



# Jan Kochanowski University Press

This is a contribution from *Token: A Journal of English Linguistics*  
Volume 2/2013.

Edited by John G. Newman and Sylwester Łodej.

© 2013 Jan Kochanowski University Press.

# **Historical sociolinguistic approaches to derivational morphology: A study of speaker gender and nominal suffixes in Early Modern English**

Chris C. Palmer

*Kennesaw State University*

## ABSTRACT

Sociolinguistic variables, such as gender, help nuance historical claims about language change by identifying which subsets of speakers either lead or lag in the use of different linguistic variants. But at present, scholars of historical sociolinguistics have focused primarily on syntax and inflectional morphology, often leaving derivational morphology unexplored. To fill this gap in part, this paper presents a case study of men's and women's use of five different nominal suffixes – *-ness*, *-ity*, *-age*, *-ment*, and *-cion* – within the fifteenth and sixteenth century portions of the *Corpus of Early English Correspondence*. This study finds that men led women in the use of derivatives ending in some suffixes (*-cion* and *-ment*), while women generally led men in the use of *-ity*. Discovering that different suffixes likely have different histories that depend, in part, on social variables, the paper argues that additional synchronic and diachronic studies of derivational morphology and social variation are needed.

## **1. Introduction**

Speakers of Present Day English are often confronted with the following sort of dilemma: Is the right word *passiveness* or *passivity*? Romaine (1983: 179) notes that this problem is certainly not a new one; speakers of Early Modern English were deciding between several viable derivatives with the same base and roughly the same meaning, such as *propension*, *propenseness*, *propensity*, and *propensitude*. There are likely many phonological, semantic, contextual, and sociolinguistic factors that impact a speaker's proclivity for one derivative over another. A fascinating proposition is that a speaker's

gender<sup>1</sup> may influence his or her preferences for using a particular suffix: in other words, it may be possible that men tend to prefer *passivity* to *passiveness*, or even prefer *-ity* formations to *-ness* ones more generally.

This study explores this possibility by examining the relationship between gender and the use of derivational morphology in the history of English. It first surveys existing literature on these matters, finding much attention to diachronic studies of gender and syntax or inflectional morphology, but scant material on gender and derivational morphemes. It then presents a case study of men's and women's use of different derivational suffixes during the fifteenth and sixteenth centuries. More specifically, it examines various trends in the use of five nominal suffixes – *-ness*, *-ity*, *-age*, *-ment*, and *-cion* – within the *Corpus of Early English Correspondence* (CEEC). The paper discovers that there is, in fact, some interplay between the social variable of gender and the spread and use of words with particular suffixes. Men are more prone than women to use derivatives ending in *-cion* and *-ment*, while women are somewhat more likely to prefer lexemes ending in *-ity*. Ultimately, the paper argues for the value of studying the social dimensions of change in derivational morphology, urging further synchronic and diachronic analyses of these linguistic areas.

## 2. Previous studies of derivational suffixes and gender as a social variable

Studies of derivational morphology in Present Day English have, for the most part, aimed to determine the semantic and combinatorial properties of bases and affixes (e.g. Aronoff 1976; Fabb 1988) and measure and define affixal productivity (e.g. Baayen 1989; Bauer 2001). Diachronic studies, many of which focus on the historical development of nominal suffixes, have followed suit. Dalton-Puffer (1996) provides the most comprehensive account of borrowed derivational morphology in Middle English. Based on

---

<sup>1</sup> Even though the term *sex* as a biological identifier for speaker classification is appropriate for this study, I have followed the lead of scholars such as Nevalainen – Raumolin-Brunberg (2003) and Säily – Suomela (2009) in choosing *gender* as the primary social variable to investigate. Nevalainen – Raumolin-Brunberg (2003: 110) convincingly argues that “it is not biology that ought to be focused on, but the social roles and practices the two sexes typically assume in society”. Because these roles and practices become essential in explaining differences in each gender's use of certain derivational suffixes historically (see section 4, in particular), *gender* was the more relevant terminological choice for this study.

data from the *Helsinki Corpus*, her work offers a descriptive overview of the use, semantics, and productivity of native and borrowed suffixes in Middle English. Cowie – Dalton-Puffer (2002) offers various approaches for studying derivational productivity from a diachronic perspective, especially in light of the limited data often available in historical studies. Lloyd (2005) addresses the semantic differences among the suffixes *-ment*, *-ance*, *-age*, *-ation*, and *-al* in Middle and Early Modern English. Analyzing data primarily from Early Modern English to the present day, Kaunisto (2007) focuses strictly on lexemes ending in *-ic/-ical* from a lexicological perspective. And Anderson (2000) tracks neologisms in the *Oxford English Dictionary* (OED) to account for the productivity of derivational suffixes from the twelfth century to the present day. She identifies broad yet significant trends, such as increased neologizing among all nominal suffixes during the fifteenth and sixteenth centuries.

