (7.22), and *exklusivnoji* [ekskljuzivnoji] in (7.18), which exhibited full phonological assimilation in their pronunciation, were coded as having *considerably changed* pronunciation. Tokens like *statova* [stejtova] in (7.25) and *zaparkovane* in (7.2), which did not show considerable phonological changes in their sound form, were coded as having *comparatively unchanged* pronunciation to the extent that the speaker controls it in the first place (see also Chapter 3 for the discussion of phonological assimilation).

7.25 I to by bula jak vony **kazut'** eh... eh **statova** škola.
 And that would been-F as they say-3pl eh... eh state-F.Nom school-F.Nom
 'And that would have been eh... eh a state school, as they say'. (37/306)

7.5.3 Flagging

As in the case of nouns and verbs, we also coded adjectives with respect to flagging. Tokens which were immediately preceded by an audible pause, like *machinovyj* 'machine-like' in (7.17), were coded as being accompanied by a *pause*. Tokens, like *publičnym* in (7.22), which occurred with a *false start* or hesitation, were coded as a separate factor. Tokens uttered as a part of *reported speech* were coded correspondingly. These are exemplified by *good* in (7.11) and *zakinčena* 'finished' in (7.9). Adjectives and adjectival verbs accompanied by different types of meta-linguistic comments, translation or explanation, were coded as being flagged by *meta-linguistic speech*. These are shown in (7.26) by *home-sick*.

- 7.26 Ta ja vse bula jak kaže amerykanec **home-sick...** čužyla
 And I always was-F as says American-M.Nom home-sick-Ø longed-F
 za domom. (37/042)
 for home-M.Ins.

‘And I was always home-sick, as an American says, [I] longed for [my] home’.

Tokens occurring with more than one type of flagging discussed above, like *statova* in (7.25), which is accompanied by meta-linguistic speech *jak vony kažuť* ‘as they say’ and an audible pause, were coded as having *multiple* flagging. Adjectives and adjectival verbs, like *precisijna* in (7.27) and *zainsurovani* in (7.24), were coded as appearing in smooth *unflagged* discourse.

- 7.27 I to **notuvalosja**, to duže **precisijna** [præt°sezijna] robota.
 And that-N noted-Refl that-N very precise-F.Nom work-F.Nom
 ‘And it was recorded, it [was] a very accurate work’. (25/285)

7.5.4 Exclusions

Lone English-origin adjectives were not examined with respect to degrees of comparison, since both Ukrainian and English employ the same techniques for comparative and superlative degrees (as discussed in sections 2 and 3). Further, lone English-origin adjectival verbs were not scrutinized with respect to verbal features, i.e., tense, aspect, mood and case, for the following reasons: 1) all English-origin verbs with overt Ukrainian adjectival marking appeared exclusively in the past tense; 2) most of them were passive, and is similar to unmixed English (see section 7.3); 3) all of them (with the exception of two ambiguous tokens) were marked with perfective prefixes; and 4) they did not appear in a construction with complements, where they should have assigned case. And, at any rate, the first three categories are encoded with a Ukrainian inflection, and hence, do not depend on the adjectival stem. Only the category of case would indicate whether an English-origin token acquired a language-specific Ukrainian feature, and this was not possible to examine.

7.6 Predictions

Based on the language-specific features discussed earlier, and employing our comparative method for determining the status of lone English-origin adjectives and adjectival verbs, we hypothesize that those English-origin tokens which are *borrowed* will obey the requirements of standard Ukrainian grammar to a similar extent and in the same pattern as their Ukrainian counterparts. In particular, they will be expected:

I. With respect to morpho-syntactic features –

- (a) To be overtly inflected with adjectival endings required in Ukrainian;
- (b) To exhibit a similar rate of non-agreement with nouns to that of unmixed Ukrainian adjectives and adjectival verbs;
- (c) To appear in non-base-generated positions with the same frequency as like items in the unmixed Ukrainian data and more frequently than their unmixed English counterparts.

II. Many such adjectives and adjectival verbs will exhibit full phonological assimilation.

III. They will be accompanied by the same types of discourse flagging at a rate parallel to native Ukrainian adjectives and adjectival verbs.

If lone English-origin adjectives and adjectival verbs used in otherwise Ukrainian discourse are *code-switched* they will be expected to show the following behavior:

IV. With respect to purely linguistic factors –

- (a) They will show no overt Ukrainian marking and will exhibit typical English adjectival and participial affixation as often as their unmixed English counterparts;
- (b) There will be no agreement between lone English-origin adjectives and participial adjectives, and Ukrainian nouns;
- (c) They will occur in base-generated positions more often, as would their unmixed English counterparts.

V. There will be little if any phonological changes in the phonetic form of such tokens.

VI. Their patterning with respect to types of flagging will be similar to that of their unmixed English counterparts.

VII. If lone English-origin adjectives and adjectival verbs are code-switched within word boundaries, they would exhibit exactly the same behavior as predicted for code-switched items in general (i.e., hypotheses II and IV), with the exception that:

- (a) They may be inflected by Ukrainian adjectival morphology, but not necessarily as often as unmixed Ukrainian counterparts;
- (b) They may show some agreement with Ukrainian nouns, similarly to unmixed Ukrainian adjectives and adjectival verbs;¹²
- (c) When not accompanied by overt head nouns, they will be marked with a default masculine-singular-nominative marker, irrespective of number and case required in that particular position.

Table 7.1. Predictions for code-switched and borrowed English-origin adjectives and adjectival verbs used in Ukrainian discourse.

Factor-groups	Factors	Borrowed items frequency	Code-switched items frequency
Inflection	overt	more	less
	null	less	more
Agreement	standard	more	less
	non-standard	less	more
Syntactic position	base-generated	less	more
	non-base-generated	more	less
Pronunciation	unchanged	less	more
	changed	more	less
Flagging	present	less	more
	absent	more	less

¹² Recall that agreement is carried out by a Ukrainian inflection which does not depend on the grammatical properties of the adjective, i.e., the grammatical information may percolate from the noun without the participation of an adjective (see section 2 for details);

Our expectations with regard to borrowed and code-switched lone English-origin adjectives and adjectival verbs are generalized in Table 7.1.

7.7 Results

7.7.1 Adjectives

7.7.1.1 *Adjectival marking.*

We first examine the distribution of overt adjectival morphology across corpora. According to Figure 7.1, 77% of lone English-origin adjectives used in Ukrainian discourse are overtly inflected with Ukrainian adjectival endings, like *statova* in (7.25). And only 10% (5/52) of such overtly marked adjectives feature double (i.e., Ukrainian and English) adjectival morphology. Twenty-two per cent of lone English-origin adjectives remained bare, i.e., exhibited null Ukrainian morphology (like *perfect* in 7.21). This is very unusual for Ukrainian discourse, since null marked adjectives are categorically disallowed in Ukrainian. Our results in Figure 7.1 certainly indicate this to be the case – none of the unmixed Ukrainian adjectives occurred null-marked. By contrast, in English null-marked adjectives are quite common, as evidenced by our unmixed English data. Adjectives with null morphology constitute 79% of unmixed English tokens. Since overt adjectival morphology is mandatory in Ukrainian, while null marking is more prevalent in English, it is possible that English-origin adjectives with no Ukrainian morphology are code-switched. However, since the number of such bare adjectives is much smaller than the tokens with overt Ukrainian marking, their behavior will be obscured if compared together with overtly marked adjectives. We will, therefore, exclude bare adjectives, as potential candidates for CSs, from the following calculations. They will be discussed later in section 7.7.1.6.

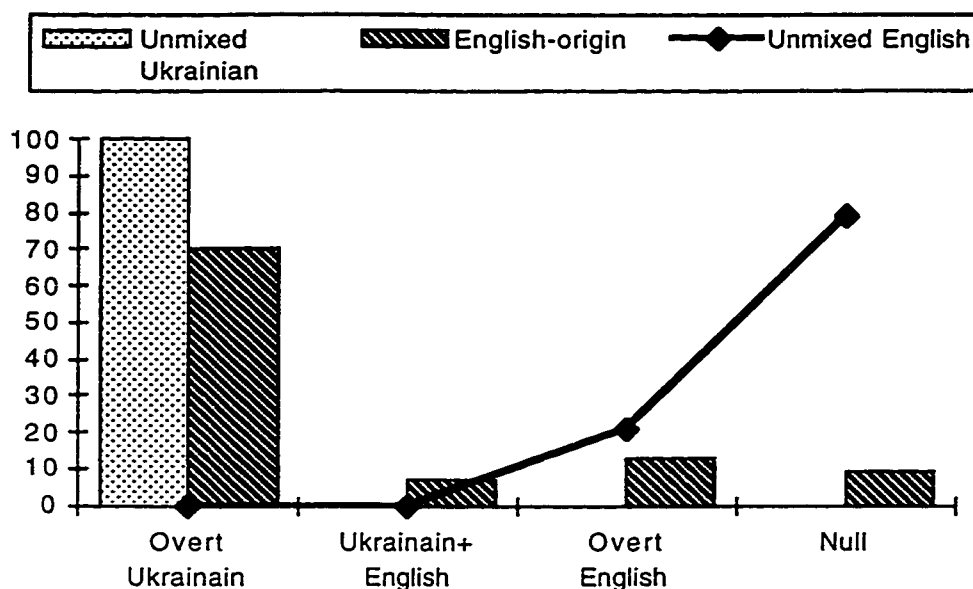


Figure 7.1. Distribution of adjectival marking across corpora.¹³

Note also that the English-origin corpus of adjectives (irrespective of having an overt Ukrainian marking) exhibits exactly the same composition of English adjectival marking as their unmixed English counterparts: 79% (70% + 9%) of English-origin adjectives have null English marking, and 20% (7% + 13%) have English adjectival marking. This is not surprising since English-origin adjectives and unmixed English tokens are drawn from the same language of origin. However, which language system, English or Ukrainian, selected these English-origin adjectives, remains questionable, and can only be proven empirically.

7.7.1.2 *Adjective-noun agreement*

We next examine how English-origin adjectives with overt Ukrainian marking agree with nouns. Recall that adjective-noun agreement is totally absent in English, but is obligatory in Ukrainian. Table 7.2 shows very striking results. The rate of observed gender, number and case agreement (as in 7.17) is the same for both English-origin and Ukrainian adjectives (86% and 92% correspondingly). Adjectives, irrespective of their

¹³ See Table D-2 in Appendix D for numbers.

origin, are not in concord with the noun (as shown in 7.22) at similar frequencies (10% and 7%). These results support two of our hypotheses, Ib and VIIb. The former suggests that lone English-origin adjectives do not differ from their unmixed Ukrainian counterparts with respect to agreement, and thereby provide important evidence that they are borrowed. The latter assumes that these overtly inflected adjectives may in fact be code-switched within word boundaries. Recall that agreement does not necessarily depend on the grammatical features of the adjective, since grammatical information percolates from the noun, and is reflected by a Ukrainian adjectival inflection. In order to determine which hypothesis, Ib or VIIb, is most viable, we will seek further evidence. The ability of the adjective to occur in a non-base-generated position provides just such a test, since only adjectives produced by Ukrainian grammar can do so. We will examine this in the following section.

Table 7.2. Distribution of adjective-noun agreement of overtly inflected tokens.

Agreement	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Standard	69/75	92	45/52	86
Non-standard	5/75	7	5/52	10
Not required	1/75	1	2/52	4

Lone English-origin adjectives which occurred without overt head nouns are very rare (4%). But even they are not marked with the default, masculine-singular-nominative inflection (as predicted by hypothesis VIIc). Instead, they are inflected with the proper case and number marker, as required according to Ukrainian grammar. In (7.23), for example, the adjective *publičnych*, which occurs with no head noun, is marked for plural genitive, a case assigned by the preposition *do* 'to' to the adjectival phrase hosting that adjective. This definitely suggests that such adjectives were produced by Ukrainian, and

not by English, grammar, refuting part (VIIc) of our hypothesis predicted for word-internal CS.

7.7.1.3 Syntactic position

Recall that adjectives produced by Ukrainian grammar should have the ability to move in syntax and hence, appear in a non-base-generated position. Whereas, adjectives produced by English should usually occur in their original positions. Table 7.3 supports these observations with respect to unmixed corpora: 1) unmixed English adjectives almost categorically occur in their base-generated positions, i.e., 98% (with the exception of one token); 2) unmixed Ukrainian nouns allow adjectives to occur in a non-generated position 29% of the time. If lone English-origin adjectives with overt Ukrainian morphology were code-switched word-internally, they should also have remained in their original position most of the time. But Table 7.3 shows the opposite. Lone English-origin adjectives are as free to move in the clause as their Ukrainian counterparts. In fact, they appear in a non-base generated position (like *machinovyj* ‘machine-like’ in 7.17) with exactly the same frequency as the Ukrainian adjectives (29%). This is evidence that lone English-origin adjectives with overt Ukrainian marking took on the Ukrainian property of movement in syntax, and hence, they are the product of Ukrainian, and not English. The results in Table 7.3, therefore, refute our hypothesis VII that lone English-origin adjectives with overt Ukrainian morphology are the product of CS within word boundaries, and instead support our predictions for borrowed adjectives (i.e., hypothesis Ic).

Table 7.3. Distribution of adjectives with respect to their syntactic position.

Syntactic position	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Base-generated	53/75	71	37/52	71	41/42	98
Non-base-generated	22/75	29	15/52	29	1/42	2

7.7.1.4 Pronunciation

We next examine the ratio of English-origin adjectives with full phonological assimilation. Table 7.4 shows that similar to overtly marked nouns and verbs, a large number of English-origin adjectives with overt Ukrainian morphology also exhibit considerable phonological changes in their pronunciation (44%), like *precisijna* [prytsezijna] in (7.27). Although this number does not represent the majority of tokens, it is still very high, partially supporting our expectations for borrowed adjectives (i.e., hypothesis II). However, more overtly marked English-origin adjectives remain comparatively unchanged (like *carpenters'kych* in 7.1), even though they are inflected by Ukrainian affixes (56%), facilitating phonological assimilation. Some of these adjectives, however, may also be somewhat phonologically assimilated, but since we could not differentiate whether some approximation of Ukrainian phonemes was the result of phonological assimilation in the process of BOR or simply reflected the 'foreign accent' of speakers, we cannot take this as evidence of adjective's status. Moreover, since overtly marked English-origin adjectives exhibited parallel behavior with respect to clearly defined morpho-syntactic features, these results again show that phonological assimilation is often present in the process of BOR, but does not necessarily have to take place.

Table 7.4. Pronunciation of lone English-origin adjectives.

