

Impoliteness in women's specialised writing in seventeenth-century English

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The notion of impoliteness may not trigger prompt associations with earlier women writing, especially non-fiction, in the pre-scientific period. Evidence drawn from seventeenth-century scientific and technical writings reveals that women make use of impoliteness strategies in order to claim and delineate their place within their community of practice. In our texts, we have detected that membership to communities of practice justifies the women's use of positive impoliteness and sarcasm devices. Interestingly, the stereotypical female weakness represents a source for sarcastic speech, as this may offer women writers a protective shield against male critical stance. Negative impoliteness seems to be potentially related to establish power relationships and position in relation to knowledge. The idea is that scientific and technical contributions should be impartially appraised without considering the sex of the author. Impoliteness appears to be a potential means of legitimising women writers' voices.

Keywords: community of practice, impoliteness, stance, women's writing

1. Introduction

This paper explores the expression of impoliteness in scientific and technical texts written by women in the seventeenth century. At that time, the world of science was controlled by men (Golinski 2002:125–126), and women's involvement in scientific matters was in its infancy, despite such remarkable cases in the medieval period as Madame Trota, Hildegard of Binden and Dorotea Bucca (Whaley 2011:16). Unlike contemporary assertions maintaining the supposed weakness of women (Gray 2007:26), this study will show that, even though during this period women wrote following certain rules of decorum and modesty as shown by Alonso-Almeida and Mele-Marrero (2014), they did not avoid the use of a more critical tone. Women seemed to defend their views while entering the largely male territory of specialised writing with a combination of humble and

self-deprecatory writing, as highlighted by Ostovich and Sauer ([eds] 2004a: 8), and a critique of others' work, as we shall show in due course.

The study of (im)politeness in earlier English texts is not new, as evidenced in significant contributions focussing on either introductions to historical (im)politeness research (Kádár and Culpeper 2010; Bax and Kádár 2012; Jucker and Taavitsainen 2013) or examinations of specific (im)polite phenomena in language (see among others, Brown and Gilman 1989; Watts 1999; Jucker 2000; Culpeper and Archer 2008; Csulich 2016; and Culpeper 2017). In addition to the general literature on (im)politeness, our focus on this phenomenon considers Lave and Wenger's (1991) community of practice model, as this model will help us to understand certain language strategies considered to be impolite under a certain inability to observe a set of apparently institutionalised norms of conduct. These strategies often report on value judgments on the works of others.

The seventeenth-century texts used in this research are all contemporary editions, as shown in facsimile reproductions. In addition to employing corpus tools, all the documents analysed here were inspected visually to detect cases of the use of impoliteness strategies. This study seeks to both quantify and qualify these instances of impoliteness in female scientific and technical writing. This will allow us to interpret what writers may convey with the use of impoliteness. Consequently, there are two research questions. The first is what type of impoliteness strategies are more frequent in the texts of female writers? The second is in addition to the gendered issues involving the evaluation of female technical and scientific works by male scholars, what other motivations are there to use impoliteness strategies?

In the following sections, we first present a brief introduction to explain our understanding of impoliteness and how this concept will be applied in this paper. Subsequently, we describe the corpus and explain the methodology. The analysis of the texts is followed by the discussion and, finally, by concluding remarks. We are interested in showing that despite the traditional weak position of women in scholarly contexts, especially in the pre-scientific scene, there is evidence indicating influential positioning or, at least, a desire to be considered on equal terms.

2. Impoliteness

Both politeness and impoliteness are concepts that are constantly evolving to meet interpretative demands according to specific communicative needs. Leech (2014: 3) proposes a definition of politeness focussing on its interactional dimension:

Politeness, in this broad sense, is a form of communicative behavior found very generally in human languages and among human cultures; indeed, it has been claimed as a universal phenomenon of human society. What it means to be polite [...] is to speak or behave in such a way as to (appear to) give benefit or value not to yourself but to the other person(s).

It follows, therefore, that the concepts of (im)politeness have an obvious cultural and social dimension (see Lakoff 2005: 4ff; Culpeper 2008). This relational scope is aptly described by Mills (2009: 1049):

When interacting with others, utterances which are judged to be impolite are an indication, not just of face threat, but more importantly of the degree of solidarity and friendship between interactants, and the relative status, and more importantly, the perception of status difference, of the participants in relation to one another.

In the case of science and scholarly fora in which perceptions of such distinct aspects as solidarity and hierarchy may have greater importance, politeness and impoliteness protocols might be deemed unavoidable (Myers 1989; Hyland 2005; Gil-Salom and Soler-Monreal 2009), and the non-observance of politeness norms may lead to situations of misunderstanding and rejection to avoid impositions from third parties. In this context, reconciliation of viewpoints, for instance, may appear hopeless. In science, debates tend to be moderate, probably to comply with unstated rules of academic decorum, and impolite strategies seem to be kept to a minimum. This may explain the paucity of research articles on impoliteness in scientific writing (e.g., Babaii 2011; Khosravi 2015), especially if compared with the research articles relating to politeness strategies in this field. The phenomenon of impoliteness is sometimes included, albeit peripherally, in these papers on politeness. Impoliteness, nevertheless, should not be viewed as an opposing notion to politeness as it has its own functions in discourse, even if these may overlap with those suggested in the use of certain politeness strategies (see Kienpointner 1997; Mills 2005). As we shall show in this paper, impoliteness devices may have a rhetorical function to develop and elaborate meaning in argumentation.

At this point, we focus on the definition of impoliteness to be followed in this paper. As noted by Culpeper (2011: 19), there are different approaches to the concept, and these involve such aspects as (verbal) aggression, rudeness and imposition, for example (see Culpeper 2009). These notions may not only refer to verbal exchanges, as body language may also be involved. Context offers an excellent source to identify real impolite situations, and this includes a specific psychological mind framework: '[i]mpoliteness is very much in the eye of the beholder, that is, the mind's eye. It depends on how you perceive what is said and done and how that relates to the situation' (Culpeper 2011: 22).

Impoliteness does not, therefore, rely exclusively on the person communicating the underlying action of impoliteness. It also relies on such matters as the identification and acceptance of the impolite communicative event as face-threatening according to a socially and individually assumed code of behaviour that appears to have been breached after a communicative exchange. The fact that impoliteness is a situated phenomenon, as explained by Culpeper (2011), suggests different perlocutionary effects as a result of impolite behaviour. These can range from deliberate non-observance of the impolite (verbal) action or the urge to ask for repair or apologies to the cancellation of further communication, as communication is not maintained in socially acceptable conditions.

The consequences of using impoliteness strategies during a conversation, for instance, between two good friends, might be consciously nullified, or not, depending on the analysis by the affected person of some available assumptions concerning the extent to which this person actually intends to cause harm. Other circumstances such as depression, abnormal drowsiness, occasional state of irritability or anxiety may lead people to be less understanding and more likely to feel attacked and offended without any further consideration. This study identifies anxiety to be the object of men's harsh criticism as one motivation female writers might have had for using impoliteness strategies, as we shall see in the description of specific instances. In this context, Culpeper's (2011: 254) definition of impoliteness seems adequate for interpreting cases of impolite behaviour in seventeenth-century utilitarian prose:

Impoliteness is a negative attitude towards specific behaviours occurring in specific contexts. It is sustained by expectations, desires and/or beliefs about social organisation, including, in particular, how one person's or a group's identities are mediated by others in interaction. Situated behaviours are viewed negatively – considered 'impolite' – when they conflict with how one expects them to be, how one wants them to be and/or how one thinks they ought to be. Such behaviours always have or are presumed to have emotional consequences for at least one participant, that is, they cause or are presumed to cause offence.

Verbal aggression, as highlighted by Archer (2008), is another impoliteness-related concept that might allow us to understand and describe some cases of impoliteness in the texts that are analysed. In the study of aggression, assertion is considered to be "polite aggression" (Gallois 1994:317). This perception is, however, seen differently according to the situation in which assertive language is used. Scientific writing is generally viewed as traditionally polite even if there is an evident imbalanced power relationship between the experts and their readers (who can also be experts). Archer (2008:181) notes that according to Culpeper (1996:359), impoliteness is not necessarily the result of passionate discussions,

but it can happen naturally in certain situations in which impoliteness is part of the norm or is tolerated as a rhetorical strategy. Following on from these ideas, evidence from the texts studied here seems to confirm that the use of aggressive language, including assertion, is a situated phenomenon that might be acceptable in a community of practice and as part of an argumentative process. Thus, the use of impolite strategies appears to be carefully calculated to meet specific communicative demands in a particular context (seventeenth-century England), in a particular setting with specific participants (specialised writing; specialised and non-specialised readership; women writing utilitarian texts in English), and with a particular pragmatic function (i.e., to minimise the impact of harsh criticism; to exert a certain degree of authority; to develop argumentation).

Such reactions as prediction and estimation regarding an evaluation of the information women provide in their books may invoke impoliteness strategies as a means to protect their public image, and this may include self-deprecation regarding their supposed weak nature (Peters 2004: 135). There is an apparent connection between impoliteness and gender, as Mills (2005: 268–269) states:

Accusations of impoliteness generally signal to participants that there has been a mismatch in the judgment of status, role or familiarity and thus perhaps also a mismatch in their assessment of their position in the particular Community of Practice. Where this mismatch may be significant is in the stereotypes of gender-appropriate behaviour. If one of the participants in a Community of Practice assumes that females should be submissive, linguistically and interactionally, then any form of assertive or 'masculine' linguistic behaviour may be interpreted as impolite or inappropriate. Thus impoliteness is not simply a question of making statements which are offensive, but also of displaying to others an assessment of one's social standing and relation to others, and, among other things, one's assessment of what constitutes gender-appropriate behaviour.

