Títol: A Preliminary Approach to Conversion and its Productivity in World Englishes

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Conversion is considered one of the most frequent word-formation processes in English (Jovanović 2003, 425). In the last century innumerable linguists have looked into different issues related to this phenomenon, such as Balteiro (2007), Bloomfield (1933) and Sweet (1891), among many others. However, the study of conversion in new varieties of English –known as World Englishes– still remains a largely unexplored area. My aim in this paper is, thus, to examine the productivity of conversion in relation to the phases into which Schneider classifies the different World Englishes in his work *Postcolonial English: Varieties around the World* (2007). To do this, the frequencies of 330 words have been looked up in GloWbE, a 1.9 billion-word web-based corpus that allows a comparative study of linguistic variation across different English-speaking countries with a colonial past. The results suggest that productivity of conversion varies depending on the directionality of the phenomenon (V > N versus N > V), as well as on other factors, such as, perhaps, the nature of the substratum from each specific region.

INTRODUCTION

Much ink has been spilled over the nature of conversion, a word-formation process that gives rise to identical word pairs belonging to different categories, such as *water* (n) – *water* (v). Although many definitions have been provided for this phenomenon, linguists have not yet reached an agreement regarding "the limits of such a controversial phenomenon" (Balteiro 2007, 9). While it has often been mistaken for other word-formation processes with identical results, Isabel Balteiro has tried to delimit the phenomenon by organising and classifying the numerous views on which linguists have theorised (2007, 18-65).

The first distinction to be made is between those who support the derivational nature of conversion and those who understand it as a change in the syntactic behaviour of words. As for the latter, they speak of a functional shift, that is, "when an (already) existing word takes on a new syntactic function" (Balteiro 2007, 15) while maintaining the same form. Supporters of this view are Koziol (1937), Nida (1949), Hockett (1958) and Spencer (1991), among others. It is important to remark that although they support theories with slightly different positions, most of them agree that the phenomenon should be studied within the scope of

Syntax, and that no derivational relation is involved (Hockett 1958, 225-227). The process they refer to has also been labelled in different ways, such as multifunctionality, word-class exchange, lexical redundancy or category underspecification (Balteiro 2007, 56-64).

A completely different approach is studied by another set of linguists, who uphold that conversion is clearly a word-formation process and that there is a derivational relation between the two members involved in the process. However, two confronted attitudes can be identified within this group: the first one, which has been strongly criticised, states that this derivational process is carried out through covert affixation –traditionally known as zero-derivation (Bloomfield 1933, 209)–, which consists in a phonologically invisible (zero) morpheme being added to the base-form. This approach has been studied in analogy with other derivational processes with overt affixes. An illustrative instance that Marchand offers in *The Categories and Types of Present-Day English Word Formation* (1969), is the parallelism between *legalise* (v) – *legal* (adj) and *clean* (v) – *clean* (adj), which serves as good evidence of the existence of zero-morphemes (quoted in Balteiro 2007, 37). However, as mentioned above, this approach has received a great deal of criticism by several experts on the subject; among them, Pennanen, who states that zero-morphemes are "somewhat forcible and violent, if not distortive" in his work entitled *Conversion and Zero-Derivation in English* (1971) (quoted in Balteiro 2007, 38).

Amidst this panorama of discrepancy and confusion, Isabel Balteiro made an attempt to reconcile some of the contradictory positions previously mentioned. She definitely declared that zero-morphemes could not be held, and that the derivational nature of conversion could not be denied (2001, 19-20). Nevertheless, she also made room for a syntactic interpretation of the phenomenon by establishing, along with the contribution of other linguists, a distinction between the so-called total and partial conversion. The features of these two tendencies were already explained by Henry Sweet in his work *A New English Grammar. Logical and Historical* (1891), according to whom, "the converted word may adopt all the formal characteristics (inflection, etc.) of the part of speech it has been made into" or either, it may "partake of the formal peculiarities of two different parts of speech" (39).