Despite such important findings, very few of these studies have considered the impact of social variation on the use and development of derivational suffixes in the history of English. Cowie (1998) does consider the impact of register variation on the historical development of suffixes such as *-ity*, *-ness*, and *-tion*. For example, with reference to data from the *ARCHER* and the *Helsinki* corpora, she demonstrates that from the seventeenth century onwards, scientific and medical registers have tended to prefer *-ity* to *-ness* nominalizations, while fiction, sermons, and letters have tended to use *-ness* more than *-ity* (1998: 223). Fleischman (1977) explains the development of *-age* as an English suffix with some reference to its social history: she contends that *-age* was used widely in the Middle Ages by particular social groups (e.g., merchants and guildsmen) for deriving or borrowing words designating taxes, fees, and dues. But these and other studies have not empirically explored the relationship between specific social variables, such as gender, and derivational usage.

One exception to this trend is Romaine (1983), which considers, among other factors, the impact of social variables such as gender and age on the use of derivational suffixes in Present Day English. Romaine (1983: 182-183) designs an experiment to test speaker intuitions about possible words ending in *-ness* or *-ity*, such as *perceptiveness* vs. *perceptivity*. More specifically, she provides a list of 100 words to 80 informants, asking them to decide if only the *-ness* derivative is acceptable, or if only the *-ity* derivative is acceptable, or if both derivatives are acceptable. In terms of the “social dimension of individual variability”, Romaine (1983: 187) summarizes her findings as follows:

Men on the whole tend to accept both *-ness* and *-ity* forms less often than women, but this is mainly due to the great difference between men's and women's scores in the youngest age group. Men also tend to accept more *-ity* only forms, particularly in the youngest age group. As for the dimension of age, younger speakers tend to accept more forms with both *-ness* and *-ity* than older speakers. Older speakers tend to divide their judgements into *-ness* only and *-ity* only.

Interestingly, her study finds that gender and age may play some role in derivational usage, with men exhibiting a slight preference for *-ity* forms, and younger speakers and women more likely to accept both *-ness* and *-ity* derivatives off of the same base. Of course, these results should be interpreted cautiously, as her sample size is rather small. And Romaine herself affirms (1983: 182-196) that social variation should be only one of several criteria used to assess productivity: morphologists must also consider phonological constraints, semantic characteristics, and the morphological form of the base. Even so, her study provides some evidence of potential correlations between social variables and derivational use in the present day, inviting further investigation into whether the social variable of gender may have played a role in the diachronic development of these suffixes.

Historical sociolinguistic research has provided increasing insight into the effects of gender on language change in English. But such studies have typically focused on variation in syntax and inflectional morphology, often leaving the interplay between gender and derivational morphology unexamined. Applying social network theory to letters written in the fifteenth century, Bergs (2005) examines several social variables (including gender) and the varied uses of personal pronouns, relative clauses, and light verb constructions. Kytö (1993) finds in the Early Modern English portions of the *Helsinki Corpus* that women are more likely than men to use the third-person singular present tense verbal inflection *-s* in the register of letters. Arnaud (1998) argues that, in personal correspondence from the eighteenth and nineteenth centuries, women lead men in the increasing use of the present progressive verbal inflection *-ing*.

These diachronic sociolinguistic studies of syntax and inflectional morphology are largely corroborated by the series of case studies presented in Nevalainen – Raumolin-Brunberg's book *Historical Sociolinguistics* (2003). The authors not only discover that men and women often adopt linguistic variants at different rates historically, but they also find that women tend to lead language changes in the history of English. Their evidence from the

*CEEC* includes the use of *you* over *ye* (2003: 118-119) and the replacement of third-person singular *-th* with *-s* (2003: 122-124), both of which were led by women in most sub-periods of the fifteenth through seventeenth centuries. However, the authors do identify a few variables in which men lead changes: e.g., the decline of multiple negation (2003: 128-129) and the replacement of relative pronoun *the which* with *which* (2003: 129-130). They argue (2003: 130-131) that these exceptions are likely due to “supralocal changes led by men” which were “typically channelled through learned and professional usage”. The loss of multiple negation, in particular, was “promoted by male professionals and systematically led by men in the upper and middle sections of society”. The authors indicate (2003: 112) that their results, including the exceptions, generally confirm Labov’s (2001: 293) “gender paradox”: “women conform more closely than men to sociolinguistic norms that are overtly prescribed but conform less than men when they are not”. In other words, developing professional norms predictably impacted men’s language use more than women in certain parts of the grammar, such as multiple negation, primarily because women were mostly excluded from professional social spheres during these centuries. For these specific types of changes, women tended to lag behind men. But since there was otherwise little overt language prescription in the centuries preceding the eighteenth century, women – as predicted by Labov’s theory – have tended to lead most linguistic changes in the Early Modern era.