The notion of a community of practice has been used successfully in linguistics for the detection and analysis of variation and subsequent potential change by Kopaczyk and Jucker ([eds] 2013). This notion is also valid for the study of impoliteness strategies in a community of specialists in the seventeenth century, such as the one represented in the corpus we have selected for analysis. A community of practice is defined as follows:

A community of practice is a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice. A community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. Thus, participation in the cultural practice in which any knowledge exists is an epistemological principle of learning. The social struc-

ture of this practice, its power relations, and its conditions for legitimacy define possibilities for learning (i.e., for legitimate peripheral participation).

(Lave and Wenger 1991: 98)

This definition, which includes such aspects as power relations and legitimacy in relation to knowledge, is complemented by a more functional perspective on the community sharing a set of common activities and goals:

A CofP [community of practice] is an aggregate of people who, united by a common enterprise, develop and share ways of doing things, ways of talking, beliefs, and values – in short, practices. A CofP can develop out of a formally or informally constituted enterprise: a choir, a gang, a secretarial pool, a family, a garage band, a friendship group, or an academic department. [...] Individuals make sense of themselves and others through their forms of participation in and contributions to the community. [...] Thus a CofP is not isolated and inward-looking, but shapes its participants' relations both among themselves and with the rest of the world.

(Eckert and McConnell-Ginet 1999: 186)

Mills (2003:30) acknowledges that the notion of a community of practice is not a straightforward one. A community of practice does not embody a monolithic concept. One reason is that members of this type of community not only deal with consensus in their attainment of the same goals, as there is also room for conflict and disagreement as well as the pursuit of specific individual goals. Another reason is that members of a community of practice might be members of other communities of practice in which variation and change permeate. Moreover, Mills adds that the politeness norms used by a member of a community may include those of the community of practice and those of the individual (Mills 2003: 22).

In this paper, we understand that the authors of the corpus of prefaces belong to a particular community of practice, one that focusses on developing and disseminating scientific and technical knowledge. Within this community of practice, women might be considered to represent a sub-community with their own expectations. In this context, their aims are to find and shape their place within the general community of practice, as well as to be able to offer justificatory evidence for their texts. Other contemporary sub-communities affecting the analysis of the texts in the corpus of prefaces include both a group of scholars following a learned classical tradition and a group of scholars leading a more rational type of learning. According to the data collected, this learning can be based on such aspects as observation and description of facts and deductive processes. In this context, elaboration and negotiation of meaning may involve the strategic use of impoliteness strategies as part of the rhetorical devices used by female writers in the corpus to delineate their place in the community of practice and defend their point of view.

Findings in the corpus studied may contradict some of the existing literature which claims that female writing of the past is characterised by deference and powerless speech, as stated by Lakoff (1975) and recalled by Mills (2005: 272). This submissive attitude was studied by Leaper and Robnett (2010), who concluded that there is undoubtedly a difference between men and women. Women tend to use slightly more instances of less assertive language than men in their corpus of studies dealing with men's and women's use of tentative language. The authors admit, however, that despite this finding, 'there was not a pervasive gender difference' (Leaper and Robnett 2010: 139). Although the study presented here is not gender-contrastive, partial conclusions concerning women's tentative speech may arise. As specified by Kienpointner (1997) and Mills (2005), the use of impolite language is not openly in opposition to polite language, and impolite language has particular functions in discourse.

3. Method and corpus

This study is based on evidence collected from a set of utilitarian texts published in the seventeenth century in England. We have focussed on prefatory material. Prefaces seem to have an advertising function, as highlighted by Martilla (2014: 137) in his study of early modern English vernacular in medical texts. Furthermore, prefaces are the space to outline what the book is about, its potential readership, and any justificatory matter, as explained by Taavitsainen (2014: 104). In this context, we believe that prefatory material allows the voice of the writers to be represented more accurately, especially in a period characterised by plagiarism (see Alonso-Almeida and Mele-Marrero 2014: 8). The idea of originality in prefaces is highlighted by Eckerle (2007: 98) as follows:

The preface allows for that which is typically not allowed, including the published voices of unsanctioned writers and, in turn, more possibilities for innovation and even personal commentary than such writers would be allowed in a primary text. This is especially the case for women of the English early modern period who chose to write – and occasionally even publish – despite strong social pressure against such acts. These women wrote from the social margins and appropriately found a marginal space from which to enter the text.

For the corpus, we selected second and later editions rather than first editions when available. The reason for not selecting first editions is that later editions may contain additions by the authors, and that simply means more text for analysis. When possible, we have compared first and second editions to detect potential editorial interference. This is especially warranted in the case of the texts in which

either the date of death of the author is unclear or the date of publication of the new edition is later than the date of death. Although there might be obvious reservations regarding second editions and the authorship of prefatory text, every effort has been made to include material that is, in principle, the original text of the authors and not a result of later editing. The cases in which the authors use prefatory material to justify the new edition may be useful to confirm original authorship. This is the case in an epistle to the reader in Cavendish's *Philosophical and Physical Opinions* (1663). The author states that she has taken advantage of the new edition to review and amend the text of the first editions in 1653 and 1655: '[t]he Ground of these my Philosophical and Physical Opinions was Printed in the Year 1653. to which in the Year 1655. I made an Addition, but after I Returned with my Noble Lord into England, I have since Reviewed my Former Work, and finding it not so Perfect, as I wish it had been, I have imployed part of my Idle Time to make it more Intelligible for my Readers' (Cavendish 1663: C1^v).

The complete books were downloaded in their facsimile form from the *Early English Books Online* (EEBO) database through the subscription held by the University of Las Palmas de Gran Canaria. The EEBO collection includes more than 100,000 titles covering the period 1473 to 1700. Access to the texts through the EEBO platform guarantees genuineness in that the text has not been manipulated by editorial work. Its main drawback, however, is that computational operation cannot be performed directly on these texts, and therefore we have transcribed these texts and stored them as plain text. Some of the texts are already provided in transcribed form through EEBO-TCP (Text Creation Partnership). These transcriptions have been checked against the originals and are indicated with an asterisk in the abbreviation entry in Table 1. Impoliteness phenomena in these texts have been identified through direct visual inspection to tag each of the cases according to the categories described below. This tagging enables later accurate machine counting.

We have collected material from nineteen texts from the period 1602 to 1696, and the total number of words is 31,325. The translator's prefaces and any other prefatory texts known to have been written by men have not been considered in this study. The contents of the books are varied and include medical, religious, culinary, physics and philosophical contents. The information concerning these books, which is summarised in Table 1, includes the year of publication, title, name of the author(s) and the number of words per text. An abbreviation for each text is also included in this table for ease of reference in this paper. Some of the authors in the corpus, namely Russell, Lincoln, Cavendish, Sharp and Trye, are included in an anthology of early modern English texts written by women (Ostovich and Sauer [eds] 2004b).

Table 1. Details of the texts included in the corpus

Year	Short title of book	Author	Edition	Abbreviation	Word number
1605	<i>A way of reconciliation of a good and learned man</i>	Russell, Elizabeth Cooke Hoby, Lady	2nd	WR	275
1622	<i>The Countesse of Lincolnes nurserie</i>	Lincoln, Elizabeth Clinton, Countess of	2nd	CL*	813
1634	<i>Antidote against purgatory</i>	Owen, Jane	2nd	AA	1,992
1635	<i>The mothers legacie to her unborne childe</i>	Jocelin, Elizabeth	2nd	ML	2,604
1653	<i>A choice manual of rare and select secrets in physick and chyrurgery</i>	Kent, Elizabeth Grey, Countess of	2nd	CM*	338
1662	<i>The ladies directory in choice experiments & curiosities</i>	Woolley, Hannah	2nd	TL	300
1663	<i>The compleat midvvife's practice enlarged</i>	Boursier, Louise Bourgeois (author) (prefaced by T.C., I.D., M.S. & T.B. The first two identified as Catherine Turner and Dina Ireland (Evenden 2000: 8).		CP	636
1663	<i>Philosophical and physical opinions</i>	Newcastle, Margaret Cavendish, Duchess of		PA	7,688
1664	<i>The cook's guide</i>	Woolley, Hannah	2nd	CG*	564
1664	<i>Philosophical letters</i>	Newcastle, Margaret Cavendish, Duchess of		PL*	2,250
1668a	<i>Observations upon experimental philosophy</i>	Newcastle, Margaret	2nd	OE	6,485

Table 1. (continued)

Year	Short title of book	Author	Edition	Abbreviation	Word number
1668b	<i>Ground of natural philosophy</i>	Cavendish, Duchess of Newcastle, Margaret Cavendish, Duchess of		GN*	444
1671	<i>The midwives book</i>	Sharp, Jane	2nd	MB	1,135
1673	<i>The gentlewomans companion</i>	Woolley, Hannah	2nd	GC	720
1675	<i>Medicatrix, or, The woman-physician</i>	Trye, Mary	1st	MX	1,944
1686	<i>The Accomplish'd ladies delight</i>	Woolley, Hannah	2nd	AL	223
1687	<i>The female advocate</i>	Chudleigh, Mary Lee	2nd	FA	1,008
1690	<i>Mundus muliebris</i>	Evelyn, Mary	2nd	LD*	1,383
1696	<i>The whole duty of a woman</i>	Lady	2nd	WD	432

Even though this list is not impressive in the number of texts it includes, female writers in public affairs other than purely non-fictional were not as common as male writers. This does not mean that women did not comment on delicate public topics in the seventeenth century. In fact, this list proves women's involvement in the elaboration of meaning in scientific and technical matters, even if women may sometimes have needed male patronage and support to participate in the public sphere (Elk 2017: 18). As we shall see in our analysis, the topos of female weakness to undertake certain social activities is pervasively deployed as a defensive shield in the prefaces of learned and practical manuals.

