32 years on and *still* triggering: Psycholinguistic processes as motivation for switching amongst Croatian-English bilinguals

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This paper investigates the phenomenon of "unconscious" or "unintended" switching between languages - triggering - on the basis of accessing items - trigger words - whose language-specific membership may be ambiguous. Triggering as a phenomenon in some examples of bilingual speech was first noticed and explored by Michael Clyne in the first of his many books, Transference and Triggering (1967), and has been subsequently problematised by many researchers in the field of language contact. A linguistic corpus based on taped interviews with 100 second-generation Croatian-English bilinguals provides the bilingual speech sample in which triggered switching is examined. While the relative number of instances of triggered switching is small, two categories of triggering are distinguished - consequential and anticipational, while two productive categories of trigger words are identified - proper nouns and English-origin lexical transfers (almost always nouns). The data suggest that items whose semantic-referential values are similar cross-linguistically are more likely to offer potential "cross-over points" leading to "unconscious" and "unimpeded" switching.

1. Introduction

The title of this article alludes to Michael Clyne's definitive volume *Transference and Triggering* published thirty-two years ago in 1967. As the first detailed study of bilingual speech in Australia and as one of the first of its kind world-wide, *Transference and Triggering* offers a multi-faceted analysis of aspects of speech in which contribution from two languages is evident. In this and in other works by Clyne (e.g. 1972, 1975, 1981, 1982, 1990, 1991) there is not one locus of examination restricted to that of linguistic outcomes, but rather several loci which focus on the bilingual speaker, the bilingual speech community and conversational aspects of bilingual speech. In this article examination of Croatian-English speech is microlinguistically based and focuses on speaker-specific psycholinguistic features. In particular, it is the psycholinguistic process of *triggering*, ie. accessing of "ambiguous" lexical items precipitating activation and text production from the "other" language, as outlined by Clyne (1967), which is the object of analysis in this article.

2. Definitions

The term *psycholinguistic processes* refers here to the processes underlying the planning, organisation, accessing and production of speech, and in particular, speech containing features of two language varieties. The term *switching* is used here in preference to the more widespread term *code-switching*, referring to the employment of item/s from two language varieties, either through alternation or insertion, in the same utterance.[1]

3. Discussion

Studies of bilingual corpora which examine surface level phenomena such as triggering have their theoretical basis in the area of psycholinguistics which examines how organisation and activation of languages occurs in bilingual speech production. In the literature on processing and production of bilingual speech, various models and hypotheses are offered to account for how bilinguals are able to employ both languages or keep them apart. Based on the premiss that languages, in neural terms, are stored and represented separately, earlier studies (e.g. Macnamara 1967; Macnamara and Kushnir 1971; Albert and Obler 1978) posit a switch or monitor mechanism whose role it is to "tell" the "language production system" which language is being spoken. Such a mechanism is sought to account for monolingual production by bilinguals and is posited to function as a covert inhibitor for "mixed" language production, according to communicational situation. Thus, external, sociolinguistic factors such as setting and/or interlocutor are posited to be a regulating factor in bilingual text

production. While later studies (e.g. Paradis1990; Grosjean and Soares1986; Grosjean1995) question the existence of a monitor mechanism as a necessary strategy in inhibiting "mixed" speech, a more recent model (Green1998:69) posits that language task schemes, or ".. mental devices or networks that individuals may construct [...] to achieve a specific task..." regulate language output by controlling levels of representation within each language system.

Neural organisation of language in terms of specific systems according to language variety accessed is referred to as the "dual-system hypothesis" (Paradis1981), ie. each language is formally separate in terms of storage and access. Opposed to this position is the "extended system hypothesis" (Paradis1981) which posits that there is one large language system which contains elements from both languages. While many recent researchers now appear to take a "dual-system" model as axiomatic (e.g. de Bot and Schreuder1993; Treffers-Daller1998), others suggest that two *sub-systems* according to language variety exist which together form a larger single system from which elements from either language may be selected (e.g. Paradis1981; Snodgrass1993).

In a later work, Clyne (1997:111-113) makes reference to a model (Paradis1987) which posits that language relatedness (in a genetic sense) may influence the type and degree of joint or separate storage of languages. Language relatedness is also posited to influence accessing of the same or similar procedural or lexical knowledge when speaking. This model is, in part, based on an earlier hypothesis (Paradis 1981) of storage of language items in sub-sets. Referring to Paradis' (1981) earlier model, Clyne (1997) suggests that this single storage system where same-language elements are linked, ".. enables speakers to have two subsets of neural connections, one for each language, and one larger set from which elements from either language are available" (1997:113). As a consequence, the occurrence of same-language words (ie. those at the intersection of both languages) can establish connection with the other language's subset and lead to "automatic" or "unconscious" (triggered) switching.

Most recently, Clyne (forthcoming) suggests that some items may be allocated to one language-specific sub-system while others, due to some aspect of cross-linguistic similarity, may be allocated to both sub-systems. Clyne (forthcoming) suggests that lemmas (which are stored in the mental lexicon and which contain information about

the syntactic relations of the lexical concept) may be "tagged" according to language. Lemmas whose linguistic membership may be common or ambiguous may be "double-tagged" to both languages. In this way, Clyne suggests that production (ie. surface-level incidence) of items can have consequences on preceding levels of language planning (ie. organisation and accessing) in terms of language selection. Incidence of certain surface-level forms can have effects on other levels of language planning where this is viewed as a hierarchy of processes. Thus, the effect, hierarchically, of surface-level forms can be "bottom-up" as interaction between the articulation (production) and formulation stages. (Cf. Myers-Scotton and Jake's (1999) four-tiered production process diagram.)

