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ENGLISH VOWEL SYSTEM

ABSTRACT. The present essay focuses on the English vowel system, outlining its main features and dealing with the most relevant examples of how vowel sounds may be spelt. Any language is a system and, as such, it may be studied from different points of view without never forgetting that the different aspects are parts of a *unicum*. The English vowel system represents a part of a wider system, which anyone who desires to be able to pronounce English intelligibly must, at some level, be aware of. The paper, which includes a description of the human phonatory system, first introduces vowels at general level and then focuses on English vowels considered in their traditional distinction between short and long ones. Although confined to a limited part of English phonetics and phonology, the essay may nonetheless give some clues for reflections.

1. Introduction

Being in good command of a language means being able to take actively part in a successful interaction, which, naturally, can occur at very different levels, depending on the context, the subject matter, the requirements of the task and, above all, on the linguistic competence of the subjects involved¹. So, in a conversation, we may assume that what is important for those who are involved is to be able to understand the counterpart's message and to interact effectively. Indeed, in an oral interaction, in order to be able to fully understand what goes on, a wider range of cognitive activities are needed² but, on the other hand, it is

¹ Indeed, much has been written about the various degrees of linguistic competence and by now six levels of overall competence, internationally acknowledged, have been elaborated. The matter is fully dealt with in the *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*, issued by the Council of Europe and published by the Cambridge University Press in 2001.

² Pragmatics has nowadays gained the importance it deserves and the literature about it is almost endless. Suffice here just to mention some of its founding studies among which are

very difficult to set our mental activities at work if we do not understand what the other is uttering. So, to cut a very long story short, we may say that the interaction is highly hindered, if not prevented, unless there is a mutual knowledge of what Jakobson would name as the code³. If we consider the English language from a historical point of view, we may acknowledge that, over the centuries, it has spread more and more and, although in the beginning it was the language of a limited number of speakers (and it was confined to a well defined geographic area), nowadays it has gained the status of an international means of communication, learnt in every country, used all over the world without any boundary of whatsoever sort. Of course, this diffusion has highly affected the way the language is spoken, read and written, because most of the initial pidgins, which first originated from the contacts of the 'original' (if we may term it so) English with other local geographical and linguistic realities where it came to be used, creolized and, in the long run we have now come to speak of many English language variants, such as American English, Canadian English, Australian English, Indian English just to mention the most important

John L. Austin, How to Do Things with Words, Oxford University Press, 1962; John Searle, Speech Acts: An Essay in the Philosophy of Language, Cambridge University Press, 1969, and Paul Grice, Logic and Conversation in Syntax and Semantics, Vol. 3, Speech Acts, Academic Press, 1975. See also Stephen C. Levinson, *Pragmatics*, Cambridge University Press, 1983; D. Schiffrin, D. Tannen & H. E. Hamilton (Eds), The Handbook of Discourse Analysis, Blackwell Publishing, 2001, and J. P. Gee, M. Handford (Eds), The Routledge Handbook of Discourse Analysis, Routledge, 2012.

³ R. Jakobson, "Closing Statements: Linguistics and Poetics" in Th. A. Sebeok (Ed), Style in Language, MIT Press, 1960, pp. 350-377.

realities. So widespread, used for international communication, rightly mentioned as today's lingua franca, English has been acknowledged the title of being global⁴, also in consideration of the fact that mother tongue speakers are comparatively a minority group in relation to the global number of users⁵. It is needless to say that, of course, there is, among all varieties, a core of shared features, also considering that English is nowadays taught in almost all kind of learning institutions all over the world, both by native and non-native teachers. Focusing on the oral abilities, and then particularly on the ability of pronouncing the language (i.e. on the abilities of speaking and reading), already in the past century the problem of 'what kind of English' had to be taught arose, since if the necessity of making oneself understood was of crucial importance – above all for non-native speakers –, at the same time there was the need of respecting all the different realities and varieties of English. The problem was not an easy one to deal with since, as Daniel Jones stated in relation to English pronunciations, it was not possible "to regard any special type as 'Standard' or as intrinsically 'better' than other types", although Southern English pronunciation "has the advantage that it is easily understood in all parts of the English-speaking

⁴ See D. Crystal, *English as a Global Language*, Cambridge University Press, 2004. To grasp an accurate idea of how English accent varieties are scattered throughout the world, it is recommended to consult L. Canepari, *English PronunciationS*, Aracne, 2010².

⁵ See B. Kachru, Y. Kachru, C. Nelson (Eds), *The Handbook of World Englishes*, Wiley-Blackwell, 2006.

countries; it is perhaps more widely understood than any other type. [...] The term 'Received Pronunciation' is often used to designate this type of pronunciation. This term here is adopted for want of a better. [He wished] it, however, to be understood that other types of pronunciation exist which may be considered equally 'good'⁶. It is not our intention here to deal with the terminological debate, which followed since Daniel Jones's first definition⁷, nor to indulge in the modern reception of RP, as we agree with John C. Wells, who has written that "EFL teachers working within a British English-oriented environment should continue to use RP (though not necessarily under that name) as their pronunciation model. But this model must be revised and updated from time to time". Indeed, the reason for preferring such a variety is due to the fact that it is easily understood in every English speaking environment, but maybe the debate about which variety is the best to teach is symptomatic of a difficulty underlying in the process of learning English and using it to express oneself. Such a difficulty is mainly due to the lacking of a direct correspondence between the way we write English and the way we read it and also because,

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⁶ D. Jones, *An Outline of English Phonetics*, Cambridge University Press, 1989, p. 12.

⁷ In fact, several other labels, such as, for instance, Estuary English or BBC English have been coined. For a quick survey see J. Lewis, G. Mitchell, *Anything goes!: Varieties of English*, La Città del Sole, 2005.