3.1 Culpeper's categories of impoliteness super-strategies and output strategies

The texts were examined using the taxonomy of impoliteness super-strategies and output strategies described by Culpeper (2016a: 425ff) based on Culpeper (1996: 356–357) and revised in Culpeper (2005). We tagged the texts manually with the indication of the strategy each example represents (so that, later on, we would be able to use automatic counting of the cases after performing the analyses of the texts). Generally, the impoliteness strategies seek to attack or threaten

face rather than protect face, and this stands in clear opposition to Brown and Levinson's (1987) model of protecting face in interaction.

Culpeper's super-strategies reflect how face may be threatened. One form is the use of unambiguous impolite language – that is, bald on-record impoliteness. Other ways are the use of expressions seeking to damage either the addressee's positive face wants or the speaker's negative face wants. The former is positive impoliteness, while the latter is negative impoliteness. Lack of sincerity is also a means of impoliteness, and cases of insincere politeness are categorised by Culpeper as sarcasm or mock politeness. Finally, failing to use politeness strategies where they are expected is labelled as "withhold politeness".

Positive and negative politeness are sub-classified into a set of output strategies. The presence of these in discourse is not mutually exclusive, and more than one strategy may co-occur naturally in a particular exchange, as we shall see in due course. The following are positive output impoliteness strategies: ignore/snub the other, exclude the other from an activity, disassociate from the other, use inappropriate identity markers, use obscure or secretive language, seek disagreement, make the other feel uncomfortable, use taboo words, call the other a name, and be disinterested, unconcerned, unsympathetic. Negative output impoliteness strategies include the following: frighten, condescend, scorn or ridicule (emphasise your relative power), invade the other's space (literally and metaphorically), explicitly associate the other with a negative aspect, and put the other's indebtedness on record. To these, we have added another negative output impoliteness strategy, which is to avoid the use of mitigating effects in stancetaking deliberately, which we will describe later in this paper.

Blas Arroyo (2001) disagrees with Culpeper's interpretative dimension leading to the actual categorisations in his model. We, however, endorse Culpeper's model and we should note that Culpeper (2016b: 425) himself states that the list of the output strategies he proposes is logically open to additions. Actually, the interpretation of cases of impoliteness is an individual task that is conditional on perceptions and contextualisation, and all this has an influence on the way in which instances of impoliteness strategies in discourse are understood. Blas Arroyo (2001) also expresses his concerns regarding the distinction made about the categories "positive impoliteness" and "negative impoliteness". For him, this distinction cannot be safely determined, as certain contextual variables may be lacking or, perhaps, opaque. In this paper, however, we have opted to retain Culpeper's distinction between positive and negative impoliteness as their descriptive potential has been validated in the literature. In our analysis, we consider the category of "bald on record" as the super-ordinate for the negative and positive impoliteness categories of Bousfield (2008: 64). The identification of impoliteness devices is not always straightforward. Impoliteness strategies either

co-occur with other impoliteness structures or are heavily contextualised, and this has already been reported in the literature on impoliteness. This is expected in the sense that impoliteness may indicate stance, and therefore represents part of the rhetorical argumentation in the texts in the corpus.

4. Impoliteness strategies

In our identification of impoliteness devices, we kept in mind contemporary use of the language, as some cases pertaining to seventeenth-century social ways of addressing might be considered to be ridiculing and patronising expressions nowadays. This is the case of “Thus you see, young Sparks” in the following example (word boundaries, spelling and punctuation retain the original conventions; *r* stands for folio recto and *v* stands for folio verso):

- (1) Thus you see, young Sparks, how the Stile and Method Wooing is quite changed, as well as the Language, since the days of our Fore Fathers (of unhappy Memory, simple and plain Men as they were) who Courted and chose their Wives for their Modesty, Frugality, keeping at Home, Good-Housewifery, and other Oeconomical Virtues then in Reputation.

(LD, A2^v-A3^r)

In the following sections, we discuss instances of impoliteness devices based on Culpeper’s taxonomy in the corpus of prefaces. These fall into cases of bald on record impoliteness and sarcasm. Bald on record impoliteness is defined by Culpeper et al. (2003:1554) as follows: “bald on record impoliteness is typically deployed where there is much face at stake, and where there is an intention on the part of the speaker to attack the face of the hearer”. This definition aptly establishes the differentiation between this and Brown and Levinson’s (1987: 69) notion of bald on record strategy, as the latter emerges as a response to a particular face-threatening situation that stands as a valid justification for the attack. In the case of Culpeper et al.’s notion, the attack is in itself the excuse for the bald on record expression. As stated in the previous section, we consider the bald on record category to be the super-ordinate of negative impoliteness and positive impoliteness, these two accounting for the face functionality of these devices. The last part of this section presents the quantitative analysis of the impoliteness strategies identified in the corpus.

4.1 Positive impoliteness

Positive impoliteness strategies in the texts mainly seek to make the writers separated from other scholars for reasons of their community of practice (e.g., belonging to a different learning tradition or gendered matters), hence the use of the following strategies: dissociate from the other, seek disagreement, and be disinterested. As employed in the corpus of prefaces, these categories help to establish some kind of distance between the writer and the scholar or the group of scholars targeted.

4.1.1 *Dissociate from the other*

In the following instance, an open attack on a particular group of writers is made clear with the use of unambiguous evaluative language:

- (2) Besides, many of their Writings are but parcels taken from the Ancient... Nor do I think their weak works will be able to overcome the strong Wits of the Ancient; for, setting aside some few of our Moderns, all the rest are but like dead and withered leaves, in comparison to lovely and lively Plants. (OE, b2^r)

This example refers to a particular scientific-thought style, namely the use of classical writing and the appeal to classical authors. Indeed, the use of classical knowledge for the different spheres of (pseudo)science was the customary practice in medieval learning and beyond up to the modern period (see Whaley 2011: 58). In this excerpt, Cavendish is heavily criticising this method of elaborating knowledge, which is usually the result of copying and accretion. The effect of this is the production of works showing repetition of earlier knowledge that has not been tested or defied by reason and observation. In this context, the author qualifies the material following this tradition as “weak”.

Cavendish deploys the subjective *I think* here specifically to reveal her scientific affiliation and community of practice. The use of *weak* referring to the work of her contemporaries in this example stands in sharp contrast with *strong* as applied to their source classical writers. In a way, she regards her contemporaries as, at best, mediocre imitators, and as such, they are “dead and withered leaves”, and dissociate her from the classicist view. She mostly positions herself in the progressive group she regards more optimistically with the words *lovely* and *lively*. In the case of medicine, for instance, these opposing views of science lead to a confrontation “between university trained physicians still practising Galenic medicine and empirics or *medicus*, general practitioners of physick” (Whaley 2011: 84). An important point in this example is the fact that disassociation is certainly the effect of the use of what seems to be a non-conventionalised impoliteness formula, that is, “all the rest are but like dead and withered leaves”.

Culpeper (2011) studies and classifies patterns of conventionalised impoliteness formulas, among which the one used by Cavendish here could be categorised as a type of insult, namely “personalized third-person negative references” (Culpeper 2011: 135). All of this indicates that strategies are not mutually exclusive and may operate together to achieve the same communicative effect.

In the group of general practitioners is Mary Trye, the author of the following excerpt, in which she opposes and attacks Henry Stubbe, referring to him in her text as the “Warwick Medicus”, who follows the Galenic tradition:

- (3) And since, I must take liberty to tell Mr. *Stubbe*, That I am satisfied there is Ability enough in my Sex, both to discourse his envy, and equal the Arguments of his Pen in those things that are proper for a Woman to engage: and what is more, that knowledge, and skill in Chymistry, so far as to obtain those Medicines, that neither the *Medicus* at *Warwick*, nor all his Authors he pretends he hath perused, if not conjured together, could ever paralel or procure.

(MX, 2–3)

Trye’s confrontation is based on Stubbe’s criticism of her father, Thomas O’Dowde, referred to explicitly in Stubbe’s *Campanella*: “they promoted the Anti-Colledge of Pseudo-Chymists, encouraging Odowde and his ignorant Adherents in opposition to the Physicians” (1670: A3^r; see also Heyd [1995: 149] for more contextual information). Trye claims her right, despite being a woman, to answer and defend her position, and obviously her father’s position, in her text. In this context, she reacts straightforwardly, without restraint, to Stubbe and explains his attack as the result of envy and a lack of intellectual capacities (cf. Jacob 1983: 196 n185). In other words, she refers to Stubbe’s, and also his followers’, inability to deal with newness in scientific matters, especially in medicine, as the main drawback in understanding anything other than classical wisdom.

