Two sides of one coin: the distribution of the pronunciation variants [i] and [y]

(how Dutch L2ers of English deal with this phonological phenomenon)

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0. Introduction

The study reported on in this thesis concerns an aspect of English phonology, in relation to the acquisition of that aspect by Dutch second language learners of English. The aspect of English phonology in question is the variation between the vowel [i] and the 'glide' [y] found in the pronunciation of English words such as *canyon* [-ny★n], *chariot* [-ri★t] and *auxiliary* [-li★ri] (as found specified in, for instance, Roach's *Cambridge English Pronouncing Dictionary* (2003)).The purpose of the investigation underlying this thesis was to try and find out whether Dutch L2 learners of English know in which environment the vowel [i] actually occurs and in which its pronunciation variant 'glide' [y] occurs. In English, the occurrence of these two variants is subject to rules. These rules will be discussed in this thesis. The central question will be whether second language learners know these rules. Perhaps they do, perhaps they do not, perhaps they do so to different degrees depending on the development of their second language competence. In any case, it is my personal experience that these rules are not actually taught in pronunciation or phonetics courses or classes, such as the one taken by me during my English language university training programme. It is therefore up to the student to discover these rules based on 'natural' input. In order to investigate this issue, I have taken an experimental approach: a small experiment will be described in which two groups of Dutch second language learners of English had to decide how they would pronounce the test items by choosing one of the pronunciations. This will enable us to test whether they have knowledge of the rules governing the occurrence of [i] and [y], and to what degree they know these rules. Additionally, a control group of native speakers of English was used to test whether their behaviour resembles the pronunciations specified in English language pronunciation and phonetics sources, such as the dictionary referred to above. If the second language learners turn out to have competence in the rules comparable to that of native speakers, this will be quite interesting, given the 'natural' acquisition situation of which this competence would be the result.

The structure of this thesis is as follows. First, in section 1 a brief introduction to English phonetics and phonology, syllable structures, and – based on the relevant literature - the allophonic distribution of [i] and [y] will be reviewed to better understand the experiment. Moreover, since this thesis deals with Dutch second language learners of English, I will briefly go into the distribution of [y] and [i] in Dutch, albeit in a slightly speculative manner, given the absence of relevant literature. The aim of the thesis will be defined at the end of this section. The Common European Framework of Reference, which has been used instead of a proficiency test to determine the language levels of the test subjects, will be introduced in

section 2. Two groups of second language learners with different levels of competence will be distinguished; a description of these levels will be given, with an indication of the language proficiency of the subjects. Some more information about the method and the test subjects will be given in section 3, followed by the results of the test and the discussion of these results in sections 4 and 5. Finally, this paper will end with the conclusion of the investigation, and suggestions for further research.

1. Background literature

1.1. Introduction to phonetics and phonology

In order to provide a good idea of what phonology is about, with respect to some core notions of this thesis, a brief introduction to English phonetics and phonology will be given here.

Phonology is usually thought of as the study of the sound system of a language: properties or patterns that are typical of these sounds, such as the vowel and consonant systems, or the system of word stress, the language's syllable structure, the way sounds affect one another in certain contexts (the way they 'assimilate'), and so on (McCully 2009: 10). Phonetics, on the other hand, concerns the description of the physical manifestations of sounds, for instance, if a language has certain vowels and consonants, how are they produced; and if a language has stress, which form it takes. Giegerich (1992: 31) suggests that these two 'levels' of describing sounds are interrelated in the following way. Phonological analyses entail two levels of representation: a concrete phonetic one and an abstract one, the latter being called the phonemic level, where phonemes are represented. A phoneme is the underlying abstract form of a speech sound. The concrete or phonetic form of that speech sound (i.e. a phone) can be produced by a speaker in slightly different manners and yet all of them are perceived as being the same speech sound, as the same phoneme. These different realisations are called allophones: "each phoneme is therefore really composed of a number of different sounds which are interpreted as one meaningful unit by a native speaker of a language. This range is termed allophonic variation, and the variants themselves are called allophones" (Collins & Mees 2003: 11). A language may have different allophones belonging to one phoneme, whereas in another language these different realisations may actually be different phonemes. In other words, in the latter case they are not different realisations of one speech sound but rather contrastive speech sounds. A well-known example of such a phenomenon is the following. In English aspiration (symbolised phonetically by [^{h}]) occurs when 'fortis' plosives /p t k/ (i.e. "a phonological class of voiceless obstruent consonants with energetic

articulation" (Collins & Mees 242)) are initial in a stressed syllable, and is characterised by "a delay in the onset of voicing, an effect often compared to a little puff of air" (Collins & Mees 80). In most English accents, aspiration is an example of allophonic distribution, which means that for instance [p] and [p^h] are taken to be different phonetic realisations of a single phoneme /p/. Examples of such different phonetic realisations of a phoneme are the following:

pin	[p^hin]	*tight*	[t^haɪt]
nip	[nip]	*title*	[t^haɪtl]

Aspirated [p^h] and [t^h] are considered allophones of the phonemes /p/ and /t/, occurring in a well-definable context, to wit: initial in a stressed syllable. When a second language learner pronounces, for instance, the /p/ in *pin* without aspiration, this would sound odd to native speakers but the word would still have the same meaning. Aspiration is an allophonic process typically taught in a Dutch English language proficiency programme.

In a language such as Korean, however, [p] and [p^h] are contrastive speech sounds, and they cannot be interchanged without loss of meaning. According to Ha, Johnson & Kuehn (henceforth, HJK), while English stop consonants conventionally are categorised by features of voicing and aspiration, Korean linguists do not consider there to be any voicing contrast in Korean (2009: 166). Rather, Korean stop consonants are classified by degree of "tensity" (i.e. tensing) and aspiration. More specific: "phonemically in Korean there is a three-way contrast in stop consonants […]: tense – lax – aspirate" (HJK 166). The classification of the Korean voiceless plosives is as follows: the consonants /p^*/, /t^*/, and /k^*/ are categorised as tense or fortis (the symbol [*] is used in agreement with Korean phonological literature). The consonants /p/, /t/, and /k/ are categorised as lax or plain. These phonemes are realised without aspiration or energetic articulation. And finally, the consonants /p^h/, /t^h/, and /k^h/, are categorised as aspirate (HJK 166). These phonemes are aspirated, that is, realised with "a delay in the onset of voicing" (Collins and Mees 80). The distinction between the consonants /p^*/, /p^h/, and /p/ in Korean is a phonemic one: the sounds are not allophones, or realisations of one and the same phoneme, but contrastive speech sounds or different phonemes in themselves, e.g. (examples from *UCLA Phonetics Lab Data*):

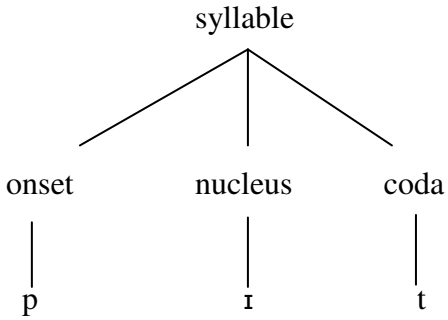
[pul]	*'fire'*
[p^*ul]	*'horn'*
[p^hul]	*'grass'*

The manner in which phonemes and allophones are displayed in phonological descriptions differs. Phonemes are presented in slashes (e.g. /p/, /e/), whereas allophones are given in squared brackets (e.g. [p^h], [e]): so [..] represents the actual 'sound', while /../ is the abstract phonological representation. These representations will be used consistently throughout this paper in the discussion of a particular phoneme or allophone.

1.2. Syllable structure

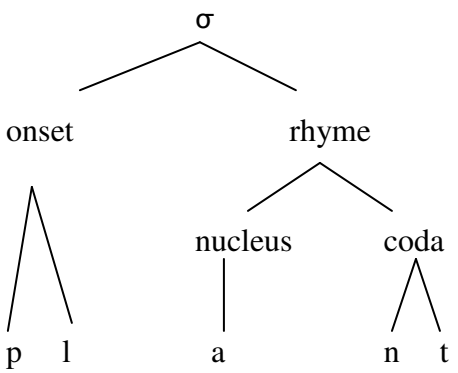
Sounds of languages can be divided into vowels and consonants. Vowels appear in the nucleus and consonants appear at the edges, that is: in the onset (before the vowel) and in the coda (after the vowel) of syllables. In order to better understand this, as well as the difference between the glide consonant /y/ and the allophonic distribution of the vowel /i/ as [y], this section will cover some core notions of English syllable structure. Griegerich and McCully argue that syllables appear to be 'fairly straightforward'. "Speakers will normally have little difficulty in deciding how many syllables a given word of their language contains" (Griegerich 131). *Cup* and *word* are single syllables; *coffee* and *vowel* contain two syllables; *syllable* and *consonant* contain three, and so on. Some English words may have variable pronunciations with different numbers of syllables, for instance, "*bottling* may be pronounced with two or three syllables [and] *realistic* with three or four" (131). Second language learners will often find that the syllable structure of the L2 differs from that of their mother tongue. For instance, a syllable such as *kvin-* is not well-formed in English but it is in Danish (e.g. *kvinder*, 'women'). In English, all consonants except /ʒ/ and /ŋ/ can occur at the beginning of syllables. The consonant /ʒ/ may occur at the end of well-formed syllables, such as *rouge* /ruːʒ / and *beige* / beɪʒ / (McCully 52), and inter-vocalically, that is, between vowels, for instance, in words such as *treasure* / treʒə^r / and *leisure* / leʒə^r /. Similarly, in several varieties of English /ŋ/ can occur at the end of syllables or in between vowels, for instance in *singer* /sɪŋə^r/ and *loving* /lʌvɪŋ/. These two consonants are said to have a 'restricted distribution' (52). The consonant or consonants that begin a syllable are called the onset, and the consonant or consonants at the end of the syllable are called the coda. In between the onset and coda is the nucleus, consisting of a vowel or vowels. A well-formed syllable looks like this:

(i)



The above diagram shows that there are three constituents within the syllable: onset, nucleus, and coda. Together the nucleus and coda form the syllable constituent rhyme, as (ii) below shows. The rhyme and onset are said to be the 'immediate constituents of the syllable', since they branch directly off the syllable or 'σ' label (McCully 77).