⁸ John C. Wells, *Whatever happened to Received Pronunciation?* in Medina & Soto (eds.), *II Jornadas de Estudios Ingleses*, Universidad de Jaén, Spain, (1997), pp. 19-28. On 20th February 2002, the author has also placed the content of the article on his personal website, at the address http://www.phon.ucl.ac.uk/home/wells/rphappened.htm.

differently from Romance languages such as French or Spanish, written words bear no marked stress themselves, so that it is often difficult for the beginner to be able to grasp hints which may induce him toward a correct pronunciation. On the other hand, it is exactly the absence of accents and diacritics which makes English a language very suitable to be used on the Internet and to favour its global diffusion.

Leaving aside problems related to important aspects of pronunciation such as rhythm, assimilation, elision, etc., in this essay we will focus our attention on the English vowel system, outlining its main features and dealing with the most relevant examples of how vowel sounds may be spelt.

2. Phonation and articulation

It has often been noted that the phonatory system can be assimilated to a wind⁹ as the different sounds it may utter result from the combination of a

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⁹ For instance, Marina Nespor writes that "Si può pensare all'apparato articolatorio come a uno strumento musicale a fiato, per esempio un flauto traverso. Tale strumento consiste in un tubo metallico con diversi fori sulla parete laterale che il flautista può lasciare aperti o chiudere coi polpastrelli per produrre un tono specifico. Affinché le diverse occlusioni dei fori abbiano un effetto sonoro è indispensabile che venga immesso nel flauto un flusso d'aria. Senza di esso non c'è suono. L'apparato vocale è simile nel senso che affinché vengano prodotti dei suoni è necessario avere un flusso d'aria che viene poi modificato in vari modi per dare luogo a suoni diversi". See M. Nespor, *Fonologia*, Il Mulino, 1993, p. 31.

variety of possible restrictions applied to an airflow, which is generally defined as an egressive pulmonic one¹⁰.

When we come to the distinction between the two main categories into which sounds are divided, i.e. vowels and consonants¹¹, the general criterion is based on the ground that "the air can be allowed to pass freely through the resonators, or can be obstructed, partially or totally, in one or more places, with the help of many organs. In the first case the sound produced is a vowel, in the second case a consonant sound"¹².

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¹⁰ Linguistic sounds are usually articulated in the egressive phase, i.e. when the airflow comes out of the lungs. Nonetheless, in some languages, there are sounds which are articulated in the ingressive phase of the airflow. Other sounds are made with no air movement at all (the so called clicks, as when the tongue clicks inside the oral cavity without any airflow). In the present paper we have adopted the perspective of articulatory phonetics. See L. Canepari, *Introduzione alla fonetica*, Einaudi, 1979; M. Prada, *Introduzione alla fonetica*. *Italiano Inglese Francese*, LED, 2010, pp. 25-121.

Nonetheless, it is the case to remember that, as anything in language, we do not have clear cut edges: in fact, for English, we have three semi-vowels, represented by the letters \mathbf{w} , \mathbf{j} and \mathbf{r} .

¹² S. Crisalli, A Guide to English Phonetic System and Syllabication, Falzea Editore, 2010, p. 3. Although this is the most widespread theory, Peter Roach cannot avoid noticing that "there are many cases where sounds that we think of as consonants, such as the sounds at the beginning of the words 'hay' and 'way', do not really obstruct the flow of air more than some vowels do", so he suggests that, in order to distinguish vowels from consonants, it would be better to study the distribution of sounds which "has shown that two groups of sounds with quite different patterns of distribution can be identified, and these two groups are those of vowel and consonant". See P. Roach, English Phonetics and Phonology, Cambridge University Press, 2007, p. 11. Furthermore, Daniel Jones remarked that "the distinction between vowels and consonants is not an arbitrary physiological distinction. It is in reality a distinction based on acoustic consideration, namely the relative sonority or carrying power of the various sounds. Some sounds are more sonorous than others, that is to say they carry better or can be heard at a greater distance, when pronounced with the same length, stress and voice-pitch. [...] The relative sonority or carrying power of sounds depends on their inherent quality (tamber) and must be distinguished from the relative 'prominence' of sounds in a sequence; prominence depends on combinations of quality with length, stress and (in the case

a certain number of elements whose functions are mainly biological in character (respiration, swallowing, etc.) and which are adapted to communicative functions as well. As mentioned before, phonation Hyo-epiglottic Lateral thyrohyoid ligaments **Epiglottis** occurs thanks to an airflow, mainly of pulmonic origin, passing through a path which goes from the lungs to the Corniculate cartilages cartilages trachea an then to the outside. Following its egressive Vocal ligament Cricoid cartilage Cricothyroid ligament route, the first organ, which we have to deal with, is the cricothyroid ligament

Before dealing with the English vowel system, an introduction to the

phonatory system is needed. A human being phonatory apparatus is made up of

larynx, "a hollow musculoligamentous structure with a cartilaginous framework that caps the lower respiratory tract" which is continuous with the trachea in its lower part and with the pharynx in its upper section. It is made up of "three large unpaired cartilages (cricoid, thyroid and epiglottis), three pairs of smaller cartilages (arytenoid, corniculate and cuneiform) and a fibro-elastic membrane and numerous intrinsic muscles" The cricoid cartilage, the most inferior of the three, fully surrounds the airway and articulates with the other two larynx

of voiced sounds) intonation."; see D. Jones, *An Outline of English Phonetics*, *cit.*, pp. 24-25. Generally, vowel sounds are articulated with a wider jaw opening than the one needed for consonant sounds, so much wider as the openness or lowness of the articulated vowel sounds.

¹³ R. L. Drake, A. W. Vogl, A. W. M. Mitchell, *Gray's Anatomy for Students*, Churchill Livingstone Elsevier, 2010, p. 997.