These studies have revealed much about the relationship between gender and diachronic syntax and inflectional morphology. But what remains unclear is whether these sociolinguistic trends also apply to historical changes in the use of derivational morphology. By examining type counts of *-ity* and *-ness* in data from the seventeenth-century portion of the *CEEC*, Säily – Suomela (2009) finds that gender significantly impacts the number of types of derivatives in *-ity* used by speakers. In their data, women used far fewer types of *-ity* than did men; interestingly, there was no statistically significant difference in the use of *-ness* types between men and women. While Säily – Suomela (2009) provides a helpful consideration of the impact of social variables on derivational usage, as a historical study it is limited in a couple of respects: (1) it considers only two suffixes, whereas many more nominal suffixes were rapidly growing in use during the Early Modern period; and (2) its primary focus is on statistical models for evaluating the relationship between productivity and social variables in one time period (the seventeenth century), rather than on changes in the use of derivational

suffixes over time<sup>2</sup>. Even though Romaine (1983) observes differences in gender preferences for one derivational suffix over another (i.e., competing forms with *-ity* vs. *-ness*) in the present day, we do not yet know if similar differences are observable among a wider variety of suffixes in eras of English earlier than those explored in Säily – Suomela (2009). Anderson (2000) has shown an increase in neologized nominal derivatives during the fifteenth and sixteenth centuries, but we do not yet know if women in this era were more likely to use certain derivatives than men. To shed light on these questions, in the following sections I provide a case study of nominal derivatives ending in suffixes that became increasingly productive in English during the fifteenth and sixteenth centuries – specifically, lexemes suffixed with *-ness*, *-ity*, *-age*, *-ment*, and *-cion* – with particular attention to men’s and women’s usage of these forms.

### 3. Methods and data collection<sup>3</sup>

As Nevalainen – Raumolin-Brunberg (2003: 29) has demonstrated, personal letters are “one of the most oral written genres”. In historical studies, letters represent the written data that come closest to the everyday speech of English-speaking peoples. Letters are also typically well-dated, enabling accurate diachronic studies of language. And most can be classified along a number of sociolinguistic dimensions, such as gender of author/addressee, age, and class.

To conduct this diachronic analysis of borrowed derivatives, texts were selected from the CEEC<sup>4</sup>. The CEEC is a 2.7 million word corpus of personal letters written by over 778 informants, from the beginnings of the records of the genre (ca. 1410) to 1681. Individual letters are coded for sociolinguistic variables such as gender and age of writers and addressees. Men are much more represented than women in all sub-periods, in part because they tended to have greater access to literacy during this time. Multiple social classes are represented in the corpus, though the upper classes are more

<sup>2</sup> Säily – Suomela (2009: 105-106) briefly considers change in the use of *-ity* during the seventeenth century, noting that letter writers increase the range of types used in 1640-1681 compared to 1600-1639.

<sup>3</sup> The quantitative data in sections 2 and 3 also appear in my unpublished dissertation, Palmer (2009: 265-280).

<sup>4</sup> The texts of the CEEC were taken from the publicly available PCEEC (*The Parsed Corpus of Early English Correspondence*). The description of the corpus in this section is taken primarily from Nevalainen – Raumolin-Brunberg (2003: 43-49).

strongly represented. The corpus has some geographic diversity, including letters from East Anglia, London, the North, and the Royal Court. Because of the corpus's general representativeness, this study adopts Nevalainen – Raumolin-Brunberg's (2003: 49) view that

[...] while the CEEC may not in all respects represent the entire language community from the fifteenth to seventeenth centuries, it nevertheless provides quite a reliable sample of the informal language used by the language community, or at least by the literate writing community, of Tudor and Stuart England.

As such, the use of derivational morphemes in letters can be assumed to represent patterns of use that were likely present within this literate community. Lexemes with these suffixes may have been further diffused from literate speakers to less literate speakers, but there is no available evidence to describe how this process might have taken place.

To enable diachronic analysis, texts were grouped into fifty-year sub-periods, 1401-1450 (CEEC1), 1451-1500 (CEEC2), 1501-1550 (CEEC3), and 1551-1600 (CEEC4). Because nominal derivatives have been a focus in many previous studies of derivational morphology, they were also chosen for analysis and comparison in this study. Derivatives were identified by using the AntConc concordancer. Native suffix *-ness* was selected, as were borrowed suffixes *-age*, *-ity*, *-cion*, and *-ment*. These suffixes are five of the most frequently occurring suffixes in the *Helsinki Corpus* (Dalton-Puffer 1996), and all of them are used to create abstract nominals in English. The inclusion of native *-ness* – a morpheme that has been generally considered “fully productive” historically (Romaine 1983: 179) – allows for a baseline to which trends in the borrowed suffixes can be compared. These borrowed suffixes were relatively new to English in the fifteenth and sixteenth centuries, and data from the CEEC reveal their varied patterns of growth over time<sup>5</sup>.