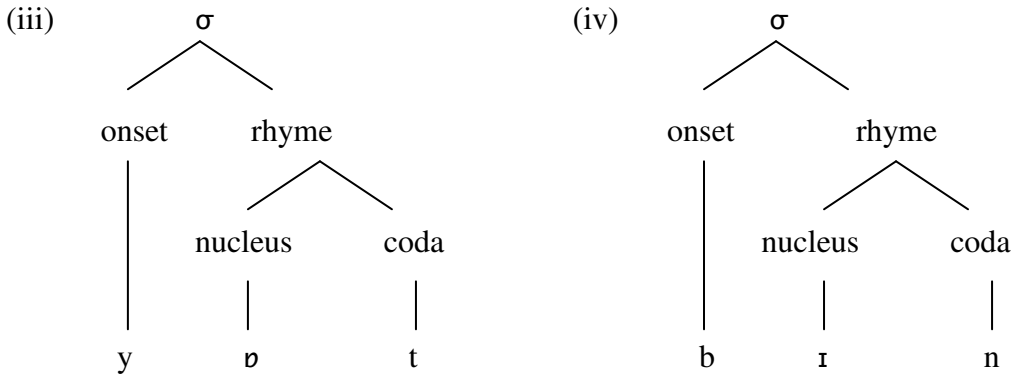
(ii)



As example (ii) above shows, there may be more than one consonant in the onset and the coda. These syllable constituents may also remain empty: words such as *ear* and *eye* do not have onsets and words such as *dry* and *free* do not have codas. If there is an onset this, may contain one or two consonants, and if there is a coda this may also have a maximum of two consonants. This, however, is a generalisation with exceptions, see e.g. [*str*]*eet*, [*spr*]*ing*, *cra*[*mps*], *elepha*[*nts*]. The constraints on syllable openings and closings are an interesting topic but irrelevant to the current study. Therefore, I will not discuss this matter any further.
The aspect of English phonology of this thesis is the allophonic variation between the vowel [i] and the 'glide pronunciation' [y]. The environment in which the /i/ vowel occurs determines its pronunciation, as we will now see.

As described above, vowels typically occur in the nucleus of the syllable, and consonants occur in the onset and coda. In phonetics-phonology, a sound such as /y/ (and the closely related sound /w/) is often referred to as a 'glide', but also as a 'semi-vowel'. This

expresses the idea that its pronunciation and phonological behaviour indicate that it, as it were, 'hovers' between a consonant and a vowel. Some phonologists even maintain that there is just a single sound, which in English has the property of being able to occur in both the nucleus and the onset. If it occurs in the nucleus it is a vowel, and if it occurs in the onset it is a consonant. One of the proponents of this view is Selkirk (1984), and others have followed her proposal. Examples in which the sound occurs in the onset are words such as *yes* /yes/, *yard* /yɑ:ʳd/ and *yacht* /yɒt/, examples in which the sound occurs in a nucleus are words such as *bit* /bɪt/ and *bin* /bɪn/ (as a short variant) and *beat* /bi:t/ and *bean* /bi:n/ (as a long variant). In syllable structure trees such as those used above, these sounds would be represented as follows:



As a first approximation (more detail will follow immediately below), the pronunciation process I am targeting in this thesis can be described as follows. A word such as *canyon* has the pronunciation can-y★n, whereas a word such as *scorpion* is pronounced as scor-pi★n. I will especially focus on the pronunciation of [y] in the former word versus [i] in the latter. It will turn out to be the case that the 'context' in the word is utterly relevant to these two pronunciations. Both words end in an [–★n] sequence, but, according to the 'rule' of pronunciation that we will discuss, the 'left context' of [n] typically goes together with a [y], whereas [p] goes together with [i]. We can consider this a case of allophonic variation (recall that English aspiration also had a certain 'context'), although I will refrain from committing myself to proposing that one sound is basic to the other: for my present purposes it is sufficient to observe that the variation occurs. Given the discussion of syllable structure above, one way of viewing the process is to say that [y] occurs in the onset of the second syllable of *canyon*, whereas [i] occurs in the nucleus of the second syllable of *scorpion*. This strikes me as an attractive view, but I will not commit myself to it either (nor will I claim that

the [y] of *canyon* is necessarily exactly the same [y] as that occurring in *yes* and *yard*).

Given these preliminaries, let us now have a look at the details of the pronunciation process involved.

1.3. Allophonic distribution of [i] and [y]

This section provides more empirical data concerning the variation between the vowel [i] and its consonantal variant [y] in English. 'English' here refers to those variants of British and American English of which dictionary and other descriptions of this phenomenon are available in the literature. A story about vowels in other varieties of English could be vastly different because of the differences in the range of varieties of English.

Zonneveld (2010), summarising data taken from Roach (2003) and Hayes (1982), argues that in spoken modern English the choice between the unstressed high vowel [i] and glide [y] is phonologically and morphologically determined, that is to say: there are rules as to when one variant appears and when another (sometimes both variants are possible).
In the introduction I already gave a small handful of examples of the variation in question, (v) to (vii) below introduce more.

v)	champ[i★]n	vi)	can[y★]n	vii)	mil[i★]n / [-y★]n
	scorp[i★]n		on[y★]n		rebel[i★]n / [-y★]n
	id[i★]t		Tan[y★]		val[i★]nt / [-y★]nt
	pecul[i★]r		behav[y★]our		un[i★]n / [-y★]n
	bur[i★]l		span[y★]rd		
	char[i★]t		span[y★]l		

The examples above represent British English and, as indicated, can be divided into three major types of words.

The words in (v) are pronounced with the vowel pronunciation [i], and those in (vi) are pronounced with the consonant variant [y]. The words in (vii) may be pronounced with either variant. In all cases mentioned here as part of the phenomenon in question, the environment of the allophonic distribution is a sequence of two unstressed vowels, with the second one a schwa, notated as /ə/. Schematically speaking this can be represented as follows: / C __ ə (C) #. The full high vowel pronunciation is evident in the pronunciation of the words in (v): *champion*, *scorpion*, *idiot*, *peculiar*, *burial*, and *chariot*. The glide variant,

on the other hand, occurs in words such as *canyon*, *onion*, *Tanya, spaniel,* and *Spaniard*, in (vi). Both options are available in (vii), as in *million*, *valiant*, *rebellion*, and *union*.

Rules underlying these three options can be phrased in words as follows (formalisations in 'generative' rules exist in the literature, especially in Hayes (1982), but giving them here would seriously complicate the discussion, so I will give the rules in words). The prototypical obligatory context in which the glide variant [y] occurs is two-sided *n*, as in examples from (vi), *canyon* and *onion*: i.e. [-ny★n]. As these examples show, the [y] pronunciation can be represented in spelling, but this is by no means a rule. Some other contexts, too, trigger the occurrence of the glide variant [y] (apparently without any systematic reason) as in words such as *Tanya* and *Spaniard* (also in (vi)). Zonneveld (2010) argues that the prototypical optional context has left-adjacent /l-/, as in *million*, *valiant* and other examples from (vii): i.e. [-li★] or [-ly★]. In spoken modern English, there is a net preference for full high vowel [i], as is illustrated by the examples from (v): *scorpion*, *idiot*, etc. Furthermore, some contexts systematically block the appearance of the glide variant [y], including left-sonorant /r-/, as in *chariot* and *burial*, i.e. [-ri★]. Another blocking environment is constituted by the morphological context of semantically transparent suffixes, such as comparative and superlative *–er* and *–est* in words such as *funnier* and *funniest*.

These generalisations hold for British English, according to Roach (2003). The rules with respect to this phonological phenomenon in American English (based on Zonneveld's presentation, which is based on Hayes (1982), Kenyon & Knott (1953)) are similar to those in British English with respect to the contexts in which the glide variant [y] appears (i.e. [-ny★n] and other stimulating contexts) and in which the full high vowel variant [i] occurs. The prototypical optional context with left-adjacent /-l, on the other hand, is almost obligatorily pronounced with the glide variant [y] in American English.

In Dutch, rules with respect to the distribution of the allophonic variants [i] and [y] also exist (although there appears to be no phonological literature on the subject as yet), but these contexts appear to be more permissive of [y]. Opposed to what happens in English, the vowel following /i/ may also bear stress in Dutch words, whereas in English the second vowel is (unstressed) schwa. The phonological rules can be phrased as follows (Zonneveld: e-mail to the author, 2010). The obligatory context in which the glide variant [y] occurs has left-adjacent /l-/, as in words such as *medaille* 'medallion', *taille* 'waist', *briljant* 'brilliant', and *miljoen* 'million' (i.e. [-ly]). Another obligatory context in which the glide variant appears has left-adjacent /n-/ or /m-/, as in *oranje* 'orange', *Spanjaard* 'Spaniard', *Tanja* 'Tanya', *signaal* 'signal', *première* 'premiere' (i.e. [-ny], [-my]). In other contexts, such as

left-adjacent /r-/, both variants may occur. For instance, *Arjan*, *tissue* and *dossier* are pronounced with the glide variant [y], whereas *carrière* 'career' (which like the example of *Arjan* has /r-/) and *idioot* 'idiot' are realised with the vowel [i].

In sum, these rules suggest that – presumably independent of the word's stress contour - the glide variant is obligatory if the contexts have left-adjacent /l-/, /n-/ or /m-/. In other contexts, such as left-adjacent /r-/, both variants may occur, depending on the words themselves.

1.4. Aim of this thesis

As explained in the introduction to this thesis, its purpose is to discuss an investigation of the phonological phenomenon described above in an experimental study of second language acquisition. That is, I will investigate experimentally whether Dutch L1 learners of L2 English know in which environments [i] occurs and in which [y] does. The question to be answered is: do Dutch L2 learners of English know these rules, especially – of course – by using them in their own L2 English? In such an investigation, we need a control group of native speakers to see how they react to the same experiment, so additionally the behaviour of some native speakers will be tested with respect to this phonological phenomenon. Moreover, the (for short, from now on) L2ers in particular might have learned the pronunciation of English words by heart, without realising, or without knowing consciously or subconsciously, that a rule is involved: in the type of experimental investigation I am performing here, it is therefore considered good methodological practice to (also or exclusively) use nonsense words to better test the subconscious knowledge of the phonological rules in both L2 and L1 speakers. To add an element of L2 development to my investigation, I will investigate L2ers of two subsequent levels. In doing so, naturally my expectation is that Dutch L2ers with a high proficiency in English will have more correct (maybe control group like) pronunciations than non-advanced Dutch L2ers. In other words, the former group is expected to perform better and thus to 'know the rules better' than the latter group. The behaviour of the control group is of course expected to resemble the pronunciation specified in 'the dictionary', and to resemble the above description based on data from Roach and Hayes, but we will have to wait and see.