Let us now illustrate the previous explanation with some examples: a case of total conversion could be represented by the word pair *bottle* (n) > *to bottle* (v), in which the denominal verb may take any inflectional form typical of its new category (*-ed*, *-ing* and third

person singular -*s*). On the other hand, the de-adjectival noun *poor*, as in *the poor*, can only take some of the features belonging to the nominal category, such as the definite article. Even so, it cannot take any inflectional suffix to create the plural (*poors), which serves as evidence that the word cannot be entirely regarded as a noun. In these cases, we speak of partial conversion, which, according to Balteiro, "it is often viewed as a syntactic rather than a morphological matter" (2001, 10). Therefore, since no derivation is involved in this particular process, Balteiro prefers not to consider it as proper conversion, but rather a syntactic phenomenon in which words "assume a function that is different to their prototypical one" (Balteiro 2001, 10). For this research, we will attach to Balteiro's definition of total conversion, with the inclusion of those pairs with stress-shift –as in *address* (v) > *address* (n)– and phrasal verbs –*draw back* (v) > *drawback* (n). The analysis will be limited to deverbal nouns and denominal verbs, the two most frequent types of conversion in English.

Even though the study of conversion has been exhaustively looked into, it has been done in relation to the standard variation of the English language. However, in non-central varieties of English (namely World Englishes) it still remains a largely unexplored area. The aim of this study is to examine the productivity of this process within the frame of Schneider's "Dynamic Model", a theory that holds the existence of an underlying process consisting of a cyclic series of phases through which new varieties of English evolve (Schneider 2007, 5). These phases are, from the first to the fifth, "Foundation", "Exonormative stabilisation", "Nativisation", "Endonormative stabilisation" and "Differentiation". In order to define the characteristics of each stage, Schneider studies a set of parameters for each of them: history and politics, identity construction, sociolinguistics of contact and linguistic developments, together with structural effects (Schneider 2007, 56).

Nowadays there is no longer any Postcolonial country belonging to the first or the second phase, as these phases have already been overcome through the course of time. Among the 16 English-speaking Postcolonial countries that Schneider examines in his work *Postcolonial English: Varieties around the World* (2007), 9 of them belong to the third phase (Fiji, Hong Kong, Philippines, Malaysia, India, Kenya, Tanzania, Nigeria and Cameroon), 4 belong to the fourth phase (Singapore, South Africa, Barbados and Jamaica), and 3 to the fifth (Australia, New Zealand and Canada) (Schneider 2007). Nonetheless, Fiji, Cameroon and Barbados had to be excluded from this study, since they did not appear in the linguistic corpus

that was used to carry out this research: the corpus of Global Web-based English (henceforth GloWbE). At the same time, there were some countries in the corpus that had to be left aside, since they were not examined by Schneider.

With 1.9 billion words, GloWbE is the biggest corpus that allows the study of cross-dialectal variation in 20 different English-speaking countries (Davies and Fuchs 2015, 1). It is based on 1.8 million web pages, a 60% of which are informal blogs, and the remaining 40% comprises a mixture of different genres: newspapers, magazines, company websites, etc. (Davies and Fuchs 2015, 3). However, the most widely used corpus for the study of World Englishes is the International Corpus of English (ICE), whose 14 sub-corpora contain 1 million words each (Davies and Fuchs 2015, 2). In spite of being much smaller than GloWbE, ICE proves to be useful for looking at high-frequency syntactic constructions, but not for in-depth research on lexical and morphological variation (Davies and Fuchs 2015, 2), which is precisely the area that concerns us here.

On the other hand, GloWbE also presents some flaws, as Christian Mair points out in his article "Responses to Davies and Fuchs" (2015). To start with, the fact that the corpus contains certain fragments written in pidgins, creoles or other languages different than English is a "faithful reflection of the multilingual ecology of most Outer Circle Englishes" (Mair 2015, 30). The inconvenience of this is that "the more informal and non-standard the language sampled in the corpus is, the less reliable the tagging will become" (Mair 2015, 30). So as to show the negative impact on precision that it has, Mair offers an illustrative case of a mistagged word in the corpus: *dove*, as simple past of *dive*, is mistagged as a noun due to the first person pronoun *I* being spelled as lower case **i* (2015, 30).