¹⁴ Ibidem.

cartilages, on its upper back facet with the arytenoid and on its lateral facet with the thyroid, which is the largest of the three unpaired parts. The epiglottis is leaf shaped and is linked by its stem to the back of the thyroid cartilage. The two arytenoid cartilages, pyramidal in their shapes, articulate their base with the sloping articular facet of the lamina of the cricoid cartilage, their apexes with the corniculate cartilages, while their medial surfaces face each other and their anterolateral surfaces are depressed in two points in order to host the attachment of the vocalis muscle and of the vestibular ligament. Their base anterior angles are extended into the vocal process. The corniculate cartilages articulate with the apices of the arytenoid cartilage, while the cuneiform ones are placed anteriorly to the corniculate structures and suspended within the fibro-elastic membrane of the larynx.

Such cartilages are variously connected with one another by extrinsic and intrinsic ligaments. Among the latter ones, we find the crycothyroid ligament, which links the vocal process of the arytenoid cartilages (posteriorly) to the thyroid (anteriorly); the free margin in-between forms the vocal ligament, which is located under the vocal fold (true vocal cord). In this group, we also find the quadrangular membranes, which go from the epiglottis to the arytenoid cartilage, both on the left and the right side; beside a free upper margin, they have a free lower margin which thickens, forming the vestibular ligament under the vestibular fold (false vocal cord). A series of intrinsic muscles help adjust

the tension in the ligaments, operate the rima glottidis and rima vestibuli and regulate the dimension of the vestibule.

The larynx opens superiorly into the pharynx, which is located posteriorly below the tongue. It presents three borders: the anterior one is formed by the mucosa which covers the upper margin of the epiglottis, the lateral ones are made up of the mucosal folds (arvepiglottic folds) and the posterior one. Of particular interest for our purposes are the vestibular and vocal folds, two couples of mucosal folds located in the middle of the laryngeal cavity which divide it into a vestibule, a middle chamber and the infraglottic cavity; below the vestibular folds and the surrounding mucosa layered parts of the arytenoid, the vocal folds form a narrow triangular opening named rima glottidis which separates the middle chamber from the infraglottic cavity. A similar triangular structure, the rima vestibuli, has larger dimensions and is located between two adjacent vestibular folds just above the middle chamber: "when phonating, the arytenoid cartilages and vocal folds are adducted and air is forced through the closed rima glottidis [...]. This action causes the vocal folds to vibrate against each other and produce sounds, which can be modified by the upper parts of the airway and oral cavity"¹⁵. Naturally, phonation is a process rather than a single action: at the beginning, during normal breathing, the rima glottidis is closed, then the egressing air makes it open during the air passage and then it closes

¹⁵ *Ibidem*, p. 1007.

again: "attraverso la glottide passa una bolla d'aria dopo l'altra, mentre il punto di occlusione si sposta dal basso in alto via via che la pressione della corrente d'aria tende a sua volta a divaricare le corde vocali tese. Sono dunque queste interruzioni della corrente d'aria [...] che creano delle vibrazioni d'aria con la stessa frequenza fondamentale delle aperture e delle chiusure della glottide"¹⁶.

It is easily understood that the vocal cords may assume different positions (i.e. they may be held wide apart, completely closed or be just adjacent with each other): "when they are held wide apart (i.e. when the glottis is open) and air passes between them, the sound produced is called *breath*. When they are drawn together and air is forced between them so that they vibrate, the sound produced is called *voice*. If the false vocal cords [...] are drawn towards each other leaving only a narrow space for the air to pass between them, the resulting sound is one variety of *whisper*" 17.

¹⁶ B. Malmberg, *Manuale di fonetica generale*, tr. it., Il Mulino, 1996, p. 144. The author also underlines that, thanks to a tiny muscular fibre system, vocal cords may change their shape, becoming tense or lax, thicker or thinner: "una forma sottile o spessa delle corde vocali è responsabile della differenza di voce che si chiama REGISTRO. Si distinguono due specie di registri: 1. registro di PETTO e 2. registro di TESTA", the former being lower, the latter higher, *Ibid.*, p. 145.

¹⁷ D. Jones, *An Outline of English Phonetics*, *cit.*, p. 19. See also P. Maturi, *I suoni delle lingue*, *i suoni dell'italiano*, Il Mulino, 2006.

There are various points of articulation (i.e. points which may modify the egression of the airflow and, therefore, the sound it produces), which are called articulators. For English, generally speaking, we recognize seven main points of articulation, as shown in the herewith attached picture, which are, starting from the outside, 1) the upper and lower lips – used together to produce bilabial sounds, as $\bf p$ and $\bf b$, in combination with the teeth to produce labiodental sounds, as $\bf f$ and $\bf v$, or simply rounded to elongate vowel sounds as $\bf u$: –, 2) the teeth, used in combination with the tongue, to utter dental sounds as $\bf \theta$ and $\bf \delta$; 3) the alveolar ridge (located between the teeth and the hard palate):

when the tongue touches it alveolar sounds, such as **d** and

t, are produced; 4) the hard palate; 5) the soft palate (also

known as velum) lets the airflow pass through the nose or through the mouth; it is touched by the tongue when we produce velar sounds such as those of the consonants \mathbf{k} and \mathbf{g} ; 6) the pharynx and 7) the tongue which is divided into its tip, blade, front, back and root and which can actively interact with other articulators. Besides the seven main mentioned articulators, it must be noted that the larynx is a place of articulation as well, together with the jaws (which can be raised or lowered) and that the nose, although not being a proper articulator, is used in the production of nasal sounds such as \mathbf{m} and \mathbf{n} .

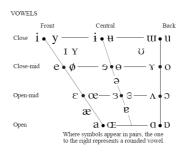
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3. English Vowel System

3.0 Introduction

Every codified system needs, of course, of clear and well-defined elements, which characterize it. When dealing with orality, such items, which are generally referred to as 'sounds', are technically named as phonemes, which are identified as "an abstract set of units [...] – constituting the phonemic system of a language". What is behind this definition is that when we speak, although the *combinations* of sounds we may use are practically infinite, the total number of sounds at hand is a fair limited set for every language. Indeed, it is possible to pronounce each phoneme with slight variations, which do not affect the comprehension; so we may say that phonemes may be realized in different ways, provided that such realizations do not hamper their intelligibility; for instance it is possible to pronounce the sound **b** as voiced even when it is expected as voiceless, provided that this change will not affect the meaning of the word containing it.