Example (4) presents a new issue connected with these two academic groupings, and this originates in the role that language plays:

- (4) But that they [our English Writers] think to make themselves more famous by those that admire all what they do not understand, though it be Non-sense; but I am not of their mind, and therefore although I do not understand some of their hard Expressions now, yet I shun them as much in my Writings as is possible for me to do, and all this, that they may be the better understood by all, learned as well as unlearned; by those that are professed Philosophers as well as by those that are none.

(OE, c1^r)

In this example, the author bases her attacks on the Galenic writers’ face on two aspects. One is these authors’ own pretensions of admiration and fame: “they think to make themselves more famous”. The smugness of these writers

is, however, truncated and criticised straightforwardly with the evaluation “it be Non-sense”, which clearly reports on the quality of their writings. The other is the Galenists' use of classical terms and which Cavendish rejects, as these represent learned vocabulary that is difficult for uninstructed people, and for some specialists, to comprehend (e.g., “I do not understand some of their hard Expressions”). The use of this type of language obviously hinders understanding and learning even if it is deployed in its technical domains of expertise (cf. Lancashire 2009: 116).

Moving on from scientific groupings and associations, the following example by Lady Mary Lee Chudleigh is particularly interesting, as it concerns the writer and her autonomy in writing:

- (5) If you inquire who I am, I shall only tell you in general, that I am one that never yet came within the Clutches of a Husband; and therefore what I write may be the more favourably interpreted as not coming from a Party concern'd.
(FA, A3^r)

Chudleigh's powerful voice is seen in the use of the deontic modal *shall* in combination with the adverbial *only*, making clear that she makes her own decisions in providing information of any kind, for example, “I shall only tell you”. The force of this utterance is supplemented with explanatory material that seeks no justification. The intention of this clarification is detaching from men, and she, therefore, considers herself free to write according to her own judgment and expectations. In short, the author of this fragment is clearly delineating her own place within her scientific community of practice.

4.1.2 *Seek disagreement*

As highlighted above, the “seeking disagreement” category may have a dissociating function in the corpus. In the following examples, the authors establish polarisation that may lead to conflict in an attempt to claim their own territory within the scientific group. While in Example (6) there is an imperative, “cease to censure”, that clearly indicates disagreement, a declarative stating this same function appears in Example (7), “I proceed thus to Defend and Challenge”. The latter example is contextualised by other such impolite value-laden forms as *rude*, *idle Paper blotted with Folly* and *intolerable errors*, for example.

- (6) Wherefore the fault not being mine, excuse and cease to censure: For which just, and but reasonable favour, thou shalt deservedly oblige me. (CM, A4^r)
- (7) In sum, his rude, idle Paper blotted with Folly, and uncivilly reflecting on this deceased Physician I have mentioned, together, with some other bold and intolerable errors, imposed on the World by Mr *Stubbe*, provokes. And therefore I proceed thus to Defend and Challenge. (MX, 4)

The following example also indicates disagreement:

- (8) for I cannot chuse but acquaint you, *Noble Readers*, I have been informed, that if I should be answered in my Writings, it would be done rather under the name and cover of a Woman, then of a Man, the reason is, because no man dare or will set his name to the contradiction of a Lady; and to confirm you the better herein, there has one Chapter of my Book called *The Worlds Olio*, treating of a Monastical Life, been answer'd already in a little Pamphlet, under the name of a woman, although she did little towards it: wherefore it being a Hermaproditical Book, I judged it not worthy taking notice of. The like shall I do to any other that will answer this present work of mine, or contradict my opinions indirectly with fraud and deceit. (PL, C1^r-C1^v)

In this example, the attack is clearly seen in the use of “she did little towards it” along with the pejorative use of “hermaproditical book” and “I judged it not worthy taking notice of” and “The like I shall I do to nay other”. The stimuli for the attack are also explicitly stated in this excerpt, and these are *fraud* and *deceit*. There is obviously a further motivation for this attack, which is the imbalance among authors in the same community of practice on the basis of their gender. A general idea found in the books analysed reveals that there is the general Aristotelian belief that women represent the weaker sex and they cannot, therefore, speculate on scientific and technical matters as men can (see Eales 1998: 3). The intention of the attack is to plead for respect and consideration of her work, and to claim and signal position within her community of practice openly.

4.1.3 *Be disinterested, unconcerned, unsympathetic*

Example (9) contains an instance of the “Be disinterested, unconcerned, unsympathetic” sub-category:

- (9) If thereby thou suck abundance of Profit, I shall be superlatively glad, but if any, or perchance many unlooked for mistakes, for want of a due application, bid thee entertain contrary thoughts, the effect not answering thy curious expectation, upon a most serious reflex, know, that nothing is absolutely perfect, and withal, that the richest and most sovereign Antidote may be often misapplied. (CM, A4^r)

The function of impoliteness expressions here is to show a lack of concern regarding critical voices if they ever stem from a negative attitude towards the author's book. Grey invites a hypothetical opponent to be more kind to her writings by employing a negative impoliteness strategy. Grey's invitation with an imperative, “bid thee entertain”, is somehow attenuated by the preceding conditional sequence, namely “if any, or perchance many unlooked for mistakes”. By

means of this invitation, Grey introduces later her disregard of potential criticism as “nothing is absolutely perfect”, clearly exemplifying her defensive attitude. She openly understands that perfection can never be attained, and that includes the writings of men. With this, she attempts to make the status of all the members of the community equal. Moreover, fragments like this show the anxiety of female writers about being criticised for being women.

4.2 Negative impoliteness

These strategies are used to threaten the addressee's negative face wants. We have identified three of Culpeper's output strategies in the corpus: “condescend, scorn or ridicule, emphasise your relative power”, “invade the other's space – literally or metaphorically” and “explicitly associate the other with a negative aspect”. The last category we propose is “avoidance of mitigating effects in stancetaking”. This output strategy is not used explicitly as an isolated one in Culpeper's design of impoliteness output strategies, although this does not mean that it cannot fit into his output strategies. For reasons we will explain later, we have decided that keeping this strategy as a separate category makes sense in this study.

4.2.1 *Condescend, scorn or ridicule, emphasise your relative power*

The following examples taken from the corpus can be included within Culpeper's “condescend, scorn or ridicule, emphasise your relative power”:

- (10) I know very well, that my Opinions cannot be generally Received and Applauded, for as the Old Proverb says, So many Men so many Minds, and it is not likely, that all Men may Agree in one Mind or Judgement, and since, especially in Natural Philosophy, Opinions have Freedome, I hope these my Opinions may also Enjoy the same Liberty and Privilege that others have.
(PA, Nnn^v)
- (11) I doubt not but judicious persons will esteem this Essay of mine, when they have read the Book, and weighed it well; and if so, I shall the less trouble my self what the ignorant do or say.
(GC, A6v–A7r)

In Example (10), Cavendish's condescending attitude is manifested in the use of what she qualifies as an old proverb, which might actually be seen as an inter-subjective device as it portrays old and shared wisdom. The aphorism “so many men so many minds” represents the essence of the author's defensive position. With it, she states that all kinds of information can undergo polarisation depending on each particular reading regardless of the author's gender. The presence of the dynamic modal *can* in “my Opinions cannot be generally Received and Applauded” reveals the general view contemporaries might have of female

writing. This modal is employed to highlight the differences between writings by either gender. From a moral and an empirical standpoint, Cavendish wants to suggest that hers is a more powerful position as she does not undermine any work for reasons of authorship gender. Ideas are on top of social biases and misconceptions, and her ideas should be respected and duly considered within her community of scholars and physicists: “Opinions have Freedom, I hope these my Opinions may also Injoy the same Liberty and Privilege that others have”.

The case in Example (11) starts with a negative impoliteness strategy, “I doubt not but...”, that clearly manifests Woolley’s craving for the respect she deserves from the expert community to which she belongs. The tone is further aggravating from a politeness perspective with the addition of “and if so, I shall the less trouble my self what the ignorant do or say”, a statement that conclusively exhibits her contempt. The strategy may appear very rude; however, the fact that it flows from an argumentative thread might reduce the bluntness of the claim.

4.2.2 *Invalidate the other’s space – literally or metaphorically*

The instances found in the corpus that can be categorised as cases of the “invade the other’s space” category in Culpeper’s output strategy are often to be understood metaphorically, as in the following:

- (12) I Bequeath it to you as my Legacy; and indeed, the last in this kind, I shall be capable of Presenting you withal; Hoping you will Seriously Weigh and Consider it, as it was Meant, and Intended for your Good and Singular Advantage. (WD, A4^v)
- (13) The reason why I sent it amongst you without the Protection of some Noble Person, was, because I would not seem to force a Favour altogether underserved; but since it is so generally accepted on, as I find it is, I hope you will rather Commend than Blame my Modestie. (CG, A6^v)

The interactional nature of these examples, achieved through the use of such relational cues as the pronouns *I* and *you*, and their obliques in both cases, provides a suitable context for making a direct request to their readers. The two authors employ, convincingly, what seem to be polite appeals introduced by *hoping* in Example (12) and *I hope* in Example (13) to minimise potential face threats. In our view, however, the combination of these *hope*-formulae with the modal *will* in these instances appears to have a pushing effect to elicit the expected and desired evaluation of their books. In the case of Example (12), the use of the attitudinal marker *seriously* reinforces this idea of intrusion into the readers’ space, as the author tells them how to read the text with a specific frame of mind. Something along the lines of this example takes place in Example (13), as the readers are virtually asked to show approval for the work presented.