In spite of these drawbacks, Stephanie Horch, a doctoral student working on conversion and compounding in World Englishes, describes to Christian Mair her positive experience with GloWbE on April 18, 2014 (quoted in Mair 2015, 32):

> The corpus record is very likely to be a faithful reflection of the linguistic reality of the New Englishes. GloWbE has enabled me to confirm many intuitions and provisional findings on conversion from smaller corpora. ICE corpora are too small for systematic research even on the more common word-formation processes. At the moment, GloWbE is the best source of data: free, fast, vast. (Stephanie Horch, pers. comm.)

METHODOLOGY

As aforementioned, one of the central points of this study is to examine the productivity of conversion. Productivity is, as Plag defines it, "the property of an affix to be used to coin new complex words" (2003, 44). The first problem encountered is that we will not deal with affixes, since conversion, as already mentioned above, involves two different lexical items with identical formal features. Productivity, however, is also applicable to morphological processes, as later on Plag acknowledged in a chapter on productivity in his *Handbook of English Linguistics* (2004). The notion of productivity is an important factor when trying to find a suitable definition. Here we will adjust to the quantitative notion of productivity, with which most researchers agree nowadays. The quantitative inclination, as Plag asserts, regards "totally unproductive and fully productive processes […] as end-points on a scale" (2004, 7). Bauer coincides with this view, but he names it "profitability" and defines it as "the extent to which a morphological process may be employed to create new […] forms" (2001, 205). On the contrary, those who attach to the qualitative notion consider productivity as "an all-or-nothing property", though many linguists have abandoned this view (Plag 2004, 5-7).

Measuring productivity is not a simple task. In order to do it, it will be necessary to count "the number of derivatives […] that were newly coined in a given period, that is, the so-called neologisms" (Plag 2004, 9). In order to reach neologisms, we need to search for the frequency of usage: according to Harald Baayen in his chapter "On Frequency, Transparency and Productivity" (1993), newly coined words tend to present a lower frequency than well-known old forms (quoted in Plag 2003, 54). Thus, hapax legomena will be the point of departure for seeking neologisms. Hapax legomena (henceforth 'hapaxes') are words that appear only once in a corpus, and therefore, present the lowest possible frequency (Plag 2003, 55). Hapaxes, therefore, which in principle should correlate with neologisms, "are crucial for the determination of the productivity of a morphological process" (Plag 2004, 10-11). The probability of finding neologisms in hapaxes, however, depends on the size of the corpus: the bigger the corpus, the more probability there will be to come across a neologism in a hapax (Plag 2003, 55).

In order to follow the previous steps, a list of converted words from Present-Day American English –provided at the end of Balteiro's article (2001, 27-29)– was taken as a basic starting point for the research. However, this list of words presented a problem: the size

of the corpus where they came from was far too small (300.000 words) and so was the probability of finding any neologism in hapaxes. The impact of this was that many hapaxes in the list were well-known words of everyday use. To solve this, I resorted to an etymological dictionary (Online Etymology Dictionary 2015) in order to discard those words which had been converted before 1587, the year which, according to Schneider (2007, 254), the British Empire began to expand. This way I made sure that the words analysed had been coined after the colonial expansion and probably did not arrive already converted at the conquered territories. Indeed, my aim was not to find contemporary neologisms, but words created through conversion in the period comprised between the beginnings of the British Empire up to nowadays.