Other recent research on bilingual speech production (e.g. Grosjean 1985, 1995; Green 1986; Myers-Scotton 1993a; Treffers-Daller1997) focuses specifically on socio- and micro-linguistic features, ie. setting, interlocutor, acceptability/relative "markedness" of bilingual speech according to speech situation, and habitual use and non-use of languages. Examining situational criteria, Grosjean (1995) states that ".. bilinguals find themselves at various points along a situational continuum which induces a particular speech mode. At one end of the continuum, bilinguals are in a totally monolingual language mode [...]. At the other end of the continuum, they are with bilinguals who share their two languages and with whom they normally mix languages (code-switch and borrow).." (1995:261-262. Round brackets his, square brackets mine.). In such instances speakers are in bilingual language mode.

Analogous to Grosjean's (1985, 1995) notions of *language modes* and activation of either or both language systems to various degrees is Green's (1986) model of three levels of language activation: *selected, active* and *dormant*. In its *selected* state a language controls the speech output of the speaker and the other language is *active* (to various degrees). When a language is *active* it plays an ancillary role in ongoing processing and has no access to the outgoing speech channel. When *dormant*, a language resides in the long-term memory, but does not play an active role in ongoing processing (Green 1986:213-4). Examining the speech of bilinguals who habitually employ only one of their languages, de Bot and Schreuder (1993) suggest that activation and deactivation are relative processes and that deactivation may be desired but not attainable in some situations. For

example, prolonged activation of one language may prevent effective deactivation, or, ".. it could be that certain sets of features have such a high default level of activation as a result of continuous use, that they cannot be deactivated enough" (de Bot and Schreuder 1993:200).

Activation or "non-deactivation" may occur along different routes for different speakers. De Bot and Schreuder (1993) suggest that for speakers whose languages have distinct and separate functional roles, the activation of an item from one language will cause that language to generally be more highly activated than the other language/s. For speakers who regularly switch or whose speech variety in one language includes items from the other language/s, ".. connections between items from different languages may be just as strong as the connections within a particular language" (de Bot and Schreuder 1993:199).

Triggering presupposes activation of both languages in Green's (1986) terms or bilingual mode in Grosjean's (1995) terms. In other words, in order for a bilingual to switch "unimpededly" and "unconsciously" from one language to another *both* languages must be accessible and amenable. Thus, psycholinguistic criteria, namely *activation* of both languages, and sociolinguistic criteria, namely relative *unmarkedness* of employing two languages, appear to be necessary prerequisites for triggering to occur.

As far as neural distinguishing of languages is concerned, occurrence of triggering on the basis of particular items or elements indicates that such particular items or elements may have "ambiguous" membership in terms of language-specific storage systems. This means that certain items, on the basis of phonological, graphemic and/or lexical-semantic features, are "common" to both languages and have the same or identical lemma in both language systems. It is this formal similarity which can "arrest" or "affect" metalinguistic identification of an item and its membership within a language-specific system which can then precipitate triggering. Thus, items with "ambiguous" membership are labelled *trigger words* - " .. words at the intersection of two language systems which, consequently, may cause speakers to lose their linguistic bearings and continue the sentence in the other language" (Clyne 1991:193).

Such items, trigger words, have similar or identical formal characteristics in both languages. Therefore they can be identifiable as items which precipitate speaker indecision ("losing their linguistic bearings") in regard to which language variety is the selected one in Green's (1986) terms. Speaker indecision, in turn, enables either language variety to be the selected one in succeeding speech. While the notion of triggering appears to relate to surface-level phenomena, which suggests that it is based on theoretical postulates of linearity or sequentiality, it is shown also to interface with other levels of language planning, especially to that of language selection.

This kind of interpretive examination of surface phenomena as indicators of planning is, as Gardner-Chloros (1991) suggests, amenable to microlinguistic analyses of bilingual speech. Others (e.g. Backus 1996) also note that triggering is typical for bilingual situations which involve closely related languages and/or contexts where structural convergence has occurred. Clyne (1987:754-755) reports that structural convergence is often an accompanying factor in samples containing switching, but that it is lexical convergence and homophony of items which are the primary facilitators of triggering.[2] It is this application of a lexically-based notion of triggering which is adopted or problematised in studies which examine possible psycholinguistical motivations of switching, e.g. Hasselmo (1972:277-278), Kaminskas (1972:210-222), Bettoni (1981:74-78, 100-102), McClure (1981:69-92), Saunders (1982:94-96), Appel and Muysken (1986:125-6), Tamis (1986:190-93), Schatz (1989:152-154), Myers-Scotton (1993b:24-6), Backus (1996:337-338), Halmari (1997:12, 28), Lanza (1997:67, 155), Treffers-Daller (1998:99).

I adopt here a microlinguistic approach to examining "common-language" words as possible examples of trigger words which motivate switching. Triggered switching is presumed to be always unidirectional, from Croatian into English, with the trigger word either immediately preceding the switch as in *consequential triggering*:

Croatian text→trigger word→English text

or contained in it as in *anticipational triggering*:

Croatian text→English text→trigger word→English text.

Unidirectionality of triggered switching (Croatian → English) is a general feature of switching in this study. This is in line with findings on switching from other "immigrant" languages in Australia in which switching

occurs between the other language and English where the other language is available as the "base language" or "unmarked choice" of discourse (Clyne 1998). For second-generation informants in communicational situations in which English is the "base language" of discourse, switching between English and the other language is rarely recorded.

Clyne (1991:193-194) lists the following categories of trigger words: lexical transfers, (phonologically and morphologically unintegrated single or compound word items), proper nouns, compromise forms and bilingual homophones. Lexical transfers, whether recurrent or sole-occurring, are potential trigger words. Where lexical transfers occur in instances of switching without an overt change in discourse-thematic parameters (ie. "conversationally" motivated switching) they can be considered likely candidates for the category trigger words.