4.2.3 *Explicitly associate the other with a negative aspect*

The strategy “explicitly associate the other with a negative aspect” is identifiable in the corpus because of the presence of value-laden words. These words designate undesirable characteristics of the opponents or of their writings, including their style. This is shown in the following instances taken from the corpus:

- (14) We have perused all that have been in this nature in *English*, and finde them strangely deficient, so crowded with unnecessary notions, and dangerous mistakes, that we thought it fit to give you warning of them, that for the future the unfortunate practisers, may prevent the *almost guilt*, of the crying sin of murder. (CP, A2^r)
- (15) I will not say, but many of our Sex may have as much as wit, and be capable of Learning as well as Men; but since they want Instructions, it is not possible they should attain to it: for Learning is Artificial, but Wit is Natural. Wherefore, when I began to read the Philosophical Works of other Authors, I was so troubled with their hard Words and Expressions at first, that had they not been explained to me, and had I not found out some of them by the context and connexion of the Sense, I should have been far enough to seek; for their hard words did more obstruct, than instruct me. (OE, b4^v)
- (16) Neither do I believe it any difficult task to engage this mighty Champion, who insolently Proclaims himself, Dictator to God and Man, King and Subject, and indeed to all the World. (MX, A4^r)
- (17) Though there have been many Books extant of this kind, yet I think something hath been deficient in them all, I have therefore adventured to make another, which, I suppose, comprehends all the Accomplishments necessary for Ladies, in things of this Nature. (WD, A1^v)

These excerpts contain instances of words indicating negative aspects of the works in both their form and their contents, namely “strangely deficient, crowded with unnecessary notions, dangerous mistakes, artificial (learning)” and *obstruct*. In general, the writers are censuring the quantity and the quality of the information in the works of their fellow writers. By doing this, they seem to seek validation of their own books. This is especially true in the case of Example (14), which is a new text for midwives written by women as opposed to other contemporary books of the kind written by men.

In Example (15), Cavendish is highly critical of classicist writers' use of language. We wonder, however, whether her disapproval of the use of hard words and expressions accomplished its function in the way she intended. The fact that she accepts that “their hard words did more obstruct than instruct me” since she “was so troubled with their hard Words and Expressions at first” may have done

more harm to women than good at the time. As we stated earlier, women were considered less able and less well prepared than men. A good example of this instance is Cockeram's (1623) dictionary of hard words, the full title of which mentions potential readership, specifying that the volume is also for women: *The English Dictionarie: Or, An Interpreter of Hard English Words. Enabling as well Ladies and Gentlewomen, Young Schollers, Clarkes, Merchants...*

4.2.4 Avoidance of mitigating effects in stancetaking

This output strategy has been designed to include all the instances in the corpus that convey the imposition of perspective in discourse. This strategy is particularly meaningful in scientific discourse, as we traditionally expect waves of attenuating epistemic devices to avoid damaging the readers' or hearers' negative face wants. Generally, communication among scientists seeks to reduce conflict and aggravation to avoid receiving harsh criticism in return. This strategy does not serve for the opposite either. Its function is the creation of authorial space by straightforwardly showing opinion and position with respect to the ideas that are described. Overall, this strategy goes against the negative face wants of their target readers, especially fellow scholars.

The language strongly associated with the "avoidance of mitigating effects in stancetaking" in the corpus can be clearly grouped into certain domains of epistemic and effective devices echoing the terminology used for the description of stancetaking by Marín-Arrese (2009). Table 2 includes instances of impoliteness formulae per domain identified in the corpus.

Table 2. Impoliteness formulae

Domains	Language associated
Certainty and belief	<i>1st pers. sg.</i> : "I do assure you all that...", "I am sure you will be...", "I may securely affirm...", "Truly I believe...", "I am sure...", "I do verily believe...", "I am sure thou...", "I doubt not...", "I am sure that...", "Neither do I believe...", "I do firmly believe...", "I doubt not...", "Sure I am..." <i>Other</i> : Which is an Undoubted Belief of that...
Probability	"It is not likely...", "For it is not probable...", "Which is not Probable...", "As unlikely as Several...", "It is not possible that...", "Since it is impossible that...", "It is impossible that..."
Effective	"It cannot be expected...", "Especially it is observed...", "To I am resolved to argue...", "...of necessity...", "...read it all, or else spare your Censures...", "I pray thee...", "I hope...", "I must assert...", "I was resolved...", "I must conclude...", "I must take liberty...", "We are highly obliged to...", "Bid thee entertain..."

The devices in the “realm of certainty and belief” group are given in the first-person singular, except for one case in the third person. The words connected with these devices are *sure*, *assure*, *believe*, *doubt* and *truly*, among others. The devices in the first-person singular represent a clear indication of the authors' perspective, and imposition *per se* might be regarded as a signal of authority, as shown in Examples (18) and (19).

- (18) I am sure that hee that truly knowes himself shal know so much euill by
himselfe, that hee shall haue small reason to think himselfe than another man.
(ML B7^v–B8^r)
- (19) I do assure you all, that they are very choice Receipts, and such as I have not
taken up on the credit of others. (TL, A2^v)

Another group of devices imposing the writers' viewpoint includes formulae referring to the realm of probability. The majority of the devices in this group employ vocabulary related to the likelihood of an event occurring (for example, *likely* and *probable*) and to epistemic possibility (for instance, *possible*). The polarisation of these strategies is what makes them appropriate for this output strategy. Here are some examples taken from the corpus:

- (20) But since it is impossible that all things can be so exact, that they should not
be subject to faults and imperfections. (OE, C2^v)
- (21) For it is not probable, that the several Works in Nature can be in Obscurity to
most, and only be Divulged to some particular Sorts or Kinds of those Infinite
Creatures in Nature. (PA, Nnn2^r)

Finally, effective stance devices include deontic aspects in the sense of obligation and necessity. In general, they aim to show and to identify an authoritative voice in discourse. Moreover, these devices help to deprive readers of some freedom to evaluate the events described by them. The use of (inter-)subjective devices works well for this purpose, as shown in the following instances:

- (22) I shall hereafter examine; perceiving also, that several Gentlemen made
Subjects of his scurrilous fancy, have already defended themselves: That I
might at least attain to the Degree of those, mentioned to do good to such as
do good to them, although I am not ignorant of my more immediate duty in
this particular; I was resolved none should answer for him but my self, (not
that he or his Medicines do, or ever can want Patrons or Persons to defend
whatever this Campanel, or such ----- dare Honourably attempt) because the
obligation is solely incumbent on me; being the only Child of this injur'd
Chymical Physician. (MX, A3^v–A4^r)

- (23) It is to be observed, that there have been in this latter age, as many Writers of Natural Philosophy, as in former ages there have been of Moral Philosophy, which multitude, I fear, will produce such a confusion of Truth and Falshood. (OE, b1^v)
- (24) ALL the World will agree with me, when I tell You that 'tis not because You have any occasion of a Discourse of this kind that I lay these Reflections at Your Ladyship's feet. (FA, A2^v)

Subjective devices are clearly signalled with the use of the first-person subject pronoun *I* in Example (22), namely “I was resolved...” This is a firm declaration of the author’s attitude towards Henry Stubbe and his followers because of their criticism of her father, and this position is contextually strengthened with other impoliteness strategies – for example, “whatever this Campanel, or such ----- dare Honourably attempt” referring to Henry Stubbe’s book *Campanella Revived* (1670), where the empty space is indicative of her mood. Stubbe addresses here the Royal Society and the new procedures in scientific research as well as “the support that he believed chemical physicians were receiving from members of the Royal Society” (Whaley 2011: 85). The intersubjective devices are shown in *we*, with the passive voice, as in Example (23), or using lexical means, as the matrix “ALL the World will agree with me” in Example (24), which is a way to ground the author’s view on shared knowledge.

4.3 Sarcasm

Sarcasm is used in the corpus to express particular antagonistic attitudes towards specific matters with a touch of disdain. In Example (25), a sarcastic impolite stance is formulated in reference to the author’s command of Greek and Latin: “I shall not brag that I understand a little Greek or Latin”. This whole criticism is directed at the Galenists, fond of traditional science, as Egerton aims to highlight the differences between the two opposing views of elaborating knowledge. Overall, Egerton’s negative attitude towards a classicist perspective on science is displayed through this device along with other negative impoliteness devices clearly indicating scorn and disdain (e.g., “the Methods that very Reason condemns” and “Languages being only the effects of Confusion”).