Pronunciation	English-origin verbs in Ukrainian	
	N	%
Comparatively unchanged	29/52	56
Considerably changed	23/52	44

7.7.1.5 Flagging

For additional evidence that overtly marked English-origin adjectives do not differ from their unmixed Ukrainian counterparts, we examine the frequency and type of flagging

in the vicinity of such tokens. Table 7.5 shows that while English-origin adjectives appear more frequently in the company of a production 'flag' (33%) than the Ukrainian adjectives (19%), they are less frequently flagged than unmixed English ones (43%). As expected for borrowed adjectives (see hypothesis III), English-origin adjectives prefer the same types of flagging as do unmixed Ukrainian, but not English, adjectives. Lone English-origin adjectives are most frequently used with discourse phenomena (i.e., false start or pause), as are their Ukrainian counterparts (19% and 9% correspondingly). Unmixed English adjectives, however, occur most frequently accompanied by meta-linguistic speech or multiple flagging which includes meta-linguistic speech as well (17% and 12%). The similar patterning of the type of flagging used in the vicinity of English-origin and unmixed Ukrainian adjectives suggests that speakers treat English-origin adjectives with overt Ukrainian morphology like unmixed Ukrainian adjectives, supporting our hypothesis III for borrowed adjectives, but not the one for code-switched tokens (i.e., hypothesis VI).

Table 7.5. Distribution of flagging in the vicinity of adjectives across corpora.

FLAGGING	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Pause/false start	7/75	9	10/52	19	3/42	7
Meta-linguistic	5/75	7	4/52	8	7/42	17
Multiple flag.	0/75	0	3/52	6	5/42	12
Reported speech	3/75	4	0/52	0	3/42	7
Null	61/75	81	35/52	67	24/42	57

7.7.1.6 *Bare English-origin adjectives*

We next examine English-origin adjectives with no overt Ukrainian adjectival morphology. Recall that 22% (N=15) of lone English-origin adjectives appear bare in Ukrainian discourse (see Figure 7.1), which is categorically disallowed by Ukrainian grammar and supported by our unmixed Ukrainian data. Table 7.8 shows that bare English-origin adjectives behave very similarly to unmixed English adjectives discussed

earlier in Tables 7.3 and 7.5. First of all, they show no agreement (100%) with their Ukrainian nouns, like *artificial* in (7.19), which is exactly what would be expected in English. This supports our hypothesis IVb for code-switched tokens, and refutes hypothesis Ib for borrowed ones.

Table 7.6. Bare English-origin adjectives in Ukrainian discourse.

Factor-group	Factors	N	%
Agreement	not-observed	15/15	100
	observed	0/15	0
Syntactic position	base-generated	13/15	87
	syntactically moved	2/15	13
Flagging	Absent	5/15	33
	Meta-linguistic	7/15	47
	Pause/false start	2/15	13
	Multiple flagging	1/15	7

Most of the bare English-origin adjectives appear in a base-generated position (87%), which is equivalent in both languages. Only two tokens which do not precede their nouns, one of which is *artificial* in (7.19), may actually be argued to appear in their base-generated positions as well. Consider the sentence (7.19) repeated here as (7.28). The adjective *artificial* in (7.28) is not followed by the noun *cvitiv* 'flowers', as expected of in a base-generated position. Instead, it is followed by a pronoun *tych* 'those', which can be viewed as a substitute for the English 'ones'. If the latter is used as an antecedent of a noun *cvitiv* 'flowers', then the adjective *artificial* does appear in A+N construction, where the noun is substituted for a pronoun. Although this is very unusual in Ukrainian, such substitution is common in English. Hence, we can assume that even those two tokens which are not followed by nouns in their minimal projections still occur in their base-generated positions, as would be expected of English adjectives. This again supports hypothesis (IVc), predicting the behavior of code-switched tokens, but not borrowed ones (i.e., hypothesis Ic).

7.28 Hi, ne maju, ne maju, krim si-- takych **artificial...**
 No not have-1sg not have-1sg besides si-- such-pl.Gen artificial

tych to ja ne maju cvitiv. (21B/035).
 those-pl.Gen so I not have-1sg flowers-Gen

'No, I don't have [them], I don't have [them], besides si-- such artificial ones, I don't have flowers'.

With respect to flagging, bare English-origin adjectives are very heavily marked with various flagging devices. They are accompanied by production 'flags' more than twice as often as overtly marked English-origin adjectives (67% versus 33% (from Table 7.4)). Furthermore, meta-linguistic speech is the most frequent type of flagging. It accompanies at least every second bare token (47% + 7%). Recall that the same type of flagging was also frequent in the unmixed English corpus (see Table 7.4), but neither in unmixed Ukrainian nor with overtly inflected English-origin tokens. This refutes our predictions for borrowed adjectives with respect to flagging (i.e., hypothesis III), and confirms our expectations for CSs (i.e., hypothesis VI).

Taking into account these observations, we conclude that bare English-origin adjectives used in an otherwise Ukrainian context behave as if they are produced by English, and not Ukrainian grammar. Hence, they are most likely code-switched.

7.7.1.7. *Summary.*

We have demonstrated that the majority of lone English-origin adjectives appearing in otherwise Ukrainian discourse are overtly marked by Ukrainian morphology (as required in Ukrainian). Moreover, such adjectives with overt Ukrainian adjectival marking behaved exactly as if they were Ukrainian with respect to morphological marking, adjective-noun agreement and their syntactic position, irrespective of having a typically English adjectival ending or not. In addition, a considerable number of them exhibited full phonological assimilation. And they were also accompanied by the same type of flagging as their Ukrainian counterparts. Since all these findings supported our predictions for borrowed

English-origin adjectives (see hypotheses I - III), and there was no evidence for CS within word boundaries (see hypothesis VII), we conclude that lone English-origin adjectives with overt Ukrainian morphology occurring in Ukrainian discourse are borrowed.

A much smaller number of lone English-origin adjectives occurred in Ukrainian discourse with null Ukrainian marking. Contrary to overtly inflected tokens, these bare English-origin adjectives exhibited the behavior expected of unmixed English nouns with respect to all morpho-syntactic features considered here. Additional evidence from flagging supports our expectations for code-switched adjectives. We therefore conclude that bare English-origin adjectives used in otherwise Ukrainian speech are the product of CS.

7.7.2 Adjectival verbs

7.7.2.1 Morphological marking

The distribution of morphological marking of adjectival verbs and participial adjectives (henceforth adjectival verbs, as well) is shown in Figure 7.2. All unmixed Ukrainian and English adjectival verbs are categorically overtly marked (similar to adjectives). Lone English-origin adjectival verbs appeared with overt Ukrainian morphology 64% and with overt English suffixation 36% of the time. Note that there were no English-origin tokens with double morphology, i.e., Ukrainian and English participial and adjectival marking simultaneously. Since each language strictly requires its own morphological marking for adjectival verbs, and bare adjectival verbs are categorically disallowed in Ukrainian, we will again separate tokens with overt Ukrainian endings from those which feature no Ukrainian, but overt English marking. Similarly to adjectives, we will first discuss adjectival verbs with overt Ukrainian morphology, and then in a separate section, we will examine bare English-origin adjectival verbs.

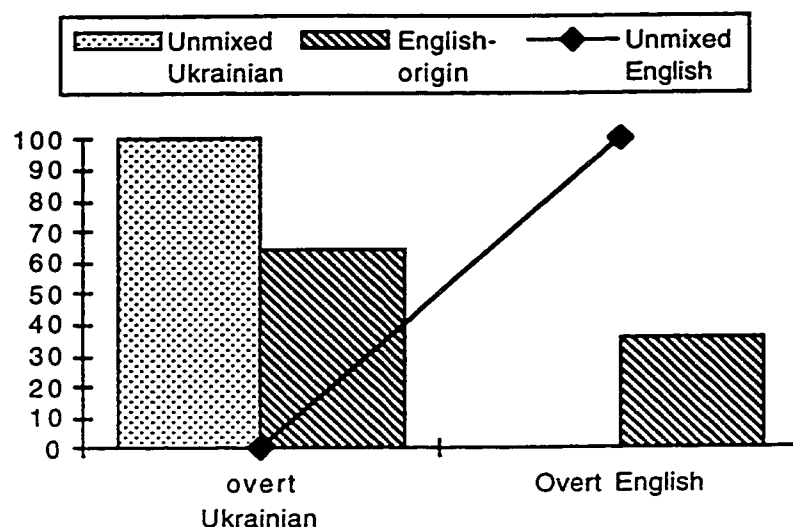


Figure 7.2. Distribution of overt marking of adjectival verbs and participial adjectives.¹⁴

7.7.2.2 Agreement

We next examine whether English-origin adjectival verbs with overt Ukrainian endings agree with their nouns in gender, number and case. Table 7.7 shows that they are categorically in concord with their corresponding nouns, as are their Ukrainian counterparts (100% each). This obviously supports our hypothesis predicting the behavior of borrowed adjectival verbs (i.e., hypothesis Ib). However, this does not contradict our expectations for word-internal CSs either (i.e., hypothesis VIIa and b). To resolve this dilemma we will next compare the ability of these English-origin adjectival verbs to appear in a non-base-generated position.

There was only one token in the English-origin corpus which appeared with an empty head noun. It is shown in (7.29). Like similar adjectives it does not exhibit a default marker (i.e., masculine singular nominative). Instead it is overtly marked for plural genitive, the case assigned by the preposition *dlja* ‘for’. This suggests that English-origin adjectival verbs are capable of receiving and exhibiting necessary grammatical information,

¹⁴ For numbers see Table D-3 in Appendix D.

even though the noun which usually does this is absent. This is definitely a feature of a Ukrainian adjectival verb, and not an English one.

Table 7.7. Distribution of agreement between overtly inflected adjectival verbs and nouns.

Agreement	Ukrainian unmixed		English-origin in Ukrainian	
	N	%	N	%
Standard	26/26	100	9/9	100
Non-standard	0/26	0	0/9	0
Not required	0/26	0	0/9	0

- 7.29 To takož bulo dlja takych počatkujučych, dlja zaadvancovanych
 so also was-N for such-plGen beginners-pl.Gen for advanced-Perf.pl.Gen
- [záəvənzóvanɪx] i dlja tych šo vže dobre volodijut' to buly
 and for those-Gen that already well master-3pl so were
- rizni kursy. (15/312)
 different-pl.Nom courses-Nom

'There were also different courses for such beginners, for advanced [ones], and for those who already mastered [the language] well'.

7.7.2.3 Syntactic position.

Table 7.8 show that English-origin adjectival verbs have the same ability to appear in non-base-generated word order as their Ukrainian counterparts (33% and 31% correspondingly). Unlike unmixed English adjectival verbs, which categorically occur only in a base-generated position, English-origin adjectival verbs appear in the same position 67% of the time, as do their Ukrainian counterparts (69%). This evidently suggests that English-origin adjectival verbs are behaving as if they were Ukrainian and not English; and therefore, refutes our expectations for word-internal CSs, and supports our predictions for BORs (i.e., hypothesis 1c).

Table 7.8. Distribution of adjectival verbs with respect to their syntactic position.

Syntactic position	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Base-generated	18/26	69	6/9	67	5/5	100
Non-base-generated	8/26	31	3/9	33	0/5	0

7.7.2.4 Pronunciation

Table 7.9 shows that the majority (67%) of English-origin adjectival verbs with overt Ukrainian morphology have considerably changed their pronunciation, like *zaadvancovanych* [zaəvənzóvanix] in (7.29). This is similar to overtly marked nouns, verbs, and even adjectives, which we earlier inferred to be BORs. These results provide additional evidence in favor of the borrowing analysis of overtly marked adjectival verbs (hypothesis II).

Table 7.9. Pronunciation of lone English-origin adjectives.

Pronunciation	English-origin verbs in Ukrainian	
	N	%
Comparatively unchanged	3/9	33
Considerably changed	6/9	67

7.7.2.5 Flagging

In addition, we also examined the distribution of flagging with respect to adjectival verbs. Table 7.10 shows English-origin tokens are flagged with the same frequency as the unmixed Ukrainian adjectival verbs (33% and 38% correspondingly), and much less frequently than the unmixed English counterparts (80%). And although the numbers of tokens in each corpus is quite scarce, the tendency observed with the similar types of flagging can be seen between English-origin and unmixed Ukrainian tokens. Both of them

are most often flagged with discourse phenomena (22% and 19%). Unmixed English tokens also occur most often with discourse phenomena (40%). However, it is accompanied by meta-linguistic speech with identical frequency (40%), which is not the case in the other two corpora.

Table 7.10. Distribution of flagging in the vicinity of adjectival verbs across corpora.

Flagging	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Pause/false start	5/26	19	2/9	22	2/5	40
Meta-linguistic	1/26	4	1/9	11	2/5	40
Both	0/26	0	0/9	0	0/5	0
Reported speech	4/26	15	0/9	0	0/5	0
Null	16/26	62	6/9	67	1/5	20

7.7.2.6 *Bare English-origin adjectival verbs*

Recall that 36% (N=5) of lone English-origin adjectival verbs used in Ukrainian discourse featured null Ukrainian morphology. Since Ukrainian requires mandatory adjectival verb inflections, these tokens were categorically non-standard with respect to Ukrainian grammar. All 5 tokens, however, retained their English participial marking, like *demolished* in (7.20). None of them showed any agreement with their nouns, as would be the case in English. With the exception of one ambiguous token, all of them appeared in base-generated position, which is equivalent in both languages. Three of the bare adjectival verbs appeared unflagged in smooth speech. The two that were flagged were accompanied by meta-linguistic speech (40%), the type of flagging which was most frequent for their unmixed English counterparts, and for bare English-origin adjectives (confirming the hypothesis VI). These observations, therefore, suggest that bare English-origin adjectival verbs behave as if they were English, and hence, they are most likely code-switched.

7.7.2.7 *Summary*

Lone English-origin adjectival verbs are extremely rare in mixed discourse. However, the majority of them occur with overt Ukrainian affixation, similar to adjectives and verbs (i.e., parts of speech disallowing null marking in Ukrainian). Furthermore, English-origin adjectival verbs with overt Ukrainian morphology behave similarly to their Ukrainian counterparts with respect to morphological marking, agreement and syntactic position. The majority of tokens is fully phonologically assimilated. And, they share similar strategies of flagging with Ukrainian adjectival verbs.

English-origin adjectival verbs with null Ukrainian morphology show behavior more in keeping with their unmixed English counterparts. Unlike Ukrainian adjectival verbs they have no overt Ukrainian but retain their English morphology. They do not participate in agreement and are restricted to base-generated position. These are exactly the features required by English grammar and exhibited by unmixed English participial adjectives. Although the data are too scarce to allow any conclusions, our results nonetheless suggest that English-origin adjectival verbs with null Ukrainian morphology are code-switched, whereas those with overt Ukrainian marking are borrowed.

Chapter 8

ADVERBS

8.1 Introduction

In this Chapter we will examine lone English-origin adverbs, like *perfectno* in (8.1), occurring in otherwise Ukrainian speech.

