Contrastive Analysis of Consonant Systems

/On the Material of German, English and Georgian Languages/

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ABSTRACT. Representatives of small nations today than ever before are "doomed" to multilingualism. Thus, contrastive studies can largely simplify foreign language learners to overcome those difficulties, that they may face in L₂, L₃, Lₓ language acquisition process. In multilingual communities it is always important not only to make it easier to a language learner to master one foreign language but also it is necessary to support him/her on the basis of gained experience, to pick up another one in the optimal period of time. Thus, the reality of our country was the main motivational factor to be interested in contrastive analysis of the languages as it is practice-oriented linguistic approach that seeks to describe the differences and similarities between a pair of languages. The contrastive linguistics is understood as a subdiscipline of linguistics that tries to analyze interlingual similarities and differences using different contrastive methods. The subject of this investigation embraces both language resources and speech purposes and cultural aspects of the language as well. The aims of the CL can be both, of internal and external linguistic nature. The latter requires an interdisciplinary collaboration. The comparison of languages on the basis of the contrastive method could be regarded as a branch of both the theoretical and applied linguistics. We tried to describe the peculiarities and differences of the consonant inventories of German, English and typologically different Georgian languages, for which they require a special effort from the language learners. The oretical and applied CA, as pointed out at the outset, the importance of language comparison goes beyond practical/pedagogical applications and is of great interest in a theoretical as well as in a applied perspective. It reveals what is general, and what is language specific and is therefore important both for the understanding of languages in general and for the study of the particular languages. “Correct” pronunciation is one of the fundamental components in a foreign language acquisition while “Wrong” pronunciation, due to its frequency, is the most ear-catching event. Describing the consonant inventories of compared languages, we show fundamental similarities and differences among them. We try to illustrate those peculiarities that condition phonemic, phonetic, allophonic and distributive/combinational difficulties. We also analyze how firmly the phonemic-phonetic regularities of the long established borrowings in Georgian from the above-mentioned European languages are protected.

Key words: contrastive analysis, distributive/combinational difficulties, sound contrasts, phonemic-phonetic regularities

Contrastive Analysis (CA) is the systematic comparison of two or more languages, with the focus on the differences, rather than the similarities. CA provides a theoretical as well as an applied perspective for contrastive comparison of languages. As a branch of an applied linguistics CA aims to establish the basis for practical purposes, e.g., in foreign language teaching and translation studies. An example of comparison based on form alone is provided by contrastive analysis in the domain of phonology.

**Consonant Systems**

Before starting the contrastive comparison of German, English and Georgian consonant phonemes, let us consider the consonant inventories. The diagram presents German and English consonants where the non-existing phonemes in German are put in separate shadowed cells.

As from the CA of these three phonetic inventories can be seen, the phonemes existing in one system (e.g., Georgian) are not observed in the second or third ones.

Thus, the German-speaking English language learner often meet the sounds that are less identical to their native language ones[1]:

- /T/ and /D/: interdental or post-dental (/T/ voiceless, /D/ voiced);
- /TS/ and /DZ/: post-velar affricates;
- /w/: semi-vowel.
- /TS and /DZ/ by German speaking English language learner is not perceived as unfamiliar, because they are met in German too, though these sounds are not considered to be one phoneme. They are mainly observed in phonemic pairs and at the border of the word [2]. As Meinhold and Stock argue unknown consonants are partially correctly pronounced. The reason of this according to Scherer and Wollmann [3] may be that in the pronunciation of [θ] and [ð] "lisp” is understood as an unconscious mistake and that is why these sounds are not pronounced this way. As for Weiher [4], he thinks that substitution of above mentioned sounds by non-modified [s] or [z] occurs very rarely.