Certain derivatives were excluded from the present analysis. The lexeme *highness* was an outlier in sub-period CEEC3 (1501-1550), as letter writers used it in unusually large numbers as an address or reference to the king or other superiors. In fact, it accounted for almost two-thirds of all uses

---

<sup>5</sup> In fact, as Dalton-Puffer (1996: 219) points out, it is usually impossible to know in diachronic studies whether or not a derivative (e.g. *determination*) is either a whole word borrowing from French or Latin or a composite form produced from a borrowed base (*determine*) and a productive suffix (*-ation*) in English. For simplicity, this study assumes that each token occurrence of a derivative equals one token occurrence of a suffix.



of *-ness* in that one sub-period, a pattern which was not observed in any other sub-periods in the present study. As such, this highly lexicalized item *highness* was excluded from the present analysis.

All claims of statistical significance were based on chi-square tests conducted with the software SPSS. A difference was typically considered significant if the p-value was less than 0.05.

Fig. 1 provides the normalized frequencies of *-ness*, *-ity*, *-age*, *-ment*, and *-cion* in the four sub-periods of the present study:

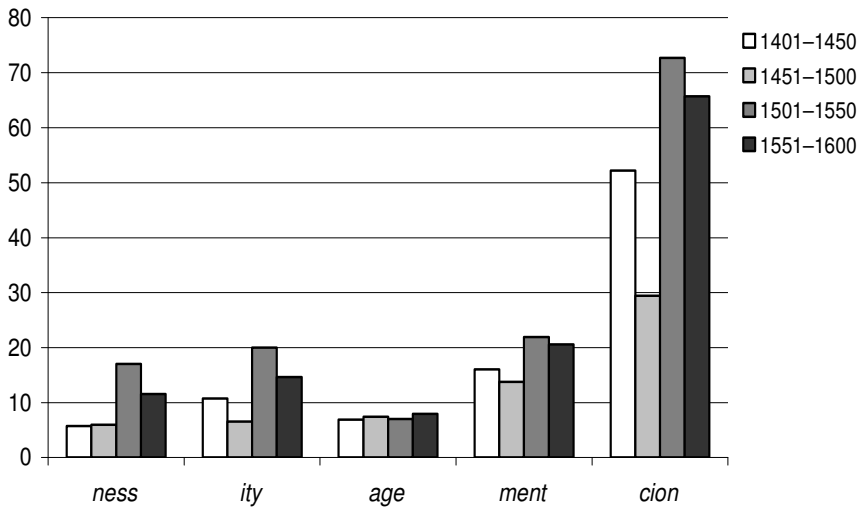


Figure 1. Suffix frequencies in sub-periods of the *CEEC*. The vertical axis represents normalized frequencies, the number of tokens per 10,000 words in the corpus, with *highness* excluded

Perhaps the most remarkable trend observed in Fig. 1 is the usage of *-ness*. Somewhat surprisingly, productive native suffix *-ness* is roughly equal in frequency with native suffix *-ity*. The native form is consistently less frequent than *-ment*, and much less frequent than *-cion*. If personal correspondence is the closest representative sample to the everyday language use of English people in the fifteenth and sixteenth centuries, then these data suggest that usage of *-ness* was in relative decline compared to the use of several other borrowed derivatives. An interesting question here is whether or not this trend in *-ness* was an effect of the relatively more frequent use of borrowed derivatives. In other words, *-ness* may have become less useful as a nominal in written expression because its borrowed peers became more useful, particularly if *-ness* was competing with other deadjectival patterns

such as *-ity*. While this is an intriguing proposition, it is difficult (or perhaps impossible) to prove with any certainty. There is some small evidence that, in terms of individual lexical decisions, there were some forms that may have competed for use (e.g. *ableness* vs. *ability*, *confusedness* vs. *confusion*). But these sorts of potential equivalents sharing the same base are rare in the *CEEC*. Other synonymic choices may have been at play (e.g., the choice of *absurdity* or *oddity* over *strangeness*). But, especially because glossing was rare in the *CEEC*, it is usually impossible to know if individual writers were aware of these lexeme pairs and if they were treating them as semantic equivalents. Because of these limitations in the historical data – specifically, the rare occurrences of competing forms and lack of metalinguistic reflection on word choice – it is impossible to design a study of derivational choice akin to Romaine’s (1983) work. Even so, the *CEEC* allows for aggregate comparisons of the use of different derivatives by different social groups, including men and women in various sub-periods.