Proper nouns, whether (phonologically and/or morphologically) integrated or unintegrated, have the same referential value regardless of language variety being spoken at the time. For example, items such as *Geelong, Qantas* or *C.R.C. (Catholic Regional College)*, are, although clearly originating from the anglophone Australian context, items employed and found in monolingual and "mixed" Croatian speech and are usually not perceived by either speaker or other interlocutor/s as switches but as items common to both language varieties.

Compromise forms are items whose morphophonological structure is based on features of similar "base forms" from both languages. For example, *Libanez* below contains morphophonological elements from Croatian *Libanac* [li'banats] and English *Lebanese* [lebə'niz]:

Lebanese/Libanac

[lebə'niz] ⎤
　　　　　 ⎬ .. on nije Hrvat, on je <u>Libanez</u> [liba'nez]..
[li'banats] ⎦
　　　　　 .. *he is not a Croat, he's (a)* <u>*Lebanese*</u>

The last category of trigger words distinguished is that of bilingual homophones (or homophonous diamorphs) - ".. words that sound the same in the two languages, at least in the two language systems of the speaker" (Clyne 1991:194). Clyne (1991:194) cites examples such as Dutch *kan* and English *can* which are phonetically realised in the same way in the lects of some Dutch-English bilinguals - [kan].

Due to the large number of lexical transfers and proper nouns as just two categories of trigger words (see table 2 below) there is a significant number of items which have the potential to trigger switching. And yet the phenomenon of triggering is only ascertainable where switching co-occurs in an adjacent position. Trigger words are not identifiable as such according to formal criteria which pertain to them only. The facility to trigger switching into the other language is only identifiable where switching is realised.

In this paper I quantify "potential trigger words" and provide examples where incidence of trigger words demonstrably leads to (consequential) or precipates (anticipational) switching. Occurrences of "potential trigger words" which could but do not "induce" switching are not examined here but are indicated statistically in Table 5 in Section 6.

In the examples provided it is the role of trigger word as motivator of switching which is the focus of examination. Discourse-specific or other features may accompany the triggered switches examined here and cursory explanation of these features is sometimes offered. These features do, however, remain peripheral to the focus of this paper which is concerned with particular items which affect psycholinguistic processes.

4.　Informants and sample

The corpus on which the data of this paper are based was collected from recorded, "Labovian-style" interviews conducted in Croatian with 100 Croatian-Australians. Most informants (87) were born in Australia to parents who had migrated to Australia as adults and in both sociological and linguistic terms are considered members of the second generation of an ethnic group and speech community. A smaller number of informants (13) were born in Croatia, Bosnia-Herzegovina or Germany and came to Australia as pre-school-age children. All informants' parents arrived in Australia at the age of 15 or older. The age of informants ranged from 16 to 32. The interviews were recorded from March to September 1996.

The interviews consist of non-spontaneous speech given by informants, usually in response to questions given by the interviewer and prompted by visual stimuli provided, i.e. picture descriptions. Although the interviews are "loosely structured" there is a degree of comparability

across the sample through the rough similarity of questions asked and the same pictures being shown to all informants. Recorded interviews with informants lasted between 20 and 120 minutes. A 15-20 minute segment was chosen from each interview and transcribed. These transcribed segments of the interviews form the corpus of linguistic data examined in this paper.

In terms of activation of languages or language mode, the communicative situation of the interview represents a setting in which both languages are likely to be *activated*. Informants are likely to have been in *bilingual mode* partly because of my own choice of language with them. As interviewer I almost always spoke English when making contact with potential informants and during the "pre-interview" but employed almost exclusively Croatian during the interview itself. As it turned out, my employment of largely "monolingual Croatian" was not a disincentive for informants to switch to English. This happened frequently as Tables 1 and 2 below indicate.

The corpus numbers ca. 148 000 tokens, of which ca. 142 000 are Croatian and ca. 6000 English items. The vast majority of English-language items are *not* integrated. There are 3362 English-origin single-word items and 608 items which appear in English multiple-word clusters. There are also 363 examples of phonologically and/or morphologically integrated English-origin items, 23 examples of bilingual homophones, 14 examples of "partially" integrated items and five examples of "compromise forms". Statistically, this shows that employment of English-origin items is common and widespread. The number of turns, switches, types of English-origin items and categories of trigger words is detailed in Tables 1 and 2 below:

Table 1: Number of turns and switches across sample

No. of turns	5677	
No. of monolingual Croatian turns	3043	(53%)
No. of monolingual English turns	311	(6%)
No. of non-lexicalised turns (turns consisting only of *uh-huh, mm* etc.)	47	(1%)
No. of turns containing switch/es	2276	(40%)
Total	5677	

Table 2: Number and type of switches and categories of trigger words

No. of switches to English	4223
Thereof:	
English-origin single-word items	3615
English items in multiple-word clusters	608
Categories of trigger words:	
English lexical transfers (unintegrated)	2234
English proper nouns (unintegrated and integrated)	1339
Bilingual homophones	23
Compromise forms	5

As Table 2 above shows, a significant number of unintegrated lexical transfers and proper nouns suggests that there are at least two categories of potential trigger words which may measurably contribute to triggered switching, while the low incidence of "compromise forms" (see below section 5) means that they are unlikely to constitute a statistically significant group.

Data on each informant is given in round brackets after each utterance (see below). The first number refers to informant number, "M" or "F" refers to informants' sex, while the last number indicates the informant's age, e.g. "73,M,21" signifies: informant number 73, male, 21 years old. "J.H." are the initials of the interviewer and author.

