Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Wake up New Zealand! Directives, politeness and stance in Twitter #Covid19NZ posts

Jessie Burnette, Andreea S. Calude*

University of Waikato, New Zealand

**Abstract**

As Covid-19 made its way to the shores of Aotearoa New Zealand in 2020, Kiwis took to Twitter to share their experiences and opinions regarding both the virus and government responses. In this paper, we examine a corpus of 1001 tweets to see just how Twitter users utilize different linguistic and politeness strategies when sharing directives conveying stance toward government Covid-19 measures. While there has been research into the use of directives in spoken and written language, there has been little exploration of how directives are used in the language of Social Media. Often considered difficult to classify even in more traditional language genres, Twitter corpora pose additional challenges. We propose a strategy to identify and classify directives using syntactic and pragmatic features, and use this strategy to identify linguistic patterns of both in relation to stance toward government Covid-19 measures. While we find that the most prototypical directive within our corpus is largely consistent with previous definitions, we also find that tweeters exhibit a striking amount of variation in directive strategy, emphasizing the need for a nuanced approach to directive identification and classification. We further note trends in the directive strategies utilized by tweeters expressing different stances toward government measures.

© 2022 Elsevier B.V. All rights reserved.

1. Introduction

For lay people, one of the most surprising functions of linguistic interaction turns out to be its use in activities which do not involve the exchange of information, namely in courting, entertaining, annoying, humouring, promising, threatening, manipulating and so on. Indeed ‘getting things done’ with language comes as a surprise to many beginning linguistics students, who like many, overlook these highly interpersonal goals of communication. In this paper, we tackle one such aspect of language use, namely the expression of personal stance and in particular, the use of directives to call for a particular action or a particular point of view.

Directives have been studied in connection to face-to-face conversation, particularly in relation to cross-cultural variation in requesting strategies (Blum-Kulka et al., 1989), through a Conversational Analysis lens (see Drew and Couper-Kuhlen 2014), and more recently, in connection to public signs, from a Linguistic Landscape approach (Svennevig, 2021). Another study of written language was conducted by Takahashi (2012), who offers a Cognitive Linguistics perspective of directives, using Force Exertion and Second Person Subject as a criterion to determine the strength and prototypicality of imperatives in a corpus of English literature. These two (Svennevig, 2021; Takahashi, 2012) are the only ones, to our knowledge, to analyse directives in written language. Here, we report on the use of directives in Social Media posts collected from Twitter, which can be thought
of as situated on a continuum between written and spoken language. On the one hand, tweets are produced and consumed as written language, being written down and read on a computer, tablet or mobile phone, on the other hand, their informal, spontaneous and unedited format places them in line with spoken genres.

This pilot study arises at a time when the world at large is grappling with the effects of the Covid-19 virus and when individuals have unprecedented opportunities to express their opinion and stance in regard to what is happening around them via online blogs and Social Media posts. Within Aotearoa New Zealand, 2020 health measures included mandatory lockdown measures, the intensity of which was conveyed using a four-step Alert Level system – at their height, international borders were closed and the public was required to remain at home save for exercise and accessing essential services. In-person contact outside of home “bubbles” (those individuals living in the same household or considered to be part of one single household, such as children living in separate parental homes) was disallowed. Heading these government measures was Prime Minister Jacinda Ardern, initially supported by the later disgraced Health Minister David Clarke, along with a team of health officials including Dr. Ashley Bloomfield. The opposing government during this time was headed by a rapid succession of leaders, including Simon Bridges, Todd Muller, and Judith Collins.

The mass interest in Covid-19 and the strong opinions it generated on Twitter have in turn given us linguists the chance to have access – for the first time ever – to a large, spontaneous and naturally-occurring body of data containing, among other features, directive use. As will be discussed in the following section, previously, it has been difficult to obtain large collections of such directives, and next to impossible to simulate natural contexts for such uses.

Here, we present a detailed, close-textual analysis of 1001 tweets which were manually analysed for both linguistic properties and stance. One particular thread that we are interested in documenting is the link between the use of directives (and their types) and the use of various politeness strategies to mediate the impact and force of the directive. The second thread of interest is the connection between these linguistic features and speaker stance. By stance, we mean the views expressed by tweeters towards certain propositions (as discussed in more detail in section 3). Because the data we gathered relates to Covid-19, many of the posts in our corpus express tweeters’ views on the measures which the government (in our case, the Aotearoa New Zealand government) was putting forward for containing the virus and stopping its spread. The relationship between directives and stance is interesting because it allows a glimpse into the various strategies which speakers use to construct their positions and promote their views.