In terms of the borrowed derivatives, *-age* remains approximately at the same frequency throughout the fifteenth and sixteenth centuries. The other borrowed suffixes all show growth in the sixteenth century compared to the fifteenth century – especially *-cion*, whose usage climbs to over 70 occurrences per 10,000 words. These results may seem somewhat surprising since, as Cowie (1998) has shown, less formal genres such as personal correspondence tend to be marked more often with frequent *-ness* derivatives than with *-cion* derivatives, which tend to characterize medical and scientific writing. However, letter writers in the *CEEC* – men, in particular, who were more likely to be educated in professional discourses than were women – likely drew upon so many *-cion* derivatives because they came from a variety of lexical fields that consist largely of Latinate word stock, including legal, religious, and political discourses. Thus borrowed derivatives from Latin (using *-cion* as a suffix) increased in use over time, due to increasing perceived usefulness of the forms by certain subgroups of speakers. Such considerations of gender in diachronic analyses of derivational morphology will be explored in greater quantitative and qualitative detail in the following section.

#### 4. Analysis of gender and several nominal suffixes in the *CEEC*

In the overview of research on gender and language change in English in Nevalainen – Raumolin-Brunberg (2003), the authors do not mention derivational morphology at all. But they do indicate, without citing a specific study, that lexical borrowing is one of the main types of change led by men

in the Tudor and Stuart periods. The only evidence they offer (2003: 118) is that many lists of hard-words, such as Cawdrey's *Table*, were specifically targeted towards women. Cawdrey's Preface (1604) overtly declares that his hard words were

*gathered for the benefit & helpe of Ladies, Gentlewomen, or any other vnskilfull persons. Whereby they may the more easilie and better vnderstand many hard English wordes, which they shall heare or read in Scriptures, Sermons, or elsewhere, and also be made able to vse the same aptly themselues.*

It is reasonable to assume that, because women generally had lower rates of education and literacy in the fifteenth and sixteenth centuries, they may have been less inclined to employ Latin and French borrowings and, consequently, derivatives including suffixes from these languages (e.g., *-age*, *-cion*, *-ity*, *-ment*). Indeed, Cawdrey explicitly describes hard words as those "borrowed from the Hebrew, Greeke, Latine, or French"; a short sample from the list's A-section alone finds entries with definitions for *acquisition*, *affinitie*, *arrerages*, and *ambushment*. If Cawdrey's *Table* serves as an accurate indicator of words unlikely to be part of women's English, then one would expect men to generally lead women in the use of borrowed derivatives during this period. Similarly, since only one *-ness* derivative (*lithernesse* 'slouthfulness, idleness') appears in the entirety of Cawdrey's list, it might be the case that there is less visible gender differentiation in the use of derivatives with the native suffix.

The data from the *CEEC*, presented in Tab. 1, confirm these predictions for some derivative types but not others:

Table 1. Gender distributions of suffixes. In the first column, the number following each suffix corresponds to the period in which it occurred – e.g., *cion1* refers to the use of *-cion* in period *CEEC1*. The numbers provided in the second and third columns are normalized frequencies (number of tokens per 10,000 words). The token *highness* was excluded from this analysis

Suffix/Period	Men	Women
1	2	3
<i>cion1</i>	60.2	15.2
<i>cion2</i>	30.5	24.9
<i>cion3</i>	75.6	23.2
<i>cion4</i>	65.3	68.0

1	2	3
<i>ment1</i>	18.9	3.2
<i>ment2</i>	14.8	8.4
<i>ment3</i>	22.2	16.9
<i>ment4</i>	21.4	15.8
<i>age1</i>	6.5	8.8
<i>age2</i>	7.6	6.6
<i>age3</i>	7.2	3.1
<i>age4</i>	8.3	5.6
<i>ness1</i>	6.8	3.2
<i>ness2</i>	6.1	5.4
<i>ness3</i>	16.8	21.3
<i>ness4</i>	11.5	12.0
<i>ity1</i>	9.9	14.4
<i>ity2</i>	5.9	9.5
<i>ity3</i>	20.5	11.9
<i>ity4</i>	13.8	19.4

The largest differences in gendered use occur with deverbal nominals *-ment* and *-cion*. In all four sub-periods, men lead women in the use of *-ment* derivatives<sup>6</sup>. The differences are even more exaggerated for *-cion*, which men use much more often than women until the second half of the sixteenth century, when women's use roughly equals that of men's. This difference in usage was most likely due to the differing social spheres inhabited by men and women during this period. Nevalainen – Raumolin-Brunberg (2003: 114) describes the social situation as follows:

As to **being**, [that is] integration into society, gender differentiation could hardly have been more marked. An individual's rights to participate in decisions and activities influencing his/her life were

<sup>6</sup> Statistical tests show that there may be no significance in the differences between men's and women's frequency of use of *-ment* derivatives in the sixteenth century. The p-values for chi-square tests are 0.167 for CEEC3 and 0.056 for CEEC4, which is on the borderline for statistical significance (assumed when  $p < 0.05$ ). However, because men consistently use *-ment* more than women in all sub-periods, the overall trend is certainly noteworthy.

sharply gendered: Tudor and Stuart men ruled every aspect of the public sphere, including national and local politics, the economy, the church and the legal system.

A majority of the lexemes ending in *-ment* and *-cion* emerged from these very spheres – politics (e.g., *administration*, *commision*), economics (*payment*, *assignment*), religion (*confession*, *temptation*), and law (*ratification*, *inditement*). Hence, it is easy to understand why men might be far more likely to use these terms more often and earlier than women: these derivatives are more likely to have reflected men’s day-to-day experience. A representative example of such male professional discourse occurs when Thomas Cromwell uses the lexeme *impediment*, making a legal request to Arthur Lisle for safe passage of his possessions (my italics):

- (1) Withe one seruaunt and two horses or geldynges twenty poundes in money and other his lafull cariage and utensiles. And without any vnlawfull serche let or *ympedyment*, Wherfore I require you to cause that he may sopasse without any disturbaunce accordyng to the kynges pleasure in that behalf.

This lexeme *impediment*, in fact, occurs 6 times with male writers in the first two centuries of the *CEEC*, but only once with women. Such evidence here and in Tab. 1 suggests that *-ment* and *-cion* lexemes follow the pattern of hard words, which diffused into English usage typically via men’s usage more often than women’s.

The data for *-ness* and *-age*, however, do not tell the same story. It is noteworthy that neither suffix shows statistically significant differences in the language of men and women in any sub-periods of the fifteenth or sixteenth centuries. As a native nominal, *-ness* derivatives would be less likely to be considered hard words, and thus may have been equally accessible to both men and women. But *-age* is a borrowing whose lexemes often denote economic, political, and familial entities. So it would be reasonable to predict that men might have led in its usage; Cawdrey (1604) lists several *-age* derivatives as hard words for women, such as *heritage*, *patronage*, and *suffrage*. However, studies such as Burnley (1992: 449) have indicated that *-age* has tended to be one of the most naturalized borrowed nominal suffixes, much more likely to combine with native bases than other borrowed suffixes (e.g., *stoppage*). Perhaps the even distribution between genders displayed in Tab. 1 is a sign that speakers perceive *-age* and its derivatives to be less hard

than other borrowings, much more like native *-ness* than borrowed *-cion*. The fact that both genders used *-age* in similar frequencies throughout these two centuries may reflect that *-age* was more integrated into English than its borrowed peers.

The suffix *-ity* exhibits the most complex gender distribution. In all periods but CEEC3, it is used more often by women than by men. The surge in men's use in CEEC3 coincides with an influx of learned forms ending in *-cion* and *-ment* used by men; male writers in the early sixteenth century suddenly begin to use words such as *generality*, *perplexity*, and *particularity*. In the fifteenth and early sixteenth century, women were more likely to use *-ity* forms that have been attested in the *OED* in much earlier periods: e.g., *adversity* [13<sup>th</sup> (c.)], *charity* [12<sup>th</sup> (c.)], and *trinity* [13<sup>th</sup> (c.)]. Many of these lexemes emerge from devotional discourses, perhaps suggesting that women were more likely than men to write with non-vocational spiritual references. While not exclusive to female writers, such spiritual reference quite often appears in closings that express well-wishing for a loved one, as Margaret Stuart illustrates in her 1516 letter to her brother Henry VIII (my italics):

- (2) And the Holy *Trenyte* have you my most derest broder in tuycion and governance

Because many of these *-ity* forms had already existed in English well before this period, they may not have been limited to professional religious registers dominated by men. And interestingly, by the end of the sixteenth century, women began to add to the types of *-ity* derivatives they used, including a wider range of technical, abstract, and non-religious terminology (e.g., *absurdity*, *audacity*, *generality*). Women outpaced men again in overall use of *-ity* in the final sub-period.