- 8.1 Navit'... ljudyna jaka znaje **perfectno** anglijs'ku
 Even person-F.Nom which-F.Nom knows perfectly English-F.Acc
- movu mus-- to treba maty slo-- slovar bo
 language-F.Acc mus-- so needed have-Inf slo-- dictionary-M.Acc because
- ne znaje... jak pevni slova pysaty. (01/111)
 not knows how certain-pl.Acc words-Acc write-Inf

'Even a person who knows English perfectly m-- must have a d-- dictionary, because he/she does not know how to write certain words'.

As with nouns, verbs, adjectives and adjectival verbs discussed in the previous chapters, we will pursue the same diagnostic techniques. We will compare lone English-origin adverbs used in otherwise Ukrainian discourse to their counterparts in unmixed Ukrainian and English contexts.

8.2 Ukrainian Adverbs

Ukrainian adverbs are formed by adverbializing any part of speech, either with special overt, or null morphology. In (8.2), for example, both the adverbs *todi* 'then' and *tam* 'there' are derived from Ukrainian pronouns of time and place, with null suffixation.

- 8.2 *Todi* my *tam* do pyvnyci vtikaly. (20/014)
 Then we there to basement-F.Gen ran-away-pl
 'Then we ran to the basement there [to hide]'.

In (8.3), the adverb *perse* 'firstly' is made from the stem of a numeral *persyj* 'first' by adding an adverbial suffix *-e*. Thus, Ukrainian adverbs can be either null or overtly

marked with a number of adverbial endings (e.g., *-o*, *-e*, *-ky*, *-omu*), depending on the part of speech they are derived from. Suffixes *-o*, *-e* are the most common adverbial markers.¹ Adverbs derived from adjectives, nouns, verbs and numerals must always be overtly inflected,² like *perše* ‘firstly’ in (8.3).

- 8.3 *Perše* my kupyly... na postil’. (33/161)
 Firstly we bought-pl for bed-F.Acc
 ‘We first bought... [sheets] for a bed’.

Some Ukrainian adverbs are simple, like *todi* ‘then’ and *tam* ‘there’ in (8.2), or *perše* ‘firstly’ in (8.3), since they consist of one stem. Other adverbs are compounds, since they are formed from two or more different stems with or without an adverbial suffix. In (8.4), for example, the adverb *ščodenno* ‘daily’ consists of two parts of speech: the interrogative pronoun *ščo* ‘what’ and the noun *den* ‘day’ overtly inflected with an adverbial suffix *-o*.

- 8.4 Jak ja chora bula, to vona b-- *ščodenno* v špytali bula.
 As I sick-F.Nom was-F so she b-- daily in hospital-M.Loc was-F
 ‘When I was sick she visited me in the hospital daily’. (20/256)

Some Ukrainian adverbs may form degrees of comparison. Like adjectives, they can be realized synthetically, e.g., in *lehko* ‘light/not-heavy’ - *lehše* ‘lighter’ - and *najlehše* ‘lightest’, or analytically, e.g., in *sumlinno* ‘conscientiously’ - *bil’š sumlinno* ‘more conscientiously’ - *najbil’š sumlinno* ‘most conscientiously’.

Syntactically, adverbs are usually not restricted to any particular position in the sentence, and as adjuncts they may appear practically anywhere. This is also facilitated by the comparatively free word order in Ukrainian. For example, in (8.4) the adverb *ščodenno* ‘daily’ occurs between the subject *vona* ‘she’ and the moved PP *v špytali* ‘in the

¹ For details see Zovtobrjuch & Kulyk (1959: 300-305).

² In a few cases nouns used as adverbs may appear uninflected when occurring as a part of a complex word (see Zovtobrjuch & Kulyk (1959: 304).

hospital'. In (8.2) the adverb *todi* 'then' precedes the subject *my* 'we'. And in (8.5) the adverb *malo* 'little' precedes the verb *platyly* 'paid' instead of following it.

- 8.5 Ja- ja pracjuvav u knyharni, *malo* platyly, učytel's'koji
 I I worked-M in bookstore-F.Loc little paid-pl teacher's-F.Gen

spilky knyharnja. (09/149)
 union-F.Gen bookstore-F.Nom

'I- I worked in a bookstore, [they] paid a little, [it was] a teachers' union bookstore'.

8.3 English Adverbs

English adverbs have very much in common with Ukrainian adverbs. Similar to Ukrainian, they may also be null marked, like *then* and *out* in (8.6), or may display overt adverbial marking, like, e.g., *usually* in (8.6).

- 8.6 And one girl was saying *then*... : 'If you need any help my sister *usually* helps *out*'. (02/110)

English adverbs can also be derived from different parts of speech, like *interestingly* from a participial adjective *interesting*, *clockwise* from a noun *clock*, and *usually* in (8.6) from an adjective *usual*. As in Ukrainian, they may be either simple, like *then* and *out* in (8.6), or compound, like *therefore*, *somewhat*, etc. (Quirk et al. 1985: 438). The formation of degrees of comparison of English adverbs is also similar to that in Ukrainian, i.e., it can either be synthetic, as in *quickly* - *quicker* - *quickest*, or analytical, as in *importantly* - *more importantly* - *most importantly*.

With respect to syntactic positioning, English adverbs are also adjuncts, and therefore, they appear in many different places in the clause, depending on their syntactic function. For example, *usually* in (8.6) occurs between the subject *sister* and the predicate *helps*, whereas the adverb *out* in the same sentence follows the predicate *helps*. Some English adverbs, however, may be restricted to certain positions in the clause. *Out* in

(8.7), for example, cannot precede the verb *helps*, whereas *usually* can either follow the verb, as in (8.8), precede the subject, as in (8.9), or appear between the subject and the predicate, as in (8.6).

8.7 *...my sister *usually out* helps.

8.8 ...my sister helps *out usually* .

8.9 ...*usually* my sister helps *out*.

8.4 Procedure

Following our comparative methodology, we created two new corpora of unmixed Ukrainian and English adverbs. Since lone English-origin adverbs are very infrequent in our data (N=21), we extracted all adverbs appearing in unmixed English stretches to create the unmixed English corpus of adverbs (N=43). The unmixed Ukrainian corpus of adverbs was formed by drawing two adverbs per speaker from transcribed portions of Ukrainian speech (N=50). Nouns functioning as adverbs were not included into consideration in this chapter, since they are regular nouns used in certain cases (e.g., instrumental).³

8.5 Coding

The many similarities in the morpho-syntactic features of adverbs in Ukrainian and English, the great heterogeneity of this part of speech (Quirk et al. 1985: 438), and our comparatively limited set of data did not permit us to perform a multi-faceted comparative analysis. We will, therefore, focus only on two purely linguistic factors: 1) the morphological marking of adverbs in each corpora, since they are qualitatively different in each language; and 2) the syntactic position of an adverb, since some English adverbs have restricted position in the clause, while Ukrainian adverbs are usually not restricted. And, as in the previous chapter, we will seek additional evidence from flagging and the

³ There were no lone English-origin nouns functioning as adverbs in Ukrainian speech either.

pronunciation of English-origin adverbs to help us determine the status of lone English-origin adverbs as CS or BOR.

8.5.1 Adverbial morphology

In this factor group all adverbs were coded with respect to the type of adverbial morphology. Adverbs with Ukrainian adverbial suffixes, like *perfectno* in (8.1), were coded as having *overt Ukrainian* marking. Adverbs, like *immediate-ly* in (8.10), with null Ukrainian, but an English adverbial marker *-ly*, were coded as having *overt English* morphology. There were no tokens in any corpus with overt double, Ukrainian and English, adverbial morphology.

- 8.10 DeGol' maje vyjiždžaty s- s Kanady **immediately**, i-
 de-Gaulle has leave-Inf from- from Canada-F.Gen immediately-Ø and
 i vin pojichav. (22/099)
 and he left-Perf.M

'De Gaulle had to leave Canada immediately, and- and he left'.

Adverbs with neither Ukrainian nor English overt suffixes, like *out* in (8.11), were coded as being *null* marked.

- 8.11 Ty bereš svoju žinku **out?** (33/327)
 You-sg take-2sg self-F.Acc woman-F.Acc
 'Do you take your wife out?'

8.5.2 Standard marking

We next coded adverbs as to whether or not their adverbial marking complied with Ukrainian requirements. Adverbs, like *perfectno* in (8.1) or *familyjno* in (8.12), which were derived from adjectives, verbs, numerals, and nouns by adding Ukrainian adverbial suffixes were coded as having *standard overt* marking (as described in section 8.2). Adverbs derived from other parts of speech (usually different types of pronouns), which

are not required to have overt adverbial marking, were coded as having *standard null* marking, like *out* in (8.11) or *todi* ‘then’ and *tam* ‘there’ in (8.2).

- 8.12 I to sobi kožen svjatkuje eh sam v sebe
 And so self-Dat everyone-M.Nom celebrates eh self-M.Nom in self-Gen
 vdoma *familyjno*, tomu šo to pryjždžajut’ t--... abo dity,
 at-home family-ly because that that arrive-3pl t-- either children-Nom
 vnuky, taj vsjo svjatkuje. (01/007)
 grandchildren-Nom and all-N.Nom celebrates
 ‘And everyone celebrates at his own home with a family, because t-- children, and grandchildren come, and all celebrate [together]’.

Adverbs which should have been overtly marked in Ukrainian, like *immediately* in (8.10), or *fast* in (8.13), were coded as having *non-standard null* marking. Since such adverbs would have been derived from English adjectives (i.e., *immediate* and *fast*), they were required to be obligatorily overtly marked in Ukrainian. Note that there were no adverbs with non-standard overt adverbial marking in either corpus.

- 8.13 Znajete, nimci **fast** nalitaly, znajete. (09/119)
 Know-2pl Germans-Nom fast came-flying-pl know-2pl
 ‘You know, Germans came flying fast, you know’.

8.5.3 Syntactic position

Both Ukrainian and English adverbs are adjuncts and may appear in various positions in a clause. Some English adverbs, however, are restricted to certain positions. We therefore coded whether or not a lone English-origin adverb in Ukrainian appeared in a position which would have been allowed in English. For example, in (8.10), the adverb *immediately* is realized in the same position as it would have been in monolingual English. So is the adverb *familyjno* in (8.12), which appears at the end of its clause (as it would have in English). Such adverbs were coded as appearing at an *equivalent* position.

Adverbs like *fast* in (8.13) were coded as appearing in a non-equivalent position. Although in English an adverb can be placed in the position between a subject and a

predicate (e.g., *usually*), this particular adverb modifying the verb *nalitaly* 'come flying', could not have occurred in the position preceding the predicate in English. The adverb *perfectno* in (8.1) was also coded as surfacing in a non-equivalent position, since it is not possible to place an adverb between the verb and its direct object in English (i.e., **She knows perfectly English*).

Adverbs like *discreetno* in (8.14) were coded as *ambiguous*, since the Ukrainian copula *was* is not overt, and hence, it is not possible to say whether the adverb *discreetno* occurs in the equivalent position or not. Since the absence of a copula does not necessarily entail that the adverb either follows or precedes the position where the overt copula would have been realized, we were not able to decide whether such adverbs occurred in an equivalent or non-equivalent position.

- 8.14 Miž soboju, miž soboju hovoryly, j to **discreetno** [dɪskrétno].
 Among self-Ins among self-Ins spoke-pl and that discreetly
 'Among ourselves, among ourselves [we] spoke [it], but it [was] discreetly.'
 (33/046)

8.5.4 Pronunciation

Similarly to other parts of speech, we coded English-origin adverbs into two groups with respect to their pronunciation: 1) adverbs with comparatively unchanged English pronunciation, like *perfectno* in (8.1); and 2) adverbs with considerably changed phonological form, like *social'no* [sot°sijál'no] in (8.15).

- 8.15 My z Argentyny, bil'se socia-ne so---... jak? **social'no** [sot°sijál'no]
 We from Argentina more socia-- so-- how socially
 žyly bil'se rodynno. (36/327)
 lived-pl more famili-like
 'We, from Argentina, lived more socia-- so-- how? socially, more like a family'.

8.5.5 Flagging

We used the same coding system for flagging as we did in all the previous chapters. Adverbs with an audible pause, like *dovse* 'longer' in (8.16), and adverbs with a false start, like *d-- duze skoro* 'very quickly' in (8.17), were coded correspondingly.

- 8.16 Vi- vin robyv... *dovše* v tij fabryci. (12/220)
 He-- he worked-m longer in that-F.Loc factory-F.Loc
 'H-- he worked... longer in that factory'.
- 8.17 Ja *d-- duže skoro* navčylasja robyty na drotach. (16/012)
 I v-- very quickly learned-Perf.F work-Inf on wires-Loc
 'I have learned to knit v-- very quickly'.

Adverbs which were marked with meta-linguistic speech, as well as any other discourse phenomena (e.g., pausing, hesitation), were coded as having *multiple* flagging. These are exemplified by *social'no* in (8.15). There were no tokens in either corpus flagged by meta-linguistic speech alone.

Tokens like *usually* and *out* in (8.6), which were introduced as a part of somebody else's speech, were coded as *reported speech*. Adverbs which were not accompanied by any flagging devices, and occurred in smooth speech, like *perfectno* in (8.1) and *discreetno* in (8.14), were coded as having *null* flagging.

8.6 Predictions

Based on language-specific features of adverbial systems in Ukrainian and English discussed in earlier sections, and implementing our three-way comparative method, we hypothesize that if lone English-origin adverbs occurring in otherwise Ukrainian discourse are *borrowed*, they will most likely show the following behavior:

- I. With respect to morpho-syntactic features –

- (a) The proportion of overt and null Ukrainian adverbial marking will be similar for English-origin and unmixed Ukrainian adverbs;
- (b) Marking variability established by English-origin adverbs will be parallel to that of their unmixed Ukrainian counterparts;
- (c) They will appear at non-equivalent syntactic positions with similar frequency to unmixed Ukrainian adverbs, and more frequently than unmixed English tokens.

II. There will be a large number of English-origin adverbs with considerable phonological changes in their phonetic form.

III. With respect to flagging they will exhibit a similar pattern of production flagging to their unmixed Ukrainian counterparts.

If lone English-origin adverbs used in Ukrainian speech are the product of *code-switching*, we expect that:

IV. With respect to morpho-syntactic features –

- (a) The proportion of overt and null English adverbial morphology will be parallel for English-origin and unmixed English adverbs;
- (b) They may show some overt Ukrainian morphology if code-switched word-internally;
- (c) Their non-standard Ukrainian marking will be much higher than for the unmixed Ukrainian adverbs;
- (d) They will occur more often at equivalent positions, and much less at non-equivalent positions.