2. Framework of reference

2.1. CEFR

In order to define the difference between the proficiency levels of the two groups of L2 English learners without the use of a proficiency test (for which there was simply not enough time in the process of writing this thesis), the levels of the Common European Framework of Reference may be and have been used as an indication of these levels.

The Common European Framework of Reference for Languages: Learning, Teaching, Assessment (henceforth, CEFR) has been developed as the reference document for the European Language Portfolio by the Council of Europe, and can be used to indicate the proficiency levels of language acquirers. One of its aims is to help "describe the levels of proficiency required by existing standards, tests and examinations in order to facilitate comparisons between different systems of qualifications" (Council of Europe's website, 2010. Henceforth, COE). In other words, it provides a norm to which the language proficiency levels of European citizens can be compared. Although the difference in the language levels of the L2 groups of this thesis is even evident without the use of a proficiency test, it might be very convenient to know what exactly is expected of the test subjects participating in the investigation of this paper with respect to their language proficiency. Therefore, the CEFR levels will be discussed in this section. The framework consists of six reference levels, which are an interpretation of the broad classic division into basic, intermediate, and advanced levels:

A1 and A2: basic user
B1 and B2: independent user
C1 and C2: proficient user

Although the above presentation appears to be rather straightforward, this is not at all the case. In fact, "in practice there appears to be a wide consensus on the number and nature of levels appropriate to the organisation of language learning and the public recognition of achievement" (COE): for instance, in between levels A2 and B1 another level might exist, namely $A2^{+}$. This level implies that the next level (B1) has not been achieved fully by language learners but the lower level (A2) has.

Although the reference framework can be applied to first language learning, its most common application is in the area of foreign language learning, and especially that of foreign language teaching. Its levels apply to all four aspects of language competence (i.e. speaking,

listening, reading, and writing) and can be represented in an overview in the form of a self-assessment grid showing the major categories of language use at each of the six levels (see Appendix C). Although such a grid is rather detailed and often the four aspects of language competence are presented in different grids, a very global grid based on the CEFR, which can be used for oral assessments, is presented below to give the reader an idea of what the differences between the levels are.

Scale	
C2	conveys finer shades of meaning precisely and naturally
C1	shows fluent, spontaneous expression in clear, well-structured speech
B2	expresses point of view without noticeable strain
B1	relates comprehensibly the main point (s)he wants to make
A2	relates basis information on, e.g. work, family, free time, etc.
A1	makes simple statements on personal details and very familiar topics

Fig. 1. Global oral assessment scale (COE Language Policy Division 2009: 184)

The CEFR provides, for example, teachers with orientation points, and increases transparency with respect to examinations (COE Language Policy Division, 2009. Henceforth, COE Manuel). Also, the Common European Framework can serve as a basis for teaching methods in secondary schools and higher education in the countries of the European Union, and can therefore be considered a valid substitution of a proficiency test in this thesis.

2.2. CEFR levels of the test subjects

The CEFR levels have been used as an indication with regard to the levels of mastery of L2 English by the Dutch test subjects participating in the experiment of this paper. The test subjects in the advanced L2 group are expected to have a CEFR level C1 for listening, speaking, and writing; and level C2 for reading, as is described in the prospectus of the study of all test subjects in this group, namely the study English Language and Culture (*OER Bachelor Engelse Taal en Cultuur* 2009: 1, 2). This means that for listening, speaking, and writing the following CEFR criteria hold: the students are able to understand a wide range of demanding, longer texts, and recognise implicit meaning. Also, they can "express themselves fluently and spontaneously without much obvious searching for expressions; they can use language flexibly and effectively for social, academic and professional purposes, and can

produce clear, well-structured, detailed text on complex subjects" (COE). The students can write well-structured and mostly accurate texts on complex subjects. They can separate relevant issues form irrelevant ones, and "expand and support points of view at some length with subsidiary points, reasons and relevant examples, and round off with an appropriate conclusion" (COE Manuel 2009: 187). They can understand enough to follow extended speech on abstract and complex topics, although (s)he may need to confirm occasional details, especially if the accent is unfamiliar (COE Manuel 133). For reading, the students are expected to have a C2 level of CEFR: at the end of three years of intensive training they are able to "understand and interpret critically virtually all forms of the written language including abstract, structurally complex, of highly colloquial literary and non-literary writings"(134). They are expected to be able to "understand a wide range of long and complex texts, appreciating subtle distinctions of style and implicit as well as explicit meaning" (134).

The test subjects in the non-advanced group are expected to be able to communicate in English at the following CEFR levels (*Europees Referentiekader Talen*, 2010): level A2/B1 (i.e. $A2^{+}$) for listening, reading and conversational English, and level A2 for speaking and writing. More precisely, the pupils are expected to (at least) understand short, simple texts on familiar topics of a "concrete type which consists of highly frequency everyday or job-related language" (COE Manuel 134). Also, they are expected to understand sentences and frequently used expressions related to areas of most immediate relevance. They can understand most of the points made if the speech is slowly articulated. They can also "understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure etc., including short narratives" (COE Manuel 133). As for speaking and writing, the criteria are as follows: they "can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters; and they are able to describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need" (COE). The pupils can "write personal letters and notes asking for or conveying simple information of immediate relevance, getting across the point (s)he feels to be important" (COE Manuel 138).

The CEFR levels are even more specific and detailed than described above. However, the above description of some of the levels serves as a (broad) indication to the reader of the language levels of the test subjects in this paper.

3. Method

3.1. Test subjects

All test subjects were asked to fill out a questionnaire containing some general questions on their experience with (and self-assessed competence in) the L2 target language or other foreign languages, as well as possible hearing difficulties, or difficulties resulting from dyslexia (appendix B). Not only do dyslexia patients have difficulty with reading and writing, which is a well-known characteristic of dyslexia, they also have difficulty acquiring and categorising phonemes, and processing speech sounds (Wijnen 2006: 8). In addition, the test subjects also had to provide information on the languages they had learned before the age of six. According to DeKeyser & Larson-Hall (2005), children have to be familiarised with the specific phonemic inventory of the L1 and have to acquire the language before a certain age: the so-called 'critical period'. They argue that first languages have to be acquired before the age of six.

Three groups of test subjects were arranged to investigate their L2 competence in the variation in English between [i] and [y] described in section 1.3. First, there was a group of L2ers with a high proficiency in English, consisting of 17 females and 4 males. They were all between 22 and 28 years of age (mean age: 23.1) and they were born in the Netherlands, except one who was born in the Republic of Suriname (the Dutch speaking former colony of the Netherlands on the northern coast of South America). Fourteen of them were monolingual speakers of Dutch, and seven of them were bilingual speakers of respectively, Dutch and English (4 test subjects); Dutch and Sranan Tongo (a language spoken in Suriname); Dutch and Cantonese; and Dutch and Lower Saxon (i.e. a non-standard variety of Dutch). The language they used most often in current everyday use was Dutch (14 times); Dutch and English (4 times); and one of them used Lower Saxon most often. All of them claim to be fluent in English. Most of the test subjects spoke other second languages besides English as well: French and German (i.e. most of them spoke these languages moderately well); Spanish (two subjects reported to have a low proficiency); one of them spoke Russian and Romanian at a beginner's level; one of them spoke Norwegian moderately well. Only two out of twenty spoke no other second language than English.

All subjects had a Bachelor's degree in English or at least three years of intensive training and exposure to English at a university level of education. Most of them were studying for a Master's degree: only five test subjects reported a Bachelor's degree as the highest achieved educational level. The university involved here is that of Utrecht (The Netherlands). According to the study prospectus of this university's foreign language (and

literature) programme, at the end of these three years of bachelor study, students are expected to be able to communicate in English at the following levels of the Common European Framework of Reference for Languages (*OER Bachelor Engelse Taal en Cultuur* 2009: 1, 2): level C1 for listening, speaking, and writing; and level C2 for reading (see also section 2.2.). Their self-reported proficiency in English was high to very high (6 and 15 subjects respectively), as was the motivation to speak English properly (5 and 15 respectively; one test subject was 'motivated'). Most of them had been in an English-speaking country for less than a month (i.e. 13 subjects). Six of them had stayed there for a period of one to twelve months: one of them lived in the Netherlands for six months a year and for six months a year in Australia, i.e. she did not actually live in either of these countries, at least not for a longer period of time. Two other test subjects had lived in an English-speaking country for over a year. Seven of them had been living in other countries: Japan (4 years), Suriname (at age 1 to 6), Australia (10 months and 6 months, the latter moved to and fro), two of them had stayed in England (3 months and 2 years), and two of them in Ireland (3 and 9 months). Thirteen test subjects had always lived in the Netherlands. None of them reported to have hearing problems of any sort. One of the test subjects reported to be dyslectic.

Second, a group of non-advanced L2ers of English, consisting of eight male and fourteen female test subjects of 13 and 14 years of age (mean age: 13.5) took part in the experiment. . They were all in their second year of pre-university education. At the end of the second year, pupils are expected to be able to communicate in English at the following CEFR levels (*Europees ReferentieKader*, 2010): level A2/B1 (i.e. $A2^{+}$) for listening, reading and conversational English; and level A2 for speaking and writing (see section 2.2.). All test subjects were born in the Netherlands and were monolingual speakers of Dutch, except two test subjects who had learned additional languages (English and Chinese respectively) before the age of six. Twenty test subjects spoke Dutch most often and two test subjects spoke English very often, too. Other languages they spoke were French and German (11 and 17 subjects respectively), which are the two other foreign languages apart from English taught at secondary schools in the Netherlands. The self-reported proficiency levels in the German language were low (11 test subjects), moderate (2 subjects), or high (1 subject). Eight subjects spoke a little French and two spoke this language moderately well. Seven of the subjects did not report their proficiency in either of these languages. In addition, one test subject spoke a little Slovak and another subject spoke Chinese (although the proficiency level was not reported). Despite the fact that English is a compulsory subject in secondary education and in the last two years of primary education, and "pupils will have received

approximately 50 hours of instruction at the end of primary education" (Bonnet et al. 2002: 45), four test subjects reported to speak no other languages besides Dutch. This may be due to the fact that they did not consider their proficiency in any other language to be high enough to allow reporting, compared to their mother tongue.

