VERTICAL AND DISTANT READING OF SHAKESPEARE WITH DIGITAL NATIVES
The case of *The Merchant of Venice*

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Abstract – Over the past decades, the myth of the digital natives being 'naturally' fluent in the use of ICT has been repeatedly rehearsed, revised, and eventually challenged (Prensky 2001a, 2009; Thomas 2011), but probably not yet comprehensively explored on the basis of empirical evidence. Especially in a teaching context, such competence has been more assumed than tested, and the gap between imagined and real skills runs the risk of leaving a grey area where neither the potential is fully exploited nor the limitations are fully addressed. With this in mind, the present article reports on the results of a teaching experience carried out with university students – namely, a corpus linguistics/stylistics exploration of Shakespeare's play *The Merchant of Venice* in digital format. While the pervasiveness of digital technology in everyday life has been seen as having a significant impact on the interaction with text from a very young age, it seems in fact that new digitally enhanced reading skills still need to be self-consciously developed in learners. The use of corpus linguistics resources and tools in the literature class can therefore be seen as a useful contribution to the development of such skills and a way to raise awareness of shifts occurring in digital reading compared to print-based reading. In particular, by experimenting with vertical (Tognini Bonelli 2001) and distant (Moretti 2013) reading, and by engaging with quantitative and qualitative analysis of language data, students can both attain a deeper and more comprehensive understanding of Shakespeare's innovative use of language and develop useful digital reading skills that can be profitably exploited in different contexts.

Keywords: Digital natives; Corpus stylistics; *The Merchant of Venice*.

1. Introduction

Since the emergence of the notion of "digital natives", derived from publications by Tapscott (1998) and Prensky (2001a, 2001b) and further supported by a range of other popular appropriations of the term, the new generations have been often acritically assumed to possess knowledge and skills that should allow them to move in the digital world in a natural, fluent way. The very fact that younger people's lives appear to be saturated with digital media has led to the claim that 'digital natives' (roughly identified as

those born after 1980) might have developed different learning styles and behaviours, in terms of abilities, preferences, attitudes, and even "productiveness" (i.e. focused attention, deep processing, and persistence), precisely as a consequence of their virtually total immersion in digital technology since early childhood and during adolescence (Thompson 2013, p. 12). However, this assumption has not gone unchallenged. Indeed, ICT ownership and experiences, as well as confidence with ICT devices, do not necessarily imply competent use, and the overall conclusion of many recent studies is that digital natives are not necessarily ICT literates. On the contrary, it is advocated that information literacy should be explicitly enhanced with hands-on and minds-on courses (Šorgo *et al.* 2016).

Prensky himself, in his contribution to the book *Deconstructing Digital Natives*, maintains that "having grown up with digital technology as toys, Digital Natives are much more at ease with its use than the generation that did not. But this surely doesn't mean they know everything, or even want to" (Thomas 2011, p. 27). It is precisely this gap between supposed or assumed fluency and actual knowledge and competence that has made him revise his concept of digital nativeness in terms of "digital wisdom" (Prensky 2011, p. 30). Digital wisdom, according to Prensky, is a twofold concept which encompasses the "wisdom arising from the use of digital technology to access cognitive power beyond our innate capacity" and the "wisdom in the prudent use of technology to enhance our capabilities". Technology alone, he argues, "will not replace intuition, good judgment, problem-solving abilities, and a clear moral compass" (2011, p. 18).

It is against this complex background that views about the supposed technological fluency by digital natives have been recently challenged. While the use of digital technology for basic communication seems to be most common among the younger generations, very few engage in more complex activities, and there appears to be evidence of a restricted range of technologies, centred mostly on mobile phone features and basic web use (e.g., sending an email or looking up information). Furthermore, it can well be argued that many so-called digital natives are no more intensive users of digital media than many adult digital immigrants (Buckingham 2011, p. X). As far as digital reading skills are concerned, already a decade ago, the *OECD* report PISA 2009 indicated that "identifying effective strategies to teach digital reading skills is an important objective for instructional policies" (*OECD* 2011, online). More recently, studies comparing/contrasting the reading skills of students engaged with either print or digital media have found controversial evidence of a mismatch between self-perception by the students as to their actual performance as readers of digital text and the results of objective assessments. As reported in Singer *et al.* (2016, p. 155), while results demonstrated a clear preference by students for digital texts, and students

Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

75

themselves predicted better comprehension when reading digitally, their performance at specific reading tasks was not consistent with stated preferences and outcome predictions. Thus, the nature of literacy is undoubtedly changing as new technologies enter people's lives and their learning environments, but it cannot be taken for granted that the reading skills of the so-called digital natives have changed accordingly.

In this context, the present article will focus on the need for the development of specific reading abilities, in order to help the younger generations exploit to the full the potential of reading digital text, by taking advantage of specific tools and methods. In particular, we advocate the importance of familiarizing the students with novel and innovative ways of looking at texts from the perspective of corpus linguistics, as a unique opportunity for a rewarding investigation of texts in the non-linear medium of digital space. Taking Shakespeare's *The Merchant of Venice* as a case in point, the article will show how corpus linguistics/stylistics methods can help students gain new insights into texts, while contributing to the development of their digital reading skills in more general terms.

2. Corpus linguistics/stylistics and the reading of digital texts

While the pervasiveness of digital text in educational settings has been increasingly acknowledged as having a major impact on the experience of reading and of learning-through-reading, it is still a debated issue whether a radical change is going on in reading processes, or – conversely – if new media are merely new places to use the same reading skills and processes developed through experience with traditional print-based media.

As a matter of fact, the overlap between traditional print-based reading and new ways of reading allowed by the digital nature of texts is substantial, and there seems to be good reason to question whether observable changes in the reading style can truly herald a fundamental – Kuhnian – paradigm shift in reading and reading research (Spiro, DeSchryver 2015). Certainly one perceptual factor that has been playing a role into processing differences between digital and printed text is related to the interruption of sequential reading. In order to exploit to the full the potential of non-sequential reading in the digital environment, particularly interesting can be the contribution of specific approaches to reading texts in the field of corpus linguistics and corpus stylistics.