The various possible realizations of a given phoneme are called allophones. While the phonematic transcription graphically records only the phonemes by the means of IPA symbols – the graphic symbol of



a phoneme is that of the most frequent of its allophones -, the phonetic

¹⁸ P. Roach, English Phonetics and Phonology, cit., p. 40.

transcription, which makes use of IPA symbols as well, deals with the graphic rendering of phones (and allophones).

Naturally, various languages present various phonetic alphabets which show substantial differences related to their sound peculiarities; anyway, the International Phonetic Association, established in 1886 in Paris, first published the first International Phonetic Alphabet, "a notational standard for the phonetic representation of all languages" whose latest version was issued in 2005. As to the vowels, the IPA subsumes them as reported in the picture herewith attached²⁰. As to the English phonemes it is possible to limit their number to forty-four, twenty of which related to vowel sounds and the remainder 24 to consonant sounds²¹. Nonetheless, although there is agreement as to the

¹⁹ The citation is drawn from the International Phonetic Association website, http://www.langsci.ucl.ac.uk/ipa/index.html, last consulted on 11th November 2013.

²⁰ IPA Chart, http://www.langsci.ucl.ac.uk/ipa/ipachart.html, available under a Creative Commons Attribution-Sharealike 3.0 Unported License. Copyright © 2005 International Phonetic Association.

²¹ In E. Menascé, *La pronuncia inglese*, Sansoni Studio, Firenze 1981, p. 10, it is possible to read that "I 44 fonemi della *RP* sono costituiti da: 20 fonemi vocalici (12 vocali cosiddette pure e 8 dittonghi), 24 fonemi consonantici (21 consonanti propriamente dette e tre semivocali)". Esther Menascé, as to the phonematic transcription of such phonemes, relied on what had been proposed by D. Jones, *English Pronouncing Dictionary*, London, 1977¹⁴, integrating it with A. C. Gimson, *An Introduction to the Pronunciation of English*, Edward Arnold, 1980³, where the transcription of the diphthongs /αu/ and /εə/ was changed into /au/ and /eə/ respectively.

phonemes, there has been (and still there is) variation about their graphical rendering, despite the publication and the up-dating of the IPA chart²².

Generally speaking, vowel sounds are mainly distinguished by the position assumed by two of the previous mentioned articulators, that is the tongue and the lips, although it is the position of the former, which is considered for classification purposes. So, accordingly, the most defined vowel sounds are obtained when "the tongue is markedly raised in the front or at the back or is quite low down in the mouth"²³; depending on the various defined positions the tongue may assume, it is possible to utter eight defined vowel sounds which are known as the eight Primary Cardinal vowels.

²² This does not, of course, mean, that there is no agreement on how the phonemes sound, but - often for didactic reasons - it is possible to see and read what are called 'simplified' transcription, mostly elaborated on behalf of prospective students. Furthermore, despite the IPA, we are still a long way away from a fully shared chart related to the transcription of diacritics, i.e. elements which vary in some respects the sound to which they are applied. A phonetic transcription presenting a wide use of diacritics is termed as a narrow one, whilst a transcription, which makes a little use of them, is defined as broad. Furthermore, it must be considered that speakers of other languages may be (dis)advantaged by the proximity/distance relation that their native language sounds have with English ones; accordingly, in consideration of speakers' L1, adjustments to the sounds representation may help the student in the learning process. So, for instance, Luciano Canepari remembers that "Oggi, la pronuncia inglese per italofoni più conveniente da apprendere e insegnare è una semplificazione di quella *internazionale*, accompagnata da osservazioni utili per conoscere le peculiarità britanniche e americane, sia neutre che mediatiche, che si possono sentire –tutte– dalle emittenti radio-televisive inglesi e americane". See L. Canepari, *Pronuncia inglese per* italiani, Aracne, 2013, p. 25. Anyway, both narrow and broad phonetic transcriptions – whose symbols are square bracketed – must be distinguished from phonematic transcripition – whose symbols are conventionally included within slashes. See M. Prada, *Introduzione alla fonetica*. Italiano Inglese Francese, cit., pp. 18 and 106-113.

²³ D. Jones, *An Outline of English Phonetics*, cit., p. 30.

Such positions, which are not necessarily common to all languages – they are not at all fully present in English – represent, in a sense, the furthest limit possible for each of such sound family. Naturally, the tongue may assume intermediate positions, which leads to the production of less defined sounds, such as the schwa, whose phonetic symbol is \mathfrak{d} .

The eight primary cardinal vowel (PCV) sounds, usually numbered from 1 to 8, are 1) \mathbf{i} , 2) \mathbf{e} , 3) \mathbf{e} , 4) \mathbf{a} , 5) \mathbf{a} , 6) \mathbf{o} , 7) \mathbf{o} , 8) \mathbf{u} : the primary cardinal vowel \mathbf{i} "is defined as the vowel which is as close and as front as it is possible to make a vowel without obstructing the flow of air enough to produce friction noise [while] cardinal no. 5 [...] is defined as the most open and back vowel"²⁴: to pass from PCV # 1 to # 2 and then to # 3 and # 4 the tongue, keeping its front position, is simply lowered a little, at approximately equal intervals. Accordingly, to pass from # 5 to # 6, # 7 and # 8 the tongue, keeping its back position, is simply raised at equal intervals.

In pronouncing the primary cardinal vowels, it is necessary to consider the position of the lips which may be spread (as in cardinal vowel # 1), rounded (as in cardinal vowel # 8), or neutral.