Once the words were carefully selected, the frequency of both the base and the derived word were looked up in GloWbE and in each individual variety. A total of 85 denominal verbs and 80 deverbal nouns (with their respective bases) were examined separately. A first provisional technique to measure productivity was applied as follows: whenever a word (either base or derived) showed a frequency of zero and its counterpart presented any other superior value, this was annotated as an indicator that conversion was less productive in that specific territory than in others, where, in contrast, both the base and the converted word do exist. An illustrative example of this is shown in the following figures:

	PH
Centrifuge (n)	0.3
Centrifuge (v)	0

Table 1: Frequency of *centrifuge* in Philippines

	SG
Prickle (n)	0
Prickle (v)	0.07

Table 2: Frequency of *prickle* in Singapore

The values shown in the tables represent normalised frequencies per million words. In this manner, the proportions are balanced in spite of the different sizes of the sub-corpora from each country. Table 1 displays zero instances of the denominal verb *centrifuge* in Philippines, whereas its base shows a normalised frequency of 0.3 per million. In this example there is clearly no conversion at all. If we observed the same word in other countries, we would notice that it is indeed converted elsewhere. Thus, this would subtract "one point" of productivity to conversion in Philippines.

In table 2 quite the opposite occurs, though with the same consequences. In this case, there are no instances of the base *prickle* (n) in Singapore, while there are 0.07 instances per million of the denominal verb. It cannot be said that there has been conversion in this case, as one member of the pair is missing. Instead, this might be interpreted as an instance of borrowing, as a consequence of language contact with other varieties of English. Therefore, a case like this would also diminish the score of productivity in Singapore, since another word-formation process different than conversion has occurred there.

In this manner, the system of counting zero occurrences was applied in all the 13 countries with both deverbal nouns and denominal verbs (for results, see graph 1). It is worth mentioning, though, that zero occurrences in a corpus do not mean that a given word does not exist in that variety. However, this simplified interpretation is somehow supported by the size of GloWbE –each sub-corpus contains more than 40 million words– which is enough to claim that, if a given word is recorded on zero occasions, that word must be really infrequent in that variety.

There is another way of measuring productivity parting from the frequency of usage. According to Hay in his article "Lexical Frequency in Morphology" (2001), the productivity of a derivational process can be estimated through the so-called 'relative frequency' (quoted in Plag 2004, 20-21). To obtain the relative frequency of a word-pair involved in a derivational process, the following formula needs to be applied (Hay 2001):
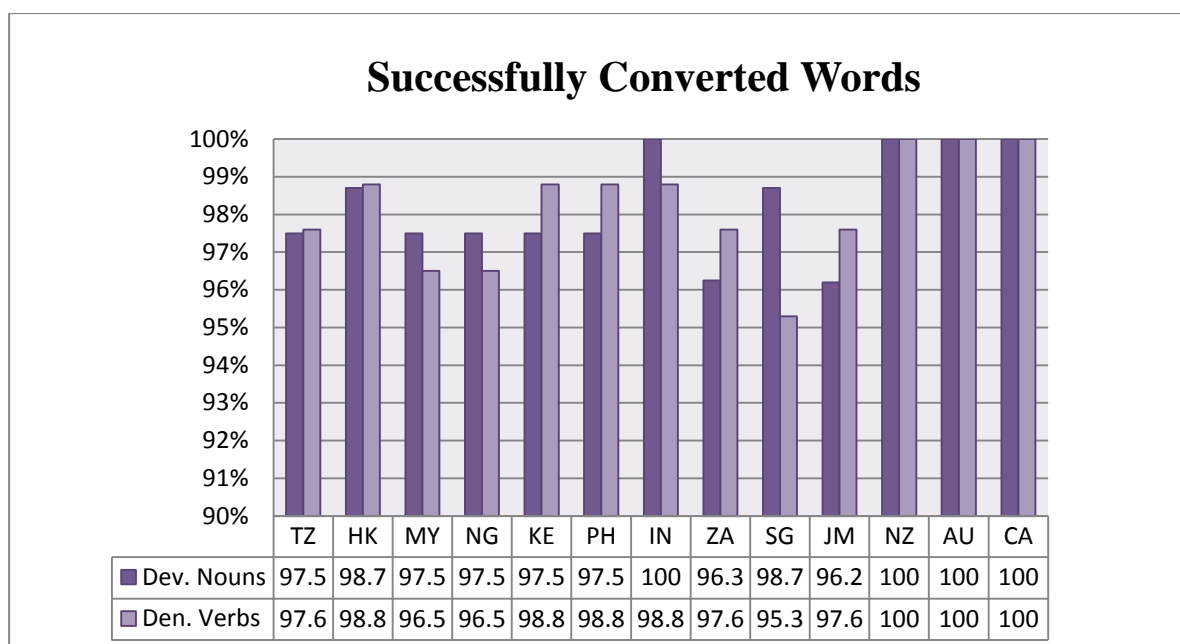
$$f_{relative} = \frac{f_{derivative}}{f_{base}}$$