The proficiency level of English of this second group was of course of special interest. Most of the test subjects claimed a high proficiency (12 times). One subject had a low proficiency level, 5 test subjects had a moderate level, and another 3 test subjects said they spoke English very well. The motivation to speak English well was high to very high (13 and 4 respectively) and 4 test subjects said to be 'just motivated'. Interestingly, it appears that the motivation to speak English properly is related to the proficiency level: the better the performance of the test subjects in English, the higher the motivation, presumably to maintain this level or to become even better. Although the proficiency level is self-reported to be rather high, none of the test subjects has actually been to an English-speaking country for a longer period of time: six of them stayed in an English-speaking country for less than a month, and 16 others had never really been to such a country. Twenty-two of all test subjects has never lived in another country besides the Netherlands but one. This test subjects had lived in Aruba (i.e. a Dutch former colony in the Caribbean) for 2 years, the USA for 2 years, and Abu Dhabi for 3 years. None of the test subjects were dyslectic and only one reported to have had a minor hearing problem, but not to an extent to interfere significantly with taking the test.

Third, a group of native speakers of English were used as a control group, to see whether their pronunciation coincided with that of the English dictionary (here: Roach 2003), which would indicate that the subjects know the rules and also apply them. The control group consisted of one male and five females who were all between 25 and 32 years of age (mean age: 27.7). Four of them were born in the United States of America; one of them in Canada; and one in the United Kingdom. Four were monolingual speakers of English; two were bilingual speakers of English and Japanese, and English and Gujarati, respectively. Other languages they spoke were French (moderately to highly proficient), Spanish (moderate to proficient), and Japanese (non-advanced to fluent, the latter is due to the fact that one of the subjects is bilingual). One of them had knowledge of Marshallese (intermediate level), and yet another subject spoke a few words of German, Italian and Korean. The highest educational level achieved was either Bachelor's or Master's degree, three and two test subjects respectively. One of them did not have a degree but studied Professional Examinations, Finance and IT. They had very little to moderate knowledge of Dutch, and

only one of them had been in the Netherlands for over a month (15 months, to be precise). Two test subjects had never lived anywhere other than in the United States of America; one had been living in the United Kingdom for a year; yet another test subject had been living in the Marshall Islands for a year; and one of them had been living in Japan for three years and in the United Kingdom for three years as well. One test subject had lived in the United Kingdom for 27 years and in Kenya for 3 years of her life. None of the native speakers had hearing problems, neither were they dyslectic.

3.2. Task

The test subjects were presented with the 30 test items followed by two possible pronunciations, i.e. either with [i] or [y] (see also appendix A). These pronunciations were transcribed as if they were Dutch pronunciations as described above. For instance, the test item *envious* was followed by 'enviəs' and 'envyəs', *union* by 'joeniən' and 'joenyən', and *Spaniard* by 'spanniərd' and 'spanyərd'. The transcription in IPA served as a guideline for these 'possible pronunciations' so that, for example, the /æ/ in *Spaniard* (which tends to sound like a shortened /ɑː/ to Dutch ears) was represented by 'a' in the possible realisations of this item.

There were 4 differently randomised versions of the test to ensure that the order of the items did not affect the test results. The native speakers could select from two versions attached to an email. The advanced L2ers also received the test by email. The low proficiency group, however, was presented with the test during class (in a lesson at secondary school *Altena College*, Sleeuwijk, The Netherlands). The written instruction was in Dutch for the L2ers, and in Dutch and English for the native speakers. All test subjects were asked how they would pronounce the items, whether they knew them or not. Although they were asked to select the pronunciation they thought was 'proper English', they were reassured that they would not be judged, that there were no 'right' or 'wrong' answers, and that the test was anonymous. As described above, no proficiency test was used in the experiment: rather, the levels of the Common European Framework of Reference for Languages (CEFR) served as an indication of the proficiency levels of the L2ers.

I interpreted and scored the bare test results as follows. As indicated, two possible pronunciations were available for each of the 30 test items. The number of times that one of these pronunciations was selected as being the 'most correct' realisation of a given item was

counted. Given that the total score for an item is 100%, the percentages of the selection of [i] and [y] for such an item could simply be calculated.

3.3. Test items

The aim of the experiment underlying this thesis was to investigate the variation between [i] and [y] in English words such as *canyon*, *scorpion* and *million.* The test subjects were highly proficient Dutch L2ers of English, non-advanced Dutch L2ers of English, and native speakers of English, the latter group being the control group. In a test like this, it is well-known that there is a risk in investigating rule knowledge or behaviour (solely) by using existing words. Subjects may simply 'know' the words, together with their pronunciation, but then not necessarily the rule or rules underlying that pronunciation. Therefore, to better test actual rule knowledge, a test was designed that contained both existing words and some non-words. These non-words allow testing the subconscious knowledge of the rules (if any...) that the test subjects have.

Below are the 30 test items subdivided into the three categories distinguished in section 1.3 above:

vi) test items in which a [y] glide occurs because it has two adjacent /n/'s on either side, in both British and American English, e.g.: *canyon, onion*

vii) test items in which a [y] glide occurs with left-adjacent /l-/, virtually obligatorily in American English and optionally in British English, e.g.: *million, rebellion*.

viii) test items in which another environment triggers the occurrence of [y], in both varieties of English, e.g.: *saviour, Tanya*

In all other environments, the full high vowel [i] occurs as described above. Additionally, the non-words were either pronounced with [i] according to the rules (i.e. *erion*, *parious*: [-ri★]) or contained [y]-boosting environments of categories vii) and viii) above (i.e. *banion*, *lallion*: [-ny★n]; [-li★] or [-ly★]).

Below are three tables with the 30 test items used in the experiment, represented in phonetic symbols of the International Phonetic Association (IPA). They are subdivided into groups: words with obligatory [i] or [y] in both British and American English (tables 1.1.1 and 1.1.2); words with [i] or [y] in British English and almost obligatory [y] in American

English (table 1.2.); and non-words pronounced either with obligatory [i] or [y] in both varieties, or with optionally [i] or [y] in British and obligatory [y] in American English (table 1.3.).

words	[i]
brilliant	brɪliənt
colonial	kəloʊniəl
idiot	ɪdiət
Vivian	vɪviən
audience	ɔ:diəns
hideous	hɪdiəs
envious	enviəs
peculiar	pɪkju:liə^{r}
scorpion	skɔ:^{r}piən
burial	beriəl
chariot	tʃæriət
criterion	kraɪtiriən
curious	kjʊriəs
experience	ɪkspɪəriəns
funniest	fʌnniəst

Table 1.1.1. Test items with realisation of /i/ as [i] in both British and American English (in IPA)

words	[y]
canyon	kænyən
onion	ʌnyən
Spaniard	spænyə^{r}d
Tanya	tænyə
spaniel	spænyəl
behaviour	bɪheɪvyə^{r}

Table 1.1.2. Test items with realisation of /i/ as [y] in both British and American English (in IPA)

words	[i] - [y]
million	mɪliən - mɪlyən
rebellion	rɪbeliən – rɪbelyən
auxiliary	ɔ:gzɪliəri - :gzɪlyəri
valiant	væliənt - vælyənt
union	ju:niən - ju:nyən

Table 1.2. Test items with realisation of /i/ as [i]/[y] in British or almost obligatory [y] in American English (in IPA)

nonwords	[i]- [y]
lalion	læliən - lælyən
erion	eriən
parious	pæriəs
banion	bænyən

Table 1.3. Test items with realisation of /i/ as [i]/[y] in British or almost obligatory [y] in American English (in IPA)

The test items in the actual test were not transcribed in IPA: rather, they were represented as if in Dutch to enable the non-advanced Dutch L2ers to participate in the experiment. For instance, the test item *canyon* was followed by the two possible pronunciations, 'kanniən' and 'kanyən', the former being the realisation with [i], and the latter being with [y] (NB: schwa, that is /ə/, was left in the transcriptions after a short note on its pronunciation.

Also, considering the subjects' (supposed) familiarity with the /y/, since it occurs in Dutch spelling, too, the spelling symbol /y/ was used in the transcriptions. The representation of the test items was not expected to cause problems for either the advanced learner group or for the native speakers of English.

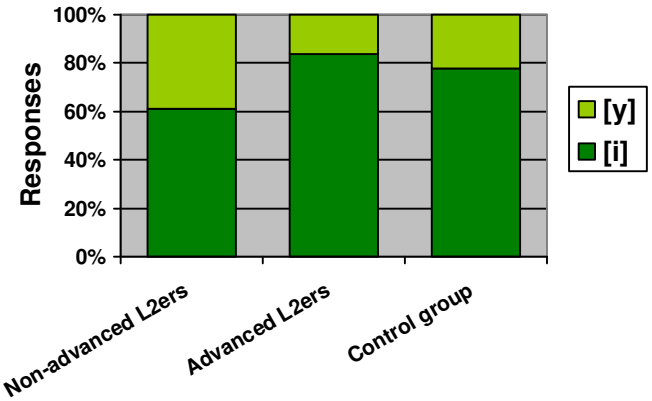
4. Test results

4.1. Words with [i]

In this section, the experimental results for test words will be discussed which, according to the rules, should be realised with a full high vowel [i]. I will discuss the findings in the following group order: non-advanced L2 group, advanced L2 group, and control group.

The non-advanced L2 group overall performed randomly with respect to the words with [i]: about half of the words were reported to be pronounced with a full high vowel [i] (i.e. 61%) and about half of them were reported with a glide pronunciation [y]. The advanced L2 group overall performed well with 84% correct pronunciation: they even had a higher score (recall: compared to the established rules) than the native speakers in the control group, who had a score of 78%.

Fig. 2. Pronunciation [i] words



The figure above represents the pronunciations of the [i] words, which were of course presented randomly in the test. The non-words that should be realised with [i], i.e. *parious* and *erion*, will be discussed separately as a group.

The group of existing [i] words consists of the following items: *colonial*, *idiot*, *Vivian*, *audience*, *brilliant*, *hideous*, *envious*, *peculiar*, *scorpion*, *burial*, *chariot*, *criterion*, *curious*,

experience, and *funniest*. The responses of each of the three groups will now be discussed for these items separately. First, the responses to these words by the L2 learners with a low proficiency in English were between 40.9% and 86.4%, and the percentages of correct pronunciation of some of the words were considerably better than those of some others, as table 2.1 below shows. The words that the non-advanced L2ers (correctly) pronounced with [i] most of the time were *funniest*, *hideous*, *idiot*, and *audience*. By contrast, test item *brilliant* was reported with a glide [y] in almost 60% of the cases. In section 5, I will discuss a possible reason for this specific response. The performance of this L2 group on most of the other words was better than chance performance, that is, their score was higher than 50%. The discrepancy between the [i] and [y] percentages to the test item *chariot* is due to the fact that one test subject had forgotten to tick a box with his or her pronunciation of this word.