As is well known, corpus linguistics is the study of corpora. A corpus, in general English, is nothing more than a *body* of writings that constitutes a unified whole, such as for instance the works of a single writer. In the last few

decades, however, this basic and quite general concept has undergone a process of specialization so that in modern linguistics the word 'corpus' refers to a specific object of scientific enquiry, as suggested in a much-quoted definition by McEnery and Wilson, according to whom "a corpus in modern linguistics, in contrast to being simply body of text, might more accurately be described as a finite-sized body of machine-readable text, sampled in order to be maximally representative of the language variety under consideration" (McEnery,Wilson 2001, p. 32). In the context of corpus linguistics, corpus stylistics is the application of the corpus linguistics approach to literary texts in order to investigate style, especially in terms of observation of repeated patterns and/or deviance from given observable norms (Mahlberg 2013).

Furthermore, the empirical methods which are at the heart of corpus linguistics/stylistics, along with the centrality of the digital text in this approach, have enabled the importation of quantitative, especially computational linguistics, models into the realm of the investigation of language and literature. In particular, the contribution that corpus linguistics/stylistics can bring to ICT education for digital natives, with specific reference to reading styles, can be subsumed under the following shifts in reading texts. Firstly, digital, i.e. computationally enhanced, ways of reading texts provide an opportunity for quantitative insights into text analysis which can support observations made at a qualitative level. A typical example in this respect is the shift from the notion of key word (subjectively identified by the reader or critic) to the concept of *keyword* (objectively and computationally defined, e.g., Scott 2010). Secondly, reading digital texts with the help of specific tools offers a new perspective, which is exemplified at its best by the shift from horizontal to vertical reading (Tognini Bonelli 2001). Finally, digital tools can support approaches that complement close reading of the text and provide an opportunity for the simultaneous reading of more than one text, i.e. a corpus of texts, in ways that have implications for what has been termed as "distant reading" (Moretti 2013).

3. Reading at a crossroads? Three shifts in the digital reading of *The Merchant of Venice*

3.1. From qualitative to quantitive: reading for keywords

It is one of the main strengths of corpus linguistics that it allows exploration of huge collections of texts, and that data from different corpora can be computed and compared. Thus, the study of a literary text, or of a corpus of literary texts, can greatly benefit from comparison with corpora compiled with other literary (or non-literary) texts on the basis of different criteria and with different aims (e.g. by author, by epoch, or to represent general usage). In particular, corpus

stylistics can use quantitative methods to provide evidence of deviation from the norm, and account for such phenomena as psychological prominence, salience and foregrounding (Leech, Short 2007; Mahlberg 2013). As far as deviation in concerned, Mahlberg (2013, p. 9) reinterprets these concepts in the light of corpus stylitics as follows:

1. primary deviation may be described by comparing a textual example to a general purpose corpus (i.e. a corpus that is taken as a sufficiently diverse sample of the language as a whole).
2. secondary deviation may be described by comparing a textual example to a corpus of all the works by the author.
3. tertiary deviation may be described by comparing a textual example to the whole text from which it is taken.

With the use of corpus linguistics/stylistics methods, data relating to a specific work by a given author can be read with reference to the data obtained from a corpus made up of all his/her works, or can be compared – in terms of frequency of occurrence of single lexical items or clusters – with data from corpora representing general usage in order to highlight forms of deviance from the norm. In this way, corpus tools have provided literary investigation with a new, empirical way to conceive of key words. Rather than being identified simply on the basis of psychological prominence or salience, or as a consequence of the acknowledgment of an assumed literary relevance (Leech, Short 2007), words that play a major role in defining the characteristics of a given text can be identified on the basis of more objective criteria. In corpus linguistics, 'keyness' in text can thus be 'measured' and 'counted' on the basis of relative frequency, by comparing the frequency of occurrence of each word in a given text or corpus of texts with frequency in another corpus taken as a reference. Words that are thus computed as being unusually frequent in a text or corpus are counted as keywords (See Fig. 1).
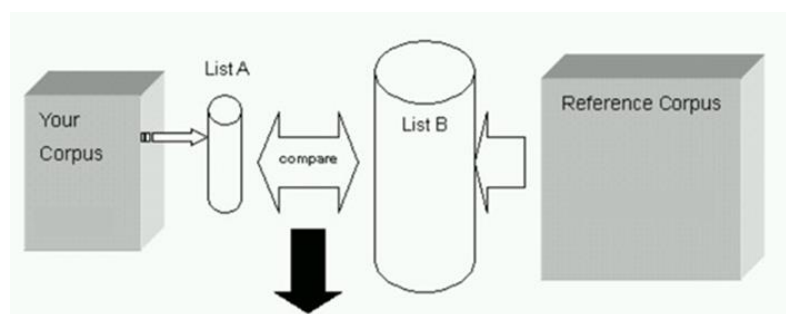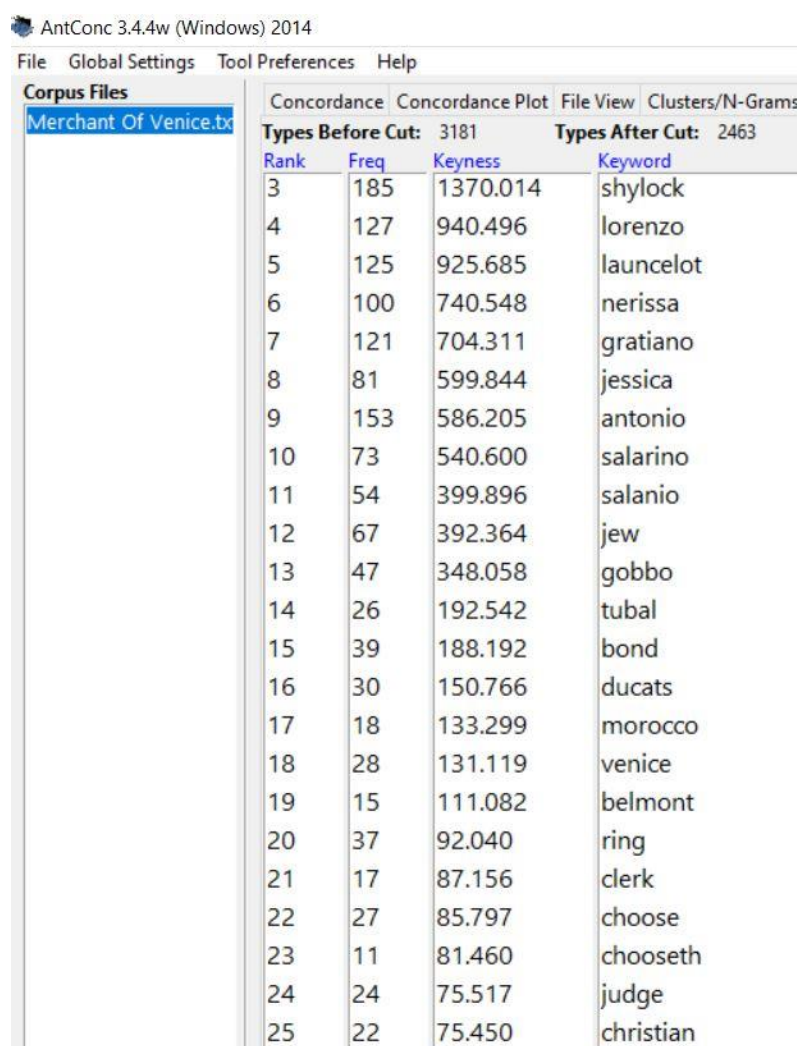