V. The comparatively unchanged English pronunciation will be preserved in most cases.

VI. The hierarchy of patterning with respect to types of flagging will be similar to that for unmixed English adverbs, and different than that for unmixed Ukrainian adverbs.

Our expectations with respect to borrowed and code-switched lone English-origin adverbs are summarized in Table 8.1.

Table 8.1. Predictions for code-switched and borrowed English-origin adverbs used in Ukrainian discourse.

Factor-groups	Factors	Borrowed items frequency	Code-switched items frequency
Inflection	overt Ukrainian overt English null	more less same as in Ukrainian	less more same as in English
Syntactic position	equivalent non-equivalent	less more	more less
Pronunciation	unchanged changed	less more	more less
Flagging	present absent	less more	more less

8.7 Results

8.7.1 Adverbial morphology

We first examine the distribution and type of adverbial morphology across corpora. Figure 8.1 shows that with respect to Ukrainian morphology, lone English-origin adverbs exhibit overt Ukrainian marking, like *perfectno* in (8.1), with similar frequency to their unmixed Ukrainian counterparts (62% and 54% correspondingly), supporting the first part of our hypothesis for borrowed adverbs (i.e., hypothesis Ia). Thirty-eight percent (8/21) of English-origin adverbs occurred in Ukrainian discourse with null Ukrainian morphology, like *immediately* in (8.10). Unmixed English adverbs, however, overwhelmingly prefer null adverbial marking in the speech of our informants (98%). Although it seems that English-origin adverbs exhibit more overt English marking than their unmixed English counterparts (9% versus 2%), the difference consists of just one token: there are 2 adverbs with overt English morphology in the English-origin corpus (like *immediately* in 8.10), and only 1 such token in the unmixed English data. Moreover, in

the former case one of two tokens has a non-productive morphology (i.e., *especially*). This makes the ratio of adverbs with overt English morphology very similar in these two corpora, supporting our hypothesis IVa predicted for code-switched English-origin adverbs.

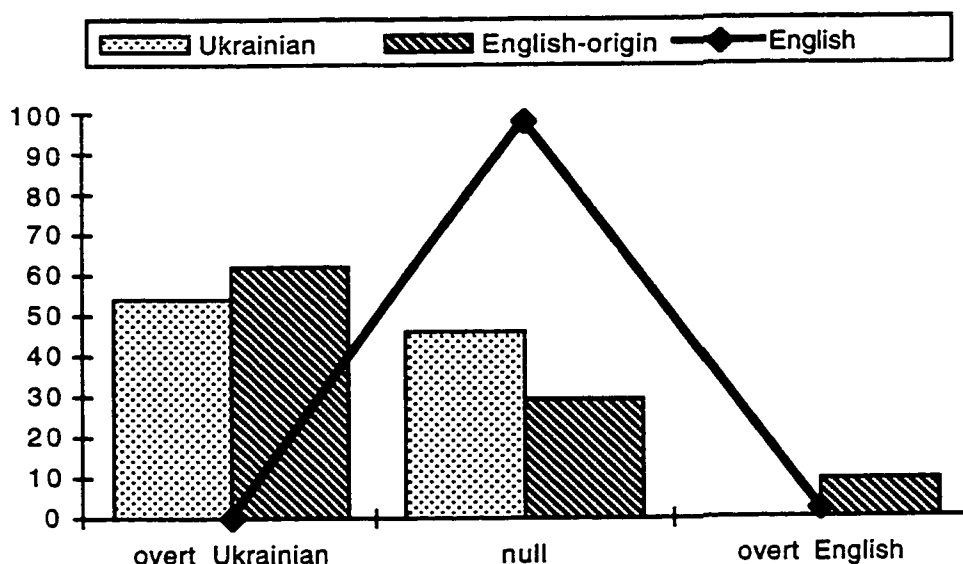


Figure 8.1. Distribution of adverbial marking across corpora.⁴

8.7.2 Standard marking

Recall that Ukrainian allows null marking for certain types of adverbs (i.e., derived from non-content words). Adverbs derived from content words must be overtly marked in Ukrainian. Table 8.2 shows that neither English nor Ukrainian unmixed adverbs exhibit any non-standard adverbial marking. English-origin adverbs are non-standardly marked 24% of the time. However, none of the non-standard marking in this corpus was attributed by tokens with overt Ukrainian morphology. They categorically establish standard adverbial marking, exactly as their unmixed Ukrainian counterparts do. These results suggest that overtly marked English-origin adverbs are behaving as if they were Ukrainian (as per hypothesis Ib). To prove that such adverbs have not resulted from word-internal

⁴ See Table D-4 in Appendix D for numbers.

CS (i.e., hypothesis IVb), we will seek evidence from the other factors, examined in the following sections.

Table 8.2. Distribution of non-standard adverbial marking across corpora.

Non-standard inflection	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Overt mark	0/27	0	0/13	0	0/1	0
Null mark	0/23	0	5/8	62	0/43	0
TOTAL	50	0	21	24	0/44	0

According to the same table, English-origin adverbs with null Ukrainian morphology failed to show mandatory adverbial inflection in the majority of cases (62%). Note that although the distribution of adverbs with respect to Ukrainian marking was similar in the English-origin and unmixed Ukrainian corpora (see Table 8.2), all null marked Ukrainian adverbs are categorically standard, whereas most bare English-origin adverbs are non-standardly marked. This difference can be explained by the fact that all Ukrainian null marked adverbs are non-content words, which are allowed to be null marked in Ukrainian. All non-standardly marked English-origin adverbs (5/5) are content words (like *immediately* in 8.10, or *fast* in 8.13), which obligatorily require overt adverbial marking. The three remaining bare tokens which appear standard with respect to Ukrainian grammar, consist of the same non-content word, *out* (see, e.g., 8.11), occurring three times, and uttered by the same speaker. All other bare adverbs occur only once. This makes the proportion of non-standard marking for null marked English-origin adverbs even higher, i.e., 83% (5/6 tokens, not occurrences), supporting our hypothesis for code-switched adverbs (i.e., hypothesis IVc). Based on these observations it is most likely that null marked adverbs are not produced by Ukrainian. We will, therefore, examine overtly marked adverbs separately from null marked ones.

8.7.3 Syntactic position

8.7.3.1 *Adverbs with overt Ukrainian morphology*

Table 8.3 supports our expectation that lone English-origin adverbs with overt Ukrainian marking may be borrowed (as per hypothesis Ic), since they appear at equivalent (like *familyjno* in 8.13) and non-equivalent syntactic positions (like *perfectno* in 8.1) with the same frequency as the unmixed Ukrainian adverbs (54% and 31% versus 52% and 44% respectively). This is contrary to unmixed English adverbs which almost categorically appear at equivalent sites (98%). This is important evidence that English-origin adverbs with overt Ukrainian marking are not code-switched word-internally, rejecting our hypothesis IVb.

Table 8.3. Distribution of adverbs with Ukrainian overt marking across corpora.

Syntactic position	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Equivalent	14/27	52	7/13	54	43/44	98
Non-equivalent	12/27	44	4/13	31	0/44	0
Ambiguous	1/27	4	2/13	15	1/44	2

8.7.3.2 *Adverbs with null Ukrainian morphology*

Lone English-origin adverbs with null Ukrainian morphology, contrary to their overtly marked counterparts, show a distribution with respect to syntactic position much more similar to unmixed English adverbs (see Table 8.4). With the exception of one token (i.e., *fast* in 8.13), all English-origin adverbs occur at the equivalent position, like *immediately* in (8.10) (87% = 7/8). Exactly the same pattern is established by the unmixed English adverbs (43/44, or 98%). Unmixed Ukrainian adverbs, however, do occur at non-equivalent positions 26% of the time, similar to their overtly marked counterparts in unmixed Ukrainian and English-origin corpora (see Table 8.3). The results

in Table 8.4, therefore, suggest that lone English-origin adverbs with null morphology do not behave as if they were Ukrainian, refuting our expectations for borrowed adverbs (i.e., hypothesis Ic), but as if they were English, confirming our hypothesis (IVc) for code-switched tokens.

Table 4. Distribution of adverbs with null Ukrainian marking across corpora.

Syntactic position	Ukrainian unmixed		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Equivalent	14/23	61	7/8	87	43/44	98
Non-equivalent	6/23	26	1/8	12	0/44	0
Ambiguous	3/23	13	0/8	0	1/44	2

8.7.4 Pronunciation

In addition, we examined the ratio of English-origin adverbs with considerable phonological changes in their pronunciation. Recall that we focus only on adverbs with overt Ukrainian inflections, which facilitate phonological assimilation (as opposed to a 'foreign accent' effect in the pronunciation of null marked tokens). Table 8.5 shows that almost half of English-origin adverbs with overt Ukrainian morphology displayed considerable phonological changes (46%), like *social'no* [sot°sijál'no] in (8.15). This rejects our expectations for code-switched adverbs (i.e., hypothesis V), confirming our hypothesis for borrowed items (II). Since overtly marked English-origin adverbs behaved as if they were Ukrainian with respect to the morpho-syntactic features considered earlier,

Table 8.5. Pronunciation of overtly inflected English-origin adverbs.

Pronunciation	English-origin adverbs in Ukrainian	
	N	%
Comparatively unchanged	7/13	54
Considerably changed	6/13	46

but only half of them are fully phonologically assimilated, these results again suggest that phonological assimilation is not always necessarily part of the BOR process.

8.7.5 Flagging

8.7.5.1 *Adverbs with overt Ukrainian morphology.*

With regard to flagging lone English-origin adverbs also seem to pattern differently depending on the presence of a Ukrainian overt marker. Table 8.6 shows that English-origin adverbs with overt Ukrainian marking appear in smooth, uninterrupted speech as often as their unmixed Ukrainian counterparts (92% and 89% correspondingly). Only one English-origin token (8%) is accompanied by multiple flagging which combines meta-linguistic speech with discourse phenomena. This is similar to unmixed Ukrainian adverbs which are flagged by discourse phenomena 11% of the time. Unmixed English adverbs, however, show a distinct pattern of flagging: they are introduced as part of reported speech 34% of the time, and the rest, 66%, are unflagged. These results confirm our hypothesis (III) predicted for borrowed adverbs, and refute the one (i.e., hypothesis VI) for code-switched tokens.

Table 8.6. Distribution of flagging in the vicinity of English-origin adverbs with overt Ukrainian morphology.

FLAGGING	Ukrainian (overt marking only)		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Pause/false start	3/27	11	0/13	0	0/44	0
Multiple flagging	0/27	0	1/13	8	0/44	0
Reported speech	0/27	0	0/13	0	15/44	34
Null	24/27	89	12/13	92	29/44	66

8.7.5.2 *Adverbs with null Ukrainian morphology*

Lone English-origin adverbs with null Ukrainian marking appear to be flagged in the same pattern as the unmixed English adverbs (see Table 8.7). They are flagged as

reported speech 25% of the time, similar to their unmixed English counterparts (34%). Unmixed Ukrainian adverbs, however, occur categorically in smooth speech. The results in Table 8.7, therefore, support our hypothesis for code-switched English-origin adverbs (i.e., hypothesis VI).

Table 8.7. Distribution of flagging in the vicinity of adverbs with null Ukrainian morphology.

FLAGGING	Ukrainian (null marking only)		English-origin in Ukrainian		English unmixed	
	N	%	N	%	N	%
Reported speech	0/23	0	2/8	25	15/44	34
Null	23/23	100	6/8	75	29/44	66

8.8 Summary

Although Ukrainian and English adverbial systems have much in common, and our set of English-origin adverbs was very limited, we nevertheless noted several trends in the behavior of lone English-origin adverbs occurring in Ukrainian speech. Based on language-specific features of the adverbial systems in Ukrainian and English, and systematic comparison of lone English-origin adverbs to their unmixed Ukrainian and English counterparts, we have demonstrated that English-origin adverbs with overt Ukrainian marking behave as if they were Ukrainian. Their Ukrainian adverbial marking was categorically standard, and their distribution with respect to a syntactic position was similar to that for unmixed Ukrainian data. They occurred with similar types of flagging, and almost half of them were fully phonologically assimilated. In contrast, adverbs with null Ukrainian marking failed to exhibit an overt adverbial marker in most cases, and occurred primarily at equivalent sites, just like unmixed English adverbs. In addition, they appeared accompanied by the same types of flagging with similar frequency to their unmixed English counterparts. Although the data are too sparse to formulate a strong conclusion, it nonetheless indicates that lone English-origin adverbs with overt Ukrainian

adverbial morphology are most likely borrowed, since they behave like the unmixed Ukrainian adverbs, and we find no evidence for word-internal CS. Lone English-origin tokens with null Ukrainian marking are most likely the product of CS, since their behavior was notably different from their own counterparts with overt Ukrainian marking, and from that of unmixed Ukrainian adverbs; but instead more closely resembled the behavior of unmixed English adverbs.

Chapter 9

THE SOCIAL CONDITIONING OF CODE-SWITCHING**9.1 Introduction**

Now, since we have distinguished the status of English-origin incorporations occurring in Ukrainian discourse, we will analyze how code-switching is conditioned by social factors in the Lehighton community. We will approach this issue by examining the contribution of social factors (defined earlier in Chapter 2) to the possibility of code-switch occurrence, using Goldvarb 2.0 for Macintosh (Rand and Sankoff 1990). It is a multiple regression procedure which extracts regularities from naturally occurring frequencies in corpus-based data. This program assesses the influence of different factors on a particular choice, and retains the most statistically significant factors which increase the likelihood of a dependent variant to occur. It is performed on two levels (Sankoff 1988). The step-up procedure attempts to find a single statistically significant factor-group, and then gradually adds other factor groups to measure their significance. The step-down procedure is the reverse. The likelihood of occurrence of the dependent variable is calculated first, and then factor-groups are eliminated one-by-one starting from the least significant. Both steps, however, retain the same most significant factors influencing a given choice.

9.2 Predictions and Expectations

Based on an earlier discussion of social factors relevant to the usage of English-origin items (see Chapter 2) in our data, we can make the following predictions, generalized in Table 9.1.

- 1) With respect to sex, we expect that men will code-switch more often than women, since all men had to work outside the home to support their families, and therefore had to communicate in English more frequently than women, who often stayed at home to take

care of children. Moreover, some women in our sample never worked or worked for a shorter time than men.

Table 9.1. Predictions of code-switching frequency with respect to social factors.