Test item	**Response (in %)**	
	[i]	**[y]**
funniest	86.4	13.6
hideous	77.3	18.2
idiot	72.7	27.3
audience	72.7	27.3
Vivian	63.6	36.4
scorpion	63.6	36.4
criterion	63.6	36.4
chariot	63.6	31.8
experience	59.1	40.9
colonial	59.1	40.9
curious	54.5	45.5
burial	50.0	50.0
peculiar	45.5	54.5
envious	45.5	54.5
brilliant	40.9	59.1

Table 2.1. Responses non-advanced L2 group

All but three test subjects in this group claimed a moderate to high proficiency in English. Two of the test subjects with a self-reported very high proficiency stood out with 80% of the responses correct, one of them being a bilingual speaker of Dutch and English.

Words in which a sonorant /r-/ was left-adjacent to the target position of i/y were realised with a full high vowel in between 50% (i.e. *burial*) and 63.6% (i.e. *chariot* and *criterion*). Furthermore, the performance of the items with left-adjacent /l-/ was not better than chance.

Second, the overall score of the advanced L2 group was higher than that of the other two groups, including the control group. This is a very interesting but perhaps hardly a surprising observation, since this group of test subjects had had three years of intensive training in English proficiency at university level. Furthermore, all had attended the compulsory linguistics courses of this (Utrecht) programme - and sometimes more, a fact that may well have contributed to a boosted 'linguistic awareness', either consciously or subconsciously. Although their responses to some words were considerably more accurate than to other words (e.g. *colonial* vs. *brilliant*), their overall percentage correct was 84%.

Test item	**Response (in %)**	
	[i]	**[y]**
colonial	100	0
envious	100	0
burial	100	0
chariot	100	0
Vivian	95.2	4.8
hideous	95.2	4.8
criterion	95.2	4.8
curious	95.2	4.8
funniest	95.2	4.8
experience	90.5	9.5
audience	90.5	9.5
idiot	76.2	23.8
peculiar	57.1	42.9
scorpion	42.9	57.1
brilliant	23.8	76.2

Table 2.2. Responses advanced L2 group

The correctness scores of *colonial*, *envious*, *chariot* and *burial* were 100%, whereas the performance on test items *peculiar* and *scorpion* was hardly above chance. The responses to *brilliant* show a clear preference towards the realisation of a glide [y]. The advanced L2ers

correctly realised the test items with left-adjacent /r-/ (*chariot*, *curious*, *burial*, *experience*, and *criterion*) with a full high vowel most of the time.

Finally, the overall performance of 78% of the control group with respect to the [i] words was higher than that of the non-advanced L2ers yet below that of the advanced L2 group. The table below shows that the responses to *envious* and *chariot* of the control group were similar to that of the advanced L2 group: both 100%.

Test item	**Response (in %)**	
	[i]	**[y]**
idiot	100	0
envious	100	0
chariot	100	0
funniest	100	0
colonial	83.3	16.7
Vivian	83.3	16.7
hideous	83.3	16.7
experience	83.3	16.7
audience	66.7	33.3
peculiar	66.7	33.3
scorpion	66.7	33.3
burial	66.7	33.3
curious	66.7	33.3
brilliant	50.0	50.0
criterion	50.0	50.0

Table 2.3. Responses control group

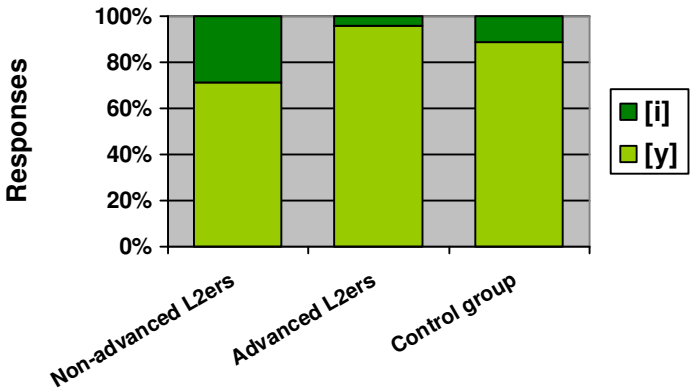
The responses to the test item *funniest* were slightly more accurate than those of the advanced L2ers. Only two words (i.e. *brilliant* and *criterion*) had a chance performance. The native speakers' responses to the test items with left-adjacent /r-/ (*chariot*, *experience*, *burial*, *curious*, and *criterion*) were inconsistent, e.g. *chariot* was pronounced with a vowel (100%), whereas *criterion* was realised with a glide pronunciation in 50% of the responses.

4.2. Words with [y]

According to the rules described in sections 1.3 and 3.2, the context of two adjacent /n/'s is the favourite context for a glide pronunciation in both British and American English. Moreover, [y] occasionally appears in some words with an environment different from this. This section looks at the test results for this group of words.

Figure 3 below shows that the non-advanced L2ers overall performed more accurately on this type of words than on the [i] word group, with 71% of the pronunciations correct. The advanced L2 group had an overall performance of 96%, which is an even higher performance than on the [i] test items. The control group's performance was once more slightly lower than the advanced group's but more accurate than on the [i] words. They realised 89% of the items correctly with a glide pronunciation.

Fig. 3. Pronunciation [y] words



The [y] words in the test included the following test items: *canyon*, *onion*, *Spaniard*, *Tanya*, *spaniel*, and *behaviour*. The responses of the three groups of test subjects with respect to these items will be discussed separately.

The non-advanced L2ers of English had a correctness percentage ranging from 50% to 86.4%. The lowest performance was for the item *behaviour* (i.e. chance performance); hence, this word appears as the most difficult for this group. The test items *Tanya* and *Spaniard* had most correct responses with 86.4%

Test item	**Response (in %)**	
	[y]	**[i]**
Spaniard	86.4	13.6

Tanya	86.4	13.6
canyon	77.3	22.7
onion	68.2	27.3
spaniel	59.1	40.9
behaviour	50.0	50.0

Table 3.1. Responses non-advanced L2 group

The inconsistency in the percentages of the word *onion* is again due to the fact that one of the test subjects did not tick any of the boxes: therefore, that response was considered neither right nor wrong. Interestingly, the behaviour toward the items containing both a /y/ in their spelling, i.e. *Tanya* and *canyon*, differed, whereas one might have expected similar responses to both. Additionally, the responses with respect to the two similarly looking *Spaniard* and *spaniel* were different. Hardly surprising, but worth noting, was the bilingual speaker's performance with a correctness score of 100%.

Secondly, the advanced group outperformed the other two test groups once again. The overall percentage was 96%, with the lowest score being for *spaniel*: 85.7%. The table below shows their responses to the test items in the [y] group.

Test item	**Response (in %)**	
	[y]	**[i]**
canyon	100	0
Tanya	100	0
onion	100	0
Spaniard	100	0
behaviour	90.5	9.5
spaniel	85.7	14.3

Table 3.2. Responses advanced L2 group

All test subjects in this group reported to pronounce *canyon*, *Tanya*, *onion*, and *Spaniard* with a glide pronunciation. Interestingly, *spaniel* was again treated slightly differently than *Spaniard* in spite of their similar structure, i.e. /spænyə-/. This resembles the behaviour of the other L2 groups, although the percentage of correct responses of the advanced L2ers with respect to these words is considerably higher. By contrast, items containing two /n/'s on either side of the target position were treated alike.

The native speakers in the control group had more correct answers to this set of words than to those in the [i] word group, i.e. 89% vs. 78%. They performed with 100% accuracy for the test items *canyon* and *Tanya*, and 83% of all responses to the other words were correct.

Test item	**Response (in %)**	
	[y]	**[i]**
canyon	100	0
Tanya	100	0
onion	83.3	16.7
Spaniard	83.3	16.7
behaviour	83.3	16.7
spaniel	83.3	16.7

Table 3.3. Responses control group

The table above shows that the native speakers' performance of items *onion*, *Spaniard*, *behaviour*, and *spaniel* was identical at 83%, whereas only *Tanya* and *canyon* were correctly pronounced by (all of) the native speakers. Recall from section 3.1 that the group of native speakers included one British English L1er. Interestingly, this very subject reported to pronounce the test items *onion*, *Spaniard*, and *spaniel* with [i] instead of [y]. *Canyon*, *Tanya*, and *behaviour*, on the other hand, were realised with a glide by this speaker.
Also, it is worth noting that overall the items containing a /y/ in their spellings were all pronounced with a glide [y].

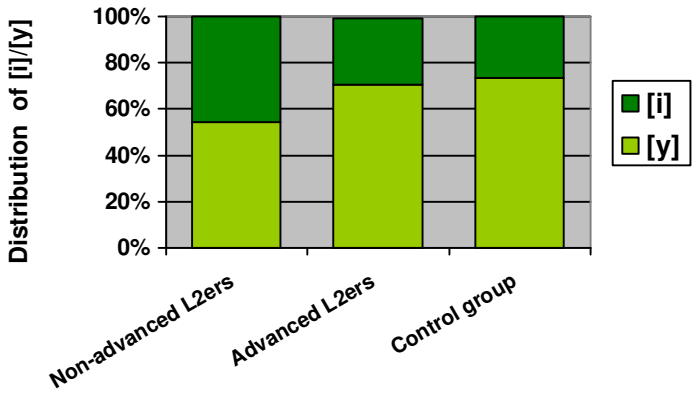
4.3. Words with optional [i]/[y]

This group of test items contains words in which left adjacent /l-/ occurs before the target position, as in words such as *rebellion* and *auxiliary*. According to the rules described in section 3.2, in British English the realisation as a glide is optional in these words whereas the glide is virtually obligatory in American English.

The overall preference of all three groups was a realisation with [y] (fig. 4). This preference was most evident in the advanced L2 group and control group. The non-advanced group of L2ers preferred [y] over [i] much less clearly, with figures of 54.5% compared to 45.5%. By contrast, the advanced L2 group had a preference of [y] with 71% (although one

test subject in this group did not respond to *million*. Therefore, the total percentage of this group is not 100% but just 99.1% and that of the native speakers 73%.

Fig. 4. Responses to i/y words



The test items in this group were: *million*, *rebellion*, *auxiliary*, *valiant*, and *union*. The last item is the odd one out in the group since it does not have a left-adjacent /l-/. However, following Zonneveld (2010), this word was included in the current group to investigate whether there was any difference in behaviour between *onion* (a member of the obligatory [y]-group) and *union* (which – according to the sources - allows variation).

As already indicated above, the non-advanced L2 group appeared not to have any clear preference for [i] or [y] in this word group. Some test items such as *million* and *valiant* were realised with a glide [y] more often than with a vowel [i] (68% and 59% respectively), whereas *auxiliary* was slightly more frequently pronounced with [i] (59%). As for the other test items, i.e. *rebellion* and *union*, the L2ers appeared to prefer [y] to [i] to a small degree.