These results may initially seem somewhat surprising, especially compared to prior studies of gender and the use of *-ity*. Unlike Romaine (1983), in which men have been shown to have a preference for *-ity* forms in Present Day English (at least compared to *-ness* formations), the historical data on *-ity* from the Early Modern period show that women generally tended to use *-ity* forms more so than men. Of course, an aggregate tendency for one social group to use a derivative type more frequently than another (as measured in a corpus) should not automatically be considered identical in kind to the tendency of one gender to choose one competing derivative type over another (as measured by experiments with live informants). Nevertheless, the corpus data from the Early Modern period do indicate

women's preference for *-ity*, defined in terms of overall frequency of usage in letter writing, which seems to contrast with men's preference of *-ity* derivatives observed in present-day studies of competing forms.

Revealing a gendered preference perhaps similar to that discovered in Romaine (1983), Säily – Suomela (2009) has argued that, in the seventeenth-century data from the *CEEC*, women used a significantly smaller range of *-ity* types than did men. So it may seem surprising that the data from the fifteenth and sixteenth centuries show women outpacing men in the use of *-ity* derivatives in three out of the four sub-periods, at least in terms of total tokens. Taking these studies together, one might be tempted to speculate that a significant language change related to gender occurred during the Early Modern period: women led in the earliest stages of *-ity* use, but were eventually outpaced by men beginning in the seventeenth century. But it should be remembered here that token and type counts do not always correlate with one another – a relatively unproductive suffix such as *-th* in *health* and *growth* may have high token counts in a corpus with a very small corresponding number of available types (Bauer 2001: 190-191). So the results of Säily – Suomela (2009), which focuses on type frequencies and productivity and does not provide analysis of overall token frequencies, cannot be directly compared to those of the present study, which focuses on token counts. In any case, it is certainly significant to note that even though women consistently used fewer types of derivatives in *-ity* in each sub-period of the present study<sup>7</sup>, women still exhibited higher overall token frequencies of *-ity* derivatives than did men in all but one sub-period. And this gendered tendency stands in stark contrast to patterns observed with other nominal suffixes, especially men's general preferences for derivatives in *-cion* and *-ment*.

## 5. Conclusion

This paper has shown that borrowed derivatives follow different trajectories in terms of their gendered use in the fifteenth and sixteenth centuries. Men

---

<sup>7</sup> The difference in absolute type frequencies between genders is largely a function of corpus size and content: the *CEEC* contains far more letters by men than by women, so it is not surprising that men used a wider range of *-ity* types. In fact, the type numbers for several nominal suffixes used by women in the *CEEC* were so small that type frequency based on gender was determined not to be a useful measure of comparison between sub-periods. The token frequencies proved far more revelatory in terms of determining statistically significant differences.

tend to use *-ment* and *-cion* more than women, most likely because these endings often appeared in lexemes borrowed from learned and professional discourses. Women overall tend to use *-ity* more than men. While this general trend perhaps contrasts with the present-day data in Romaine (1983), the third sub-period (1501-1550) does show men using *-ity* derivatives, many of which were highly learned, more often than women. And because there is no gender differentiation in men's and women's use of *-ness* or *-age* throughout the fifteenth and sixteenth centuries, it is possible to speculate that *-age* derivatives may have been, like *-ness*, more integrated into general English usage – and less susceptible to high or low frequency uses by particular social subgroups – than other borrowed suffixes. To confirm such speculation, however, more historical sociolinguistic research on *-age* is necessary.

Furthermore, the preceding analysis has illustrated that sociolinguistic variables, such as gender, help to nuance our understanding of the growth of derivational morphology historically, identifying which subsets of speakers were leading or lagging in the use of various suffixes. And it complements our emerging yet incomplete understanding of language change. Studies such as Nevalainen – Raumolin-Brunberg (2003) have shown that women often, but not always, lead changes in syntax and inflectional morphology historically. My study has presented a similarly complex situation for diachronic changes in the use of derivational suffixes in the Early Modern period: in the fifteenth and sixteenth centuries, women generally led one change (the increasing use of derivatives with *-ity*, even if women weren't always neologizing with the suffix); men clearly led two others (the increasing uses of derivatives with *-ment* and *-cion*); and neither gender led in the use of *-ness* and *-age*. It should be noted, of course, that such observed patterns reflect larger historical trends in the language if and only if the *CEEC* provides an accurate reflection of the language use of men and women during these centuries. It is entirely possible that overall trends in the use of certain derivatives might differ markedly in a different corpus – certainly if different registers are investigated, as has been shown by Cowie (1998) and Palmer (2009). And even if another corpus of letters that rivaled the size of the *CEEC* were available, it is possible that the token counts for various nominal derivatives might differ significantly if the topics of those letters differed significantly from those in the *CEEC*. Even so, the findings from the present study suggest that different affixes may have different, individual histories, each of which potentially depends on social variation. And linguists, historical or otherwise, can evaluate the relevance of different social variables on the use of derivational suffixes only if they attempt to



explore those variables in the first place. It is clear that more diachronic and synchronic research on a wider variety of affixes in different eras of English – including the impact of variables such as age, gender, class, and sexuality on derivational usage and change – is needed to complete this quite complicated picture.