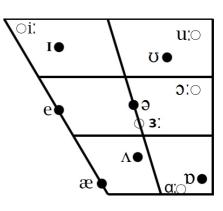
Changing the lip position, it is possible to obtain, from the primary cardinal vowels, a set of secondary cardinal vowel (SCV) sounds: for instance, if we apply a close lip rounding to PCV # 1 and # 2 we will obtain SCV y and o, if we

²⁴ P. Roach, English Phonetics and Phonology, cit., p. 14.

add an open lip rounding to PCV # 3 and # 5, we will obtain, respectively, SCV \mathbf{e} and \mathbf{v} , while when applying a lip spreading to PCV # 6, # 7 and # 8, we obtain the SCV \mathbf{A} , \mathbf{v} and \mathbf{u} respectively.

Traditionally, PCV are represented along the perimeter of a trapezoid, so that those located on the left side represent the front vowels, those on the right side the back ones; vertically, vowels are graded from close to open (intermediate steps being close-mid and open-mid), the former being located on the upper part and the latter situated at the bottom. The area covered by the quadrilateral contains, therefore, all the possible vowel sounds, the primary cardinal vowels representing the vowel sounds' extremes. Indeed, within this general framework, all different language vowel sounds cover a more or less smaller area.

As for English, vowel sounds have been divided into short and long, although this definition might be misleading. In fact, it is true that there are short and long vowel sounds, but it must be pointed out that we are dealing with



different vowel sounds and not with a mere lengthening phenomenon²⁵; vowel sound positions within the quadrilateral are marked in the herewith attached

ridotti davanti a consonante sorda, la riduzione essendo particolarmente sensibile quando si

197

²⁵ For instance, in E. Menascé, *La pronuncia inglese*, *cit.*, p. 18, the author reminds that "La distinzione tradizionale tra vocali brevi [...] e vocali lunghe [...] non è scientificamente accurata in quanto in primo luogo le une differiscono dalle altre non solo per quantità (durata) ma anche per qualità [...] e in secondo luogo tutti i fonemi vocalici, dittonghi inclusi, sono

picture. Besides single vowel sounds, diphthongs and triphthongs must be taken into account.

Each sound may naturally be related to different graphical renderings since, as widely known, in English a same vowel (group) may be read differently according to several factors (such as being in an open or closed syllable, being stressed or not, being in a particular position in the clause, eventually being under the influence of the foreign language whence it came from, etc.). To deal with these several factors would imply dealing with many topics in linguistics (such as a thorough analysis of the syllable, rhythm, stress, intonation and related topics), which would go far beyond the aim of the present essay. So, to give an idea of the various possibilities through which a same sound may be conveyed, a survey of the various sounds (with relevant word examples and their pronunciations) will be furnished together with their characteristic features.

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tratta di vocali cosiddette lunghe e di dittonghi [...]; d'altro canto, la /æ/, una vocale cosiddetta breve, è sensibilmente allungata davanti a consonante sonora". Peter Roach makes the point even clearer: the "five long vowels are different from the six short vowels [...], not only in length but also in quality. If we compare some similar pairs of long and short vowels, for example \mathbf{i} with \mathbf{i} :, or \mathbf{o} with \mathbf{u} :, or \mathbf{a} with \mathbf{a} :, we can see distinct differences in quality (resulting from differences in tongue shape and position, and lip position) as well as in length [...]. Perhaps the only case where a long and short vowel are closely similar in quality is that of \mathbf{o} and \mathbf{o} :, but \mathbf{o} is a special case [...]". See P. Roach, *English Phonetics and Phonology*, *cit.*, pp. 19-21.

3.1 English short vowels.

English short vowels are seven and may be further classified in consideration of the position assumed by the tongue. The vowel I, despite being a close frontal one, is more open and closer to the centre than PCV #1, the lips remaining slightly spread while pronouncing it²⁶. The sound I may be conveyed by different graphemes such as i (e.g. strip strip), y (e.g. dreary 'driəri) and, in non-stressed syllables, by e (e.g. return ri't3:n), also in post tonic position, when contained in the suffixes -es (e.g. fairies 'feariz), -ed (e.g. loaded 'laudid), -est (e.g. happiest 'hæpust), -ess (e.g. goddess 'godis [-des]), -ness (e.g. loneliness 'lounlinis [-inos]), -less (e.g. homeless 'houmlis [-los]), by ie as a result of the addition of the suffixes -es (e.g. varies 'veəriz) or -ed (e.g. gloried 'glarid) to a word ending with the letter y preceded by a consonant, by -ey (e.g. survey sə'vei [s3:vei]), by -ai when included in the word final group ain (e.g. fountain 'fauntin [-tən]), by -ay as a word final group (e.g. friday 'fraidi [-dei]), by -a-, when contained in the endings -ace (e.g. necklace 'neklis [-ləs]),

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Of course, the description, being comparative, may differ slightly from author to author. The definition given here (as well as the others which will follow) is consistent with the one offered by P. Roach, *English Phonetics and Phonology*, *cit.*, p. 15. To give an idea of the minor variations in various authors, it is possible to notice, for instance, that Esther Menascé, *La pronuncia inglese*, *cit.*, p. 36, describes vowel sound I as a "vocale anteriore (ma arretrata verso l'area centrale), semichiusa (leggermente più chiusa della [e] cardinale), non labializzata (labbra tese)", whilst according to D. Jones, *An Outline of English Phonetics*, *cit.*, p. 66, "a formal description of the manner of forming the English short i [is as follows:] (i) *height of the tongue*: nearly 'half-close' [...], (ii) *part of the tongue which is highest*: the hinder part of the 'front' [...]; (iii) *position of lips*: spread or neutral [...]; (iv) *opening between the jaws*: narrow to medium".