Test item	**Response (in %)**	
	[i]	**[y]**
million	31.8	68.2
valiant	40.9	59.1
rebellion	45.5	54.5
union	45.5	54.5
auxiliary	59.1	40.9

Table 4.1. Responses non-advanced L2 group

The advanced L2 group of English had an overall preference for [y] with 70.5%. This preference was evident in almost all test items: *union* (90.5%), *rebellion* (81.0%), *million* (76.2%), and *auxiliary* (71.4%). As stated before, one response is missing with regard to *million*. The sole test item that did not share this preference was *valiant*: about two-thirds of the test subjects preferred the [i] pronunciation to [y].

Test item	**Response (in %)**	
	[i]	**[y]**
union	9.5	90.5
million	19.0	76.2
rebellion	19.0	81.0
auxiliary	28.6	71.4
valiant	66.7	33.3

Table 4.2. Responses advanced L2 group

The control group overall preferred the glide over the vowel in 73% of the cases. There was, however, a clear difference in preference for individual test items: *rebellion* was pronounced with a glide only, whereas *auxiliary* was pronounced with a glide only half of the time. Recalling that the control group consisted of four native speakers of American English and one speaker of British English it is not unexpected that, given the observed difference between the two language variants, this last subject preferred a full high vowel in *auxiliary* and *million*, which affected the overall picture of the control group.

Test item	**Response (in %)**	
	[i]	**[y]**
rebellion	0.0	100
union	16.7	83.3
valiant	33.3	66.7
million	33.3	66.7
auxiliary	50.0	50.0

Table 4.3.1. Responses control group

Test item	**Response (in %)**	
	[i]	**[y]**
rebellion	0.0	100
union	0.0	100
million	20.0	80.0
valiant	40.0	60.0
auxiliary	40.0	60.0

Table 4.3.2. Responses control group (AE)

Leaving out the responses of the British native speaker, we find (see table 4.3.2.) that the American speakers had some (low) preference for the glide over the full vowel for the item *million* than the results in table 4.3.1 show. *Million* and *rebellion* were treated identically, as

were *valiant* and *auxiliary*. Furthermore, they chose [y] over [i] for the realisation of test item *auxiliary* (i.e. 60.0%). The British native speaker in the control group selected [i] slightly more often than [y].

4.4. The non-words

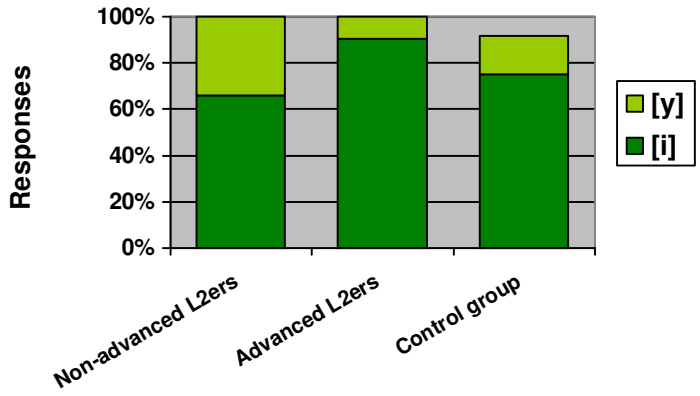
The last group of test items, consisting of non-words, is a special one. The pronunciation of existing words can simply be known to test subjects, even to L2 test subjects. Non-words, however, have simply never been hear before and can be considered better test items in a test investigating 'rule knowledge'.

The overall performance of all groups with respect to the test items *banion*, *parious*, and *erion* is rather good. The non-advanced L2ers pronounced 71.2% of the items correctly, and the other L2 group had a score of 87.3%, which is the highest score of all three groups. The control group responded with the correct pronunciation in 77.8% of all cases. Unfortunately, one native speaker did not respond to most of the non-words (i.e. she only responded to *erion*). Her answers to the test as a whole were not disregarded, since she was the only native speaker of British English. As a result, the total number of the responses of the control group to 3 of the non-words (i.e. to *banion*, *parious*, and *lalion*) was not 100%. If, however, her answers would be disregarded, 86.7% instead of 77.8% of the group's pronunciations would have been correct.

As for the pronunciation of *lalion*, two-thirds of the control group preferred the vowel [i]; and 59.1% of the non-advanced L2 group preferred the glide pronunciation. The advanced L2ers did not appear to have a clear preference for either of the realisations: only 52.4% of the items was realised with a full high vowel. Also, due to the fact that one of the test subjects forgot to tick a box, there is an inconsistency between the two percentages.

The figure below shows the non-words that should be realised with [i] (according to the rules formulated in section 1.3). Here, the advanced L2 group's performance was again more accurate than that of the other test groups: 90.5% of the responses were correct (vs. 65.9% by the non-advanced L2ers, and 75.0% by the control group respectively).

Fig. 5. Pronunciation [i] non-words



The non-advanced L2 group and the control group both pronounced *erion* more often correctly than *parious*, while the advanced L2ers performed better on *parious*, as table 5 below shows.

Test item	**Response (in %)**					
	Non-advanced L2 group		**Advanced L2 group**		**Control group**	
	[i]	**[y]**	**[i]**	**[y]**	**[i]**	**[y]**
erion	72.7	27.3	81.0	19.0	83.3	16.7
parious	59.1	40.9	100	0	66.7	16.7
banion	18.2	81.8	19.0	81.0	0	83.3
lalion	40.9	59.1	52.4	42.9	66.1	16.7

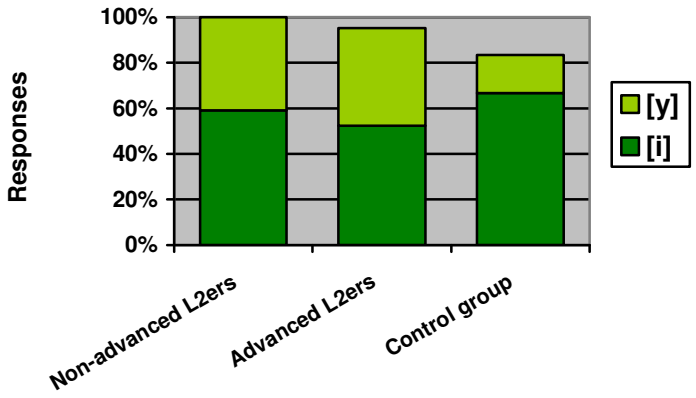
Table 5. Responses test subjects to non-words

The only test item in this group of non-words that should be realised with a glide is *banion*. The behaviour of the L2 groups was similar: 81.8% of all non-advanced L2ers chose the glide vs. 81% of the advanced L2ers. The control group had a correct pronunciation of 83.3%. Although in fact none of the native speakers realised the item with a vowel, a perfect score is not feasible because one test subject did not respond to this non-word.

The last test item in this group is *lalion*, which, according to the rules, is highly likely (almost obligatorily so) to be realised with a glide pronunciation in American English but optionally with a glide or full high vowel in British English. As figure 6 below shows, the control group appeared to be the only group of subjects with a clear preference for [i]. The

L2ers with a low proficiency in English appeared to prefer [y] over [i], but not convincingly. About half of the advanced L2ers (that is, 59.1%) preferred [i], and the other half [y].

Fig. 6. Preference [i] vs. [y] for *lalion*



5. Discussion of the test results

In this section the test results will be discussed and possible explanations for the test subjects' responses put forward. The order in which the discussion will take place is the following. First, the results of the native speakers in the control group will be discussed, followed by the non-advanced L2ers, and advanced L2 group.

5.1. The control group

The 15 test items belonging to the [i] word group are the following: *colonial*, *idiot*, *Vivian*, *audience*, *brilliant*, *hideous*, *envious*, *peculiar*, *scorpion*, *burial*, *chariot*, *criterion*, *curious*, *experience*, and *funniest.* According to the rules discussed in sections 1.3 and 3.2, the vowel realisation in these words occurs in both American and British English.

Before discussing the L2 groups, we will first take a look at the behaviour of the control group to see whether they pronounce the items as specified in the sources of this thesis, mainly as represented by the Roach (2003) pronouncing dictionary. This appears, as is evident from the result section, not to be the case with all words. *Idiot*, *envious*, *chariot*, and *funniest* were correctly pronounced with the vowel [i], and more than 80% of the subjects selected this vowel for the pronunciation of *colonial*, *Vivian*, *hideous*, and *experience*. Two-thirds of the native speakers correctly realised *audience*, *peculiar*, *scorpion*, *curious*, and

burial with a full high vowel. Test items *brilliant* and *criterion*, however, were pronounced correctly in only half of the cases, which is not better than chance performance.

Looking at the structure of the words, the native speakers performed differently on words that all contained a left-adjacent sonorant /r-/ to the target position, i.e. *chariot* (100% correct), *experience* (83%), *burial* (67%), *curious* (67%), and *criterion* (50%). This inconsistency in the results in a single environment, i.e. /r-/, suggests that the control group is less than fully aware of this specific rule. The performance on *peculiar* was slightly more accurate than that on *brilliant*. Fifty percent of the responses to *brilliant* was realised with a glide, which may be due to the /l-/, since this specific observation is not restricted to just this group: the other two groups pronounced this test item with [y] more often as well. This, however, does not explain the behaviour regarding *peculiar*. Furthermore, the difference between the performances on *peculiar* and *brilliant* do not have to be significant: recall that the control group consisted of only 6 native speakers.

In addition to full high vowel words, the test contained items with an obligatory glide realisation in both American and British English. These 6 items either contained two /n/'s adjacent to the target sound, or had other environments requiring the occurrence of [y]. The test items in this group were the following: *canyon*, *onion*, *Spaniard*, *Tanya*, *spaniel*, and *behaviour*. The test subjects in the control group overall performed well and more accurately for this type of words than for the [i] words. The vast majority of the native speakers correctly realised the target in these items as a glide (i.e. 83%). As mentioned in the previous chapter, the responses of the native speaker of British English resulted in a slightly lower score for *spaniel*, *Spaniard*, and *onion*. The native speakers of American English did pronounce these test items correctly with a glide. The variety of English spoken by the test subjects should be of no influence on their responses, since the glide pronunciation is obligatory in these items in both British and American English. What might have been of influence was the educational level of the British native speaker, although we cannot be certain whether one's educational level (or social (perhaps less prosperous) environment in which one was raised) affects one's knowledge of the L1, and if so, to what degree.