Figure 1
The process for the retrieval of keywords by comparing data from two corpora (adapted from: https://www.lancaster.ac.uk/fss/courses/ling/corpus/blue/l03_2.htm).

It goes without saying that the relationship between frequency of occurrence and psychological salience, let alone literary relevance, is far from being

straightforward and unidirectional. However, the computation of keywords can well contribute to identifying fundamental aspects of the texts being read. By way of example, by comparing the wordlist computed for *The Merchant of Venice* (22836 words) with both the complete Shakespeare corpus (910660 words) and with a corpus of English literary texts (7 million words) written over a period of nearly two centuries around *The Merchant of Venice* (1450-1650), two lists of keywords can be produced. Below, Figure 2 reports the list of keywords obtained by comparing *The Merchant of Venice* with the complete corpus of Shakespeare's plays.

Rank	Freq	Keyness	Keyword
3	185	1370.014	shylock
4	127	940.496	lorenzo
5	125	925.685	launcelot
6	100	740.548	nerissa
7	121	704.311	gratiano
8	81	599.844	jessica
9	153	586.205	antonio
10	73	540.600	salarino
11	54	399.896	salanio
12	67	392.364	jew
13	47	348.058	gobbo
14	26	192.542	tubal
15	39	188.192	bond
16	30	150.766	ducats
17	18	133.299	morocco
18	28	131.119	venice
19	15	111.082	belmont
20	37	92.040	ring
21	17	87.156	clerk
22	27	85.797	choose
23	11	81.460	chooseth
24	24	75.517	judge
25	22	75.450	christian

Types Before Cut: 3181   Types After Cut: 2463

Figure 2
Keywords from *The Merchant of Venice* obtained through comparison with the complete
Shakespeare Corpus using *AntConc* 3.5.8.

If proper names and the word Jew are excluded, which are obviously more frequent in this play than in all other plays by Shakespeare, as they refer to the characters of the play, the first content keyword in *The Merchant of Venice*

*Lingue e
Linguaggi*

Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

79

seems to be "bond". Similarly, the keywords computed by comparing *The Merchant of Venice* and a reference corpus of English literary texts dating from 1450 to 1650 (see Figure 3 below) include the characters of the play and personal pronouns or possessives (such as I, you, my, me…), a *datum* easily explained with reference to the genre of the play. Deictic forms are typical of drama (even though insistence on 'my' or 'me' is of course also specifically meaningful with reference to the plot of the *Merchant*), whereas the corpus of English literary texts used as a testbed also includes different genres. It can be therefore assumed that the first general content keyword is again "bond".

AntConc 3.5.8 (Windows) 2019

File Global Settings Tool Preferences Help

Corpus Files

Merchant Of Venice N

Concordance Concordance Plot File View Clusters/N-Grams Collocates Word List

Keyword Types: 196   **Keyword Tokens:** 9612   **Search Hits:** 0

Rank	Freq	Keyness	Effect	Keyword
1	269	+ 3085.99	0.0228	portia
2	193	+ 2230.42	0.0164	bassanio
3	185	+ 2137.9	0.0158	shylock
4	125	+ 1408.57	0.0107	launcelot
5	121	+ 1397.97	0.0103	gratiano
6	153	+ 1392.54	0.013	antonio
7	127	+ 1215.55	0.0108	lorenzo
8	100	+ 1155.26	0.0086	nerissa
9	81	+ 935.69	0.0069	jessica
10	73	+ 843.25	0.0063	salarino
11	699	+ 665.61	0.0148	i
12	447	+ 660.36	0.0162	you
13	54	+ 623.73	0.0046	salanio
14	47	+ 542.86	0.004	gobbo
15	363	+ 505.32	0.0144	my
16	67	+ 492.72	0.0057	jew
17	262	+ 371.24	0.0123	me
18	26	+ 300.28	0.0022	tubal
19	39	+ 262.21	0.0033	bond
20	185	+ 192.71	0.0091	d

Figure 3
Keywords from *The Merchant of Venice* obtained through comparison with the English Literature Corpus (1450-1650) using *AntConc* 3.5.8.