- (25) Nor really do I hope to make my Condition the easier if ever I resign my self into the Arms of one of the other Sex. No, I am very well satisfy'd that there are a great many Brave Men, whose Generous Principles make 'em scorn the Methods that very Reason condemns. Not that I can boast of any great Beauty, or a vast Fortune, two things (especially the latter) which are able to make us Conquerors thro the World. But I have endeavour'd to furnish my self with

something more valuable: I shall not brag that I understand a little Greek and Latin (Languages being only the effects of Confusion) having made some attempt to look into the more solid parts of Learning, and having adventur'd a little abroad into the World, and endeavour'd to understand Men and Manners. (FA, v-vi)

The idea of female weakness and perseverance is raised in Example (26):

- (26) To Treat of Every particular Motion in Every particular Part of Every particular Creature, is beyond my Capacity, and to Treat of Some particular Motions in Some particular Parts of Some particular Creatures, is very Difficult for Me to do, having a Weak Body, and a Weak Mind, so that I Fear my Readers would think my Mind a Busie Fool, and my Body an Idle Animal, if I should Offer or Indeavour to do it; But howsoever, I am resolved to Venture on their Censure, rather than Bury my Opinions in Oblivion. (PA, b1^r)

In this example, the author sarcastically claims that her audience may not value her writings justly precisely because of her condition as a woman. The way in which she responds to this reinforces the sarcastic overtones, even if it also reflects potential anxiety regarding the prospect of being criticised. Her sarcastic response shows that, beyond doubt, she does not hold the same stereotypical opinion of women, and she, therefore, demands her space thus: "I am resolved to Venture on their Censure, rather than Bury my Opinions in Oblivion". The passage is followed by a description of what she intends to do in this monograph. She explains that she wants to offer new, revised, and more challenging, knowledge from a radical perspective based on reason and contrary to the classicist position, as she further explains to her audience: "you will find, that this present Work contains Pure Natural Philosophy, without any Mixture of Theology, for I have not Imitated the Philosophers or Theologers of this Age, who do Mix one Sort with the other, for in my Opinion this Mixture doth Disturb and Obstruct their Works" (PA, b2^v).

4.4 Impoliteness strategies: Quantitative analysis

The discussion of the impoliteness strategies in the previous section seems to confirm their value as stancetaking devices to both develop argumentation and signal authorial positioning. Overall, we have identified 153 cases of impoliteness strategies in the corpus of prefaces, and their distribution is given in Table 3.

As shown in Table 3, negative impoliteness devices appear to be preferred, occurring in 65.37 percent of the cases. Positive impoliteness devices are second, used in 28.11 percent of the cases, and sarcasm is last with 6.54 percent. Culpeper's category "withhold politeness" has not been identified in these texts. The "avoid-

Table 3. Impoliteness strategies. ('No.' indicates raw frequencies.)

			Percent	No.
Positive impoliteness	Output strategies	Dissociate from the other	20.92	32
		Seek disagreement, select a sensitive topic	1.96	3
		Be disinterested, unconcerned, unsympathetic	5.23	8
Negative impoliteness	Output strategies	Condescend, scorn or ridicule, emphasise your relative power	10.46	16
		Invade the other's space – literally or metaphorically	3.27	5
		Explicitly associate the other with a negative aspect	10.46	16
		Avoidance of mitigating effects in stancetaking	41.18	63
		Sarcasm	6.54	10

ance of mitigating effects in stancetaking” and the “disassociate from the other” output strategies are more frequent than the rest. Their patent indexical function may explain this preference by women writers, as these strategies are suitable (a) to introduce and evaluate argumentation, especially in the case of the former, and (b) to show authority in discourse.

5. Conclusion

This study shows that, even though the idea of female weakness is well-rooted in the period when the texts analysed here were written, women used discourse elements that clearly signalled their viewpoint towards knowledge. Impoliteness strategies, as described by Culpeper (2016), were not an exception in seventeenth-century female writing. Within the texts, we found that negative impoliteness strategies are employed more frequently than positive strategies. The use of sarcasm has also been detected in the corpus; however, this device is the least common.

Evidence suggests that there are specific reasons for selecting a particular strategy. Positive impoliteness seems to be mainly motivated by the women's membership of their communities of practice, which is also true in the case of sarcasm. Negative impoliteness devices appear to help to legitimise claims.

Positive impoliteness strategies seem to indicate distance from a particular sub-community, namely the classicists, while they also denote affiliation with new academic and scientific practices. The motivation for the use of these devices

rests on their critical attitude towards the way the classicists elaborate knowledge. The use of hard words in the texts of the classicists is heavily criticised as it is deemed to hinder understanding. This reaction has a characterising function in that female writers want to be associated with new academic patterns and styles. In a way, they portray themselves as being on the path of progression as opposed to the stagnant practices of traditional studies. The idea of belonging to a scientific community of practice is the motivation for female writers to express disagreement with the existing group of learned scholars and their methods. Their request revolves around being treated equally within their community, which includes achieving the same critical stance towards their work as men. In general, they do so by attacking the classicists' positive face wants in terms of their lack of empirical procedures, their opaque language features, and their excessive arrogance regarding their supposed superiority in the scientific sphere.

In the same vein, negative politeness has obvious connections with delineating the shape of women in their scientific communities of practice. The core motivation, however, seems to be the female writers' objection to the traditional lack of consideration of their contributions in the technical and the scientific domains. Their goal is basically to seek a balance among authors, and this implies the use of evaluative language to assess the quality of the so-called learned scholars straightforwardly. By doing this, they implicitly purport to validate their own production. We have seen that the severity of some impoliteness devices is partially toned down in the context of argumentative processes in which these expressions might be tolerated. Others are more challenging and unambiguously reflect the female writers' perspective on the state of affairs, even if they may experience intense feelings of anxiety due to being harshly censured in their communities. In this fashion, assertive language is deployed in the texts to impose a viewpoint, thus reinforcing the idea of equality among scholars. This is achieved by means of specific impoliteness formulae with an indexical function reporting on epistemic and evidentiary qualifications.

Sarcasm in the corpus seems to be inspired in the sense of community. Women extensively use their supposed weakness in their texts, even if they do not genuinely share this view. This strategy may allow the writers to have a protective shield against censure, and therefore allow them to mitigate their apprehensions about being the target of male criticism. With sarcastic utterances, women appear to partially accept their feeble condition while they also gain tolerance and acceptance within the community. This appeal to weakness safeguards and strengthens their position within their community of practice and especially within their community of women specialists.

This study has evinced the potential of impoliteness strategies to elaborate, justify, negotiate and evaluate meaning (e.g., when authors use epistemic and

effective impoliteness formulae, in seventeenth-century female writing). Further research could help to provide additional evidence with a comparable corpus presenting male and female writing. Even if the corpus used here cannot take into account disciplinary variation for reasons of length, this could be an option in the case of a larger, perhaps diachronic, corpus to improve our understanding of (im)politeness in scientific and technical writings in modern English.

References

Primary sources

- Boursier, Louise Bourgeois. 1663. *The Compleat Midwife's Practice Enlarged in the Most Weighty and High Concernments of the Birth of Man*. [London]: Printed for Nath. Brook at the Angel in Corn-hill.
- Chudleigh Lady, Mary Lee. 1687. *The female advocate; or, A plea for the just liberty of the tender sex, and particularly of married women. Being reflections on a late rude and disingenuous discourse, delivered by Mr. John Sprint, in a sermon at a wedding, May 11th, at Sherburn in Dorsetshire, 1699. / By a Lady of Quality*. (Early English Books Online). London: Printed for Andrew Bell at the Cross-Keys and Bible in Cornhil, near Stockmarket.
- Cockeram, Henry. 1623. *The English Dictionarie: Or, An Interpreter of Hard English Words. Enabling as well Ladies and Gentlewomen, Young Schollers, Clarkes, Merchants, as Also Strangers of Any Nation, to the Vnderstanding of the More Difficult Authors already printed in Our Language, and the More Speedy Attaining of an Elegant Perfection of the English Tongue, both in Reading, Speaking and Writing*. London: Printed for Edmund Weauer.
- Evelyn, Mary. 1690. *Mundus muliebris: or, The ladies dressing-room unlock'd, and her toilette spread In burlesque. Together with the fop-dictionary, compiled for the use of the fair sex*. (Ed.) John Evelyn. London: printed for R. Bentley, in Russel-Street in Covent-Garden.
- Jocelin, Elizabeth. 1635. *The mothers legacie to her unborne childe by Elizabeth Joceline*. (Ed.) Thomas Goad. London: Printed by F.K. for Robert Allot, and are to be sold in Pauls Church-yard, at the signe of the Black Beare.
- Kent Countess of, Elizabeth Grey. 1653. *A choice manval of rare and select secrets in physick and chyrurgery; collected and practised by the Right Honorable, the Countesse of Kent late deceased. As also most exquisite ways of preserving, conserving, candying, &c. Published by W.J., Gent.* (Ed.) W J. London: Printed by R. Norton.
- Lady. 1696. *The whole duty of a woman: or a guide to the female sex From the age of sixteen to sixty, &c. Being directions, how women of all qualities and conditions, ought to behave themselves in the various circumstances of this life, for their obtaining not only present, but future happiness. I. Directions how to obtain the divine and moral virtues of piety, meekness, modesty, chastity, humility, compassion, temperance and affability, with their advantages, and how to avoyd the opposite vices. II. The duty of virgins, directing them what they ought to do, and what to avoyd, for gaining all the accomplishments required in that state. With the whole art of love, &c. 3. The whole duty of a wife, 4. The whole duty of a widow, &c. Also choice receipts in physick and chirurgery. With the whole art of cookery, preserving, candying, beautifying, &c. Written by a lady*. London: printed for J. Gwillim, against the Great James Tavern in Bishopsgate-street.