SOCIAL FACTOR-GROUPS	FACTOR	Code-switches
Sex	Male	more
	Female	less
Political faction	Melnykivci	more
	Banderivci	less
English education	None	least
	Minimum	more
	College/University	much more
Socio-economic class	Working	least
	Low middle	more
	Middle	much more
Linguistic marketplace	Index 1 (lowest)	less
	Index 2	less
	Index 3	more
	Index 4 (highest)	more
Contact with (grand)children	Yes	more
	No	less
Immigration route	via Germany	more
	via other countries	less
Style	Formal	less
	Informal	more

2) With respect to political affiliation we predict that the unspoken rivalry between the members of the two parties, melnykite and banderite (see section 2.6), will be reflected in particular linguistic behavior. Moreover, since melnykivci are usually associated with more educated people and higher socio-economic classes in Ukraine, we may expect that they will be driven by the same educational motivation in their new country. Therefore, they may show more code-switching than members of the other party, banderivci, might.

- 3) With respect to English education, we expect that people with the most formal training in English will code-switch more often, whereas informants with the least or no formal training in English will code-switch less frequently.
- 4) Similar predictions can be made with respect to the linguistic marketplace of our speakers. The less they have to communicate in English the lower the probability of such speakers to code-switch into English, and conversely the more they have to speak English at work and in every day life, the more they will use code-switching.
- 5) With respect to the speakers' socio-economic class, we expect that the lower a person's class status, the less they may engage in code-switching. In order to achieve a higher position on the socio-economic ladder, people had to receive an education in the USA, and hence, learn and speak English more often.
- 6) We anticipate that people whose children and grandchildren visit them more often will code-switch more frequently than those speakers who do not communicate with their offspring, or have never had children of their own. This is based on the assumption that younger generations prefer to speak English more than Ukrainian, especially grandchildren and their friends.
- 7) With respect to immigration route, we might expect that those speakers who left camps in Germany directly for the USA may have a better command of English, and therefore they may be more prone to code-switching than those informants who came to the USA via third countries. As discussed in section 2.6, the latter left Germany soon after the war was over and worked in other countries learning English on their own. Moreover, they arrived in the USA much later than the other informants, who had already established themselves in this community. Also, people who immigrated directly from Germany stayed in DP camps several years longer, and therefore had greater opportunity to attend English classes at various educational establishments there.
- 8) With regard to style, we may expect to observe more code-switching in informal, as opposed to formal, speech. Since our informants are very determined to speak Ukrainian

exclusively, they may pay more attention to the way they speak when they talk formally; and it is possible that when they are less careful, they will allow more code-switching to surface during informal discourse.

9) We should also notice that differences in social factors are rather subtle in this community. For an outsider it is not easy to discern contrast, disagreement or opposition among the speakers. Therefore, we may expect that differences between various social factors within the Lehighton community may be quite fine.

9.3 Distributional Analysis

For the purpose of this analysis we have created a new sub-corpus of English-origin utterances. It comprises all multiword English incorporations together with lone English-origin items which we inferred in the previous chapters to most likely be code-switches. The latter includes: 1) nouns with null Ukrainian marking occurring at equivalent sites, retaining their English morphology, and flagged by meta-linguistic commentaries and/or multiple 'flags'; 2) verbs; 3) adjectives and adjectival verbs; and 4) adverbs - all with null Ukrainian morphology.

Table 9.2 shows the distribution of such code-switches with respect to social factors relevant to the usage of English by our speakers. We first note that there is not as much difference in the frequency of code-switching across all social factors, as we expected (i.e., hypothesis 9). With respect to sex, men appear to code-switch a little more frequently than women (16% versus 12% respectively), in line with our hypothesis 1.

With respect to political affiliation, our hypothesis 2 has been confirmed as well. Members of the melnykite faction show more frequent usage of code-switched utterances than banderites (18% versus 10%). Recall, however, that melnykivci and their supporters are usually highly educated people. In fact, the overwhelming majority of banderivci (82%) have no formal training in English at all, whereas only 14% of melnykivci do not have English education, and the rest (86%) have either minimum or higher education in

English. Thus, it is not clear whether political affiliation alone contributed to the result in Table 9.2, or whether it was combined with education.¹

Table 9.2. Distribution of code-switched utterances Ukrainian-English bilingual discourse.

	CS/total	%
Sex		
Male	140/894	16
Female	127/1027	12
Political faction		
Melnykivci	165/934	18
Banderivci	102/997	10
English education		
None	97/976	10
Minimum	96/662	15
College/University	74/293	15
Socio-economic class		
Working	28/213	13
Low middle	178/1286	14
Middle	61/432	14
Linguistic marketplace		
Index 1 (lowest)	29/355	8
Index 2	104/860	12
Index 3	116/577	20
Index 4 (highest)	18/133	14
Contact with (grand)children		
Yes	239/1571	15
No	28/360	8
Immigration route		
via Germany	149/1065	14
via other countries	118/866	14
Style		
Formal	124/925	13
Informal	143/1006	14

With respect to levels of education in English, speakers are divided into two groups. Those ones who have no formal English training code-switch less (10%), and speakers with English education, irrespective whether it was a college degree or just a few courses in English, code-switch more often (15% each), supporting our expectation (i.e., hypothesis 3). These results couple with Poplack's findings (1980). She found that Spanish-English bilinguals who were more proficient in English used more intrasentential

¹ Note that we are not testing speakers' level of education in Ukraine, since it is not directly connected to speakers' ability to use English.

code-switches than those who were less proficient. Recall, however, that in our data most speakers with some or higher education in English are melnykites. Hence, the result in Table 9.2 is not independent, and may be influenced by political affiliation of speakers, or vice versa.

The frequency of code-switching is almost indifferent with respect to socio-economic class, contrary to our predictions (i.e., hypothesis 4). Working class speakers use code-switching slightly less frequently (13%) than both lower middle, and middle class speakers (14% each). As observed earlier in Chapter 2, socio-economic distinctions in the community were very subtle. This may explain why speakers of different socio-economic classes did not show sharper differences in their frequency of code-switching.

Hypothesis 5, for linguistic marketplace, has been confirmed in general: speakers representing the lower indexes exhibited less code-switching than those informants who have been assigned higher indexes in this factor-group (8% and 12% versus 20% and 14% correspondingly). However, the details are quite interesting. The highest incidence of code-switching (20%) is established by speakers with index 3. Speakers with index 4, showed lower frequency of code-switching approximating the ratio of code-switched utterances exhibited by speakers with index 2 (14% versus 12%). The difference between speakers with index 3 and speakers with index 4 can be explained by the fact that there were only three speakers in our sample who qualified for the highest level in the linguistic market.² None of them had a college or professional degree earned in the USA. Speakers with college degrees were all assigned index 3 in the linguistic market. This suggests that there may be interaction between higher English education and the linguistic marketplace of our speakers.

Contact with children and grandchildren divides speakers into two distinct groups. Those speakers whose (grand)children visit them quite often use code-switching much more frequently (15%) than those ones who do not have children, or whose children live

²Three index 4 speakers in our sample are represented by 1) a salesperson in a large department store, 2) an insurance agent, and 3) a co-owner, a salesperson and a cashier of a small family business.

far away and only visit them once a year (8%), supporting our hypothesis 6. This result is not surprising since those informants whose (grand)children visit often have to communicate with them in English most of the time, especially with their grandchildren.

Contrary to our expectations (i.e., hypothesis 7), there is no difference in code-switching frequency with respect to immigration route. Speakers who arrived to the USA directly from Germany use code-switches with exactly the same frequency as those informants who first migrated to another country from Germany, and later came to this country (14% each). This may be explained by the fact that all speakers have lived in the United States for over 40 years. Even if there would have been some particular linguistic behavior associated with the way the informants immigrated to the US at the earlier stages of their life in America, enough time has passed that these distinctions (if any) could have been leveled with years of living together in the same community.

With respect to style, it appears that code-switching is just slightly more frequent in informal (14%) than in formal (13%) speech, in line with our expectations (i.e., hypothesis 8). However, the difference in code-switching frequency with respect to style is minimal. This obviously indicates that code-switching is not a norm for this Ukrainian community.

9.4 Variable Rule Analysis

The comparison of the overall frequency of code-switching in this community does not reveal the importance of factor effects relative to one another, nor does it show whether all factors are equally significant when considered at the same time. Therefore, we also examined the simultaneous contribution of social factors for the probability of code-switching to occur (see Table 9.3). Since several social factors: socio-economic class, immigration route, and style, had minimal if any effect on the frequency of code-switching, we excluded them from further calculations. Furthermore, since there was interaction between English education, linguistic marketplace and political affiliation, we had to create several new factors by combining the interacting factors. First, we combined English

education with political affiliation (henceforth, 'Education & Party'),³ but this created another interaction with linguistic market (there were no speakers of 'melnykivci + no English education'). Therefore, we had to perform separate runs to avoid this interaction.

In the first run (see Table 9.3) two factors were selected significant: contact with (grand)children and the new factor 'Education & Party'. As expected, speakers with frequent contact with (grand)children favor code-switching (.529), contrary to those who do not communicate with younger, mostly English-speaking generations. The latter disfavor such code-switching with the probability of .374. In the 'Education & Party' factor-group it appears that speakers cluster according to their English education. When compared with each other, speakers with no formal English training irrespective of their political affiliation disfavor code-switching (i.e., .424 banderivci and .423 melnykivci), whereas informants with English education favor it (i.e., .588 melnykivci and .464 banderivci). Note, however, that the difference is very slight between speakers [with English education & banderivci affiliation] and all speakers with no English training (.464 versus .423 and .424). In fact, speakers [with English education & melnykivci affiliation] favor code-switching to a greater extent than any other group (.588 versus .464, .423, .424). Thus, these results show that English education and political affiliation are very intertwined, and it is not possible to decide which factor is more significant for the frequency of code-switching in the Lehighton community.

The third factor-group in this run, sex, was not selected as significant for the occurrence of code-switching. This result is somewhat surprising, given that we observed a difference in gender relationships within the community (see Chapter 2). This may be explained in two ways: 1) many of the women we interviewed were not necessarily representative of gender norms in the community, i.e. they were either widowed or were

³ The 'English & Party' factor group was created by combining 'banderivci with English education', 'banderivci with no English education', 'melnykivci with English education', and 'melnykivci with no English education'.

treated equally by men in their families; 2) there are may be interaction between sex and other social factors, such as English education, and/or Linguistic marketplace.

Table 9.3. Variable rule analysis of the contribution of social factors selected as significant to the occurrence of code-switching in Ukrainian-English bilingual discourse.

	RUN 1	RUN 2	RUN 3
CORRECTED MEAN	.131	.131	.131
Contact with (grand)children			
Frequent	.529	.528	.525
Infrequent / none	.374	.376	.391
RATE	155	152	134
'Education⁴ & Party'			
[English + Melnykivci]	.588		
[English + Banderivci]	.464		
[no English + Melnykivci]	.423		
[no English + Banderivci]	.424		
RATE	164		
'Lgx.market⁵ & Party'			
[Melnykivci + Higher index]		.609	
[Melnykivci + Lower index]		.527	
[Banderivci + Higher index]		.506	
[Banderivci + Lower index]		.414	
RATE		195	
'Education & Lgx.market'			
[English + Higher index]			.602
[English + Lower index]			.531
[no English + Higher index]			.525
[no English + Lower index]			.407
RATE			195
FACTORS NOT SELECTED			
Sex	X	X	X

*Factors excluded from consideration are shaded.

We next created another new factor-group, by combining speakers' political affiliation and linguistic marketplace (henceforth 'Linguistic market & Party').⁶ We then performed a second run of multivariate rule analysis with this new factor. In this run

⁴ Since all three speakers with college education were men, with index 3 in linguistic market, and belonged to the same political group, we have combined them with the speakers with some English education. Moreover, both speakers with some and higher English education showed exactly the same tendency to code-switch (see Table 9.2).

⁵ Since the speakers were not equally distributed across all indexes (see Table B.2 in Appendix), and all speakers in indexes 1 and 4 were women, we combined the informants with lower indexes (1 & 2), as opposed to the ones with higher indexes (3 & 4).

⁶ The 'Linguistic market & Party' factor group includes: [melnykivci + higher indexes in linguistic market], [melnykivci + lower indexes], [banderivci + higher indexes] and [banderivci + lower indexes].

(see Table 9.3) two groups again were selected as significant: contact with (grand)children and the new factor 'Linguistic market & Party'. The former was also significant in the first run, and its probabilities were almost identical to the ones established in that run (.528 and .376 versus .529 and .374 correspondingly). The second significant factor-group in this run shows that the speakers tend to pattern according to their political affiliation more than to their place in the linguistic market. Hence, melnykivci always favor code-switching (.609 and .527), whereas banderivci show lower probabilities for code-switch to occur (.506 and .414), irrespective of their place in the linguistic market. Sex again was not selected significant.

Finally, we combined speakers' English education with their linguistic market (henceforth 'Education & Linguistic market').⁷ The results of this third run (see Table 9.3) again showed two significant factor-groups. For the third time, contact with (grand)children significantly conditioned the occurrence of code-switching, with similar probabilities to the ones observed in the previous two runs (.525 and .391). In the new group 'Education & Linguistic market' speakers appear to cluster according to their English education more than to their place in the linguistic market. Speakers with English education, irrespective of their place in linguistic market, favor code-switching with the probabilities of .602 and .531. Whereas speakers with no English education appear to disfavor code-switching (.525 and .407). Note, however, that the difference in the probability of code-switching between speakers with [English education and lower indexes] and speakers with [no English education and higher indexes] is very slight (i.e., .531 versus .525). Many speakers without formal English training obviously had to learn English for their occupational activities, and therefore for them frequent use of English at work served as 'informal' language training. Thus, the interaction between education and

⁷ 'Education & Linguistic market' group was created by combining speakers with 1) English education and higher indexes in linguistic market, 2) English education and lower indexes; 3) no English education and higher indexes; and 4) no English education and lower indexes.

linguistic marketplace is very difficult to disentangle. Sex was not selected significant for the third time.

Thus, our results in Table 9.3 show that contact with (grand)children, English education, linguistic marketplace and political affiliation significantly condition the occurrence of code-switching in this community. The latter three factors are so intertwined, however, that it is impossible to discern which of them independently would have been more significant for the frequency of code-switching. It seems, nevertheless, that English education and political affiliation are somewhat more important than the linguistic market, since the latter always favored code-switching somewhat less than either English education or political affiliation (compare runs 2 and 3). All three factors (i.e., English education, linguistic marketplace and political affiliation) showed somewhat higher rates than the factor of contact with (grand)children (164-195 versus 134-155). But this comparison is not quite adequate, since the former three factors were always combined in pairs, and we do not know the input of each factor independently (before being combined).

Just for the sake of argument, we decided to create two new factor-groups by combining the factor of contact with (grand)children with 1) English education and 2) political affiliation. Table 9.4 shows the results of these two new runs.⁸ Run 4 shows that speakers with formal English training favor code-switching more than speakers with no such education, irrespective of contact with (grand)children (.596 and .526 versus .465 and .258). Note also that the difference between speakers [with English education and frequent contacts with (grand)children] and speakers with [neither English education nor frequent contacts with (grand)children] is very great (.596 versus .258), indicating that both these factors may be equally significant in the frequency of code-switching.