In the examples given below, Croatian or English text is represented according to the orthographic norms of each language. Only pause-fillers (e.g. *um* [am]), ambiguous affirmatives (e.g. *yeah* [jeə])[3] or integrated, English-origin items (e.g. Sidnej ['sidne:]) are represented phonetically.

5. The data

Clyne (1967:84-89) distinguishes four types of *triggering* - *consequential triggering, anticipational triggering, "sandwich-word" triggering* and *contextual triggering*. In this study I focus on the first two categories only - *consequential triggering* in which switching immediately follows the trigger word, and *anticipational triggering* in which the trigger word is anticipated and the switch precedes the trigger word so that the trigger word is contained within the switch. For *consequential triggering* Clyne (1987:755) argues that the trigger word is not part of the switch as it belongs to both languages and therefore the switch site is not clearly identifiable as being either immediately preceding or succeeding the trigger word. The unclear status of trigger words in examples of consequential

triggering is characterised by the figure below in which the initially selected language is still accessed with the occurrence of the trigger word at the same time as the previously activated and subsequentially selected language is also co-activated.

←————— language x —————→
text text text text *trigger word* text text text text
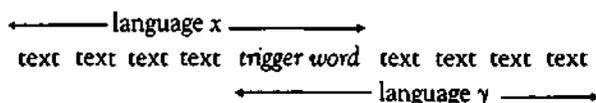   ←————— language y ————→

Figure 1: Language selection and status of trigger word in consequential triggering

In instances of anticipated switching the trigger word is, despite its ambiguous affiliations as an item belonging to both languages, unambiguously a part of the switch due to its switch-internal position. This is illustrated in Fig. 2. below:
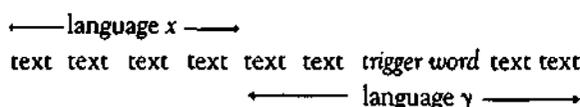
←——language x ——→
text text text text text text *trigger word* text text
                  ←————— language y ————→

Figure 2: Language selection and status of trigger word in anticipational triggering

Two categories of trigger words, compromise forms and bilingual homophones, are not productive categories as far as triggered switching is concerned. There is only one example, (8) below, of a bilingual homophone precipitating switching and no examples of switching triggered by compromise forms. The fact that they are not productive categories of trigger words is accounted for by their general low incidence as Table 2 above illustrates. This is not surprising as there are, in general, few words homophonous in both languages. Therefore, there are few instances of items from which similarity and therefore commonality of phonological features could trigger selection of both languages. Clyne, (1967, 1972, 1980, 1985, 1987) on the basis of German-English and Dutch-English samples, and Schatz (1989), on the basis of Dutch-English data, report frequent instances of triggering due to the influence of bilingual homophones. At the same time, Saunders (1982) from his German-English sample reports that switching due to trigger words is quite rare. Saunders (1982) suggests that this is due to the distinctness of the two phonological systems in the speech of his informants. This claim underscores the importance of convergence or similarity in the phonological systems of speakers as prerequisites of triggering on the basis of homophony, whether or not the

language varieties themselves are phonologically comparable.

5.1. Consequential triggering

In the sample it is generally only lexical transfers and proper nouns which function as trigger words after which succeeding elements are given in English. As mentioned, there is only one switch triggered by a bilingual homophone. A switch may cause the entire remainder of the turn to be produced in English. Alternately, "switching back" to Croatian before the end of the turn may occur. Instances of both these phenomena are evident in the following examples but are not further investigated here. Trigger words in the following examples are underlined while succeeding switches containing English text are in bold-type.

A.   Lexical transfers

(1)   I zašto je to tako, što misliš, je li to velik koledz ili.. ? (J.H.)

        And why is that like that, what do you think, is that a big college or..?

        Ne, ne, mali je.. stvarno je.. **very small..** (smije se).. **[am]**, ima ovaj, razne te, kao ovi <u>colleges</u> **around, there are a couple of campuses..** (65,F,18)

        No, no, it's small.. it really is.. very small.. (laughter).. um, there is this, these various, like these <u>colleges</u> around, there are a couple of campuses..

The trigger word in (1) is *colleges*. *Koledz* ('college') as a phonologically integrated switch (and an Anglicism found in homeland Croatian referring only to educational institutions in English-speaking countries) occurs in my turn preceding the informant's turn and her use of *colleges* (though unintegrated) is probably motivated by my use of it. *College* is a recurrent switch in the sample, occurring twice elsewhere in its unintegrated form, once phonologically integrated (*koledz*) and many other times as a proper noun in the names of educational institutions mentioned throughout. It is an item used in monolingual English and monolingual Croatian text and therefore most probably a "double-tagged" item available to both language systems.

(2)   Što ti se svida u tom programu? (J.H.)

        What do you like in that programme?

Ja ne znam, samo volim.. volim <u>actor</u>, actors and actresses.. that's it.. (36,F,17)

I don't know, I just like.. I like <u>actor</u>, actors and actresses.. that's it..

In (2) above, *actor* is the trigger as an item which most probably belongs to the informant's Croatian-language system. A production "error" occurs and plural marking (either Croatian or English) is absent. This appears to precipitate repetition of the same item (as a repair) with English plural marking. Other English elements complete the turn. It appears that the syntactic non-congruence of *actor* (as a non-target form for a plural referent) as well as its assumed status as a trigger word contribute to the switch. While the Croatian equivalent *glumac* is more frequent (7 instances) across the sample than *actor* (2 instances) or integrated *akter* (1 instance), occurrence of *actor* as a single-item switch is a typical feature of the informant's Croatian speech within the interview and in general.