Such quantitative prominence of "bond" (which occurs 39 times in *The Merchant of Venice* amounting to over 50% of total occurrences of "bond" in the Shakespeare's corpus) is not alien to its literary relevance which scholars have long recognized in a number of critical interpretations of the play that have investigated the pervasiveness of an emerging market culture in the play at different levels, and many scholars have without any doubt labelled bond as one of the key words in the play (Turner 1999; Serpieri 1999 and more recently

Lanier 2019). It is therefore no surprise to notice – as also argued in literature discussing Shakespeare's economic language – that *The Merchant of Venice* has the highest number of references to financial bonds in the Shakespeare Corpus (Thomas 2008). Nonetheless, as a word covering such diverse meanings as literal bonds (used to restrain physically), bonds between parents/children, lovers, friends; non-financial contracts or obligations; legal documents designating financial obligation, 'bond' stands out as a word that definitely embodies all the transmutative potentialities of language at the time of Shakespeare (Elam 2007). In the words of Lanier, "bond" actually embodies the concept of resonance in Shakespeare's play:

> In writing resonance designates how an aptly chosen word, phrase or image has multiple significances at once, some literal, some symbolic, some connotative, some by association, some even related to the word's sound or the image's sensual qualities. A resonant word or image sets in motion several themes or ideas at once, and a skilful writer can draw out develop those multiple qualities in the course of a tale. Shakespeare often uses a single resonant word – or a cluster of semantically relate words – to serve as a thematic centre for a play. […] As Shakespeare repeats these key words throughout a play, associating themwith various actions, images and bit of dialogue, they have the effect of pulling together and mutually amplifying different thematic strands of the play. In *The Merchant of Venice* one such key word is 'bond' and its related words 'bind' and 'bound'. (2019, p. 79)

3.2. From horizontal to vertical: reading concordances

A second basic concept which can be seen as crucial to enhancing the potential of digital reading in higher education students is the "concordance" line. A concordance is by definition a list of the words contained in a text or a corpus arranged in some order (generally alphabetical) and with a certain amount of co-text accompanying them. This is a sort of homecoming of a concept which has had a wide currency in literary studies and has been redefined in corpus linguistics under the impact of the new technologies. Using a concordancer, a computer can display words in their textual environments with the node word aligned and highlighted (the so-called Key-Word-in-Context format) and the user can reorder the co-text left or right of the word under analysis on the basis of specific criteria.

Concordances have however dramatically changed their face in the computer age, and the shift related to the new medium entails indeed a more radical change than it might appear at first glance. In the context of corpus linguistics, electronic concordances have definitely made evident the impact of non-sequential vertical reading. In the words of Tognini Bonelli,

Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

81

> a text exists in a unique communicative context as a single, unified language event mediated between two (sets of) participants; the corpus, on the other hand, brings together many different texts a therefore cannot be identified with a unique communicative event […]. This difference entails a different 'reading' of the two: the text is to be read horizontally, from left to right, paying attention to the boundaries between larger units such as clauses, sentences and paragraphs. A corpus, examined at frost in KWIC format with node word aligned in the centre is read vertically, scanning for the repeated patterns present in the co-text of the node. (2001, p. 2)

A corpus is therefore in the position to offer the reader simultaneous access to the individual instance of language use at the level of syntagmatic patterning as well as to alternatives available on the paradigmatic axis, and makes the reader see patterns of repetition across one and the same, or across many different texts. This can in turn contribute in novel ways to the appreciation of stylistic features in a literary text.

At their basics, concordance lines give the student the possibility to explore the way a writer uses a word in one or more texts, but also to compare single words, or set of words, in works by many different authors. It is above all due to this innovative way of reading that corpus linguistics richly contributes to, and complements, more traditional ways of interpreting literary texts. By momentarily breaking the integrity and the horizontal sequential linearity of the written text enabling 'vertical' readings, at intratextual and intertextual level, concordance lines offer the analyst access to the simultaneous exploration of different texts, and of the discourses they bear trace of.

By way of example, reading vertically through the concordance lines for the word "bond", the students could easily find evidence of the rhetorical patterning which is one of the most prominent stylistic resources in Shakespeare's plays (Lanier 2019). Indeed, the inspection of concordance lines clearly foregrounds instances of repeated patterns as "Let him look to his bond" or "I'll/I will/I would have my bond" (see lines 4-6 and 9-14 in Table 1 below) and many more. Approaching the text through the lens of a vertical reading thus shows how the word 'bond' benefits from stylistic devices such as parallelism or the constant occurrence in end-focus position followed by some punctuation mark, which may have indirectly contributed to the perception of its role as one of the key words in the play.

```
envious plea Of forfeiture, of justice, and his bond.  JESSICA. When I was with him, I have
court; He shall have merely justice, and his bond.  GRATIANO. A Daniel still say I; a second
thousand ducats- I think I may take his bond.  BASSANIO. Be assured you may.  SHYLOCK. I will
upon the mart; let him look to his bond: he was wont to call me usurer; let
call me usurer; let him look to his bond: he was wont to lend money for a
a Christian courtesy; let him look to his bond.  SALARINO. Why, I am sure, if he forfeit,
notary's; Give him direction for this merry bond, And I will go and purse the ducats
'll have my bond; speak not against my bond. I have sworn an oath that I will
yet, good Shylock.  SHYLOCK. I'll have my bond; speak not against my bond. I have sworn
hear me speak.  SHYLOCK. I'll have my bond. I will not hear thee speak; I'll
not hear thee speak; I'll have my bond; and therefore speak no more. I'll not
sworn an oath that I will have my bond. Thou call'dst me dog before thou hadst
'll have no speaking; I will have my bond. [Exit.]  SALARINO. It is the most impenetrable
would not draw them; I would have my bond.  DUKE. How shalt thou hope for mercy, rendering
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Table 1

Concordance lines for "bond" from *The Merchant of Venice* (sample) using *AntConc* 3.5.8.

Furthermore, "bond" performs a decisive role in pointing to the interdiscursive nature of Shakespeare's preference for the economic value of "bond" in *The Merchant of Venice*, as it invariably points to Shakespeare's almost exclusive use of this word in this play in its newly coined economic meaning, as suggested by such collocations as "the penalty and forfeit of my bond", "rail the seal off my bond", "single bond", "confess the bond", "deface the bond", etc.. This also is made evident when scrolling the screen for recurring pattern of usage:

```
grow cruel, my estate is very low, my bond to the Jew is forfeit; and since, in
To have the due and forfeit of my bond. If you deny it, let the danger light
the law, The penalty and forfeit of my bond.  PORTIA. Is he not able to discharge the
thou canst rail the seal from off my bond, Thou but offend'st thy lungs to speak
To alter me. I stay here on my bond.  ANTONIO. Most heartily I do beseech the court
of the time; And for the Jew's bond which he hath of me, Let it not
to a notary, seal me there Your single bond; and, in a merry sport, If you repay
, so he says.  PORTIA. Do you confess the bond?  ANTONIO. I do.  PORTIA. Then must the Jew
more? Pay him six thousand, and deface the bond; Double six thousand, and then treble that, Befor
death.  SHYLOCK. Is it so nominated in the bond?  PORTIA. It is not so express'd; but
. I cannot find it; 'tis not in the bond.  PORTIA. You, merchant, have you anything to say
! SHYLOCK. I take this offer then: pay the bond thrice, And let the Christian go.  BASSANIO. Here
bosom.  SHYLOCK. Ay, 'his breast': So says the bond:--doth it not, noble judge?-- 'Nearest his heart'
. Take thrice thy money; bid me tear the bond.  SHYLOCK. When it is paid according to the
the penalty, Which here appeareth due upon the bond.  SHYLOCK. 'Tis very true. O wise and upright
. I pray you, let me look upon the bond.  SHYLOCK. Here 'tis, most reverend doctor; here
two months, that's a month before This bond expires, I do expect return Of thrice three
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Table 2

Concordance lines for "bond" form *The Merchant of Venice* (sample) using *AntConc* 3.5.8.

The examples reported show how corpus tools can not only provide quantitative data to investigate a given textual phenomenon in a more

Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

83

systematic and objective way, but also offer qualitative insight which can help digital readers trace a linguistic feature exhaustively throughout a whole text (or a corpus of texts). In this sense, corpus linguistics offers a gateway to a different approach in reading with which students can profitably familiarize.

3.3. From close to distant: reading more data

As mentioned above, it is also a fundamental characteristic of corpus linguistics that it enhables the simultaneous reading of many texts, thus pointing to forms of "distant reading" not dissimilar, in principle from the more radical perspectives adopted in works which apply the technology of big data to the study of literary phenomena (Moretti 2013). While close reading is based on the ability of reading a text "without dissolving its structure, distant reading does the exact opposite. It aims to generate an abstract view by shifting from observing textual content to visualizing global features of a single or of multiple text(s)" (Jänicke *et al* 2015, online). Similarly, concordance lines across many texts can be seen as a form of distant reading which provides insight into a summation of decontextualized excerpts from different texts, and helps the reader making generalizations and inferences on the basis of more textual data. This is the case, for instance, of a simultaneous vertical reading of the complete corpus of Shakespeare's plays for occurrences of the word "bond", in order to consider patterns of usage of "bond" by Shakespeare outside *The Merchant of Venice*. In this case the concordance lines for "bond" seem to suggest that in all his other works Shakespeare used the word "bond" only in its general meaning of affective relationship, as shown by repeated collocation with love (9 occurrences) and by a semantic preference for nouns relating to familiar relationships (child, daughter, wife, fellowship, wedlock, sister, childhood, son, father, marriage) or other forms of mutual loyalty (fellowship, oath, duty, treason). All these meanings are epitomized by such famous quotes as Cordelia's "I love your majesty according to my bond" in *King Lear* (1.1.87-8),[1] or "a contract of eternal bond of love" in *Twelfth Night* (5.1.145).[2] The only instances of Shakespeare's use of 'bond' in the newly-coined sense of written deed (instrument) outside *The Merchant* seem to be from *Macbeth*, as in "Cancel and tear to pieces that great bond/Which keeps me pale!" (*Macbeth* 3.2.49-50).[3] See Table 3 below for a sample of concordance lines from the Shakespeare Corpus (*Merchant* excluded):

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[1] The quotation is from Shakespeare (2005, p. 103).
[2] The quotation is from Shakespeare (2004, p. 151).
[3] The quotation is from Shakespeare (1999, p. 172).

```
of your power,  Should, notwithstanding that your  bond of duty,  As 'twere in love's particular,
                    lies,  And lies, and lies: there is my  bond of faith  To tie thee to my strong
                'll make assurance double sure,  And take a  bond of fate: thou shalt not live; That I
        -day betwixt my love and me  For everlasting  bond of fellowship,—  Upon that day either prepare to
    him suddenly convey'd from hence.  Cancel his  bond of life, dear God! I pray,  That I
uth and me. <PRIEST> <90%>  A contract of eternal  bond of love,  Confirm'd by mutual joinder of
            be.  Besides, you know  Prosperity's the very  bond of love,  Whose fresh complexion and whose heart
            need, if you were gentle Brutus.  Within the  bond of marriage, tell me, Brutus,  Is it excepted,
    company; whose loves  Are dearer than the natural  bond of sisters.  But I can tell you that
                        fond,  To trust man on his oath or  bond;  Or a harlot for her weeping; Or a
        my freedom at tray-trip, and become thy  bond-slave? </BELCH>  <AGUECHEEK> <46%>  I' faith, or
                now, not king:  Thy state of law is  bond-slave to the law,  And— </GAUNT>  <K. RICHARD> <2
    ; For if such actions may have passage free,  Bond-slaves and pagans shall our statesmen be. </BRABA
        cause  To prick us to redress? what other  bond  Than secret Romans, that have spoke the word
    > <85%>  Bound to himself! what doth he with a  bond  That he is bound to? Wife, thou art
        bend;  Spoke with how manifold and strong a  bond  The child was bound to the father; sir,
        prove it too, against mine honour aught,  My  bond to wedlock, or my love and duty,  Against
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Table 3
Concordance lines for "bond" from the complete Shakespeare Corpus
(*Merchant* excluded).

A distinctive use of "bond" in the *Merchant of Venice* can also be highlighted through comparison with a reference corpus made up of English Literary texts belonging to the same period (1450-1650).[4] The 120 concordances for "bond" from this second reference corpus mostly retain the basic meanings of 'being captive' (as shown by repeated collocation with such words as free, fetter, liberty, and by the compounds bond-man and bond-woman). See Table 4 below for a sample of concordance lines:

```
            Free-man;  If not, stay here a  Bond-man to thy Slave,  And dead, be
            his house, and vseth him as his  bond-man, and putteth him to labour, or
    through which he may peep out,  Such  bond men to their harness to fight are
    to Gentlemen or Marchants to bee their  bond-men, to haue during their life meate,
ge Cater,  John Busbridge, Thomas Horton, William  Bond Mer-  chant-Taylor of London, William Cotton,
    , fayth giuen back againe,  Who would imagine  bond more sure could be?  Loue flies to
            after shall not say there past  A  bond more than our loves, to tie our
            the Black-Friers.  12 Item, to Master John  Bond my Countrey-man,  chiefe Secretarie unto My
    containe himselfe within the compasse of that  bond /neither  whereby it should his consent euer
            there was neither Jew nor Greeke, neither  bond 28<  nor free, neither male nor female : omnes
                Must be my song,  And from my  bond now must I break ;  Since she so
                    are worse, if to be slaves, and  bond   To Caesar's slave be such, the                       mankind
            Good turnes be counted, as a seruile  bond,     To bind their doers, to receiue their
    these lines :  Another! — why shall liberty be  bond?  True heart may not be bond, but
        set so light my liberty !  Making me  bond when I was free :  Ah ! my heart,
            pleasure and vanity only, or as a  bond-woman, to acquire and gain to her
        ? Against my will to take away my  bond-woman?  _Gov._ She was no lawful prize,
    ._ She was no lawful prize, therefore no  bond-woman: She's of that Country we
            , but to no purpose: But for your  bond-woman--  _Hip._ Let her pine and dye;
                her free born, and she prove a  bond-woman, there is impediment of estate and
```

Table 4
Concordance lines for "bond" from the English Literature Corpus 1450-1650 (abridged).

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[4] The *English Literature Corpus 1450-1650* was created *ad hoc* for previous research by the same author. See Gatto (2014) for further information.

Another large group of occurrences exemplifies instead the meaning of "bond" relating to affective relations, which is especially realised by the lexicogrammar pattern "BOND of + N", where "bond" is followed by a noun referring to some kind of affective bond (union, friendship, love, peace), as shown in Table 5 below:

of faith. This, however, is the _only_	bond of union between the different portions of
keepe vnitee Of the spirit in the	bond of peace. Which is nedeful to all
Philip did acquite king Richard from this	bond of marrying his sister, and king Richard
20 dayes against the Turkes army, with a	bond of the citie in the summe of 12000
one according to his abilitie in the	bond of loue, he ayded them at his
we have in dreams, When, sleep, the	bond of senses, locks them up, Such shall
, But such a [warre] as breakes no	bond of peace. Speake thou faire words, Ile
rfei- ture*. Imprisonment. Entring into	bond of a thousand pound. How the Company
herselfe, being of age thereto. And the	bond of the Manchilde with a Shield and
in the Holy Spirit," as being the	bond of union between us and Christ. So
and inanimate forms, and which is the	bond of time, and rises up from its
to her Ma tle for that infinite	bond of dett and dutie, w ch both
, 6 Ere you your daughter link in holy	bond 7 Of wedlock to that new unknown guest: 8
bond, thence > [Faery Land] faithful bond > [a	bond of faith] 7 To this his native soil
still open layd, 8 Are bound with commun	bond of frailtee, To succour wretched wights, whom
I > ever, continually 8 Are bound with common	bond of frailty, 9 To succour wretched wights, whom
, wliieh seems to have been the great	bond of union between the noble hearted Surrey
time. This circumstance would form an additional	bond of union between Surrey and himself. Surrey'
not do it (in case) without any	bond of treaties, only upon his offer, being
, that your Majesty cannot think in such	bond of friendship any equality : protesting therefor
, by levies in his Low Parties, giving	bond of some towns there for the same.
: and this was considereit to bean inviolable	bond of obligation. Tfie reverence with which women
you of your own accord dissolve that	bond of promise which binds you to me."

Table 5
Concordance lines for "bond" from the English Literature Corpus 1450-1650 (sample).

This last datum can be taken as evidence of Shakespeare's deliberate use of the word "bond" in *The Merchant of Venice* in a way that definitely departs from the typical usage of his times, a phenomenon which can be interpreted through the concepts of primary and secondary deviation mentioned in Section 3.1. of the present article. Significantly, no instance is found in *The Merchant of Venice* for the pattern "the BOND of + Noun". Such deviation from the norm seems to highlight Shakespeare's awareness of and alertness to the changing meanings of the word "bond" under the socio-cultural constraints of an emerging capitalist society in England, and points to the fact that he almost single-handedly gave great resonance to the new economic meaning of "bond" which is at the heart of the relatively recent debate on Shakespeare's works in the light of New Criticism (Squeo 2012).

4. Vertical and distant reading in the classroom

On the basis of the potential of a digital reading experience of *The Merchant of Venice*, as described in the previous section, this last section briefly reports on classroom activities carried out with students at the University of Bari, as part of the 'English Linguistics and Translation Studies' module for post-graduate students in Specialized Translation.