- Interdental fricatives [θ] and [ð] do not exist in the German and Georgian languages. But these sounds are widely used in English. Their substitution by other sounds in borrowings in case of the Georgian language undergoes rather sequentially. Language learners in case of wrong pronunciation carry out the substitution by several sounds and we come across the highest degree of interference. For example: in case of voiced fricative [θ] in German and Georgian substitution undergoes by word initial [z] or dental [d] and never by an alveolar or post-alveo-

### Table 1. German and English consonant systems in comparison [1].

<table>
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<tr>
<th></th>
<th>bilabial</th>
<th>labio-dental</th>
<th>dental</th>
<th>alveolar</th>
<th>post-alveolar</th>
<th>palatal</th>
<th>velar</th>
<th>uvular</th>
<th>glottal</th>
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<tbody>
<tr>
<td>plosiv</td>
<td>p b</td>
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<td>t d</td>
<td></td>
<td></td>
<td>k g</td>
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<tr>
<td>fricativa</td>
<td>f v</td>
<td></td>
<td>θ  ð</td>
<td>s z</td>
<td>ŋ ž</td>
<td>θ x</td>
<td>χς α</td>
<td>h</td>
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<tr>
<td>Affricate</td>
<td>pʃ̊</td>
<td></td>
<td>ts</td>
<td>tʃ̊  dʒ̊</td>
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<tr>
<td>approximant</td>
<td>w s</td>
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<td>l</td>
<td></td>
<td>j</td>
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<tr>
<td>lateral-appr.</td>
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lar [d]. As a result, we get: [zis], [zet],[dis], [det], [zi:s], [zous], [dous] - in the words: this, that, those.

In case of interdental fricative [θ] because of the interference, either a hissing [s] or more often dental [tʰ] are used instead. As for the borrowings in Georgian, we have: thriller [θrili] - ტრილერი, Thomas – თომასი [t'omasi], though Galsworthy, in Georgian version is realized inconsistently like: გალსურთი [golsuerti] or [golsuorti]. The situation is different while pronouncing: Thatcher; where the latter, in standard Georgian, is realized as: ტახტერი [t'a'teri], though the form გალსურთი [t' et t'heri] would sound more suitable according to the pronunciation rules of source language. As for the Greek borrowings with the -<th>- digraph, which corresponds to English [θ], in German and Georgian is realized as: Theater [te'atjer]- თეატრი [t'eat'ri]. Synthese [zynt' e:zot]- სინთეზი [sint'ez]. Thema [te'ma]- თემა [t'ma], etc.

Thus, in Georgian, unlike German, we still do not have clearly defined rules, how to substitute in English borrowings the sounds [θ], [ð]. In German the above mentioned substitution is maintained by [s], [z] accordingly [5, 6]. Therefore, in German, in the borrowed proper names [T] is realized through [t]. The percentage of the pronunciation of [θ]is as follows: correct pronunciation 70,2; [θ] as [s] – 17,5; [ð] as [t] – 10,8 (Abresh, 2007:108)[6]. The examples of substitution of the voiceless fricative are: thick, thin, thumber, thought [sik], [sin], [sambs], [s't].

Affricate [dʒ] may appear in the word initial, middle or final positions. In English, graphically it may be realized differently: <G >, <J > initially, <G >, <GJ >, <DG > in the middle, but <GE > and relatively rare <DGE > finally. Voiced [dʒ] is marked. To borrow words with this affricate do not create any difficulties, as the combination of plosive and fricative is not marked with high distinctiveness and the acceptable option is created. As for the Georgian language, this phoneme is presented in [dʒ] phonemic inventory. It does not create any difficulties to a Georgian language learner and there is a complete coincidence with the similar Georgian phoneme despite its position in the word: ფერაdam [fenedam], გოლურთი [golsuorti], გოლურთი [golsuorti], გოლურთი [golsuorti], etc.

Unlike Georgian, the affricate [l] is characterized by low frequency in German. Without submergence into the different opinions about this affricate, it is worth noting that in German this sound is mainly met in borrowed or onomatopoetic words mostly in word initial and middle positions: tschüß, Tschehien, tschilpen, klatschen, Klatsch und Tratsch, watschen, Wätsche, latschen. A special etymology has the word: deutsch. In English the given sound is met initially: chair, chimney, chest, chiken; in the middle: mischief, mischievous, Michigan, bachelor and in the word final positions: bench, beach, tranche[7].