In example (3) below, the switch is overtly introduced:

(3)   Ja bih rekao najviše evropske specijalitete, mislim kad idem u restorane cesto idem u talijanske ili francuske restorane ali opet, nije to kao da ja baš obozavam to jelo i nikakvo drugo, ja nisam, kako kaze Australac <u>a picky man</u>, [am].. too many things don't phase me, kako kazu, znate, ali [jeə], ako cu, mislim više su ili francuski ili talijanski specijaliteti, [jeə], ako se.. (28,M,31)

I would say most of all European specialities, I mean when I go to restaurants I often go to Italian or French restaurants but again, it is not like I just adore that food and nothing else, I am not, as an Australian says <u>a picky man</u>, um.. too many things don't phase me, as they say, you know, but yeah, if I, I mean they're more French or Italian specialties, yeah, if..

The switch *a picky man* is introduced by *kako kaze Australac* ('as an Australian says'). This indicates expressed selection of items from a monolingual English-language system which are not at the "intersection" of both languages. Therefore *a picky man* is not a typical trigger item, but the following unintroduced switch which follows is almost certainly triggered by *a picky man*, ie. the informant produces a filled pause [am].. after which exemplification is given in the same language as the introduced switch.

B.   Proper nouns

(4)   [am].. po svjetlima, nije.. ja nikad nisam vidio ovakve svjetle u Australija, ja sam bio u Sydney i u Brisbane, bio sam po cijeloj Australi, [am].. kako ljudi su se.. imaju robe na sebi, to više nije kao australsko, [am].. auti, [am].. [Q:].. cekaj to je u Australi, to ima kao <u>Ford</u>, [jeə] good old Ford stationwagon, Commodore, to je u Australi, mislim.. (53,M,32)

Um.. because of the lights, it is not.. I have never seen these sorts of lights in Australia, I have been to Sydney and Brisbane, I have been all around Australia, um.. how the people have.. they are wearing clothes, that is more not like Australian, um.. cars, um.. oh.. wait that is in Australia, there is like <u>Ford</u>, yeah good old Ford stationwagon, Commodore, that is in Australia, I think..

There are four English-origin, unintegrated proper nouns in example (4) above, *Sydney, Brisbane, Ford* and *Commodore*. Neither the occurrence of *Sydney* nor that of *Brisbane* precipitates switching. However, that of *Ford* does. The switch may also be motivated by the discourse-focusing change which occurs immediately before the switch when the informant recognises the picture as that of an Australian situation. At the same time, the discourse function of the English switch following *Ford* is different from the surrounding text in that it provides speaker-proximal comment with affective meaning, after which a context-based comment follows which refocuses on the required speaker task of describing the content and origin of the picture. In the following example, (5), the proper noun, *Brisbane*, is the first trigger word after which the item *or* is produced, followed by another English-origin proper noun, *Adelaide*. Repeatedly, proper nouns appear to trigger English-origin pause-fillers or the affirmative, *yeah*:

(5)   Well, moj.. kao posao nosi me kao u druge, kao.. nekad idem u <u>Brisbane</u> or Adelaide, [am].. gdje još ima.. mislim <u>Sydney</u>, [jeə].. zato što moj posao, kao, moram to radit kao za cijelu Australiju.. i bila sam kao, prošla sam kroz svaku, kao.. <u>state</u>, [jeə].. (34,F,26)

Well, my.. like job takes me like to other, like.. sometimes I go to <u>Brisbane</u> or Adelaide, um.. where there is.. I mean <u>Sydney</u>, yeah.. because my job, like, I

have to do it like for all Australia.. and I have been like, I've been through every, like.. state, yeah..

In earlier works, Clyne (1967, 1972), labelled items such as *or* as in (5) above which occur between a trigger word and other "overlapping areas" as "sandwich words" (1967:89). *Sandwich words* are typically conjunctions or prepositions between recurrent or "stable" lexical transfers or proper nouns.

In the following example, (6), *Macbeth*, in the informant's second turn is arguably also a trigger word. However, *Macbeth* occurs in the first turn without triggering a switch. The informant's speech contains frequent examples of switching between languages and bears characteristics of what may be termed "marginal passages" (or "dense switching") (Hasselmo 1961). Similar cases where lexical items may come from either language may be termed examples of "relexification" or "congruent lexicalisation" (Muysken 1995:362):

(6) Sve naše sada, sve što vidiš na televizor, sve filmovi su based upon that, upon that, što je Macbeth uradio i, you've got to give him credit for his work.. [jeə].. interesting.. (95,M,16)

  All our now, everything that you see on the television, all films are based upon that, upon that, what Macbeth did and, you've got to give him credit for his work.. yeah.. interesting..

  Ali ponekad je teško, mislim, razumjet te rijeci.. to je stari, staroengleski.. i tako.. i tako iste rijeci imaju drugo znacenje.. baš u to vrijeme.. (J.H.)

  But sometimes it's hard, I mean, to understand those words.. that's old, old English.. and so.. and so the same words have a different meaning.. especially at that time..

  [jeə], u naše vrijeme sada, like different words mean different things, a naš ucitelj, [Q:].. explains imaš like sve na page, možeš citati with translations, onda to pomogne malo da nadeš što.. kakav je jezik i to.. teško je, teško je baš, ali ucitelj te malo pomogne u to.. i imaš kao ispite za Macbeth at the end of the year, exams tri sata.. moraš, [Q:].. jedan essay na to i [am].. za te druge stvari moraš napisati essay i to..

  Yeah, in our time now, like different words mean different things, but our teacher, ah.. explains you

have like everything on the page, you can read it with translations, then that helps you a bit to find what.. what sort of language it is and that.. it's hard, it's quite hard, but the teacher helps you a bit in it.. and you have like exams for Macbeth at the end of the year, exams three hours.. you have to, ah.. one essay on it and, um.. for the other things you have to write (an) essay and that..