The students were already familiar with the play and with key critical literature about its context, as *The Merchant of Venice* was on their reading list for the 'English Culture' module. Accordingly, the activities proposed where explicitly aimed at providing an enhanced reading experience based on the integration of all the reading skills mentioned in this article. The basic assumption was that despite being all "digital natives" the students might still benefit from being explicitly introduced to tools and resources for a digitally-enhanced reading of literary texts. The fact that they were already familiar with *The Merchant of Venice* in particular was considered as an opportunity, rather than a drawback. In this way they were in the best position for a very much desirable integration of all the reading approaches and skills at their disposal. During the activities a questionnaire was submitted for immediate feedback.[5]

The first activity proposed was based on the integration of qualitative and quantitative aspects in the retrieval of key words. The students were first asked which words could be considered as key words on the basis of their experience of the play, and from their answers a list of 7 words was obtained which was then submitted to the whole group. They were then asked to make hypotheses about the relative frequency of occurrence of their key words in the text, before resorting to digital tools for the computation of raw frequency and of relative frequency of words in terms of keywords (see Section 3.1. above).

As shown in the image below, over half of the group had already gained the impression that "bond" could be one such a key word:

---

*L*ingue e
*L*inguaggi

3. Which of the words listed in Question 2 is the most frequent in the text
on the basis of your experience as a reader?
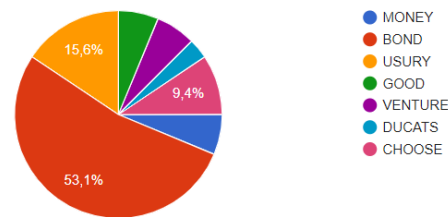
32 risposte

Figure 4
Questionnaire submitted to the students during the activity (sample).

The students were then involved in the activities described in Sections 3 of this article and were asked to explore in particular concordance lines for "bond". When asked for feedback, they mostly acknowledged that reading vertically had helped them see patterns they could not have noticed otherwise (58,1 %) and that this digital experience of the text had certainly added to their previous experience with more traditional forms of linear, horizontal reading (25,8 %):

8 Now let's look at the Merchant of Venice from a different reading perspective. Let's read it VERTICALLY, i.e. through concordance lines for specific words, using the Keyword in context format. Here is a sample of concordance lines for BOND sorted to the left. Does this different view change your comprehension of the text?
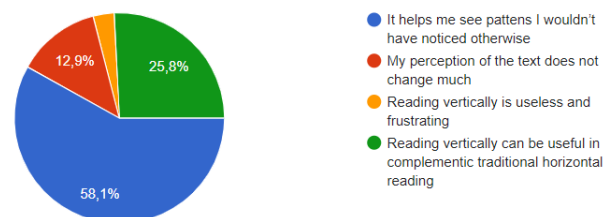
31 risposte

Figure 5
Questionnaire submitted to the students during the activity (sample).

The students were finally encouraged to explore the text by themselves using the tools and resources at their disposal (the free software AntConc, a digital version of *The Merchant of Venice*, and the corpora referred to in Section 3). In particular they were instructed to sort concordance lines to the left and to the right, to observe different patterns. In this way they had the opportunity to notice features beyond the usual lexico-grammar patterns, such as punctuation.

Indeed, something they had not noticed through their traditional close reading of the text was that the word "bond" is almost invariably followed by some punctuation mark, and very often it is the last word pronounced by a character on the stage, as clearly shown by concordance lines for "bond" sorted to the right (See Table 6):

months; you told me so. Well then, your bond; and, let me see. But hear you, Methought
to a notary, seal me there Your single bond; and, in a merry sport, If you repay
, in faith; I'll seal to such a bond, And say there is much kindness in the
notary's; Give him direction for this merry bond, And I will go and purse the ducats
not hear thee speak; I'll have my bond; and therefore speak no more. I'll not
, so he says. PORTIA. Do you confess the bond? ANTONIO. I do. PORTIA. Then must the Jew
To alter me. I stay here on my bond. ANTONIO. Most heartily I do beseech the court
thousand ducats- I think I may take his bond. BASSANIO. Be assured you may. SHYLOCK. I will
bosom. SHYLOCK. Ay, 'his breast': So says the bond:--doth it not, noble judge?-- 'Nearest his heart'
. Tarry a little; there is something else. This bond doth give thee here no jot of blood;
more? Pay him six thousand, and deface the bond; Double six thousand, and then treble that, Befor
would not draw them; I would have my bond. DUKE. How shalt thou hope for mercy, rendering
'll have no speaking; I will have my bond. [Exit.] SALARINO. It is the most impenetrable
two months, that's a month before This bond expires, I do expect return Of thrice three
. BASSANIO. You shall not seal to such a bond for me; I'll rather dwell in my
court; He shall have merely justice, and his bond. GRATIANO. A Daniel still say I; a second
upon the mart; let him look to his bond: he was wont to call me usurer; let
call me usurer; let him look to his bond: he was wont to lend money for a
'll have my bond; speak not against my bond. I have sworn an oath that I will
hear me speak. SHYLOCK. I'll have my bond. I will not hear thee speak; I'll
To have the due and forfeit of my bond. If you deny it, let the danger light

Table 6
Concordance lines for "bond" from *The Merchant of Venice* (sample).