This formula can only present three types of results: If the result of the division is 1, it means that the frequency of the base equals that of the derivative (which rarely occurs). If the result is above 1, it means that the frequency of the derivative is higher than its base; and the opposite can be interpreted if the result is below 1. The way to connect the results of this formula with the calculation of productivity is expressed by Plag in these words:

Productive morphological processes are characterised by a high number of low frequency words (i.e. many hapaxes, if we speak in terms of corpora). The lower the frequencies of derived words, the lower their relative frequencies (holding the frequency of the base constant). Thus productive processes have a preponderance of words with low relative frequencies. (Plag 2004, 22)

Thence, what we expect in our list of analysed word-pairs is to find a majority of relative frequencies inferior than 1. For that purpose, those word-pairs with relative frequency below 1 have been quantified on one side, whereas word-pairs with values superior than 1 have been summed on the other. Invalid results such as 0 or 1 were excluded from the computation, since a result of 0 cannot be regarded as conversion, and a result of 1 cannot be included in any of the previous groups (neither below or above 1). This process has been done in each of the studied varieties of English (for results, see graphs 2 and 3).

RESULTS

The horizontal axis of graph 1 contains the thirteen studied varieties of English, and these are placed in order according to Schneider's Dynamic Model: from the third to the fifth phase, from left to right, accordingly. It is important to remark that the countries within the same stage are also ordered by the date they entered the phase. For example, among the countries belonging to the third phase, India was the first to enter (in 1905), and it is therefore already presenting some early features from phase 4 (Schneider 2007, 171). That is the reason why India (IN) is placed right before South Africa (ZA), which belongs to phase 4 since 1994 (Schneider 2007, 185). Thus, the third phase comprises from Tanzania (TZ) to India, the fourth includes South Africa, Singapore (SG) and Jamaica (JM); and the fifth phase is formed by New Zealand (NZ), Australia (AU) and Canada (CA) (Schneider 2007).
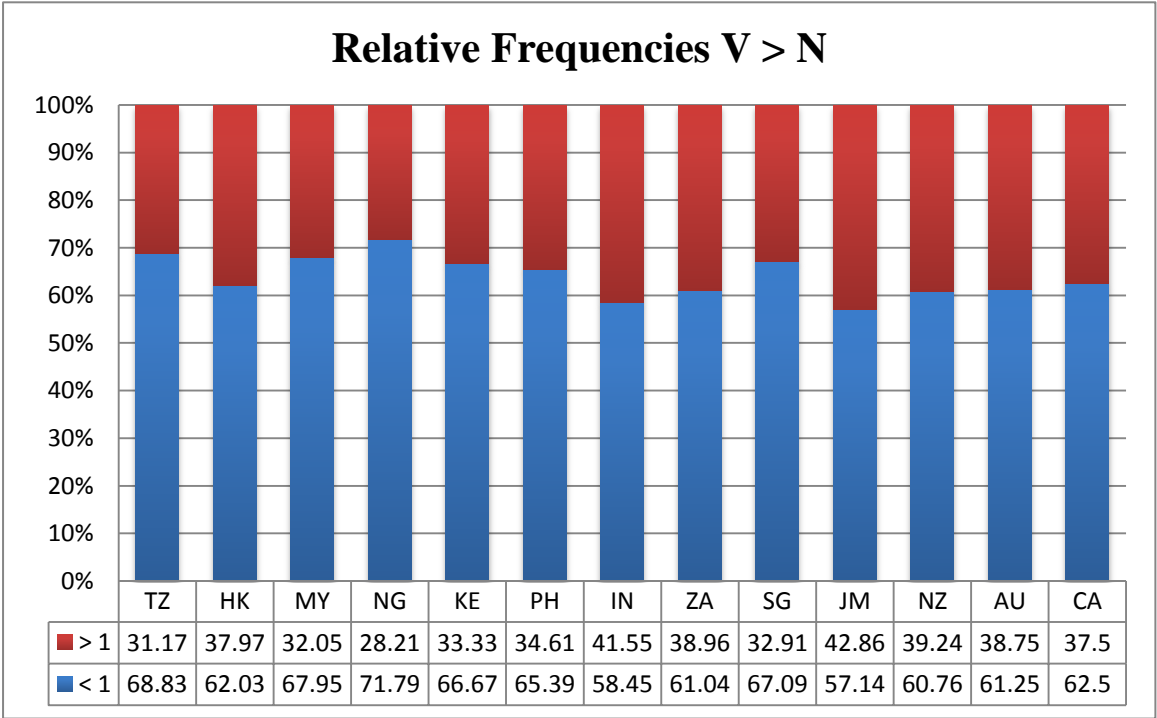
Successfully Converted Words