Run 5 shows that speakers pattern more according to their political affiliation than to their contacts with (grand)children. Melnykivci favor code-switching and banderivci disfavor it irrespective of having frequent contacts with (grand)children (.603 and .507

⁸ We haven't included linguistic market in Runs 4 and 5 because of newly created interaction and because this factor appeared somewhat less significant than the other two significant factors.

versus .476 and .229). However, the difference between [melnykivci with frequent contacts with (grand)children] and [banderivci with no contacts with (grand)children] is again very high (.603 versus .229). In fact, it is even bigger than in the previous group (.374 versus .338). Hence, contact with (grand)children may be equally significant for the ability of our speakers to code-switch as either knowledge of English or their political affiliation.

Table 9.4. Variable rule analysis of the contribution of social factors selected as significant to the occurrence of code-switching in Ukrainian-English bilingual discourse.

CORRECTED MEAN	RUN 4 .130	RUN 5 .130
'Contact with (grand) children + Education'		
[English + Contact]	.596	
[English + no Contact]	.526	
[no English + Contact]	.465	
[no English + no Contact]	.258	
RATE	338	
'Contact with (grand) children + Party'		
[Melnykivci + Contact]		.603
[Melnykivci + no Contact]		.507
[Banderivci + Contact]		.476
[Banderivci + no Contact]		.229
RATE		374
FACTORS NOT SELECTED		
Sex	X	X

*Factors excluded from consideration are shaded.

The results in both Tables 9.3 and 9.4 confirm our earlier observations in Table 9.2 that code-switching is not a norm in the Lehighon community. This can be seen by the very low corrected mean, or overall tendency of .131-.130. This explains the elevated degree of flagging and other behaviors in those lone items we hypothesized to be code-switches. This is similar to what was found by Poplack and her associates in the Finnish community, where code-switching was also not a discourse mode (Poplack et al. 1987).

9.5 Summary

In this chapter we have demonstrated that *knowledge* of English and its *usage* in the family (i.e., contact with (grand)children), among peers in social networks (i.e., political affiliation), and at work (i.e., linguistic market), shape the speaker's *abilities* and *attitudes* toward code-switching. All these factors produce a statistically significant effect on the probability for a code-switch to occur. Speakers with formal English education, frequent contacts with (grand)children, belonging to the social network of melnykite political faction, and required to speak English frequently at work, favor code-switching. Speakers with no formal English training, infrequent if any contacts with (grand)children, belonging to the social network of the banderite faction and having less necessity (if any) to use English at work, disfavor code-switching. The frequency of code-switching in this community is not statistically conditioned by sex,⁹ socio-economic class, immigration route, or style.

Our results also suggest that code-switching is not a community norm in the Ukrainian homestead of Lehighton, Pennsylvania. Coupled with our observations in the previous chapters, it is necessary to mention that speakers carefully guard their speech and avoid any code-switching, irrespective of its type.¹⁰ Recall that longer stretches of English are very infrequent in our data, accounting for only 5% of all Ukrainian-English utterances (see Chapter 1), and merely 2% of these are intrasentential switches. Such a low frequency of code-switching may be explained by both significant typological differences between Ukrainian and English, as well speakers' strong desire to preserve their native language (see Chapter 2). And, when they do code-switch, speakers appear to prefer single-word

⁹ While sex was not selected as statistically significant, it may well be that its effect has been neutralized by other social factors. In particular, men acquired English at work, whereas women generally acquired English through interaction with children at home. Both these factors, i.e. work and contact with children, were selected significant.

¹⁰ Interestingly, any time speakers are given a choice of language, they choose Ukrainian. While there were no such conversations recorded in our data, when speakers in the Lehighton community were forced to accommodate a non-Ukrainian speaker in a conversation, for example the author's husband, they would briefly switch to English, but then would return to Ukrainian at the very first opportunity.

code-switches to multiword English fragments.¹¹ They also seem to be quite aware of doing so, since they ‘flag’ the vast majority of such tokens by calling attention to the fact they are switching to a different code (see Chapters 4-8).

¹¹ It is difficult to explain why there are more single-word code-switches in our data than multiword English fragments. Our interpretation would be that 1) longer stretches of English are easier to detect and control; and 2) single-words are used mostly to fill in (lexical) gaps. The latter does not entail filling in lexical gaps in a strict sense. Instead, it is somewhat broader - the speakers will use an English word if it comes to their mind first, but will most likely point out (usually by meta-linguistic speech) that they used a word from a different language.

Chapter 10

CONCLUSIONS

Initially we hypothesized that in Ukrainian discourse English-origin utterances produced by borrowing would establish the same pattern of behavior with respect to morphological, syntactic, phonetic and discourse criteria as their native Ukrainian counterparts. We have posed an even more severe condition on borrowed English-origin items to establish not only distributional patterns, but also patterns of variability, parallel to those of their Ukrainian counterparts with respect to each grammatical category. And conversely, we hypothesized that English-origin items produced by code-switching should not submit to Ukrainian grammar, and hence would not replicate patterns of behavior pertinent to their Ukrainian counterparts, especially with regard to variable morphology. Instead, such code-switched utterances should parallel the behavior of their monolingual English counterparts, irrespective of their morphology, thereby testing the validity of the FMC for lone incorporations.

We have tested this hypothesis using a three-way comparison and diagnostics specifically developed for each part of speech. By defining and examining the application of language-specific features over which English and Ukrainian differ considerably, we established the status of English-origin items occurring in an otherwise Ukrainian context. Our results showed that each English-origin item irrespective of part of speech, which was inflected with overt Ukrainian morphology, acquired Ukrainian properties required for that particular item, and applied those properties in exactly the same way as its Ukrainian counterpart. This has been observed for all features considered, i.e., morphological, syntactic, phonological and discourse. Moreover, not only did they show the same distribution, but their variability with respect to these features was the same as in the monolingual Ukrainian data.

Lone English-origin nouns with overt Ukrainian inflection showed that they could receive case and number information from an external source, convert it into a single fused form based on its gender, which has been assigned to the noun in exactly the same manner as in Ukrainian, and then transfer such 'triple' grammatical information (i.e., case, number, and gender) to its modifiers, as well as 'double' information to its predicates. Lone English-origin verbs with overt Ukrainian marking exhibited Ukrainian verbal morphology required for tense/aspect, person/number and gender agreement as did their Ukrainian counterparts, and occurred with null subjects as frequently as Ukrainian verbs did. Lone English-origin adjectives and adjectival verbs received case, number, and gender marking from their head nouns as precisely as their native Ukrainian counterparts did. And lone English-origin adverbs were also marked with adverbial suffixes in the same manner as the monolingual Ukrainian adverbs. All lone English-origin items with overt Ukrainian inflection were not restricted to their base-generated position, and appeared in other positions as frequently as their unmixed Ukrainian counterparts. A considerable proportion of overtly marked tokens exhibited full phonological assimilation. And, they co-occurred with the same types of flagging in their vicinity as their Ukrainian counterparts did.

Based on these results we conclude that lone English-origin utterances carrying an overt Ukrainian inflection, in our data, are produced by borrowing. Coupled with the observation that none of the English multiword utterances exhibited overt Ukrainian inflection at the switch site, we take this as clear evidence that there is no code-switching at morpheme level, and therefore that the FMC is valid not only for longer stretches of other language incorporations, but for lone utterances as well.

Lone English-origin items with null Ukrainian morphology did not establish monolithic behavior. Null marked tokens representing those parts of speech which do not allow null inflection in Ukrainian, i.e., verbs, adjectives, and adjectival verbs, were quite rare in our data. Nevertheless, these few tokens clearly failed to fulfill Ukrainian requirements, and exhibited behavior like their unmixed English counterparts. Items

belonging to parts of speech for which null marking was allowed in Ukrainian, i.e., nouns and adverbs, were more frequent in our data. Some of them were shown to be the product of code-switching at word level, while others proved to be borrowings. Lone English-origin nouns with null Ukrainian affixation which retained their English morphology, occurred mostly at equivalent sites, and/or were flagged by meta-linguistic commentaries or multiple 'flags' allowing them to circumvent Ukrainian requirements were inferred as the product of code-switching. All other null marked English origin nouns exhibited similar characteristics to their Ukrainian counterparts with respect to agreement, syntactic position, pronunciation and flagging, although with an increased rate of non-standard marking. We therefore concluded that these nouns are mostly borrowed, though some are less well-integrated. Those few null marked English-origin adverbs in our data were found to be most likely code-switches, since they failed to fulfill Ukrainian requirements, and patterned together with their monolingual English, and not their Ukrainian counterparts.

By employing a systematic, variationist approach for the analysis of inherently ambiguous forms within the entire corpus of naturally performed data, we were able to determine the status of such tokens as borrowings or code-switches at word level. We found it necessary, however, to separate nouns which were the most likely candidates for code-switch status from those which were least likely, since this made our results clearer and more revealing. It would have been misleading to consider all English-origin tokens together, since the majority of tokens were produced by borrowing, and the results they generated would have masked results indicating any lesser represented phenomenon, in this instance code-switching.

Thus, our research provides clear indication that the code-switching/borrowing debate can be resolved. It has been argued in the language contact literature that a lone other-language incorporation is the product of the grammar of 1) the donor language, and therefore a code-switch (cf. Myers-Scotton 1993); 2) the recipient language, and hence a borrowing (cf. Reyes 1974); 3) both the donor and the recipient one, i.e., a hybrid

belonging to both codes simultaneously (cf. Gardner-Chloros 1991); or 4) neither donor nor recipient language, i.e., a “code-intermediate” phenomenon (cf. Picone 1994). Our research has demonstrated that in the same discourse, some lone other-language items may be produced by borrowing, while others by code-switching. Moreover, their status as borrowing or code-switch can be empirically determined by using a comparative method, with proper diagnostics focusing on language-specific features and making use of inherent variability. These results, therefore, are in line with the findings of Poplack and her associates, who argue that the status of lone other-language incorporations may be operationally distinguished (e.g., Poplack 1997, Poplack & Meechan 1995). Furthermore, like Eze 1997; Meechan & Poplack 1995; Poplack & Meechan 1995; Poplack et al. 1987; Sankoff et al. 1990; Turpin 1995, we found that the majority of lone English-origin utterances are borrowed, either nonce or established. This refutes the claims (cf. Muysken 1995) that fusional languages are resistant to borrowing. In fact, Ukrainian-English bilingual discourse features well integrated borrowings, as well as single-word code-switches.

We have also found that most of those lone English-origin items which were code-switched in our data 1) did occur in positions equivalent in both languages; 2) were flagged by production ‘flags’ allowing speakers to signal a switch to another code, as well interrupt a speech flow to avoid any potential violations of language-specific requirements of the recipient language; and 3) occurred in the vicinity of demonstrative pronouns which served as a ‘bridge’ from one code to the other, by making the mixed utterance structurally equal in both languages.

With respect to language-specific features, our diagnostics further demonstrated that a switch site constitutes a ‘barrier’ for some language-specific features, but not for others. Language-specific features provided exclusively by the other-code item are blocked across the switch boundary. While features obtained without reference to a switched item (e.g., through universal grammar, or semantics) do not depend on the presence of a barrier.

Therefore, gender (an inherent feature of a noun exclusively) was not accessible for the recipient code, whereas number information was in most cases.

Our research also showed that while borrowing is very productive, code-switching is *not* a community norm in the Ukrainian-English bilingual settlement in Lehigh. Although English and Ukrainian differ considerably in their typologies, speakers could have used sentential code-switches to avoid any grammatical requirements for other-language lone utterances in monolingual contexts. But code-switching, either to single-word or multiword utterances, was extremely rare in our data. The code-switching which did occur in our data was significantly conditioned by several social factors all of which are related to English proficiency, including English education, political affiliation, contact with (grand)children, and a speaker's place in the linguistic market. Speakers with formal English training, having frequent contacts with their (grand)children, belonging to a social network of *melnikite* faction (usually emphasizing on education), and required to use English more frequently at work appear to favor code-switching in the Lehigh community. Speakers with no formal English training, associated with a social network of the *banderite* faction, having infrequent if any contacts with (grand)children, and not required to use English often at work, disfavor code-switching.

And more broadly, we have shown that the structural features of the language pair, which may diminish the diagnosticity of syntactic, phonological and/or morphological conflict sites, can be overcome by meticulous and painstaking analysis of many intricate details, which assembled, one by one, can form a 'portrait' of behavior particular only to a borrowing or to a code-switch.

Thus, even little things mean a lot.

APPENDIX A

**TRANSLITERATION AND TRANSCRIPTION SYSTEM OF
CYRILLIC UKRAINIAN ALPHABET
ADOPTED FOR THE THESIS**

(based on *Phonetic Symbol Guide* (Pullum & Ladusaw, 1986)).

UKRAINIAN	TRANSLITERATION	phonetic transcription*	UKRAINIAN	TRANSLITERATION	phonetic transcription
А а	A a		Н н	N n	
Б б	B b		О о	O o	
В в	V v		П п	P p	
Г г	H h		Р р	R r	
Г г	G g		С с	S s	
Д д	D d		Т т	T t	
Е е	E e		У у	U u	
Є є	Je je		Ф ф	F f	
Ж ж	Ž ž	[ʒ]	Х х	Ch ch	[x]
З з	Z z		Ц ц	C c	[t͡s]
И и	Y y	[ɪ]	Ч ч	Č č	[t͡ʃ]
І і	I i		Ш ш	Š š	[ʃ]
Ї ї	Ji ji		Щ щ	Šč šč	[ʃt͡ʃ]
Й й	J j		Ю ю	Ju ju	
К к	K k		Я я	Ja ja	
Л л	L l		ь	,	
М м	M m				

* if different from transliteration

CODING INSTRUCTIONS

1.	Speakers' code	O	Dmytro Oljak*
		A	Nazar Jarema
		J	Emma Jarema (Nazar's wife)
		I	Karpo Iliuk
		D	Ostap Durko
		V	Dusja Vovchuk
		L	Lilia Kobialko
		M	Odarka Marchuk
		H	Varja Golub
		B	Roza Soroka (Varja's friend)
		E	Semen Karpenko (Varja's brother-in-law)
		K	Kolia Myshyn
		C	Omeljan Djachuk
		S	Stepan Konyk
		Z	Zina Konyk (Stepan's wife)
		Y	Myxas' Fedora
		F	Olga Fedora (Myxas's wife)
		R	Myroslava Lojuk
		N	Ljudmyla Kovtun (Myroslava's friend)
		G	Ruslana Ivaniv
		U	Ivan Deputat
		P	Zoja Deputat (Ivan's wife)
		Q	Marta Sirko
		X	Justyna Nasha
		W	Varvara Rychlo

* All speakers' names are pseudonyms.