-age (e.g. heritage 'heritid3), -iage (e.g. carriage 'kærid3) and -ate (e.g. climate 'klaimit [-mət]). Furthermore, the sound i may sometime be rendered by the letter e in final position in foreign words, mainly of Greek, Latin and Italian origin (e.g. anastrophe ə'næstrəfi, miserere mizə'riəri ['reəri], finale fi'na:li), by the digraphs en- (e.g. enormous i'nɔ:məs) and ui (e.g. built bilt), the letter u (e.g. busy 'bizi), the final group -eign (e.g. sovereign 'spvrin), the digram ee (e.g. coffee 'kpfi) and occasionally by other letters²⁷.

The vowel **e** is pronounced keeping the tongue in front position, midway between PCV # 2 and PCV # 3, a medium opening of the jaw, the lips being slightly spread, as for all other front short vowels. Generally, it may be conveyed by the graphemes *e*, *ea*, *eo* as, for example, in the words *red* **red**, meadow **'medəv**, Geoffrey **'dʒefri**, although, in particular cases, it may be represented by the letters *a*, *ai*, *ei*, *ee*, *u* and *ie* as in the words *any* **'eni**, *maid* **'meid**, *Leister* **'lestə***, *threepence* **Orepəns**, *bury* **'beri**, *friend* **frend**.

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²⁷ The notation is the one proposed for the entries in D. Jones, *English Pronouncing* Dictionary, cit., in whose introduction it is pointed out that, already in previous editions of the same work, the author remarked on the varying use of /I/ and /ə/, e.g. in weak termination such as 'less' and 'ness'. The trend towards /ə/ in weak syllables is now so firmly established among middle and young generation RP speakers that a number of changes in the ordering of pronunciation forms have been made" (p. xvi). That is why, when existing, the alternative pronunciation has been given in brackets, as, for instance, for the word fountain 'faontin [-tən]. Nonetheless, as of 9th December 2013, some of the most important online dictionary versions, such as the Cambridge Dictionary (dictionary.cambridge.org), the Oxford Collins (www.oxforddictionaries.com/) and the Dictionary Dictionary (www.collinsdictionary.com), the /ə/ pronouncing variant is not attested.

The vowel æ is the last of the front short vowels. It is open, although at a lesser degree than PCV # 4 and is produced keeping the lips slightly spread and a jaw opening which may range from medium to wide. Generally, it may be graphically rendered by a and e, as in the words man mæn and black blæk, although there are special cases, where it is conveyed differently as in the word reveille ri'væli.

The phoneme \mathbf{A} is central (some author, considering it among the front vowels, describes it as centralized)²⁸, that is the central part of the tongue is raised toward the point where hard and soft palate meet, its height being a little lower than the one required for PCV # 3 with the lips in a neutral position. It is usually represented by the graphemes u as in the word buzz $\mathbf{b}\mathbf{A}\mathbf{z}$; sometimes also by the letter o when it is followed by the consonants m, n, v, z and by the cluster th as in the words comfort ' $\mathbf{k}\mathbf{A}\mathbf{m}\mathbf{f}\mathbf{s}\mathbf{t}$, among \mathbf{s} ' $\mathbf{m}\mathbf{a}\mathbf{\eta}$, glove \mathbf{glav} , cozen ' $\mathbf{k}\mathbf{a}\mathbf{z}\mathbf{n}$ and brother ' $\mathbf{b}r\mathbf{a}\mathbf{\delta}\mathbf{s}^*$, by the digraph ou as in colour ' $\mathbf{k}\mathbf{a}\mathbf{l}\mathbf{s}^*$. Special cases are the words blood $\mathbf{b}l\mathbf{a}\mathbf{d}$, flood $\mathbf{f}l\mathbf{a}\mathbf{d}$, once $\mathbf{w}\mathbf{a}\mathbf{n}\mathbf{s}$ and few others.

The "schwa" vowel, whose phonetic symbol is \mathfrak{d} , is the most frequently occurring in English. It is mid, i.e. it is located halfway between front and back vowels, and occupies a central position, that is, it is located halfway between close and open vowels. It is always linked to weak syllables and its pronunciation is generally lax. Although not all weak syllable vowels are

²⁸ E. Menascé, *La pronuncia inglese*, *cit.*, p. 43.

pronounced as a ə, many do so, and therefore any vowel grapheme may be associated with it. Examples of that are the words apply ə'plaɪ, thermometer θə'mpmɪtə*, politic 'pplətɪc [-lɪt-], Sheldon 'ʃeldən, suspect sə'spekt.

The phoneme \mathbf{v} is a back vowel, a little less open than the PCV # 5, and is pronounced with the lips slightly rounded. It is generally written using the graphemes o – as in the word foreign 'foren [rin] – and a after the letters w and qu as in the words w and w ord and qu arrel 'kworel. In special cases, it can be written as a also when not preceded by the afore mentioned elements, as in the words w ord w ord w, v or v or

The phoneme \mathbf{v} is located in the back region of the quadrilateral, although its position is close to the central region. It is a little closer than PCV # 7 and it represents the nearest phoneme to PCV # 8. Lips are required to be rounded for a correct pronunciation. In the main, it is graphically represented by the graphemes u and oo as in the words put pot and book bok. In same cases, it can also be spelt as ou as in the term bourse boas, o as in the word bosom 'bozam, u as in the entry bourse ho'ra:

3.2 English long vowels.

In English, there are five long vowel sounds, that is \mathbf{i} , $\mathbf{3}$; \mathbf{a} ; \mathbf{a} ; \mathbf{a} : and \mathbf{u} . The symbol:, which is known as a chroneme, is aimed at signalling that the preceding vowel is lengthened²⁹.