	TZ	HK	MY	NG	KE	PH	IN	ZA	SG	JM	NZ	AU	CA
Dev. Nouns	97.5	98.7	97.5	97.5	97.5	97.5	100	96.3	98.7	96.2	100	100	100
Den. Verbs	97.6	98.8	96.5	96.5	98.8	98.8	98.8	97.6	95.3	97.6	100	100	100

Graph 1: percentage of word-pairs with a frequency higher than zero in both members.

At first sight, what graph 1 tells us is that all these varieties show a high percentage of what is here called "successfully converted words", that is, word-pairs where the two members of conversion have a frequency higher than zero. However, it should be taken into account that this graph shows a percentage of a rather small quantity of word-pairs: 80 deverbal nouns and 85 denominal verbs (and their corresponding bases). Therefore, the results will only be a slight approximation of what the phenomenon is in reality.

We will begin by analysing each phase individually. To start with, India shows the highest percentage in its phase with a 100% of converted deverbal nouns and 98.8% of denominal verbs. The same percentage of denominal verbs is found in Hong Kong, Kenya and Philippines. These two latter show an identical result in deverbal nouns with Nigeria and Malaysia (97.5%). Finally, Tanzania is in-between with respect to the others, showing a percentage of 97.5 in deverbal nouns and 97.6 in denominal verbs. In order to interpret these data it is necessary to take into account that, in a very simplistic view, the higher the percentage, the more productive will conversion be. Then, conversion from verb to noun can be said to be more productive in India than in the other varieties of the same phase, while conversion from noun to verb is equally productive in India, Philippines, Kenya and Hong Kong. The lowest productivity rate appears to be in Malaysia and Nigeria, regarding conversion from nouns to verbs.