- Lincoln Countess of., Elizabeth Clinton. 1622. *The Countesse of Lincolnes nurserie* (Ed.) Thomas Lodge. At Oxford: Printed by Iohn Lichfield, and James Short printers to the famous Vniversitie.
- Newcastle Duchess of, Margaret Cavendish. 1663. *Philosophical and physical opinions written by ... the Lady Marchioness of Newcastle*. (Ed.) William Cavendish Newcastle Duke of. London: Printed by William Wilson.
- Newcastle Duchess of, Margaret Cavendish. 1663. *Philosophical and Physical Opinions Written by the Thrice Noble, Illustrious, and Excellent Princess, the Lady Marchioness of Newcastle*. London: Printed by William Wilson.
- Newcastle Duchess of, Margaret Cavendish. 1664. *Philosophical letters, or, Modest reflections upon some opinions in natural philosophy maintained by several famous and learned authors of this age, expressed by way of letters / by the thrice noble, illustrious, and excellent princess the Lady Marchioness of Newcastle*. London: [s.n.].
- Newcastle Duchess of, Margaret Cavendish. 1668a. *Observations upon experimental philosophy to which is added, The description of a new blazing world / written by ... Princesse, the Duchess of Newcastle*. London: Printed by A. Maxwell.
- Newcastle Duchess of, Margaret Cavendish. 1668b. *Ground of natural philosophy divided into thirteen parts: with an appendix containing five parts / written by the ... Dvchess of Newcastle*. London: Printed by A. Maxwell.
- Owen of God-stow., Jane. 1634. *Antidote against purgatory. Or discourse, wherein is shewed that good-workes, and almes-deeds, performed in the name of Christ, are a chiefe meanes for the preuenting, or migatating the torments of purgatory. Written by that vertuous, and rightworthy gentle-woman (the honour of her sexe for learning in England) Ms. Iane Owen, late of God-stow, in Oxfordshire, deceased, and now published after her death*. [Saint-Omer: English College Press], Printed M.DC.XXXIII. [1634].
- Russell Lady, Elizabeth Cooke Hoby. 1605. *A way of reconciliation of a good and learned man touching the trueth, nature, and substance of the body and blood of Christ in the sacrament. Translated out of Latin by the right honorable Lady Elizabeth Russell, dowager to the right honourable the Lord Iohn Russell, Baron, and sonne and heire to Francis Earle of Bedford*. At London: Printed by R. B[arker].
- Sharp Mrs., Jane. 1671. *The midwives book, or, The whole art of midwifry discovered. Directing childbearing women how to behave themselves in their conception, breeding, bearing, and nursing of children in six books, viz. ... / By Mrs. Jane Sharp practitioner in the art of midwifry above thirty years*. London: Printed for Simon Miller, at the Star at the West End of St. Pauls.
- Stubbe, Henry. 1670. *Campanella Revived, or an Enquiry into the History of the Royal Society, whether the Virtuosi There Do not Pursue the Projects of Campanella for Reducing England unto Popery*. London: Printed for the Author.
- Woolley, Hannah. 1662. *The ladies directory in choice experiments & curiosities of preserving in jellies, and candying both fruits & flowers. Also, an excellent way of making cakes, comfits, and rich court-perfumes. With rarities of many precious waters; among which, are Doctor Stephens's water, Dr. Matthias's palsie-water; and an excellent water against the plague: with severall consumption drinks, approved by the ablest physicians. / By Hanna Wolley ...* London: Printed by T.M. for Peter Dring, at the Sun, next dore to the Rose Taverne in the Poultry.

- Woolley, Hannah. 1664. *The cook's guide: or, Rare receipts for cookery Published and set forth particularly for ladies and gentlwomen; being very beneficial for all those that desire the true way of dressing of all sorts of flesh, fowles, and fish; the best directions for all manner of kickshaws, and the most ho-good sawces: whereby noble persons and others in their hospitalities may be gratified in their gusto's. Never before printed. By Hannah Wolley.* London: [p]rinted for Peter Dring at the Sun in the Poultry, next door to the Rose-Tavern.
- Woolley, Hannah. 1673. *The gentlewomans companion; or, A guide to the female sex containing directions of behaviour, in all places, companies, relations, and conditions, from their childhood down to old age: viz. As, children to parents. Scholars to governours. Single to servants. Virgins to suitors. Married to husbands. Huswives to the house Mistresses to servants. Mothers to children. Widows to the world Prudent to all. With letters and discourses upon all occasions. Whereunto is added, a guide for cook-maids, dairy-maids, chamber-maids, and all others that go to service. The whole being an exact rule for the female sex in general. By Hannah Woolley.* (Ed.) William Faithorne. London: printed by A. Maxwell for Dorman Newman at the Kings-Arms in the Poultry.
- Woolley, Hannah. 1686. *The Accomplish'd ladies delight in preserving, physick, beautifying, and cookery. Containing I. The art of preserving, and candying fruits and flowers, and the making of all sorts of conserves, syrups, and jellies. II. The physical cabinet, or excellent re[c]epts in physick and chirurgery, together with s[o]me rare beautifying waters, to adorn and add l[ov]eliness to the face and body: and also some n[e]w and excellent secrets and experiments in the art of angling. III. The compl[e]at cook's guide, or, directions fo[r] dressing all sorts of flesh, fowl and fish [...] English and French mode, [...]; and the making pyes, [...] with the forms and [...]* (Ed.) T P. S.l.: Printed for Sarah Harris.

Secondary sources

- Alonso-Almeida, Francisco and Margarita Mele-Marrero. 2014. "Stancetaking in Seventeenth-Century Prefaces on Obstetrics". *Journal of Historical Pragmatics* 15 (1): 1–35. <https://doi.org/10.1075/jhp.15.1.01alo>
- Archer, Dawn E. 2008. "Verbal Aggression and Impoliteness: Related or Synonymous?" In Derek Bousfield and Miriam A. Locher (eds), *Impoliteness in Language: Studies on Its Interplay with Power in Theory and Practice*, 181–207. Berlin and New York: Mouton de Gruyter.
- Babaii, Esmat. 2011. "Hard Science, Hard Talk? The Study of Negative Comments in Physics Book Reviews". In Françoise Salager-Mayer and Beverly A. Lewin (eds), *Crossed Words: Criticism in Scholarly Writing*, 55–77. Switzerland: Peter Lang.
- Bax, Marcel and Dániel Z. Kádár. 2012. "The Historical Understanding of Historical (Im)Politeness. Introduction". In Marcel Bax and Dániel Z. Kádár (eds), *Understanding Historical (Im)Politeness: Relational Linguistic Practice over Time and across Cultures*, 1–24. Amsterdam: John Benjamins. <https://doi.org/10.1075/bct.41.01bax>
- Blas Arroyo, José Luis. 2001. "No Digachorradas... La Descortesía En El Debate Político Cara a Cara. Una Aproximación Pragma-Variacionista" ["Don't talk rubbish..." Impoliteness in Face-to-Face Political Debate: A Pragmatic-Variationist Approach]. *Oralia* 4: 9–45.
- Bousfield, Derek. 2008. *Impoliteness in Interaction*. Amsterdam: John Benjamins. <https://doi.org/10.1075/pbns.167>

- Brown, Penelope and Stephen Levinson. 1987. *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511813085>
- Brown, Roger and Albert Gilman. 1989. "Politeness Theory and Shakespeare's Four Major Tragedies". *Language in Society* 18 (2): 159–212. <https://doi.org/10.1017/S0047404500013464>
- Csulich, Gabriela. 2016. "(Im)Politeness, Social Status, and Roles in the Early Modern English Courtroom: Your Lordship and Traitor in High Treason and Ordinary Criminal Trials". In Minna Nevala, Ursula Lutzky, Gabriella Mazzon and Carla Suhr (eds), *The Pragmatics and Stylistics of Identity Construction and Characterisation*. (Volume 17.) Helsinki: VARIENG Research Unit. Available online at: <https://varieng.helsinki.fi/series/volumes/17/csulich/>
- Culpeper, Jonathan. 1996. "Towards an Anatomy of Impoliteness". *Journal of Pragmatics* 25 (3): 349–367. [https://doi.org/10.1016/0378-2166\(95\)00014-3](https://doi.org/10.1016/0378-2166(95)00014-3)
- Culpeper, Jonathan. 2005. "Impoliteness and Entertainment in the Television Quiz Show: *The Weakest Link*". *Journal of Politeness Research: Language, Behaviour, Culture* 1 (1): 35–72. <https://doi.org/10.1515/jplr.2005.1.1.35>
- Culpeper, Jonathan. 2008. "Reflections on Impoliteness, Relational Work and Power". In Derek Bousfield and Miriam A. Locher (eds), *Impoliteness in Language: Studies on its Interplay with Power in Theory and Practice*, 17–44. Berlin and New York: Mouton de Gruyter. <https://doi.org/10.1515/9783110208344.1.17>
- Culpeper, Jonathan. 2009. "The Metalanguage of Impoliteness: Using Sketch Engine to Explore the Oxford English Corpus". In Paul Baker (ed.), *Contemporary Corpus Linguistics*, 65–86. London and New York: Continuum.
- Culpeper, Jonathan. 2011. *Impoliteness: Using Language to Cause Offence*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511975752>
- Culpeper, Jonathan. 2016a. "Impoliteness Strategies". In Alessandro Capone, Franco Lo Piparo and Marco Carpezza (eds), *Perspectives in Pragmatics, Philosophy and Psychology*, 421–445. Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-12616-6_16
- Culpeper, Jonathan. 2016b. "Impoliteness Strategies". In Alessandro Capone and Jacob L. Mey (eds), *Interdisciplinary Studies in Pragmatics, Culture and Society*, 421–445. London: Springer. https://doi.org/10.1007/978-3-319-12616-6_16
- Culpeper, Jonathan. 2017. "The Influence of Italian Manners on Politeness in England, 1550–1620". *Journal of Historical Pragmatics* 18 (2): 195–213. <https://doi.org/10.1075/jhp.00002.cul>
- Culpeper, Jonathan and Dawn Archer. 2008. "Request and Directedness in Early Modern English Trial Proceedings and Play-texts, 1640–1760". In Andreas H. Jucker and Irma Taavitsainen (eds), *Speech Acts in the History of English*, 45–84. Amsterdam: John Benjamins. <https://doi.org/10.1075/pbns.176.05cul>
- Culpeper, Jonathan, Derek Bousfield and Anne Wichmann. 2003. "Impoliteness Revisited: With Special Reference to Dynamic and Prosodic Aspects". *Journal of Pragmatics* 35 (10–11): 1545–1579. [https://doi.org/10.1016/S0378-2166\(02\)00118-2](https://doi.org/10.1016/S0378-2166(02)00118-2)
- Eales, Jacqueline. 1998. *Women in Early Modern England, 1500–1700*. London: University College London Press.
- Eckerle, Julie A. 2007. "Prefacing Texts, Authorizing Authors, and Constructing Selves: The Prefaces as Autobiographical Space". In Michelle M. Dowd and Julie A. Eckerle (eds), *Genre and Women's Life Writing in Early Modern England*, 97–113. Hampshire, UK: Ashgate.