The long vowel i: is close to PCV # 1 and, in fact, the position of the tongue is guite similar to the one assumed when pronouncing such a cardinal vowel, although in this case the lips are slightly spread (that is they are less spread than when we pronounce PCV # 1), which involves a difference in quality between the two phonemes. The vowel is, therefore, a little less front and a little less close than PCV # 1. It may be conveyed by several graphemes, such as e as in evening 'i:vnin, ee as in geese gi:s, ea as in defeat di'fi:t, ie as in piece pi:s, ei as in receive ri'si:v, i as in police police [po'l-], ae as in aeon 'i:on ['i:on] and oe (especially in proper names coming from Greek or Latin) as in *Oedipus* 'i:dɪpəs. Particular cases are the strong forms of the personal pronouns he hi:, we wi:, she **si**: and me mi: as well as the strong form of be bi: and the \ddotsi:, the plural in -es of Greek and Latin nouns as hypotheses har'pp0isi:z [-0əs-], proper names coming from Greek as *Ulysses* ju:'lisi:z [jo'l-, 'ju:lisi:z] and other special cases as *series* 'siəri:z [-riz, rarely -rii:z], people 'pi:pl, quay ki: and few others.

²⁹ As already mentioned, the difference between short and long vowels is not confined to their length. See note 25.

The vowel 3: is central, i.e. far from PCVs, half open, pronounced with the lips in a neutral position; it is generally heard when somebody expresses hesitation. It can be spelt as er(r) such as in the word servant 's3:vənt, ir(r) as in birch 'b3:tf, ur(r) as in burr b3:*, yr(r) as in Byrne b3:n, ear as in dearth d3:0, and $ext{0}$ and $ext{0}$ when following a $ext{0}$ such as in $ext{0}$ word w3:d. In particular cases it can also be spelt as $ext{0}$ such as in the word $ext{0}$ journal 'd33:nl and few others, $ext{0}$ in words of French origin as $ext{0}$ journal in other few entries as in the word $ext{0}$ colonel 'k3:nl.

The vowel **a**: is an open and back one, although a little less back than PCV # 5; it is pronounced with lips in a neutral position. It is usually spelt as *a* (especially when followed by the groups *ff*, *ft*, *lf*, *lm*, *lve*, *nce*, *nt*, *ph*, *sk*, *ss*, *st* and *th* as, respectively, in the words *staff* **sta**:**f**, *after* '**a**:**fta***, *half* **ha**:**f**, *balm* **ba**:**m**, *halves* **ha**:**vz**, *prance* **pra**:**ns**, *chant* **tfa**:**nt**, *lithograph* '**lithograph** '**lithograph**], *cask* **ka**:**sk**, *glass* **gla**:**s**, *rather* '**ra**:ða* [ˌra:'ða:*]) and *ar* as in the entry *cart* **ca**:**t**. Often the sound is spelt as *au*, *ea* and *er* as in the words *aunt* **a**:**nt**, *heart* **ha**:**t** and *sergeant* **sa**:**d3*****nt** and in this case too there are special occurrences such as borrowings from the French as *boudoir* '**bu**:**dwa**:* [-wa:*] and heterogeneous terms as *sample* '**sa**:**mpl**, *vase* **va**:**z** and others.

The vowel \mathfrak{z} : is a back one, close to PCV # 7 and requires lip-rounding. It may be spelt as a (when followed by the letters ll, ld, lt, lk, or l followed by another consonant) as in the word $all \mathfrak{z}$: l and $chalk \mathfrak{tf}\mathfrak{z}$:k, ar (when preceded by w and qu) as in w arble ' $w\mathfrak{z}$:bl and qu arterly 'k $w\mathfrak{z}$: $t\mathfrak{z}$ ll, au as in dauu at duuu

as in dawn do:n, oar as in roar ro:* [roo*], or as in sorcery 'so:sori, ore as in sore so:* [soo*], ought as in sought so:t, our as in course ko:s. Among the special entries, the most noticeable ones are the words broad bro:d, door do:* [doo*], sword so:d [sood] and Sean fo:n.

The vowel **u**: is very close to PCV # 8 although a little less close and back; it requires lip rounding. It may be spelt as *eu*, *ew*, *oo*, *ou*, *u*, *ue* and *ui* as in the sample words *deuce* **dju:s**, *curfew* **'k3:fju:**, *fool* **fu:l**, *cougar* **'ku:gə***, *Susan* **'su:zn**, *due* **dju:**, *suit* **su:t** [**sju:t**]³⁰. Occasionally, **u**: is spelt as *o* as in the word *tomb* **tu:m**, *oe* as in *shoe* **fu:**, *oeu* as in *manoeuvre* **mə'nu:və***. There are some other cases as well, the most interesting of which are the words *queue* **kju**: and *Sioux* **Su**:.

3.1 English diphthongs and triphthongs.

A diphthong is a sound in the making of which there is a movement (termed as a glide) from one vowel to another. A vowel sound, which presents no glide, is generally termed as a pure vowel. Evidently, the duration of a diphthong is longer than the one required by a short vowel and, in fact, a diphthong has roughly the same length of a long vowel, in which time, nonetheless, there must be room for the transition from the former to the latter sound: "the first part is

³⁰ It may be noted that, leaving apart the group *oo* and *ou*, for all other groups the phoneme **u**: is often preceded by the semivowel **j**.

much longer and stronger than the second part; for example, most of the diphthong as [...] consists of the vowel a, and only in about the last quarter of the diphthong does the glide to I become noticeable. As the glide to I happens, the loudness of the sound decreases. As a result the I part is shorter and quieter"³¹. The mentioned example is related to a falling diphthong, a typology to which all eight English diphthongs belong³². It is common to distinguish diphthongs into two categories, that is closing and centring diphthongs; such distinction is based on the features of the last vowel sound forming it: if it is a central vowel – i.e. the schwa –, the diphthong is centring, if it is a close vowel – that is I or σ – the diphthong is considered as a closing one. So, accordingly, we have three centring diphthongs (i.e. ending in a, that is Ia, ea and Oa as in the words pierce pias, rarity 'rearati [-Iti] and boor boa*) and five closing diphthongs, three of which tending to I (i.e. et, al and bl as in the words race

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³¹ P. Roach, *English Phonetics and Phonology*, *cit.*, p. 21. The author also underlines (p. 25) that "long vowels and diphthongs can be seen as a group of vowel sounds that are consistently longer *in a given context* than the short vowels [...]. Some writers give the label **tense** to long vowels and diphthongs and **lax** to the short vowels".