In the fourth phase we find the lowest percentage in the entire graph: Singapore, with a 95.3% in denominal verbs. Contradictorily, deverbal nouns in the Singaporean variety show the highest percentage of success in its phase (98.7%). The other two varieties in this phase (South Africa and Jamaica) display very similar rates with each other, with a preponderance of successfully converted denominal verbs (97.6%). The most striking part of graph 1, however, is the fifth phase: all three varieties (New Zealand, Australia and Canada) show a 100% of success in conversion, in both denominal verbs and deverbal nouns. At first glance it seems that the fifth phase contains the highest productive varieties in terms of conversion, though a closer look should be paid through Hay's model, by means of relative frequencies.
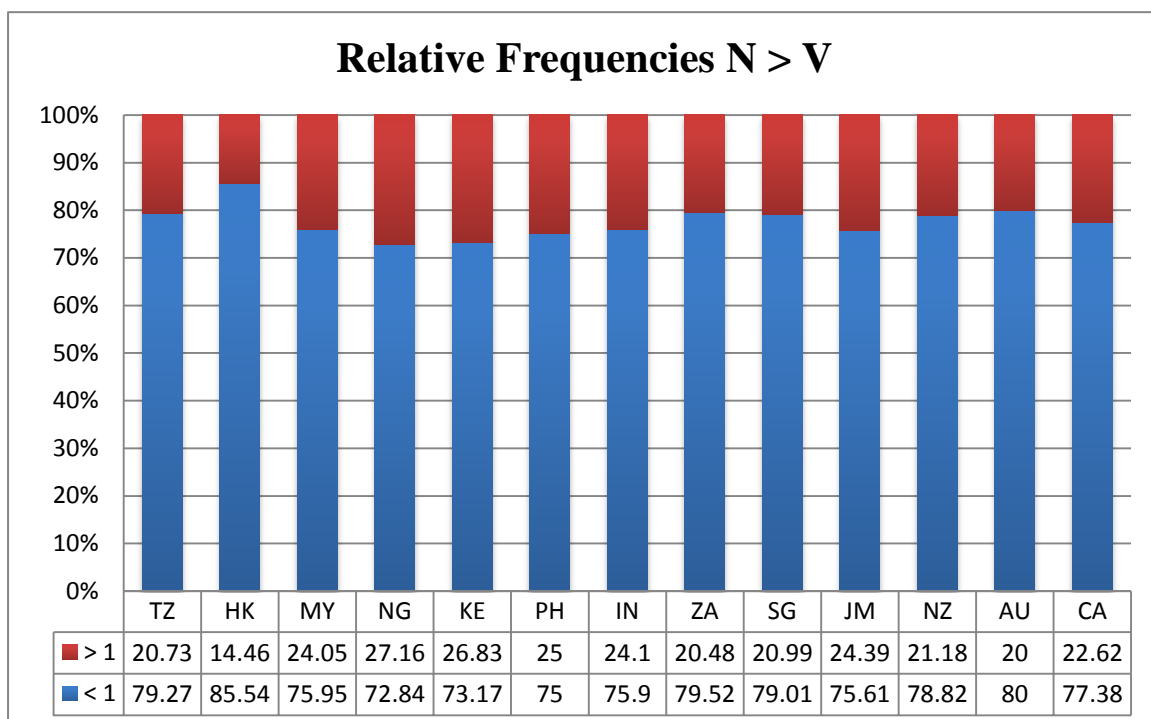
Relative Frequencies V > N

	TZ	HK	MY	NG	KE	PH	IN	ZA	SG	JM	NZ	AU	CA
> 1	31.17	37.97	32.05	28.21	33.33	34.61	41.55	38.96	32.91	42.86	39.24	38.75	37.5
< 1	68.83	62.03	67.95	71.79	66.67	65.39	58.45	61.04	67.09	57.14	60.76	61.25	62.5

Graph 2: Relative frequencies of conversion pairs from verb to noun

Graph 2 reflects the percentages of word-pairs (with *verb > noun* direction) with relative frequencies below 1 (blue columns) on one side, and above 1 (red columns) on the other side. As a reminder, if a given word-pair has a relative frequency below 1, it means that the derivative has a lower normalised frequency than its base. As seen in graph 2, this is the case of most word-pairs, which are represented in blue. On the other hand, red columns

represent the percentage of pairs in which the converted word is more frequently used than the base. The values are translated into percentages in order to keep the balance among the unequal quantities of word-pairs in each variety of English, since it was necessary to discard some of the samples due to incomputable results of some relative frequencies –results such as 1 or 0.