Therefore, it should be noted that much more “complicated” seem to be the cases which Georgian speaking German or English language learners may face. For example: in German voiceless phonemes: /p,t,k/ in certain positions have aspirate and non-aspirate variants: Masche, Täsche vs stellen, stecken.

German occlusive /p/ differs from Georgian corresponding /ʒ/ - /p/. The Georgian phoneme is sharper. German /p/ phoneme corresponds to Georgian more plosive /ŋ/ - /p/ phoneme. However, German labiodental phoneme /ɹ/ has no Georgian corresponding equivalent. Similarly, the German /t/, /k/ phonemes more clearly differ the Georgian plosive ones: /ʒ/- /t'/, /ʒ/- /k'/. Thus, the German /t/ more corresponds to...
the Georgian /or/- /br/, though the latter in Georgian sounds more dental unlike the German /t/ phoneme which seems to be more alveolar. The same cannot be said about English corresponding sounds. The similar situation is in case of German phoneme /k/ which more corresponds to the Georgian /q/-/k'/ phoneme. The Georgian sharp phoneme /q/- /k' has no analogy in German. Confusion of these sounds may cause the errors in Georgian learners as in Georgian these are distinctive phonemes: ღკარი - /k'ari/ – a door-a wind, ღქარი - /k'ari - k'anti/ – skin-a rock, ღღქარი /p'uri - p'uri/ – bread-a milking cow.

The situation is dissimilar in case of /l/ phoneme. In Georgian /l/ is always alveolar vibrant, in German /t/ phoneme has different varieties. It has got allophones: uvular fricative and approximant also apical vibrant and uvular vibrant [8]. It is often vocalized with vowels and is realized as /w/ - schwa phoneme.

In the varieties of English this sound is pronounced differently. In British English /l/ is described as an apico-postalveolar approximant, represented phonetically as [l]. For most American varieties it can be characterized as an apico-palatal (or ‘retroflex’) approximant [l̩9]. German phoneme /l/ in the word initial position and at the beginning of a stressed syllable is pronounced in Standard German as voiced uvular trill /w/ which is more similar to Georgian /gl/-/l'/ phoneme: Ring [rIn], Rand [rant]. But /l/ is often devoiced or pronounced as a fricative: Wort [wort], Uhr [u:r]. In some southern varieties /l/ is realized /χ/: Schrift [fyrft], krank [kχrk]. In contrast to this, in English either fricative or approximant [l] opposes.

Phoneme /w/ in German is constantly realized as clear [l], while in English it has two different allophones: dark and clear ones. In other words, English distinguishes two variants of this lateral sonant known as clear [l] and dark [l]. At the end of a word and in the syllable final positions we have dark [l], as for the clear variant [l], it occurs at the beginning of a word or initially also before vowels and the sonant /j/letter [leta], line [lain], lace [leis], value [vælju], million [miljen], schoolyard [sku:lA:d]; dark [H]: tell [tel], smell [smel], bill [bil].

Similarly, in Georgian, there are two variants of /l/, clear and dark, but their realization is somewhat different. Namely: the clear [l] occurs with front vowels: ღქარი [Iʎon] – a metal, ღქური [Ikl'esi] – a church, ღღლი - [leban]- a bulbet, a clove whereas the dark [H] appears with back ones: კსლ-ღგღლ [sa:k ar'tvelo]- Georgia, ღღქარ [lomn] – to wait, ღღქური [lur'df] - blue. Difference between these two variants is not distinctive and in German frequently only the clear [l] occurs instead: [c:l]. In Georgian, in case of the incorrect pronunciation a language learner correctly pronounces both variants easily, though in dialectal varieties there are occasions when only clear [l] is heard with both front and back vowels or vice versa the dark [H] may occur instead and this is the typical way of violation of standard language pronunciation.