Interestingly, the items *Tanya* and *canyon*, both containing /y/ in their spellings, were realised with a glide, whereas there was a difference in behaviour regarding the words *canyon* and *onion*, which both have /n/'s adjacent to the target sound. However, this applied to the British speaker only. The remaining word is *behaviour*, which was realised with a full high vowel once, yet not by the same native speaker. Summarising, all test subjects in the control group appeared to know the rules for the occurrence of [y], since most of the responses were

correct. Only one native speaker, though, had an overall performance of 50% (i.e. 3 out of 6 correct) for this type of words: hence, her performance corresponded less well with the phonological rules.

The 'optional' word group contained test items with a virtually obligatory [y] in American English, whereas in British English the choice between [i] and [y] is optional. As for the control group, it was expected that the British speaker would show a preference for the vowel, and the American speakers would prefer the glide. Although these expectations were largely borne out, the difference between the two varieties of English did not fully convincingly appear in the test results. The test items *rebellion* and *million*, which share similar final syllabic structures, were treated similarly by the American native speakers but not by the British speaker. As a group, the controls overall preferred the glide to the full high vowel, except for the item *auxiliary*. *Union* was realised with a glide as many times as *onion* was, which can be explained by the similarities in spellings and final syllabic structures. This was also a phenomenon observed in the L2 groups.

Let us now turn to the non-word group, an interesting group because, as pointed out already several times above, these items enable investigating 'rule knowledge' in the subjects, without the risk of the items simply being known to them. All four test items, *banion*, *parious*, *erion*, and *lalion*, follow one of the rules discussed in sections 1.3: *banion* has two adjacent /n/'s , and should be pronounced with a glide; *parious* and *erion* have a left-adjacent sonorant /r-/, causing a full vowel [i]; and *lalion* has a left-adjacent /l-/, implying that this word should be preferably realised with a glide in American English, and with an optional glide or vowel in British English. The reason for discussing these test items separately from each of the other item groups they could belong to is that we consider them to be a unique group: they give us an additional indication of 'what goes on in the mind'. Unfortunately, one of the native speakers did not respond to any of the non-words except for *erion*. She said she was not familiar with them, which of course was true for all test subjects, since the items did not actually exist. Due to the limited amount of time, she was unable to redo the test. If her answers to these non-words were to be disregarded, the overall score of the control group would have been slightly higher. Since the subject was the only native speaker of British English, her answers to the test as a whole were not disregarded. As a result, the total number of the responses of the control group to the non-words (that is, to *banion*, *parious*, and *lalion*) was not 100%.

The overall performance of all three groups with respect to the test items *banion*, *parious*, and *erion* was rather good. The majority of the control group preferred the full high

vowel for the pronunciation of *lalion*, which is a bit surprising because this item was expected to have a glide realisation (almost obligatorily so) in American English (recall that the British native speaker's response is missing). The non-words with obligatory [i] in both American and British English, that is *erion* and *parious,* were pronounced correctly by the vast majority. Although both of these non-words contain left-adjacent /r-/, the pronunciation of *erion* was more often correct than the pronunciation of *parious*. Finally, the test item that should be realised with a glide is *banion*. The control group correctly pronounced the item with a glide. Although none of the native speakers selected the full high vowel [i], we cannot be sure that they all preferred [y] because one test subject did not tick any of the boxes for this item.

5.2. The non-advanced L2 group

In this section I will discuss in more detail the results of the non-advanced L2 group. This group performed considerably better on some of the words in the [i] word group than on others. For instance, *funniest* was pronounced correctly in 86% of the responses, whereas this percentage was only 46% for *envious*. The best performances occurred for *funniest*, *hideous*, *idiot* and *audience*. In trying to find explanations for why exactly these items scored best, consider considerations such as the following. The good performance on *funniest* might be due to the fact that it is the superlative of *funny*, which is pronounced with a high vowel. This is, of course, exactly why this item is in the test [i]-group in the first place, because transparent morphological structure contributes to [i]. If these non-advanced learners make this link, they can be said to be (unconsciously, of course) aware of this rule.

An explanation for the correct responses to *idiot* might be that it is a frequently used word, for instance, in movies that these learners may watch. Also, the Dutch equivalent *idioot* might have an effect on the pronunciation, since this word is also pronounced with an [i] vowel. Similarly, the Dutch equivalent word *bril/j/ant* might affect the realisation of the target in English L2 *brilliant*. According to the Dutch rules (described in section 1.3), an obligatory context in which the glide variant [y] occurs has left-adjacent /l-/. This specific rule may have affected the realisation of the L2 word, since [y] was selected more often than [i]. The realisation of the target sound in this item may also have another explanation, because the native speakers preferred [y] to [i] as well. As for the words in which a sonorant /r-/ was left adjacent to the target position of i/y, the realisations of the non-advanced L2ers were inconsistent: *criterion* and *chariot* were realised with the vowel [i] in 64% of the

responses, while for *experience* this was 59%. The performance on *curious* and *burial* was around chance (50%). This inconsistency in the results in a single environment, i.e. left-adjacent sonorant /r-/, suggests that the non-advanced L2 group is less than fully aware of this specific rule. Additionally, there might have been interference from the L1 as well, considering the relatively low proficiency in English of these test subjects, since the left-adjacent /r-/ is an optional context in Dutch. By contrast, interference from the L1 may not explain the responses to *hideous* and *audience* (although, generally, *audience* is known by a great many Dutch L2ers of English at the age of 13 or 14).

In addition to the [i] word group, the test contained words with an obligatory glide [y] in both British and American English. The L2ers with a low proficiency in English performed better on this type of words than on the [i] words, with a correctness percentage ranging from 50% to 86%. The test items *Spaniard*, *Tanya*, and *canyon* had the highest number of correct responses. This may be due to the fact that the left-adjacent /n-/ is an obligatory context for a glide pronunciation in Dutch. As a result, the Dutch equivalent words for *Spaniard* and *Tanya* (i.e. *Spa/n/jaard* and *Ta/n/ja*) are realised with a glide [y]. Although test items *onion* and *spaniel* contain a left-adjacent /n-/ to the target, the performance on these items was somewhat lower than on the other items. The correct pronunciation of *behaviour* was selected half of the time. These test results may imply that the L2ers know (to some extent) in which environment a vowel occurs and in which a glide, but we cannot be sure that there is no L1 interference: as indicated above, the results may also be due to the fact that the left-adjacent /n-/ is an obligatory context for [y] in Dutch.

The ‘optional’ word group contained test items that are realised with an almost obligatory [y] in American English and optional [i] or [y] in British English. The prototypical optional context has left-adjacent /l-/, as in test items *million*, *valiant*, *rebellion*, and *auxiliary*. The odd one out in the ‘optional’ word group is *union*, which was included in this group to investigate whether there was any difference in behaviour between *onion* and *union*. Although the expectation was that the non-advanced L2 group would have a clear preference [y] to [i] with respect to this type of words, because they receive more American English input through subtitled (American) television programmes, this appeared not to be the case. The test subjects selected [y] more often than [i] for *million* (68%) and *valiant* (59%), and scored not much higher than chance performance for *rebellion* (54.5%) and *union* (54.5%). This may again be due to the fact that left-adjacent /l-/ to the target sound is an obligatory context for the occurrence of [y] in Dutch. This, however, does not explain the responses to *auxiliary* (59% of the test subjects preferred a full high vowel). Although *onion* and *union*

have similarities in spellings and final syllable structure, the non-advanced L2ers had a clearer preference for a glide pronunciation in *onion* than in *union*.

Finally we will discuss the non-word group, which consisted of the following items: *banion*, *parious*, *erion*, and *lalion*. These items follow the rules in section 1.3: *banion* contains two /n/'s adjacent to the target position, which is the favourite context for a glide pronunciation [y]; *erion* and *parious* have a left adjacent /r-/ to the target and should be realised with a full vowel [i]; and *lalion* has a left-adjacent /l-/, suggesting that a glide [y] is almost obligatory in American English, and that the choice between [i] and [y] is optional in British English. The non-advanced L2 group realised *erion* and *parious* with a full high vowel most of the time, although the other two groups had higher scores. As for *lalion*, the non-advanced L2ers preferred [y] to [i], with a score of 59%. The test item *banion* which according to both English and Dutch rules should be pronounced with [y] was correctly realised with a glide pronunciation by the vast majority of the test subjects in this L2 group.

5.3. The advanced L2 group

The advanced L2 group outperformed the other groups with the most correct pronunciations of all test items. This might not be so surprising, since all advanced L2ers had had three years of intensive English proficiency training at university level; and all had attended the compulsory linguistic courses of this (Utrecht) programme, and sometimes more. Presumably due to their educational level and the specific language programme, the score of these students was more accurate than those of the other groups. Although 84% of their responses to the test items were correct, their performance on some words was still considerably higher than on others.

The [i] word group consisted of test items *colonial*, *envious*, *burial*, *chariot*, *Vivian*, *hideous*, *criterion*, *curious*, *funniest*, *experience*, *audience*, *idiot*, *peculiar*, *scorpion*, and *brilliant*. The correctness score of test items *colonial*, *envious*, *burial* and *chariot* was 100%. Almost all other test items were correctly pronounced with a full high vowel [i] (i.e. ranging from 76% to 95%), except for *scorpion*, *peculiar* and *brilliant*. The latter test item was realised with a glide pronunciation much more often than with a vowel, compared to the other two groups. The responses to *peculiar* and *scorpion* were not higher than chance performance. Considering the structure of the [i] words, the test items with left-adjacent /r-/ to the target sound were (correctly) pronounced with a full high vowel by 95% of the advanced L2ers. The items with left-adjacent /l-/ to the target position of i/y (*peculiar* and

brilliant), however, were treated differently: they were realised with [y] much more often, as if belonging to the optional i/y word group. Therefore it can be argued that the advanced L2ers (subconsciously) know the rules with respect to the environment in which the vowel occurs and in which the glide, but perhaps they do not know the rules in all its nuances.

The test items in the [y] word group were correctly realised with a glide by almost all advanced L2ers. In fact, the advanced L2 group outperformed the other groups of test subjects, the lowest scores being 91% for *behaviour* and 86% for *spaniel*. It appears that the test subjects in this L2 group know the rules for the occurrence of [y], since almost all responses were correct. As for the 'optional' word group, the advanced L2 group had an overall preference for [y], with scores ranging from 71% to 91%. The only test item that was pronounced with a full high vowel most of the time was *valiant*: two-thirds of the test subjects preferred [i] to [y]. Although these results imply that the advanced L2ers know the rules with respect to the occurrence of the glide pronunciation, we cannot be entirely sure that there was no L1 interference.