In order to analyse the results of relative frequencies, graph 2 and graph 3 will have to be examined together. Graph 3 is built exactly with the same process, yet with conversions from nouns to verbs. The most evident fact shown in this graph is that N > V conversions tend to present a higher number of word-pairs in which the derivative is less frequently used than its base. Thus, bearing in mind that "productive processes have a preponderance of words with low relative frequency" (Plag 2004, 22), it can be said that conversions from noun to verb are more productive than conversions with the opposite directionality. At the same time, a majority of low-relative-frequency words will signify a high productivity of conversion in that specific variety of English.

Relative Frequencies N > V

	TZ	HK	MY	NG	KE	PH	IN	ZA	SG	JM	NZ	AU	CA
> 1	20.73	14.46	24.05	27.16	26.83	25	24.1	20.48	20.99	24.39	21.18	20	22.62
< 1	79.27	85.54	75.95	72.84	73.17	75	75.9	79.52	79.01	75.61	78.82	80	77.38

Graph 3: Relative frequencies of conversion pairs from noun to verb

In graphs 2 and 3 there does not seem to be a predominant phase over the others in terms of relative frequencies, as it happened in graph 1. On the contrary, all phases present moderate stable results, including the fifth phase, which no longer shows higher results than the rest. Even so, there are some results that call our attention. One of them is India's, which presents a huge difference in graph 1 –where it enjoyed a high degree of productivity– from graphs 2 and 3. In V > N conversion (graph 2), India occupies the last position in its phase regarding productivity, while in N > V conversion (graph 3) it stands in an intermediate position.

Right the opposite occurs with Nigeria. While in V > N conversion shows the highest percentage (71.8%) in its phase, it occupies the lowest position in the opposite directionality (N > V) with a percentage of 72.84%. It seems contradictory that a higher percentage might represent a lower position, but the fact that V > N conversions are more restricted in English has to be taken into account (Balteiro 2001, 14-17).

Hong Kong's percentages also result interesting. In graph 3 (N > V) it has obtained the highest percentage, not only in its phase, but in the whole set of World Englishes observed in this research. This specific issue is being studied by Stephanie Horch, whose doctoral thesis, entitled *Conversion and Compounding in the New Englishes: Frequency Effects in Language Contact* (2013), explores, among other issues, to what extent V > N conversion is frequent in Hong Kong English with respect to Singaporean English, and what role analytic substrata play in their frequency. One of her assumptions is, in few words, that Englishes with an analytic substratum (such as Chinese in the case of Hong Kong English) tend to prefer analytic word-formation processes, such as conversion (Horch 2013).

However, as seen in graph 2 (V > N) Hong Kong has obtained the second lowest percentage in its phase –right before India– yet it is higher than most varieties from phases 4 and 5. This is also significant: although Schneider does not speak of productivity, he claims that one of the linguistic features which characterises phase 3 is the apparition of "new word-formation products, like derivation" (2007, 46) and conversion, we might add. Going back to Horch's line, let us now examine the results of Singaporean English, whose substratum is equally analytic to that of Hong Kong (2013). In V > N conversion Singapore presents a 67.1% of low relative frequency word-pairs, which is the highest percentage in the fourth

phase (where it belongs) and fifth phase. Thus, perhaps substratum has something to do with these results, though it still remains to be further investigated.

CONCLUSIONS

Due to limitations of space, the results of this research and their analysis can only be considered as a scarce approximation of the topic, and cannot be taken as revealing or definite data. However, some conclusions can be extracted from this study.

Firstly, we can say that, to a greater or lesser extent, conversion is a highly productive process in World Englishes, especially in the noun-to-verb direction. Secondly, conversion is a derivational process equally productive across Schneider's phases, with some small –though significant– peaks in the third and fourth phases. It seems that these variations in the degree of productivity are due to other factors different than the stage or phase in which these varieties of English belong. One of these factors could be the nature of the substratum in each region (Horch 2013).

Finally, it must be said that this field is currently open to further research, particularly those aspects related to the impact that different types of substrata –analytic versus synthetic– as well as extra-linguistic factors may have on the degree of productivity of conversion.

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