SOCIAL FACTORS

2.	Sex	M	male
		F	female
3.	Contact with children and/or grandchildren	Y	Children/grandchildren often visit the informants (every week-every month)
		N	Informant does not have children, or they live far away visit them very rarely (once per year or less)
4.	Political party	B	Banderites (banderivci)
		M	Melnykites (mel'nykivci)
5.	Education in Ukraine	L	low (under 7 years)
		M	midium (7-10 years),
		U	started and/or finished gymnasia or institute (11 or more years)
6.	Formal English training and/or education in USA	E	any classes of English taken in Germany/USA and/or attended any courses in English
		U	University or professional degree
		N	no formal English training

7.	Socio-economic class at present	W L M	working class (unskilled labour) lower middle (trained, unionized worker) middle (businessman, engineer, etc.)
8.	Immigration to the US	G O	directly from Germany from any other country (e.g. Belgium, Argentina, Canada)
9.	Linguistic marketplace	1 2 3 4	minimum contact with English (usually a housewife or cleaning lady) informant's work required some/little interaction in English (e.g. machine operator) informant's work required extensive interaction in English with co-workers (e.g. engineer) constant use of English is required (e.g. insurance agent, shop assistant).
10.	Style	F I	Formal (non-narrative speech, direct answer to the question, discussions of school, education, church) Informal (narratives, tangent)

LINGUISTIC FACTORS

11.	TYPE of English-origin incorporation (EOI)	
	C	sentence/CP (e.g., She is too young)
	I	intrasentential CS (more than one word) (e.g., excellent chauffeur, the cancer of pancreas)
	S	single word incorporation (e.g., rent, stitchi 'stitches', pocleanuvaty 'to clean up')
	M	compound (e.g., station wagon, fabrication shop)
12.	FLAGGING or the way of introduction of EOI	
	R	reported speech, i.e., direct speech (e.g. Ja kažu: " Stop sign " 'I say: "Stop sign"')
	M	metalinguistic speech of 'reported speech' or label type, (e.g. jak tut kažuť 'As they say here', po-amerykans'ky to... 'In American it is...', etc.). E.g., to nazyvajet'sia steelwool 'It is called steelwool')
	2	metalinguistic speech and discourse phenomenon simultaneously (e.g., znajete toj eh... natural science jak vony nazyvajut' 'You know that eh... natural science, as they call it' (B-431))
	A	metalinguistic speech of adjectival form (e.g., tak zvanyj 'so-called') (i.e. the flow of speech is not interrupted). E.g., ne vil'no tak zvanych overtajmiv 'They do not allow so called overtimes' (M-725).
	P	audible pause (e.g., magazin... art supply 'A stop... art supply' (O-232))

	F	false start/hesitation on EOI (e.g., n-- news)
	H	false start/hesitation not on EOI (e.g., v-- v trip)
	E	Translation/explanation (e.g., tam buly overtajmy , tobtu pozahodynni roboty 'There was overtime, that is work after hours' (C-1743))
	O	absent (i.e., no flagging, smooth speech). E.g., toj ody food 'That one food' (I-948)
13.	DEMONSTRATIVE pronoun and conjunction as a flagging device	
	D	demonstrative pronoun (e.g., toj 'that', takyj 'such') is immediately adjoined (either preceding or following) to EOI. E.g., taku halju velyku 'Such a big hall' (I-1706).
	S	demonstrative pronoun is not immediately adjoined; separated by a pause or another word (e.g. toti eh- eh- tuby gumovi 'Those eh- eh- rubber tubes' (Z-2917))
	O	demonstrative pronoun is absent (e.g. to vže hotdogy 'Now it's hotdogs' (S-1027))
14.	UKRAINIAN inflectional marking	
	S	marked with overt Ukrainian suffix (e.g., druga shifta 'The second shift' (A-450))
	B	marked with both Ukrainian suffix and prefix (e.g., vyrentovuvav 'rented' (F-2800), dlja zaadvansovanykh 'for advanced ones' (U-312))
	N	singular Ukrainian nouns in Nominative, i.e., feminine or neuter nouns in their initial form (do not exist in masculine/bare forms) (e.g., rodyna- <i>F</i> 'family', vesillja- <i>N</i> 'wedding')
	D	diminutive masculine nouns, i.e., root + diminutive suffix, no overt gender, case or number inflection (e.g., kusočok 'a little piece' from kusok 'a piece')
	R	no overt Ukrainian inflection but the root is changed (for Ukrainian nouns only), e.g., škil-Ø from škola 'school')
	0	nouns without any overt Ukrainian inflection, like highshchool . For Ukrainian nouns - masculine or feminine nouns ending in a consonant (e.g., stil- <i>M.sg.Nom.</i> 'table', nič- <i>F.sg.Nom.</i> 'night'; hodyn- <i>F.pl.Gen.</i> from hodyny- <i>F.pl.Nom.</i> 'hours')
	*	feminine nouns in Nominative that have a masculine counterpart (e.g., tovaryška- <i>F</i> vs. tovaryš- <i>M</i> 'friend', onuka- <i>F</i> vs. onuk- <i>M</i> 'granddaughter/grandson')
15.	(NON)-STANDARD marking	
	S	Standard overt inflection, i.e. with respect to all morpho-syntactic features - gender, number, case, and agreement - the token is marked according to the prescriptive rules of the language in which it occurs
	O	Standard null inflection
	N	Non-standard overt inflection (i.e. at least one of the morpho-syntactic features does not correspond to the prescriptive rules)
	Ø	Non-standard null inflection

16.	PART OF SPEECH of English origin incorporation (EOI)	
	N	noun (e.g., highschool)
	A	adjective (e.g., exklusivna 'exclusive')
	B	adverb (e.g., familijno 'as a family', eventual 'no 'eventually')
	V	verb (e.g., zbandažuvaly 'They bandaged')
	U	numeral (e.g., visim 'eight', peršyj 'first')
	P	adjectival verb/Participle (e.g., zaangažovanyj 'engaged')
	?	ambiguous (e.g., pensija bula i toj dis- disable , tak. 'There was pension and that dis- disable (?disability allowance?)' (K-3218)
17.	SYNTACTIC POSITION	
	E	base-generated position – an item appears in the surface word order which is equal to its original position, i.e., Subject-Verb-Object; Modifier-Noun; Preposition-Noun, etc. (e.g., vstavljae alarmy do chativ '[He] installes alarms in houses' (V-1024); chodyly todi do public-school 'Then they went to a public-school' (L-1012)); for verbs – complement follows the verbs (e.g., vstavljae alarmy '[He] installes alarms'); for adjectives – 1) as a modifier preceding a noun (e.g., exklusivna highschool); 2) as a predicate adjective following a verb (e.g., ; for adverbs – when it is allowed in both languages (e.g.
	N	non-base generated position, i.e. all other positions which do not correspond to the base-generated word order , e.g. svij food maje-3sg '[It] has its food' for adverbs – position not allowed in English (e.g., vin [tam] base pozajma 'He [there] base will get')
	S	verb is separated from its complement (e.g., my zrobyly [z nym] vse 'We did [with him] everything'
	C	complement precedes the verb (e.g., vin tam [base] pozajma 'He there [base] will get')
	A	Absent copula, e.g., vona Ø lawyer 'she [is] a lawyer'
	X	existential constructions, e.g., tam bula junija 'There was a union'
	?	ambiguous
18.	AGREEMENT	
	A	agreement is required (e.g., moji-pl.Nom ti-pl.Nom sponsory-pl.Nom jak si nazyvaly-pl., ščo sponzorovaly-pl. mene 'Those sponsors of mine, as they were called, that sponsored me' (C-1210)
	N	no agreement required, i.e., there are no elements to agree with (e.g., zrobyv license-Ø 'He did license' (Z-1721))
	?	ambiguous
	/	non-applicable

19.	TYPE of AGREEMENT	
	M	noun has to agree with the modifier only (e.g., cranom-sg jizdyty desjat'-tonovym-sg 'to drive a ten-ton crane' (C-1656))
	P	noun has to agree with the verb/predicate (e.g., časom tury-pl jichaly-pl 'Sometimes tours went' (O-837))
	O	noun has to agree with elements other than modifier or verb/predicate (i.e., numerals starting from 5, adverbs (e.g., bahato 'many', trochy 'little'), interrogative pronouns (e.g., skil'ky 'how many') which require agreement in plural. E.g., <u>visim</u> stitchiv 'eight stiches'; <u>skil'ky</u> vin tam base-Ø pozajma 'How many bases he will get' (U-185))
	B	noun has to agree with both modifier(s) and verb/predicate(s) (e.g., Počasja-F taka-F malen'ka-F consternacija-F 'Such a small consternation began' (S-806))
	/	non-applicable
20.	PLURAL MARKING	
	O	no overt plural marking, e.g., Vin mav electrician . 'He had an electrician' (E-243))
	S	overt English plural marker (e.g., duže dobri benefits 'very good benefits' (B-3055))
	E	generic noun, i.e., does not require plural marking (e.g., napravlialy ti furniture 'We fixed that furniture' (E-2134))
	B	both Ukrainian and English plural marked overtly (e.g., na stepsax 'on the steps' (K-2504))
	N	plural nouns that function as singular (e.g., u news 'at news' (I-1349)), vsiljaki seramicks 'various seramicks' (A-421))
	C	English noun which does not have singular, is overtly marked for Ukrainian plural (e.g., cornflakesy 'cornflakes')
	V	no plural in English, but overt Ukrainian plural marker (e.g. overtimy 'overtime')
	X	overt English plural with overt Ukrainian singular marking (e.g., rollsa 'roll')
	m	overtly unmarked for any plural, whereas it does not have singular in English/Ukrainian (e.g., pry marin-Ø 'with marins')
	/	non-applicable
21	NUMBER AGREEMENT	
	P	Plural Ukrainian agreement, e.g., Bahato je apartmentiv-pl dorohych-pl 'There are many expensive apartments'
	S	Singular Ukrainian agreement, e.g., A trolley jsia-F.sg 'Well, a trolley went'
	X	mixed number agreement, i.e., modifier is singular, verb is plural, or vice versa (e.g., ti-pl sandy blocky-pl bulo-sg 'there were those sandy blocks')
	/	non-applicable

22.	CITATION FORM	
	M	corresponds to Ukrainian masculine, i.e., ends in a consonant or <i>-j</i> (e.g. girls' high; tu boxu 'that box')
	F	corresponds to Ukrainian feminine, i.e., ends in <i>-a</i> , <i>-ja</i> , <i>-ija</i> (e.g., pizza)
	N	corresponds to Ukrainian neuter, i.e., ends in <i>-o</i> , <i>-e</i> , and <i>CC+ -ja</i> (e.g., bungalow ; law)
	P	corresponds to Ukrainian plural (i.e., no gender); ends in <i>-i</i> , <i>-y</i> (e.g., degree , social security)
	T	ends in <i>-tion/-sion</i> (e.g., vacacija 'vacation', televizija 'television')
	G	ends in <i>-ing</i> (e.g., pointing , boxing)
	Y	final [u] (e.g., glue , taboo)
	Q	final [ju] (e.g., barbeque)
	X	Ukrainian feminine nouns which end in a consonant (e.g., nič 'night', krov 'blood')
	A	Ukrainian masculine human nouns in <i>-a</i> (e.g., mužčyna 'a man')
	O	Ukrainian masculine human nouns in <i>-o</i> (e.g., bat'ko 'father')
	?	ambiguous pronunciation
	/	non-applicable
23.	ASSIGNED GENDER	
	M	overt masculine+masculine modifier+masculine verb (e.g., maly svoho-M sponsora-M jakyj-M za nas svidčyv-M 'We had our sponsor who certified for us' (C-1326))
	C	overt masculine+masculine modifier+Ø verb (e.g., do takoho-M do elevatora-M 'To such an elevator' (M-936))
	S	overt masculine+Ø modifier+Ø verb (e.g., na trucku-M 'on a truck' (I-282))
	F	overt feminine+feminine modifier+feminine verb (e.g., to bula-F shopa-F taka-F velyka-F 'It was such a big shop' (G-131))
	I	overt feminine+feminine modifier+Ø verb (e.g., v tu-F boxu-F jichaty 'To drive into that box' (E-280))
	U	overt feminine+Ø modifier+Ø verb (e.g., pišov do paperovni-F 'He went to a paper factory' (C-161))
	N	overt neuter+neuter modifier+neuter verb (e.g., osnovne-N je te-N parkovannja-N 'That parking is radical' (K-194))
	X	overt neuter+neuter modifier+Ø verb (e.g., pid holym-N nehom--N 'under the open sky' (A-115))
	Z	overt neuter+Ø modifier+Ø verb (e.g., ne ljublju murderstva-N 'I do not like murder' (V-238))
	m	Ø inflection+Ø mod/verb+masculine subject (e.g., vin-M je scientist-Ø 'He is a scientist' (N-053))
	1	Ø inflection+masculine modifier+masculine verb (e.g., toj-M groundhog-Ø bih-M 'That groundhog was running' (V-122))
	2	Ø inflection+masculine modifier+Ø verb (e.g., vytjah toj-M tumor-Ø 'He drew out that tumor' (L-407))
	3	Ø inflection+feminine modifier+feminine verb (e.g., to bula-F strašna-F mishmash-Ø 'It was an awful mishmash' (U-268))