B. Menascé, *La pronuncia inglese*, *cit.*, pp. 20-21, notes that, nonetheless, "/ɪə/ e /uə/ possono anche essere **dittonghi ascendenti** (*rising diphthongs*), con prevalenza cioè (sebbene non si possa qui parlare né di accento né di quantità) del secondo elemento, il primo potendo altresì indebolirsi, rispettivamente in /j/ e /w/ [...]". D. Jones, *An Outline of English Phonetics*, *cit.*, p. 98, referred that "A common form of Received Pronunciation contains twelve diphthong phonemes. Nine of these are represented by the symbols [...] **ei**, **ou**, **ai**, **au**, **oi**, **iə**, **3ə**, **3ə**, **uə** [...]. To these must be added three 'rising' diphthongs, **ĭə**, **ŭə** and **ŭi** [...]. Of the above diphthongs two, **ɔə** and **ŭi** may be ignored by the foreign learner [...]. There exist nine further unessential diphthongs in Southern English, namely **oi**, **ui**, **eə**, **aə**, **aə**, **oə**, **ŏi**, **ĕə** and **ŏə**".

reis, five fair and loyal 'loid') and two tending to σ (i.e. $\partial \sigma$ and $\partial \sigma$ as in the words dome down and brown braun).

A triphthong is a vowel type, which presents two consecutive glides, that is, it is made up of three different vowel sounds and the transition from the first to the second and from this latter to the third one is made through glide movements. Generally speaking, triphtongs — which are quite difficult to pronounce, above all for foreign speakers — are made up of a closing diphthong which is followed by a schwa. Therefore, considering the five closing diphthongs, we have the following triphtongs which are e19, a19, 319, 309, a09 as in the words *layer* 'le19', *fire* 'fa19', *loyalist* 'loyalist, lower 'loo9', *sour* 'sa09.

Naturally, it is possible to find situations, which imply more complex vowel environments, as, for instance in the word *foyer* 'fɔiəi ['fɔiə] (fwaje), although their number is limited and often easier ways of pronunciation are possible.

3.2 Final remarks

Before concluding our survey, it is necessary, although very briefly, to deal with the sounds **j** and **w**, which are nowadays dealt with as approximants, although in the past were widely termed as semi-vowels. An approximant, in which category some types of consonants are included, is a way of articulation in which "articulators approach each other but do not get sufficiently close to each other to produce a 'complete' consonant such as plosive, nasal or fricative.

The difficulty with this is that articulators are always in some positional relationship with each other, and any vowel articulation could also be classed as an approximant – but the term 'approximant' is usually used only for consonants"³³. So the phonemes **j** and **w** are closely related to vowels from a phonetically point of view although they can be considered as consonant from a phonological point of view³⁴.

Often the phoneme **r** is also considered as a semivowel, produced by "un avvicinamento senza contatto della punta della lingua leggermente retroflessa alla parte posteriore degli alveoli superiori"³⁵: in this case too there is a free airflow, without any friction or occlusion.

4.0 Conclusion

The English vowel system represents a part of a wider system, which anyone who desires to be able to pronounce English intelligibly must, at some level, be aware of. Although this essay has been confined to a limited part of English phonetics and phonology, still it may give some clues for reflections. In fact, as

³³ P. Roach, *English Phonetics and Phonology*, *cit.*, p. 62.

³⁴ M. Nespor reminds that "La fonetica è il ramo della linguistica che studia le caratteristiche fisiche dei suoni usati nelle lingue naturali. Dopo che la fonologia ha prodotto una certa struttura fonologica 'superficiale' [...], la fonetica la traduce in un oggetto fisico, cioè in suoni. [...] Concentrandosi sull'aspetto fisico del suono, la fonetica si distingue perciò dalla fonologia che [...] si concentra sull'aspetto mentale, cioè sul sistema che governa la competenza fonologica del parlante nativo". See M. Nespor, *Fonologia, cit.*, pp. 19-20.

³⁵ E. Menascé, *La pronuncia inglese*, *cit.*, p. 33.

it has surely been noted, a same sound may be spelt in different ways and a same grapheme may be read differently, according to the different situation of occurrence. Indeed, there are rules, which the foreign language learner must learn in order to get to a correct pronunciation, rules which may be found in any pronunciation course book and which were not dealt with, as they did not fall within the scope of the present paper. And still we would like to make a final consideration (which in a sense is closely related to vowel sounds) about vowel pronunciation. Let's consider a verb like to read ri:d, whose simple past and past participle are, respectively read red and read red. Indeed, for someone who has been studying English (also) from a historical point of view, the different pronunciation is easily explained, but our point is that in this case (and many more cases such as, for instance, the adjective minute mai'nju:t [mi'n-] and the substantive minute 'minit') a same word may be read differently regardless of pronunciation rules. Naturally the point here is neither made to frighten those who are approaching the study of English (pronunciation) nor to imply that in reading English anything goes. We would like just to remind that any language is a system and, as such, it may be studied from different points of view, without never forgetting that the different aspects are parts of a *unicum*. Returning to our examples, those are a clear instance of how one aspect is influenced by the other as, in those cases (too), it is the meaning which influences the surface structure so that we may term those case as examples of a semantic guided pronunciation.

«Illuminazioni» (ISSN: 2037-609X), n. 26, ottobre-dicembre 2013

The above hinted consideration about a deep connection, within a language system, between the phonetic/phonological level and the semantic one leads to a series of problems which, nonetheless, do not fall within the specific objectives of the present essay.

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