There is one example, in (7) below, where a Croatian-origin item, common to both languages, appears to trigger switching:

(7) I gdje ste bili, u Karlovcu? (J.H.)

  And where were you, in Karlovac?

  Karlovac, [am].. Split, Zadar... Zagreb.. and other places I can't remember.. (38,M,18)

  Karlovac, um.. Split, Zadar... Zagreb.. and other places I can't remember..

The place names, *Karlovac, Split, Zadar, Zagreb* are pronounced as Croatian items. This is not unusual as almost all Croatian-origin place names retain their original phonological form in monolingual English speech of second-generation informants. Even those place names which have become better-known in anglophone countries and which are phonologically integrated such as <Zagreb> ['zagɹeb, 'zægɹeb] and <Dubrovnik> [dʊ'bɹɒvnɪk, də'bɹɒvnɪk] are often pronounced according to their original Croatian phonological form, ie. ['zagreb] and ['dubrovnik] by second-generation informants when speaking English. As a result, unintegrated *Zagreb* is an item available in both language systems and can be considered a trigger word in the above example. Alternately, the above example may be considered an English-language turn with unintegrated Croatian-origin items.

There are three other examples in which proper nouns appear to trigger switching. In all examples, the number of following English items is no more than four. This indicates in the first place that consequential switching succeeding proper nouns does not lead to lengthier, multiple-clause English switches, but rather, shorter, three- or four-item clusters, after which switching back to Croatian usually follows.

C.   Bilingual homophones

The only example of a bilingual homophone functioning as a trigger is the following:

(8)   Imaš dosta zadaca za školu? (J.H.)

Do you have a lot of assignments for school?

Imam puno zadaca i sutra mi igramo <u>tennis</u>.. **that's about all**.. (38,M,18)

I have a lot of assignments and tomorrow we are playing <u>tennis</u>.. that's about all..

The item *tennis* is produced according to Australian English pronunciation, ['tenəs], which is very similar to its Croatian equivalent, <tenis>, ['tenis]. The succeeding switch contains a topic-comment shift which terminates the turn and the switch could be motivated by the change in discourse style just as much as by homophonous *tennis*. It is perhaps no coincidence that *tennis/tenis* as one of the few bilingual homophones in the sample and the only one to trigger a switch is itself historically a lexical import from English. This underlies the finding that homophony of items between the two languages here is usually due to those same items having been "borrowed" from English on the basis of language contact between the two languages historically. Otherwise there are few if any examples of homophony (together with semantic comparability) between items belonging to both languages.

Examples of consequential triggering number 32. Of these, 24 are triggered by lexical transfers, seven are triggered by proper nouns, and one is triggered by a bilingual homophone. All trigger words are unintegrated. This is not surprising as the vast majority of the English-origin items found in the sample are unintegrated. This also indicates that non-integration is not a preventing factor in items functioning as potential triggers.

4.2.   Anticipational triggering

Anticipational triggering occurs when a speaker anticipates production of a trigger word and switches into the language from which the trigger word originates. The trigger word is therefore "contained" in the switch, while the switch site occurs preceding the trigger word often at a clause boundary or boundaries between higher (immediate) constituents, e.g. between NP and VP, or

between NP and PP. Switches to English are highlighted in bold-faced print while trigger words are underlined.

A.   Lexical transfers

(9)   I namjervaš li malo putovati po Australiji da vidiš još malo..? (J.H.)

And do you intend to travel around Australia a bit, to see a bit more..?

Da, htila bi ic u, [am].. u Adelaide ['ædəleɪd], imam.. rodbinu tu i.. u Sidnej ['sidne:] isto, sestra mi i prijateljica zive tu.. volila bi vidit i Perth [p3T], htila bi malo vidit od all **the** <u>states</u>.. u prosincu. (22,F,17)

Yes, I would like to go to, um.. to Adelaide, I have.. relatives there and.. in Sydney as well, my sister and friend live here.. I would also like to see Perth, I would like to see a bit of all the <u>states</u>.. in December.

(10)   Ovaj.. jesi li puno putovala po Australiji? (J.H.)

Um.. have you travelled around Australia a lot?

[m:].. [am] dosta, vidila sam all **the** <u>states</u> except... (2,F,27)

Mm.. um.. a fair bit, I have seen all the <u>states</u> except..

The above two examples, (9) and (10), both contain the trigger, *states*, while the switch site is in a preceding position: in the first example between constituents of a PP, the preposition *od* ('from') and NP *all the states*; in the second example in a VP between the constituents, verb, *vidila sam*, ('I have seen') and NP *all the states*;. This is congruent with Clyne's (forthcoming) hypothesis that many cases of anticipated triggering are motivated also by structural factors. In many cases it may be structurally more felicitous for switch sites to occur at boundaries between immediate rather than ultimate constituents. Example (10) above contains English-language text following the trigger word and is therefore also an example of consequential triggering. The following example, (11), has two instances of anticipated triggering:

(11) [m:].. i je li teško, mislim što se trazi.. ? Ili na kraju kakav posao možeš dobit poslije završetka studija? (J.H.)

Mm.. and is it hard, I mean, what is required..? Or at the end what sort of job can you get after the end of study?

[Q:], okay.. sad.. ce mi bit jako teško na hrvatski.. mogu radit, [am].. I could be like a **food stylist**, mogla to, i.. što se još može.. jako, posao je tako very **broad**.. može.. (24,F,18)

*Oh, okay.. now.. it will be very hard for me in Croatian.. I can work, um.. I could be like a **food stylist**, I could (do) that, and.. what else could I do.. very, the job is therefore **very broad**.. it's possible..*

The first switch in (11) above is preceded by overt reference to limitations in Croatian control: .. *ce mi bit jako teško na hrvatski* ('.. it will be very hard for me in Croatian'). Then follows an attempt to produce an utterance containing an occupationally-specific term which remains unspecified. This false start is followed by a pause filled with *um*, [am], after which a repair and switch to English follows which contains the anticipated trigger word *food stylist*. Later, a second switch *very broad* occurs, triggered by *broad*. The Croatian equivalent *jako* ('very') is produced just before the switch which indicates that non-control of the lexeme *very* does not account for the switch. Again, as in (9) and (10) above, there appear to be structural factors (in terms of syntactic hierarchies) which influence the earlier positioning of the switch site.