This peculiarity was largely discussed in the classroom, as it could be well considered as an interesting feature accounting for the perceived keyness of the word "bond" when interpreted not only in terms of literary relevance because of the obvious role the term plays in the plot, but also in the light of its frequency of occurrence, of its salience and of its psychological prominence (Leech 2007, pp. 39-41). Final position in the sentence, or focus position before punctuation a mark, definitely contributes − it was acknowledged − to the enduring resonance of this word in the reader's mind, according to the principle of end-focus and climax (Leech 2007, pp. 170-172; 179ss), thus producing an immediate foregrounding effect.

The exploration of the data set at their disposal proved rewarding also in other respects, even when the tool's output was apparently not so inspiring. For instance, when the students decided to consider concordance lines for a different keyword, among the ones listed in the keyword list in Figure 2. Attention was focused on the words "choose" and "chooseth". In this case concordance line provided at first no more than obvious evidence of repetition of the refrain "Who chooseth me shall get…", something that the students had

well experienced first-hand while reading the play. Nonetheless they decided to shift from mere vertical reading to distant reading and see where in the play was the word "choos*" more frequent. For this activity they turned to the "Plot view" tool in AntConc which revealed at a glance patterns of frequency of "choos*" in the corpus of Shakespeare's plays and in *The Merchant of Venice* in particular (see Fig. 6 below):
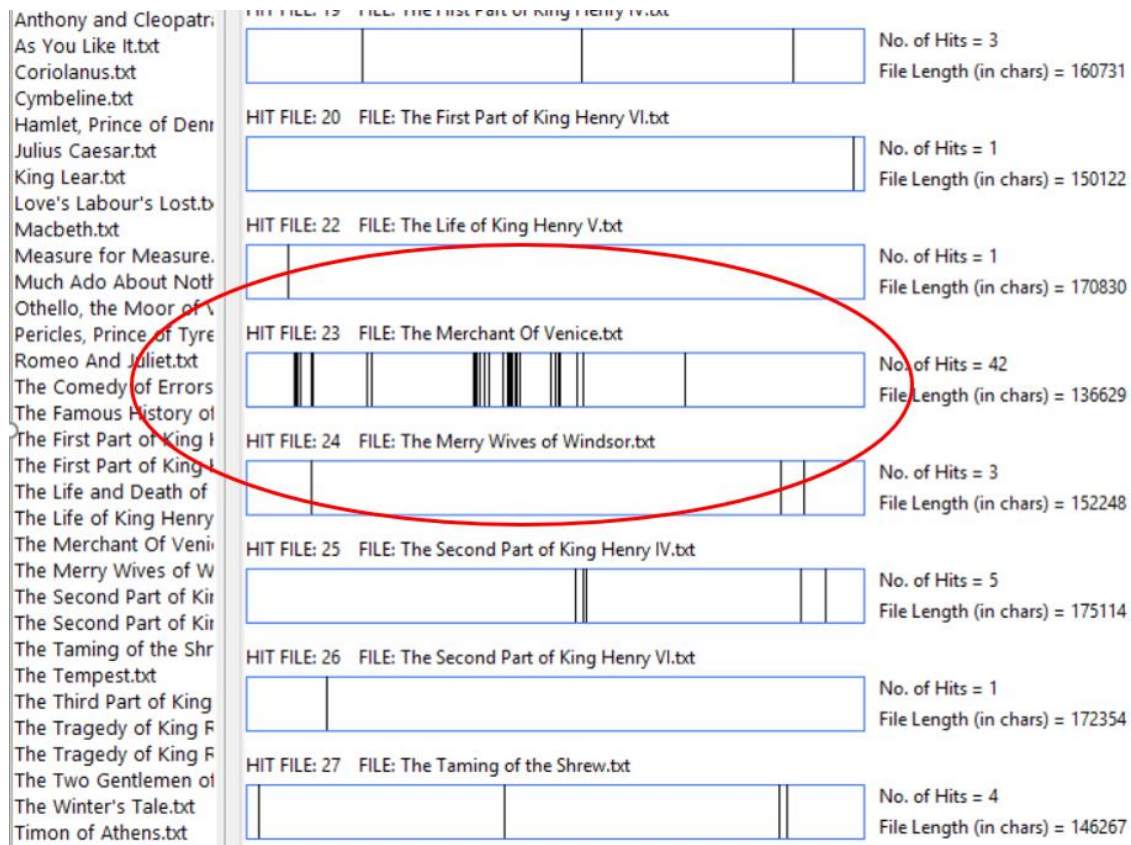
Figure 6
Plot view for "choos*" from the complete Shakespeare Corpus.

The tool's output makes here immediately evident not only the relative higher frequency, in *The Merchant of Venice*, of a word which Portia herself highlights as a key word when she says "O me, the word 'choose!'" (1.2.19)[6] at the beginning of the play, but also its pivotal role in the plot's structure – at the heart of the play. This evidence prompted classroom discussions on the importance of the theme of "choice" in the play, which resulted in closer inspection of new areas in the text which had been previously neglected.

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[6] The quotation is from Shakespeare (2003, p. 78).

5. Conclusion

The nature of literacy is undoubtedly rapidly changing as new technologies enter people's lives and their learning environments. In the past few decades a variety of text forms and media for presenting such texts have emerged, with their full array of possibilities and challenges for the students, which in turn call for new ways of reading. Particularly interesting to this end are corpus query tools that have enabled a shift from qualitative to quantitative, from horizontal to vertical and from close to distant focus in digital reading. Using *The Merchant of Venice* as a case study, the three shifts described suggest that a familiarity with corpus linguistics/stylistics tools and methods can be seen as a useful complement and enhancement of the ICT skills the so-called digital natives supposedly possess, and enhance their experience and comprehension of the text. This is true especially in higher education in the humanities, where these tools offer new and unprecedented ways to *read* the text, which can pave the way to a deeper appreciation of its stylistic effects as well as to an appreciation of specific phenomena in one or more than one text, comparing data from different sources.

The teaching experience discussed in the article calls, however, for further investigation in several respects. In particular, more data are required to estimate the real impact of teaching activities based on digitally-enhanced critical reading of literary texts on both the comprehension and critical appreciation of the text on the one hand, and on the development and improvement of general digital reading skills on the other. Furthermore, in a world were students appear to be chronically distracted rather than aided by technology, several studies have demonstrated that overuse of digital technology can result in cognitive deficiencies, a problem that needs to be seriously addressed. Indeed, as reported in Casey, "many of our students cannot focus on extended tasks, they cannot retain important information, they cannot filter out irrelevancy, they cannot appropriately process emotion, and so forth" (2019, p. 112). In addition, when engaging with electronic texts we read in the shape of an F and not only tend to store the information in a part of the brain not designed for long-term memory, but also tend to miss most of a text's content (Nielsen 2006; Pernice 2017). Yet, teachers are under constant pressure to include "digital humanities" in their classroom, even though pedagogical studies have shown that digital interactions can impede learning. So it is of crucial importance to further explore the best way to teach close reading and critical analysis in a digitally saturated environment.

In this context, the digitally-enhanced approaches to reading a literary text discussed in this article have hopefully contributed to an initial evaluation of best practices for the use of digital humanities in education to foster critical reading and thinking skills in the classroom.

Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

91

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Vertical and Distant Reading of Shakespeare with Digital Natives.
The Case of *The Merchant of Venice*

93

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