The next pair in our analysis is: /w/ and /v/. English bilabial sound /w/ always is shifted into a vowel: warn[wɔ:m], work[wɔrk]. This sound together with /j/ represents the group of approximants (Ger.Gleitlaute). Graphemically this phoneme like many other English sounds may be represented differently, e.g. in lexemes: language, quarter etc. different graphemes in different positions and surroundings serve to represent one and the same phoneme. We can illustrate a lot of examples where the phoneme /w/ is realized through <-w-> grapheme. It should also be noted that it may occur either at the beginning or in the middle of the morpheme. Phonotactically the sound /w/ may occur in word initial position. As the grapheme <-w-> after a vowel has no sound value, it may not occur at the end of a word in the form of /w/: strow[strau], flow[flou], new[nju:].

Approximant /w/, which is pronounced word initially and in the middle positions after a vowel, in
German and Georgian is completely substituted by /v/ consonant phoneme, e.g. quiz[kvis] instead of [kwiz]. As for Georgian, here, the realization of borrowings is inconsistent, in the sense that in some cases bilabial [w] is realized by labiodental [v] while in the others it is represented by two vowel sounds [vɔ] – [ui] γο,δηβο [ουκ ενδιτ] – a weekend, though in contrast to it there may be observed: γοβδοβο [vebsan'ti] – a website, γιδγιδο γογγο [vork 'fop't' vork 'fop't] – a workshop. The word: walkman in Georgian is represented as γοδζбо [vok 'menti], rather rarely, γοδζбо [vok 'ment]. The similar situation is in the word middle position: შოვგარი [holivudi]- Hollywood, γοδζбо [квει'/квει] - a quiz, лошего [sendvint]' - a sandwich, γοδζбо [т'в'ερт] - a twitter, γοδζбо [tvεst'] - a twist, лошого [sveng] - swing, γοδζбо [tvεst] - a whisk, лошо [vsk'] - a whisky, γοδζбо [tvεdi] - a tend, შოვგარი [вафгт'он] - Washington, "გობდოგო ადამი" [versadurtambavi] – "West Side Story", though the surname in: Oscar Wilde, in Georgian pronunciation is: გოვაწა [uaild] and not გოვაწა [vaildi].

A vowel phoneme /u/ similar to approximant /w/ belongs to sonorants. That is why, because of its articulatory features, the phoneme /u/ with great probability may reveal the coincidence with /w/. This vowel will never create the substitute similar to English approximant in German, because the vowel /u/ is syllabic whereas the phoneme /w/ lacks this property. Fricative, labiodental /v/ which is voiced, continuous and labial may largely reveal the coincidence with this phoneme of the source language and thus may occur as the suitable substitute for [w] independently of the position of the approximant phoneme [w] within a word. So, in many cases the substitution of [w] by [v] is solid [9].

The velar, nasal /ŋ/ in the basic word stock of the German language isosyllabically proceeds a consonant, if only it does not appear at the end of a word: Angst ['anst], längst ['lãnst], Hengst ['hεnst] andeng ['en], jung ['jʊŋ], Klang, ['klãŋ], lang ['laŋ]. If /ŋ/ occurs at the border of a syllable, then the phoneme proceeds the reduced vowel sound Mangel ['maŋl], Dengel[deŋl], Angel ['anl]. In the German word stock, within a morpheme, the combination of velar nasal and voiced velar plosives /ŋg/ is marked. Such a sequence in German may only exist beyond the morpheme border, e.g.: Fänger ['fŋŋ], fangen ['fŋŋ], Finger ['fŋŋ], unlike ungetüm ['ungstym:m], un+geahnt['ongt:a:n:t], un+glück ['onglyk], where we have the negative prefix un-[on]with the derivatives.