B.   Proper nouns

There are two examples, one of which is provided here in (12), of anticipated triggering motivated by a proper noun:

(12) I gdje izlaziš, mislim na disko ili tako nešto.. ili u kafice ili kavane? (J.H.)

And where do you go out, I mean to a disco or something like that.. or to cafés or coffee shops?

[am].. [jeə], u kafitu.. [am].. normally **Chapel Street** or.. something like that, [jeə]. (27,M,20)

*Um.. yeah, to cafés.. um.. normally **Chapel Street** or.. something like that, yeah.*

In (12) above, *Chapel Street* is the trigger word which is switch-internal and preceded by *normally* which belongs to the clause in which *Chapel Street* (together with verb ellipsis) occurs. In this example *Chapel Street* is arguably the trigger word for the succeeding English-language items. Although there is only one switch site, that between [am] and *normally*, this is an apparent case of anticipational *and* consequential triggering where the trigger word *Chapel Street* is responsible for English-language items preceding and succeeding it.

The number of anticipated switches, ten, is much lower than that of consequential switches, 32. If, as suggested here, structural constraints may be a co-contributing factor in the type and incidence of anticipational triggering, then the significantly lower number of examples of anticipated triggering may be evidence of a general structural congruence between the two language varieties. Posited structural congruence results in fewer instances where anticipated switches cause the switch-site to be "moved" or "brought forward" and in most cases the switch-site coincides with the occurrence of the trigger word. These findings are congruent with the linear-based notion of consequential triggering wherein language selection of succeeding constituents is affected. Structural congruence appears to be present at all levels of speech production, including the surface level, in the examples above of consequential triggering. Cross-linguistic linear similarity in production of items allows elements from either language variety to "line up" against each other in identical word order patterns.

Lexical transfers are the most productive category of trigger words with 32 instances. Nine instances of triggering are reported on the basis of proper nouns. The categories of trigger words are again summarised in Table 3 below and the overall incidence of switches and triggered switches is shown in Table 4 below:

Table 3: Categories of trigger words

Consequential Triggering:	
Lexical transfers	24
Proper nouns	7
Bilingual homophones	1
Sub-total	32
Anticipational Triggering:	
Lexical transfers	8
Proper nouns	2
Sub-total	10
Total number of trigger words	42

Table 4: Overall number of switches and triggered switches

No. of switches to English	4223
No. of triggered switches	42 (1 % thereof)

All trigger words here have a stateable referential value and they are almost always nouns. These nouns may occur as recurrent items, e.g. *colleges, actor,* or as infrequent examples of situation-specific terminology, e.g. *food stylist.* Triggering is most identifiable as such where switching occurs on the basis of an item and where the switch performs no other ascertainable function in terms of discourse structure. This is the case for almost all examples presented here except for example (12) above - *I could be like a food stylist.* In (12) other, conversationally-motivated factors are shown to potentially co-contribute to switching and thus, assumptions of switching based on the unambiguous influence of triggers are relativised. For all other examples given above, switching appears to be accounted for on the basis of single-item insertions activating and facilitating production of English-language text or on the basis of ambiguity of a lexical item's membership.

6. Conclusions

The findings here indicate that proper nouns and single-word items are the most productive trigger words (see below Table 5). There are no examples of (morphophonologically converged) compromise forms functioning as trigger words and only one example of a bilingual homophone triggering a switch. Compared to Clyne's (1980) Dutch-English and German-English bilingual speech samples and Schatz's (1989) Dutch-English bilingual speech sample, homophony is not shown here to be a prominent triggering factor. This is due to the still distinct phonological systems of the two language varieties and a lower incidence of items with similar morphophonological structures cross-linguistically. The dearth of compromise forms and bilingual homophones in this Croatian-English sample reflects the proposition that it is bilingual speech samples of genetically closer language pairs featuring greater similarity in terms of typology, lexicon and phonology which are likely to contain a larger number of potential triggering sites.

The above examples of triggering, in particular the examples of consequential triggering, show that word-order similarity is an antecedent condition for triggering. At the same time, examples of anticipational triggering

such as (9) and (10) above - *all the states* - indicate that there may be structural considerations which facilitate or constrain according to hierarchical relationships between constituents. Hence, switch sites which precede the trigger word do so on the grounds that switching in a preceding position is structurally more congruent or felicitous to the overall morphosyntactic frame of the utterance.

Table 5: Productivity of categories of trigger words

	Overall no.	Triggered switches	(%)
English lexical transfers (unint.)	2234	32	(1.4 %)
English proper nouns (unint. & int.)	1339	9	(0.7 %)
Bilingual homophones	23	1	(4.3 %)
Compromise forms	5	0	
No of potential trigger words that do not trigger switching:	3559 out of 3601		

Overall, as Table 5 above shows triggering does not prove to be a widespread phenomenon facilitating switching - the number of triggered switches amounts to only 42 of the 4223 switches to English across the sample. This paper focuses on only those instances where posited potential to trigger switches does co-occur with adjacent switches. But as Table 5 above indicates there is a vast number of cases where switching does not occur in the proximity of potential trigger words. A detailed investigation of these instances would be beyond the scope of this paper, but it is noted that an overwhelming number of trigger words can be retitled "potential trigger words" because although they have the potential to, they do not in fact trigger switching. The relative infrequency of triggering compared with the number of instances in which triggered switching is possible does not imply that the notion of triggering need be considered peripheral or applicable in a small number of cases. Research on structural characteristics of language contact phenomena frequently focuses on only particular examples, and researchers (e.g. Myers-Scotton 1993b) are careful to note that posited hypotheses have interpretive rather than predictive value. It is within this context that triggering can be considered one of many psycholinguistic factors which can pertain to language planning and production of bilingual text.