- Eckert, Penelope and Sally McConnell-Ginet. 1999. "New Generalizations and Explanations in Language and Gender Research". *Language in Society* 28 (2): 185–201. <https://doi.org/10.1017/S0047404599002031>
- Elk, Martine van. 2017. *Early Modern Women's Writing. Domesticity, Privacy, and the Public Sphere in England and the Dutch Republic*. Amsterdam: Palgrave Macmillan. <https://doi.org/10.1007/978-3-319-33222-2>
- Evenden, Doreen. 2000. *The Midwives of Seventeenth Century London*. Cambridge: Cambridge University Press.
- Gallois, Cynthia. 1994. "Group Membership, Social Rules, and Power: A Social-Psychological Perspective on Emotional Communication". *Journal of Pragmatics* 22 (3–4): 301–324. [https://doi.org/10.1016/0378-2166\(94\)90114-7](https://doi.org/10.1016/0378-2166(94)90114-7)
- Gil-Salom, Luz and Carmen Soler-Monreal. 2009. "Interacting with the Reader: Politeness Strategies in Engineering Research Article Discussions". *International Journal of English Studies* 9 (3): 175–189. <https://doi.org/10.6018/ijes.1.1.99581>
- Golinski, Jan. 2002. "The Care of the Self and the Masculine Birth of Science". *History of Science* 40 (2): 125–145. <https://doi.org/10.1177/007327530204000201>
- Gray, Catherine. 2007. *Women Writers and Public Debate in 17th-Century Britain*. New York: Palgrave MacMillan. <https://doi.org/10.1057/9780230605565>
- Heyd, Michael. 1995. "BE SOBER AND REASONABLE" *The Critique of Enthusiasm in the Seventeenth and Early Eighteenth Centuries*. Leiden, New York and Köln: Brill. <https://doi.org/10.1163/9789004247178>
- Hyland, Ken. 2005. "Prudence, Precision, and Politeness: Hedges in Academic Writing". *Quaderns de Filologia. Estudis Lingüístics* 10 (2005): 99–112.
- Jacob, James R. 1983. *Henry Stubbe, Radical Protestantism and the Early Enlightenment*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511560606>
- Jucker, Andreas H. 2000. "'Thou' in the History of English: A Case for Historical Semantics or Pragmatics?" In Christiane Dalton-Puffer and Nikolaus Ritt (eds), *Words: Structure, Meaning, Function. Festschrift for Dieter Kastovsky*, 153–163. Amsterdam: John Benjamins. <https://doi.org/10.1515/9783110809169.153>
- Jucker, Andreas H. and Irma Taavitsainen. 2013. *English Historical Pragmatics*. Edinburgh: Edinburgh University Press.
- Kádár, Dániel Z. and Jonathan Culpeper. 2010. "Historical (Im)Politeness: An Introduction". In Jonathan Culpeper and Dániel Z. Kádár (eds), *Historical (Im)Politeness*, 9–36. Bern, Berlin and New York: Peter Lang.
- Khosravi, Mohadese. 2015. "A Pragmatic Analysis of Impoliteness in Reply Articles as an Instance of Academic Conflict". *Journal of Applied Linguistics and Language Research* 2 (3): 223–231.
- Kienpointner, Manfred. 1997. "Varieties of Rudeness: Types and Functions of Impolite Utterances". *Functions of Language* 4 (2): 251–287. <https://doi.org/10.1075/fol.4.2.05kie>
- Kopaczyk, Joanna and Andreas H. Jucker (eds). 2013. *Communities of Practice in the History of English*. Amsterdam: John Benjamins. <https://doi.org/10.1075/pbns.235>
- Lakoff, Robin. 1975. *Language and Woman's Place: Text and Commentaries*. New York: Harper and Row.
- Lakoff, Robin T. 2005. "Introduction: Broadening the Horizon of Linguistic Politeness". In Robin T. Lakoff and Sachiko Ide (eds), *Broadening the Horizon of Linguistic Politeness*, 1–20. Amsterdam: John Benjamins. <https://doi.org/10.1075/pbns.139.03lak>

- Lancashire, Jan. 2009. "The Two Tongues of Early Modern English". In Christopher M. Cain and Geoffrey Russom (eds), *Studies in the History of the English Language III: Managing Chaos: Strategies for Identifying Change in English*, 105–141. Berlin: De Gruyter.
- Lave, Jean and Etienne Wenger. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511815355>
- Leaper, Campbell and Rachael D. Robnett. 2010. "Women Are More Likely than Men to Use Tentative Language, Aren't They? A Meta-Analysis Testing for Gender Differences and Moderators". *Psychology of Women Quarterly* 35 (1): 129–142. <https://doi.org/10.1177/0361684310392728>
- Leech, Geoffrey. 2014. *The Pragmatics of Politeness*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195341386.001.0001>
- Marín-Arrese, Juana. 2009. "Effective vs. Epistemic Stance, and Subjectivity/Intersubjectivity in Political Discourse: A Case Study". In Anastasios Tsangalidis and Roberta Facchinetti (eds), *Studies on English modality: In honour of Frank R. Palmer*, 35–52. Bern and New York: Peter Lang.
- Martilla, Ville. 2014. "New Arguments for New Audiences: A Corpus-Based Analysis of Interpersonal Strategies in Early Modern English Medical Recipes". In Irma Taavitsainen, Irma and Päivi Pahta (eds), *Medical Writing in Early Modern English*, 135–157. Cambridge: Cambridge University Press.
- Mills, Sara. 2003. *Gender and Politeness*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511615238>
- Mills, Sara. 2005. "Gender and Impoliteness". *Journal of Politeness Research* 1 (2): 263–280. <https://doi.org/10.1515/jplr.2005.1.2.263>
- Mills, Sara. 2009. "Impoliteness in a Cultural Context". *Journal of Pragmatics* 41 (5): 1047–1060. <https://doi.org/10.1016/j.pragma.2008.10.014>
- Myers, Greg. 1989. "The Pragmatics of Politeness in Scientific Articles". *Applied Linguistics* 10 (1): 1–35. <https://doi.org/10.1093/applin/10.1.1>
- Ostovich, Helen and Elizabeth Sauer. 2004a. "Introduction. Rereading Women's Literary History". In Helen Ostovich and Elizabeth Sauer (eds), *Reading Early Modern Women: An Anthology of Texts in Manuscript and Print, 1500–1700*, 1–13. New York and London: Routledge. <https://doi.org/10.4324/9780203643921>
- Ostovich, Helen and Elizabeth Sauer (eds). 2004b. *Reading Early Modern Women: An Anthology of Texts in Manuscript and Print, 1500–1700*. New York and London: Routledge. <https://doi.org/10.4324/9780203643921>
- Peters, Christine. 2004. *Women in Early Modern Britain, 1450–1640*. London and New York: Palgrave Macmillan. <https://doi.org/10.1007/978-0-230-21278-7>
- Taavitsainen, Irma. 2014. "Dissemination and Appropriation of Medical Knowledge: Humoral Theory in Early Modern English Medical Writing and Lay Texts". In Irma Taavitsainen and Päivi Pahta (eds), *Medical Writing in Early Modern English*, 94–114. Cambridge: Cambridge University Press.
- Trye, Mary. 1675. *Medicatrix, or, The Woman-Physician*. London: Printed by T.R. & N.T., and sold by Henry Broome and John Leete.
- Watts, Richard J. 1999. "Language and Politeness in Early Eighteenth Century Britain". *Pragmatics* 9 (1): 5–20. <https://doi.org/10.1075/prag.9.1.02wat>
- Whaley, Leigh. 2011. *Women and the Practice of Medical Care in Early Modern Europe, 1400–1800*. London: Palgrave Macmillan. <https://doi.org/10.1057/9780230295179>

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