The last group of items are the non-words. The advanced L2ers did not appear to have a clear preference for either vowel or glide pronunciation for the realisation of *lalion*, in which the target has a left-adjacent /l-/. Although the other groups performed better on *erion*, the advanced L2 group realised *parious* more often correctly than *erion*, with 100% correct responses. The last test item in this group is *banion*, which (according to the rules in section 1.3) should be realised with [y] in both varieties of English. This non-word was correctly realised with a glide by the vast majority of the advanced L2ers (81%).

The test results of the non-advanced and advanced L2 group show a clear L2 development between the groups. Although the non-advanced L2ers appear to know in which environment the glide occurs and in which the vowel appears, we cannot be entirely certain that this was not due to (some) interference from their L1. It is perhaps hardly surprising that the advanced L2 group had more pronunciations correct than the other L2 group. In fact, they even outperformed the native speakers in the control group.

6. Conclusion

The purpose of this thesis was to investigate an aspect of English phonology in a study of second language acquisition. The aspect of English phonology in question is the variation between the vowel [i] and the 'glide' [y] found in the pronunciation of English words such as *canyon* [-ny★n], *chariot* [-ri★t] and *auxiliary* [-li★ri]. The purpose of the investigation was to try to find out whether Dutch second language learners of English know in which environment the vowel [i] occurs and in which its pronunciation variant 'glide' [y] occurs. The occurrence of these two variants is subject to rules, which were discussed in section 1.3. The central research question was whether second language learners know these rules, and if so, to what degree. In such an investigation, a control group of native speakers is needed in order to see how such a group would react to the same test items. Therefore, the behaviour of five native speakers of American English and one native speaker of British English was tested with respect to this phonological phenomenon. Also, since the test subjects may simply know the pronunciation of the English words used in the experiment, some additional non-words were used. To add an element of L2 development to the investigation, second language learners of two subsequent levels were investigated.

It was expected that the behaviour of the control group would resemble the pronunciation in the dictionary (here: Roach, 2003) and to resemble the description based on data from Roach and Hayes (1982). This, however, appeared not to be the case for all test items, particularly *brilliant* was realised with a glide pronunciation by most of the test subjects of all three groups. As for the [i] word group, the inconsistency in the results in a single environment, i.e. left-adjacent /r-/ to the target sound, suggests that the control group is not fully aware of this specific rule. The native speakers performed well on the group of [y] words, and their performance (that is, the performance of the native speakers of American English) on the non-words also shows that they do have knowledge of the rules, since these items were realised with the correct variant most of the time. It was also expected that the British speaker would show a preference for the vowel and the American speakers would prefer the glide variant for the 'optional' word group. Although these expectations were largely confirmed, the difference between the two varieties of English did not convincingly appear in the test results.

As for the Dutch second language learners with a high proficiency in English, it was expected that they were to have more correct (perhaps control group like) pronunciation than the non-advanced Dutch second language learners of English. In other words, the former were expected to show a better knowledge of the rules than the low proficiency group: the

results show that this was indeed the case. The advanced L2 group overall performed more accurately than the control group, too. This suggests that they have an excellent understanding of the rules. In fact, the responses of these test subjects more closely resembled the pronunciation as specified in the dictionary, rather than the responses of the native speakers. Interestingly, no conscious teaching of these rules takes place in the proficiency programme. Thus the test subjects' competence in the rules is the result of 'natural' acquisition.

Finally, the non-advanced L2 group was expected to have the fewest correct responses to the test items of all three test groups. The test results of this group confirmed that this was indeed the case. Also, the items with optional i/y were expected to be realised with a glide pronunciation more often than with a vowel, and the [y] word group to be correctly realised with a glide, due to the fact that the input the subjects receive from television is mostly American English. Surprisingly, this was not clearly the case. Furthermore, the test results confirmed the expected L2 development from the lower level L2 group to the higher level group. While the non-advanced group seems to be aware to some extent of the different environments in which the vowel and glide occur, clearly the advanced group has better knowledge of, i.e. competence in, the rules (in fact, this latter group has the best competence in the rules of all three groups). In making this claim it has to be taken into account that we cannot be sure of the extent to which the non-advanced L2 group in particular knows the rules, since there may have been L1 interference, too.

In this thesis, the control group consisted of only six native speakers, of whom only one was a native speaker of British English. Therefore, because the control group was rather small, strong statements could not be made about the differences between the two varieties of English (though the expectations described above were largely borne out). In addition, the British speaker did not respond to items that were unfamiliar to her (that is, to most of the non-words). This, too, makes it even harder to make definite statements. Therefore, a suggestion for further research would be to test the aspect of English phonology discussed in this paper with a larger group of native speakers of English in order to make clear claims about the allophonic distribution of [i] and [y] by speakers of British and American English. This much said, we can conclude that, although we cannot be certain that there was no L1 interference, Dutch second language learners of English may acquire rule knowledge, and that the extent to which they do depends on their degree of second language competence. Also, the results of the current study have shown that competence in second languages does not have to be the result of conscious or explicit teaching.

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Appendix A – Test

Instructies

Deze test gaat over de uitspraak van Engelse woorden. Er wordt om je oordeel gevraagd, maar ga er vanuit dat je niet zelf beoordeeld wordt: het gaat om nieuwsgierigheid van de onderzoeker die de test heeft opgesteld.

Hieronder zie je links een vetgedrukte rij Engelse woordjes waarvan ik vermoed dat je ze kent, en als je ze niet kent, dat je je toch kunt wagen aan een oordeel over de uitspraak. Achter de woorden vind je twee rijen met de mogelijke uitspraken van deze woorden, en een oordeel daarover is precies waar het in deze test om gaat: deze uitspraken kunnen met een tamelijk volle *ie*-klinker zijn (hier weergegeven als /i/), of met een *j* (hier weergeven met het Engelse spellingssymbool dat daarvoor gebruikt zou worden, nl. een /y/).
Probeer een keer, wat is beter volgens jou: *elie-en* of *el-jen*? Kruis nu vervolgens voor de hele lijst aan hoe jij dit woord uitspreekt of zou uitspreken, in "je beste Engels".

N.B.: de /ə/ wordt uitgesproken als een ‘stomme e’, zoals in het Nederlandse woord *tafel* en het Engelse woord *bonus*.

colonial	☐ kəlooniəl	☐ kəloonyəl
idiot	☐ iddiət	☐ idyət
Vivian	☐ vivviən	☐ vivyən
audience	☐ ohdiəns	☐ ohdyəns
brilliant	☐ brilliənt	☐ brilyənt
hideous	☐ hiddiəs	☐ hidyəs
envious	☐ enviəs	☐ envyəs
peculiar	☐ pikju:liər	☐ pikju:lyər
scorpion	☐ skorpiən	☐ skorpyən
burial	☐ beriəl	☐ beryəl
chariot	☐ tsjariət	☐ tsjaryət
criterion	☐ kreitəriən	☐ kreitəryən
curious	☐ kjoeriəs	☐ kjoeryəs
experience	☐ ikspiriəns	☐ ikspiryəns
funniest	☐ funniəst	☐ funyəst
canyon	☐ kanniən	☐ kanyən
onion	☐ unniən	☐ unnyən
Spaniard	☐ spanniərd	☐ spanyərd
Tanya	☐ tanniə	☐ tanyə
spaniel	☐ spanniəl	☐ spanyəl
behaviour	☐ biheviər	☐ bihevyər
million	☐ milliən	☐ milyən
rebellion	☐ ribelliən	☐ ribelyən
auxiliary	☐ ohgzilliərie	☐ ohgzilyərie
valiant	☐ valliənt	☐ valyənt
union	☐ joeniən	☐ joenyən
banion	☐ banniən	☐ banyən

parious	☐ perriəs	☐ peryəs
erion	☐ erriən	☐ eryən
lalion	☐ lalliən	☐ lalyən

Appendix B – Questionnaire (Dutch version)

Geslacht: m/ v *

Leeftijd: _____ jaar

Land van herkomst: _____

Welke taal/talen heb je geleerd t/m je 6e levensjaar? _____

Welke taal gebruik je op dit moment het meest? _____

Zijn er andere talen die je spreekt of verstaat? JA/NEE*

Zo ja, welke en in hoeverre?

_____

Wat is je hoogst behaalde opleiding of de opleiding waar je nu mee bezig bent?

_____

Hoe goed vind je zelf dat je het Engels beheerst?

a. heel slecht b. redelijk c. goed d. heel goed

Hoe gemotiveerd ben je om goed Engels te spreken?

a. niet b. redelijk c. wel d. heel erg

Wat is je langste verblijf in een Engelstalig land?

a. nooit
b. minder dan een maand
c. tussen een maand en een jaar
d. langer dan een jaar

Heb je wel eens in een ander land gewoond? JA/NEE*

Zo ja, welk land? _____ Hoelang? _____

Zijn er ooit problemen met je gehoor geconstateerd? JA/NEE*

Zo ja, wat voor problemen?_____

Er is ooit dyslexie bij je geconstateerd? JA/NEE*

Wanneer is dat gebeurd?

_____

* Doorhalen wat niet van toepassing is

Questionnaire (English version)

Gender: m / f *

Age: _____ years old

Country of origin: _____

Which language(s) have you learned until age 6?_____

What language do you use most often nowadays?_____

Do you speak or understand any other languages? YES/NO*

If so, which ones and how well do you speak them?

_____

What is your highest educational level achieved (e.g. *bachelor's degree*), or what are you currently studying? _____

How well would you say that you speak Dutch?

a. very bad b. moderate c. well d. very well

How motivated are you to speak proper Dutch?

a. not at all b. moderate c. highly motivated

How long have you been in the Netherlands?

a. less than a month c. 1-2 years

b. between a month and one year d. 2-5 years

Have you ever lived in another country besides the Netherlands? YES/NO*

If so, which countrie(s)? And how long? _____

Have you ever had hearing problems? YES?NO*

If so, what kind of problems?_____

Are you dyslectic? YES/NO*

* delete where not applicable

N.B.: The questions about the motivation to speak proper Dutch, the proficiency in Dutch, and whether the test subjects were actually living in the Netherlands were asked in order to investigate their knowledge of the Dutch language.

Appendix C – Scale of reference levels CEFR

Proficient User	C2	Can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations.
	C1	Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.
Independent User	B2	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
	B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans.
Basic User	A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
	A1	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

(Fig. 7. Example of scale of reference levels CEFR. Table taken from the COE website)