4	Ø inflection+feminine modifier+Ø verb (e.g., z toji- <i>F</i> push-car -Ø 'From that push car' (R-132))
5	Ø inflection+neuter modifier+neuter verb
6	Ø inflection+neuter modifier+Ø verb (e.g., je take- <i>N</i> bungalow -Ø 'There is such a bungalow' (H-054))
8	Ø inflection+Ø modifier+neuter verb (e.g., bulo- <i>N</i> teperka anniversary -Ø 'It was an anniversary recently' (J-313))
9	Ø inflection+Ø modifier+masculine verb (e.g., buv- <i>M</i> til'ky 'lectrician -Ø 'There was only an electrician' (E-220))
f	Ø inflection+Ø modifier+feminine verb (e.g., a trolley -Ø jšla- <i>F</i> 'But the trolley went' (L-292))
\$	Ø inflection+Ø mod/verb+feminine subject (e.g., vona- <i>F</i> lower -Ø 'She is a lawyer' (F-400))
J	Ø inflection+masculine modifier+neuter verb (e.g., bulo- <i>N</i> takyj- <i>M</i> šyrokyj- <i>M</i> drive-way -Ø 'It was such a wide driveway' (V-281))
0	Ø inflection+feminine modifier+neuter verb (e.g., bulo- <i>N</i> taka- <i>F</i> duže taboo -Ø 'It was such a big taboo' (U-329))
7	Ø inflection+masculine verb+feminine modifier (e.g., duže ne čystoju- <i>F</i> apartment -Ø buv- <i>M</i> 'The apartment was very unclean' (C-294))
W	overt feminine+neuter modifier+Ø verb (e.g., na jakys'- <i>M</i> take- <i>N</i> plaina - <i>F</i> 'On some kind of such a plain' (K-180))
Y	overt feminine+feminine verb+Ø modifier (e.g., tam bula- <i>F</i> hosiera - <i>F</i> 'There was a hosiery there' (A-271))
#	overt feminine+fem/masc.modifier+neuter verb (e.g., to bulo- <i>N</i> cilyj- <i>M</i> ta- <i>F</i> shopa - <i>F</i> 'It was that entire shop' (V-2013))
Q	overt feminine+masculine modifier+Ø verb (e.g., v ukrajins'kim- <i>M</i> centrali - <i>F</i> 'In a Ukrainain center' (A-214))
V	overt masculine+masculine verb+Ø modifier (e.g., meškav- <i>M</i> policyst - <i>M</i> 'A policeman lived' (C-130))
P	ambiguous, because of plural inflection (e.g., pryšyly- <i>pl</i> ti- <i>pl</i> stici- <i>pl</i> 'They sewed on those stiches' (C-2440))
K	overt feminine+mixed modifier+Ø verb (e.g., pro toho- <i>M</i> -- pro svoju- <i>F</i> sestru - <i>F</i> 'About that- about his sister'
%	overt feminine+Ø modifier+neuter verb (e.g., todi bulo- <i>N</i> nazva - <i>F</i> metaliv 'Then there were names of metals' (K-1.46))
T	overt masculine+feminine modifier+Ø verb (e.g., ljokal'noju- <i>F</i> pojizdom - <i>M</i> 'By a local train'
E	overt neuter+Ø modifier+neuter verb (e.g., pomeškannja- <i>N</i> bulo- <i>N</i> odna kimnata 'The apartment was one room' (G-1.5))
@	overt neuter+mas/fem. modifier+Ø verb (e.g., tak zvanu- <i>F</i> znannja- <i>N</i> 'So-called knowledge'
+	overt masculine+Ø modifier+neuter verb (e.g., zaskoknulo- <i>N</i> zamky 'The lockes closed' (X-1.45))
*	Ø inflection+2 modifiers in different gender+Ø verb (e.g., takyj- <i>M</i> miscevis'- <i>F</i> taka- <i>F</i> 'Such an area' (M-1.43))
A	ambiguous in singular (e.g., v mashine-shopi - <i>masc/F</i> 'In a mashine shop' (H-650))
Ø	Ø inflection+Ø modifier+Ø verb (e.g., zajichaty do emergency -Ø 'To drive in to emergency' (H-1024))
/	non-applicable

24.	PHYSIOLOGICAL GENDER	
	M	refers to human masculine (e.g., citizen, lawyer)
	F	refers to human feminine (e.g., vona je wise-president 'She is a wise president')
	m	animal masculine (e.g., toj groundhog bih 'That groundhog was running' (V-122))
	f	animal feminine (e.g., German shepar ' in Ukrainain – vivčarka-F) 'German shepard'
	A	ambiguous (e.g., dlja senior-citizen-Ø 'For a senior citizen')
	+	invariable human nouns (having only one grammatical gender) (e.g., dytyna-F 'a child', ljudyna-F 'a person')
	V	acronyms concerning people (e.g., eses (SS), dipi (DP) 'displaced person')
	I	inanimate nouns
	/	non-applicable
25.	PRONUNCIATION	
	U	definitely Ukrainian (e.g., [pljombéri] 'plumbers', [tritménti] 'treatments')
	E	definitely English (e.g., goodtime, displaced person, real estate)
	W	something between English and Ukrainian (e.g., bluebérry, architéct)
	R	English with Ukrainian [r] (e.g., baking powdeR, Retirements)
	F	the whole word is in English, except the Ukrainian inflection (e.g., tuby [tjúb-i] 'tube', officach [ɔfis-ax] 'office')
	?	ambiguous
	/	non-applicable
26.	TYPE OF TENSE MARKING (verbs only)	
	S	tense marked with suffix, like wachuje 'watches'
	B	tense marked with prefix and suffix, e.g. zbandažuvaly 'bandaged'
	A	Both auxiliary and the verb are marked overtly, e.g., budu studijuvaty '[I] will study'
	O	tense marked with null morpheme, e.g. ty complain 'you-2sg complain'
27.	NULL SUBJECTS (verbs only)	
	N	verb occurs with no overt subject in its clause, e.g. u špytalju [Ø] checkuvaly jak vona... 'in the hospital they checked how she...'
	S	verbs occur with overt subject, e.g. ja eh mopuvala pidlohu 'I eh mopped the floor'

APPENDIX B



Signs at the entrance to the Ukrainian homestead.

Chart B.1 Detailed distribution of social factors in the corpus¹.

Speaker	Sex	Education in Ukraine	Political faction	Socio- economic class	Linguis- tic market	English training	Immigr- ation to US	Contact with children
O	M	U	M	M	3	U	G	Y
A	M	L	M	L	2	E	G	Y
J	F	L	M	L	1	N	G	Y
Y	M	M	B	L	2	N	O	N
D	M	U	M	W	2	N	G	N
V	F	L	B	L	1	N	G	Y
L	F	L	B	L	2	N	O	Y
U	M	U	M	M	3	U	G	Y
P	F	M	M	M	4	E	G	Y
M	F	U	M	M	3	E	G	Y
H	F	M	M	L	2	E	G	Y
B	F	U	M	M	4	E	G	Y
E	M	U	M	L	3	E	G	N
K	M	U	M	L	3	U	O	Y
C	M	M	B	L	2	N	O	Y
Z	F	U	M	M	2	E	G	Y
S	F	U	M	M	2	E	G	Y
F	F	M	B	L	1	N	O	N
R	F	L	B	L	2	E	G	Y
G	F	U	M	L	2	E	G	N
N	F	L	B	W	1	N	O	Y
Q	F	U	B	M	4	E	O	Y
X	F	M	B	L	2	N	O	Y
W	F	L	B	W	2	N	G	N
I	M	L	B	W	3	N	G	Y
TOTAL								
25	M-10	U-11	M-14	M-8	1-4	U-3	O-8	Y-19
	F-15	M-6	B-11	L-13	2-12	E-11	G-17	N-6
		L-8		W-4	3-6	N-11		
					4-3			

¹See Coding Instructions for details and abbreviations (Appendix A, Social Factors).

APPENDIX C

EXAMPLES OF NOUN CONJUGATION IN UKRAINIAN

(adapted from Ditel' (1993) and Pljušč et al. (1994)).

FIRST DECLENSION				
HARD GROUP	singular		plural	
	animate	inanimate	animate	inanimate
Nominative	syrot-á*	fabryk-a	syrot-y	fabryk-y
Genitive	syrot-y	fabryk-y	syrit	fabryk
Dative	syrot-í	fabryc-i	syrot-am	fabryk-am
Accusative	syrot-ú	fabryk-u	syrit	fabryk-y
Instrumental	syrot-óju	fabryk-oju	syrot-amy	fabryk-amy
Locative	syrot-í	fabryc-i	syrot-ach	fabryk-ach
Vocative	syrot-o	fabryk-o	syrot-y	fabryk-y
SOFT GROUP				
Nominative	robitnyc-ja	nadi-ja	robitnyc-i	nadi-ji
Genitive	robitnyc-i	nadi-ji	robitnyc'	nadi-j
Dative	robitnyc-i	nadi-ji	robitnyc-jam	nadi-jam
Accusative	robitnyc-ju	nadi-ju	robitnyc'	nadi-ji
Instrumental	robitnyc-eju	nadi-jeju	robitnyc-jamy	nadi-jamy
Locative	robitnyc-i	nadi-ji	robitnyc-jach	nadi-jach
Vocative	robitnyc-e	nadi-je	robitnyc-i	nadi-ji
MIXED GROUP				
Nominative	myš-a	plošč-a	myš-i	plošč-i
Genitive	myš-i	plošč-i	myš-ej	plošč
Dative	myš-i	plošč-i	myš-am	plošč-am
Accusative	myš-u	plošč-u	myš-ej	plošč-i
Instrumental	myš-eju	plošč-eju	myš-amy	plošč-amy
Locative	myš-i	plošč-i	myš-ach	plošč-ach
Vocative	myš-e	plošč-e	myš-i	plošč-i

* When suprasegmental phonology is involved in case distinction, a stressed syllable is marked with ['] (accent aigu) over the vowel.

SECOND DECLENSION				
HARD GROUP	singular		plural	
	animate	inanimate	animate	inanimate
Nominative	vovk	mist-o	vovk-y	mist-á
Genitive	vovk-a	mist-a	vovk-ív	mist
Dative	vovk-ovi (-u)	mist-u	vovk-ám	mist-ám
Accusative	vovk-a	mist-o	vovk-ív	mist-á
Instrumental	vovk-om	mist-om	vovk-ámy	mist-ámy
Locative	vovk-ovi, -u	mist-i	vovk-ách	mist-ách
Vocative	vovk-u vovč-e	mist-o	vovk-y	mist-á

SOFT GROUP

Nominative	koval'	zavdann- ja	koval-í	zavdann- ja
Genitive	koval- ja	zavdann- ja	koval-ív	zavdann'
Dative	koval- evi	zavdann- ju	koval- jám	zavdann- jam
Accusative	koval- ja	zavdann- ja	koval-ív	zavdann- ja
Instrumental	koval- em	zavdann- jam	koval- jámy	zavdann- jamy
Locative	koval- evi, -i, -ju	zavdann- i	koval- jách	zavdann- jach
Vocative	koval- ju	zavdann- ja	koval-í	zavdann- ja

MIXED GROUP

Nominative	tkač	prizvyšč- e	tkač-í	prizvyšč- a
Genitive	tkač- a	prizvyšč- a	tkač-ív	prizvyšč
Dative	tkač- evi (-u)	prizvyšč- u	tkač- ám	prizvyšč- am
Accusative	tkač- a	prizvyšč- e	tkač-ív	prizvyšč- a
Instrumental	tkač- em	prizvyšč- em	tkač- ámy	prizvyšč- amy
Locative	tkač- evi, -i, -u	prizvyšč- i	tkač- ách	prizvyšč- ach
Vocative	tkač- u	prizvyšč- e	tkač-í	prizvyšč- a

THIRD DECLENSION

	singular		plural	
	animate	inanimate	animate	inanimate
Nominative	mát- y	pič	mat-er- í	peč- í
Genitive	mát-er- i	peč- i	mat-er- ív	peč- éj
Dative	mát-er- i	peč- i	mat-er- jám	peč- ám
Accusative	mát- ir	pič	mat-er- ív	peč- í
Instrumental	mát-ir'- ju	pičč- ju	mat-er- jámy	pičč- ámy
Locative	mát-er- i	peč- i	mat-er- jách	peč- ach
Vocative	mát-ir, mát- y	peč- e	mat-er- í	peč- i

FOURTH DECLENSION

	singular		plural	
	animate	inanimate	animate	inanimate
Nominative	loš- á	im'- já	loš-át- a	im-en- á
Genitive	loš-át- y	im-en- i, -já	loš-át	im- én
Dative	loš-át- i	im-en- i	loš-át- am	im-en- ám
Accusative	loš- á	im'- já	loš-át, -át- a	im-en- á
Instrumental	loš- ám	im-en-em, - jám	loš-át- amy	im-en- ámy
Locative	loš-át- i	im-en- i	loš-át- ach	im-en- ách
Vocative	loš- á	im'- já	loš-át- a	im-en- á

EXAMPLES OF ADJECTIVE CONJUGATION IN UKRAINIAN

SINGULAR			
HARD GROUP	MASCULINE	NEUTER	FEMININE
Nominative	harn- yj	harn- e	harn- a
Genitive	harn- oho	harn- oho	harn- oji
Dative	harn- omu	harn- omu	harn- ij
Accusative	= Nom or Gen	harn- e	harn- u
Instrumental	harn- ym	harn- ym	harn- oju
Locative	harn- omy (-im)	harn- omy (-im)	harn- ij
SOFT GROUP			
Nominative	syn- ij	syn- je	syn- ja
Genitive	syn- joho	syn- joho	syn- joji
Dative	syn- jomu	syn- jomu	syn- ij
Accusative	= Nom or Gen	syn- je	syn- ju
Instrumental	syn- im	syn- im	syn- joju
Locative	syn- jomy (-im)	syn- jomu (-im)	syn- ij
PLURAL			
	HARD GROUP	SOFT GROUP	
Nominative	harn- i	syn- i	bezkra- ji
Genitive	harn- ych	syn- ich	bezkra- jich
Dative	harn- ym	syn- im	bezkra- jim
Accusative	= Nom or Gen	= Nom or Gen	= Nom or Gen
Instrumental	harn- ymy	syn- imy	bezkra- jimy
Locative	harn- ych	syn- ich	bezkra- jich

APPENDIX D

Table D-1. Distribution of verbal marking across corpora.
(Corresponds to Figure 6.1)

Verbal morphology	Ukrainian monolingual		English-origin in Ukrainian		English monolingual	
	N	%	N	%	N	%
Suffix	79	63	63	61	24	17
Suffix+Prefix	46	37	37	36	0	0
Null	0	0	4	4	96	67
Null + root vowel change	0	0	0	0	23	16

Table D-2. Distribution of adjectival marking across corpora.
(Corresponds to Figure 7.1)

Adjectival morphology	Ukrainian monolingual		English-origin in Ukrainian		English monolingual	
	N	%	N	%	N	%
Overt Ukrainian	75/75	100	47/67	70	0/42	0
Both Ukrainian + English	0/75	0	5/67	7	0/42	0
Overt English	0/75	0	9/67	13	9/42	21
Null affixation	0/75	0	6/67	9	33/42	79

Table D-3. Distribution of morphological marking of adjectival verbs across corpora. (Corresponds to Figure 7.2)

Adjectival morphology	Ukrainian monolingual		English-origin in Ukrainian		English monolingual	
	N	%	N	%	N	%
Overt Ukrainian	26/26	100	9/14	64	0/5	0
Both Ukrainian + English	0/26	0	0/14	0	0/5	0
Overt English	0/26	0	5/14	36	5/5	100
Null affixation	0/26	0	0/14	0	0/5	0

Table D-4. Distribution of adverbial marking across corpora.
(Corresponds to Figure 8.1)

Adverbial morphology	Ukrainian monolingual		English-origin in Ukrainian		English monolingual	
	N	%	N	%	N	%
Overt Ukrainian	27/50	54	13/21	62	0/44	0
Overt English	0/50	0	2/21	9	1/44	2
Null affixation	23/50	46	6/21	29	43/44	98

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