## REFERENCES

### Sources

Cawdrey, Robert

- 1604 *A Table Alphabeticall of Hard Usual English Words*. From STC 4884 and Robert Cawdrey, *A Table Alphabeticall*, R. A. Peters (ed.). Gainesville, Florida: Scholars' Facsimiles & Reprints, 1966. Web edition, R. G. Siemens (ed.), Web Development Group (University of Toronto Library), 1997.  
<http://www.library.utoronto.ca/utel/ret/cawdrey/cawdrey0.html>.

*Oxford English Dictionary Online (OED)*

<http://www.oed.com/>.

*Parsed Corpus of Early English Correspondence*

- 2006 Compiled by Terttu Nevalainen, Arja Nurmi, Ann Taylor, Anthony Warner, Susan Pintzuk and the CEEC Project Team (University of Helsinki and University of York).  
<http://www.helsinki.fi/varieng/CoRD/corpora/CEEC/index.html/>.

### Special Studies

Anderson, Karen

- 2000 *Productivity in English Nominal and Adjectival Derivation, 1100-2000*. Dissertation. University of Western Australia.

Arnaud, René

- 1998 "The development of the progressive in 19<sup>th</sup> century English: A quantitative study", *Language Variation and Change* 10, 123-132.

Aronoff, Mark

- 1976 *Word Formation in Generative Grammar*. Cambridge, Massachusetts: MIT Press.

Burnley, David

- 1992 "Lexis and semantics". In: N. Blake (ed.) *The Cambridge History of the English Language*. Vol. II: 1066-1476. Cambridge: Cambridge University Press, 409-499.

Baayen, Harald

- 1989 *A Corpus-based Approach to Morphological Productivity. Statistical Analysis and Psycho-linguistic Interpretation*. Amsterdam: Vrije Universiteit.

Bauer, Laurie

- 2001 *Morphological Productivity*. (Cambridge Studies in Linguistics 95.) Cambridge: Cambridge University Press.

Bergs, Alexander

- 2005 *Social Networks and Historical Sociolinguistics: Studies in Morphosyntactic Variation in the Paston Letters (1421-1503)*. Berlin/New York: Mouton de Gruyter.

Cowie, Claire

- 1998 *Diachronic Word-formation: A Corpus-based Study of Derived Nominalizations in the History of English*. Dissertation. Cambridge, UK: Cambridge University.

Cowie, Claire – Christiane Dalton-Puffer

- 2002 "Diachronic word-formation and studying changes in productivity over time: Theoretical and methodological considerations". In: J. E. Diaz Vera (ed.) *A Changing World of Words*. New York: Rodopi, 410-37.

Dalton-Puffer, Christiane

- 1996 *The French Influence on Middle English Morphology: A Corpus-based Study of Derivation*. Berlin: Mouton de Gruyter.

Fabb, Nigel

- 1988 "English suffixation is constrained only by selectional restrictions", *Natural Language and Linguistic Theory* 6, 527-539.

Fleischman, Suzanne

- 1977 *Cultural and Linguistic Factors in Word Formation: An Integrated Approach to the Development of the Suffix -age*. Berkeley: University of California Press.

Kaunisto, Mark

- 2007 *Variation and Change in the Lexicon: A Corpus-based Analysis of Adjectives in English Ending in -ic and -ical*. Amsterdam: Rodopi.

Kytö, Merja

- 1993 "Third-person present singular verb inflection in early British and American English", *Language Variation and Change* 5, 113-139.

Labov, William

- 2001 *Principles of Linguistic Change. Vol. 2: Social Factors*. Cambridge, USA: Blackwell.

Lloyd, Cynthia

- 2005 *Some Latinate Deverbal Suffixes in Middle English: Their Integration, Productivity and Semantic Coherence*. Dissertation. Leeds, UK: University of Leeds.

Nevalainen, Terttu – Helena Raumolin-Brunberg

2003 *Historical Sociolinguistics: Language Change in Tudor and Stuart England*. London: Longman.

Palmer, Chris C.

2009 *Borrowings, Derivational Morphology, and Perceived Productivity in English, 1300-1600*. Dissertation. Ann Arbor, MI: University of Michigan.

Romaine, Suzanne

1983 "On the productivity of word formation rules and limits of variability in the lexicon", *Australian Journal of Linguistics* 3, 177-200.

Säily, Tanja – Jukka Suomela

2009 "Comparing type counts: The case of women, men and *-ity* in early English letters". In: A. Renouf and A. Kehoe (eds.) *Corpus Linguistics: Refinements and Reassessments*. New York: Rodopi, 87-109.