The findings here show that certain items with an "overlapping" status straddling both language varieties are

shown to precipitate "unconscious" switching. Psycholinguistic features such as bilingual mode or bilingual activation as well as sociolinguistic features such as availability and relative unmarkedness of switching according to situation are assumed to be necessary preconditions for any kind of switching, including triggered switching. Triggered switching in this sample is shown to be precipitated not by cross-linguistic homophonous or composite forms but by single-word items, either lexical transfers or proper nouns. Typically, these items have a stateable referential value and are nearly always nouns, common or proper. The prominence of nominals as a productive category of trigger words may indicate that typological factors and speech production processes are important factors in a linear-based phenomenon such as triggering. Both Croatian and English are SVO languages: nominals line up the same way in both languages and can be freely exchanged between the two languages which can retain an "intact" morphosyntactic frame. In addition there is usually greater semantic-conceptual equivalence between nouns as a category than, for instance, verbs or adverbs. In other words, categories of items whose referential value is similar or very comparable cross-linguistically, such as nouns like *Ford*, *Zagreb*, *colleges*, *actor* etc., are more likely to offer potential "cross-over points" leading to "unconscious" and "unimpeded" switching. Cross-linguistically, it appears in this sample that identicalness or close similarity of semantic-conceptual features may lead to accessing of lexemes whose language-specific membership is ambiguous. Where this occurs triggered switching is a possibility.

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Endnotes

1. A full discussion of terminology found in the literature examining bilingual speech data is beyond the scope of this article. Earlier works (e.g. Blom and Gumperz 1972; Hymes 1974) employ the term *code-switching* from a functional

sociolinguistic point of view and refer to switching of multiple-word, unintegrated segments, ie. "alternation" of languages. In very many works (Pfaff 1979; Poplack 1980; Myers-Scotton 1992; Treffers-Daller 1992 - to name but a few) *code-switching* is understood as alternation of language varieties while single-item insertions are labelled *borrowings* (e.g. Myers-Scotton 1992), *transfers* (e.g. Clyne 1967, 1991), *loanwords* (e.g. Thomas 1983) or further sub-categorised according to criteria such as recurrence or integration and labelled *borrowings* or *nonce loans* (Poplack and associates). Since Myers-Scotton's definitive volume, *Duelling Languages* (1993b), *code-switching* is now often employed to refer to examples of alternation and insertion, including integrated examples of insertion (e.g. Backus 1996; Vihman 1998). The term *code-switching* is thus employed widely in the literature to refer to switching of *language varieties* - switching between *codes* is therefore seen to be synonymous with switching *language varieties*. But the terms *code* and *language variety*, at least in terms of sociolinguistics and in a more restricted sense, are not synonymous. *Codes* are primarily defined according to their indexical significance to interlocutors in micro-sociolinguistic terms while *language varieties* are usually defined according to formal, linguistic criteria, and, to a lesser extent, according to macro-sociolinguistic features. While undoubtedly for many bilingual speakers choice of a given *language variety* may also have indexical significance this is not the case for some bilingual speakers for whom a switch of *language varieties* does not represent a switch of *code* (see Alvarez-Caccámo 1998; Franceschini 1998). By employing the term *code-switching* when examining switching of *language varieties* researchers are not able, in terms of terminology, to distinguish micro-sociolinguistic features from formal, linguistic features, whether changes in micro-sociolinguistic features coincide with changes of language variety or not. For this reason this article, which examines bilingual speech data according to formal or structural criteria, avoids the term *code* and employs the term *switching* where this is understood as *alternation* and/or *insertion* involving two *language varieties*, Croatian and English.

2. In later works, Clyne - 1987, 1991, 1997 - restricts his application of the term *trigger words* to lexical

items and the phonological features thereof, whereas in earlier works - 1967, 1969, 1972 - triggering could refer also to contextual and discourse-thematic features, ie. triggering on the basis of conversational context.

3. *Yeah* has a homophonous equivalent in Croatian which can also function as an affirmative. The phonetic form of *yeah* [jeə] is very similar to the Croatian form *je* [je] - '(it) is'. *Je* is a clitic form of *jeste, jest* '(it) is' and while in standard Croatian *je* does not stand alone or function as an affirmative, it may do so in many non-standard varieties of Croatian. Instances of *je* functioning as an affirmative are based on the model of repeating the 3.SG form of AUX.VERB 'to be' as in present tense non-standard interrogatives (*Je li ide..?* 'Does he go..?') or past tense standard interrogatives (*Je li išao..?* 'Did he go..?'). Employment of the finite short form, *je*, (often followed by additional text elaborating the affirmative response) is non-standard but present in many lects of Croatian. This function of *je* is exclusively affirmative and does not include any of the other, discourse-pragmatic functions that Australian English *yeah* can perform, e.g. pause-filler, linking device, end-of-turn marker.

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A tribute to Michael Clyne

I first became acquainted with Professor Michael Clyne and his research after transferring to Monash from Melbourne University in 1987. Since commencing postgraduate research on Croatian-English language contact in 1996, I have been under Professor Clyne's supervision. I have, as have many others, greatly appreciated Professor Clyne's generous inspiration and formidable expertise.