In German borrowings the homorganic phonemic sequence may also be met within a morpheme: Mango ["mangelo], Gringo ["gringo], Tango ["tango]. As for English, /ŋg/ not onlyin borrowings but even in basic word stock may occur within a morpheme too: finger['fŋŋ'],fishmonger ['fiʃmæŋɡ], mingle [mŋɡ]; single [sŋɡ]. The homophone and the homograph of the word: finger in German is: Fingers ['fŋŋ']. In the borrowed lexemes, where in the source language the combination /ŋg/ occurs, in German, the narrowing falls exactly on /ŋg/ if we want to transfer the unmarked monomorphemic structure: Single ['sŋŋ], ['ziŋ], in German, this word reveals the tendency to integration and that is why the phoneme /g/ disappears, but in the word: Bungalow, the combination /ŋg/ unlike Single ['sŋŋ], ['ziŋ] does not occur in the position characteristic of the German language. It is followed by a full vowel and the phoneme /g/ does not disappear. < -g-> preserves the sound value and is pronounced in a German borrowed word as: Bungalow/burgalo/.

From the above viewpoint, the situation differs in Georgian where we do not have the phoneme /ŋ/, though the nasal /n/ and voiced plosive velar /g/ may easily co-exist even in word initially position /ng/: ღანგრევა [ngreva] - (to destroy). Though, the presented case is rare for the Georgian language. Mainly, in Georgian, this sound combination is met in the middle of a word and the syllable border lies within this combination: ღანგრევა [ban-] – (dope); ღანგრუ [t'jan-] – (a musical string instrument); ღან ღან ღან ღან ღან ღან ღან ღან ღა
[tʃʰan-galr] – (a fork); ɕₗoₗ-ɡoₗo [lan-garr] - (a dish). This combination can also be met in proper names and in Toponymy: ɕₗoₗ-ɡoₗo [man-glisi], ẓhₗoₗo [Jen-gliz]. That is why, in standard Georgian, the similar words like previously mentioned ones are realized in both cases by means of these two phonemes: ẓhₗoₗo [man-go], ẓhₗoₗo [tan-go], ẓhₗoₗo [gmn-go], bₗoₗo [sln-gl], ẓvₗoₗo [bun-galo]. Thus, different cases of realization between English and German for Georgian language learners require additional special efforts.

As for the phoneme /ʃ/, this sound in Georgian is more fronted than in German. Georgian /ʃ/ is pronounced like German /ʃ/ in the word: Schlake [10]. Difference between Georgian and German phonemes is easily observable, if Georgian and German opposite pairs are compared. Below, we illustrate Georgian and German proper names where the difference in the pronunciation is clearly vivid:


German has the palatal and velar fricatives [ç], [x], [χ]. According to König/Gast [11] these fricatives exist only in their voiceless variants, and are in complementary distribution, i.e. they are allophones of a single phoneme. This consonant phonem is realized i) after front vowels as [ç] (e.g. Lichte→[liːtʃ]), ii) after back vowels as [x] suchenà [zu:xn], iii) after central /a/ as /χ/ Dach→[daχ]. If to a German language learner for whom Georgian is a mother tongue /χ/ is more or less familiar, in case of mastering the pronunciation of /ç/ a great deal of hard work is to be overcome.

Summing up all the above discussed, we should single out and differ several groups in the system of consonant phonemes:

1. Sounds that have more similar features than different ones: /b/, /ɡ/, /s/, /n/, /m/, /z/.
2. Sounds that exist in German and have no equivalents in Georgian, e.g.: /f/, /n/, /ç/, Sounds that exist in German and have no equivalents in English, e.g.: /ˈʃ/, /ˈç/, or exist in English and have no equivalents in Georgian and German, e.g.: /θ/, /ð/, /w/.
3. Sounds that exist in Georgian and have no equivalents in English and German: /p/, /q/, /š/, /tʃ/→/tsʃ/, /ʃ/→/ʃ/. The results of our comparison across languages can contribute to a better description of each individual language. Thus, we can observe characteristics of each language more clearly and this information could be used to improve the language teaching process.
Contrastive Analysis of Consonant Systems

6. ახალგაზრდული, ა. ლუხიძა

ოთხი ფიზიკის სახელმწიფო ინსტიტუტის სახელმწიფო უნივერსიტეტი, სურელოზრდების ფაკულტეტი

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REFERENCES:


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