2. Directives, imperatives and politeness

In the linguistics literature, directives are typically understood as a pairing of a grammatical construction, in this case a certain verb form such as an imperative or auxiliary, and a particular context with clear power dynamics conducive for advice giving, suggestions or stronger forms, including requests and commands. They constitute a “social form insofar as they are a means to attempt to get someone to do something, and in that respect they may be considered to be ways of controlling another person (although this is a pretty loose sense of controlling)” (Drew and Couper-Kuhlen, 2014, p. 8).

As also pointed out by Searle (1979), they are thought to impinge on the interlocutor’s rights by placing a certain obligation or constraint upon them, even if the said obligation minimally involves a response as to why they might not want to comply with the directive. Directives can thus be understood as a face-threatening act, even when such an impingement might be needed for decision-making or warranted by institutional authority. Speakers have various syntactic and pragmatic devices at their disposal for expressing directives, ranging from hinting, to downgrading the force of the directive and altogether opting out of expressing it in the first place. As posited by Blum-Kulka et al. (1989), when comparing cross-cultural request strategies three key factors were found to influence levels of indirectness in Hebrew, German, and Argentinian Spanish: rights and obligations, relative dominance, and likelihood of compliance.

Indeed, some work on directives in spontaneous conversation tells us that in general, speakers tend to decrease their use of strong or unmitigated imperatives, even when occupying positions of authority such as between cantors and pastors in a church environment (Stevanovic and Peräkylä, 2012, p. 317). However, the converse can also be true, where directives can be face-enhancing in certain contexts (see our discussion of Zjakic et al., 2017). And what is more, the relationship between status and strength of directive is complicated (Zjakic et al., 2017).

In contrast, comparisons of requests made during personal telephone calls and requests made during after-hours on-call doctor telephone calls tell a different story, according to Curl and Drew (2008). In line with earlier work (Lindström, 2005), they reveal that the form of the request varies not according to setting (personal informal interaction versus institutional formal interaction) but according to the speaker’s perceived level of entitlement and their willingness to allow for contingencies (Curl and Drew, 2008, p. 147). Speakers might use modal verbs (must) or a stronger directive if they perceive their request to be reasonable and likely to be relatively easily fulfilled, and conversely, they might resort to conventionalised request forms (I wonder if, could you X) if they foresaw problems with “grant-ability” (Curl and Drew, 2008, p. 149) of their request or doubted the legitimacy of their entitlement in asking for it. These findings suggest that rather than recourse to politeness explanations, directives are best explained in terms of entitlement and contingency. These findings are also echoed in further work by Couper-Kuhlen (2014, p. 639).

Interestingly, the status of the interlocutor does still matter in the choice of directive. In parent–child interactions, the high-entitlement and low contingency displayed by parents when talking to children is ramped up when low compliance is observed (Craven and Potter’s, 2010). In institutions involving staff and adult patients with intellectual impairments, the
directive issued seem to be overwhelmingly bald-on-record imperatives, laden with high-entitlement and low contingency (Ataki and Kent, 2012).

Among the few studies to look at naturally occurring directives in written language, Svennevig (2021) analyses directives found on 700 public signs from various countries (and thus, languages) around the world, showing a number of diverging patterns from everyday conversation. First, in public signs, imperative constructions are used where modal interrogatives (could I) would normally occur in conversation, in other words, public signs exhibit more direct and forceful, and less mitigated directives. Secondly, another pattern not attested in conversation seems to be that of anticipating compliance with the directive and asserting the directive as a retrospective act of gratitude: Thank you for not smoking (2021, p. 182). Other patterns observed include the use of humour (Bikes LOVE to stand together, park your bike here, 2021, p. 180) and positive reinforcement (All children aged 3–7 are welcome to play here, 2021, p. 177). Finally, a crucial distinguishing aspect between public signs and conversation is that the former, unlike the latter, are “fixed and non-negotiable text[s]” (2021, p. 182) and as such, they do not constitute a jointly constructed and negotiated speech act.

Social Media language comprises a step on the continuum between spoken and written language, in that, it is consumed as a written medium (read either on a computer or mobile device), but often produced akin to a spoken medium (without much planning or editing, off-the-cuff, informally). Not all Social Media language is of this type as this language is itself not homogenous, showing various sub-types. At the more planned, formal and therefore “written” end of Social Media language medium we find advertisements. Several recent studies of Social Media advertisements have focused on the use of a special type of directive: the imperative construction. For example, Zjakic et al. (2017) argue that contrary to the position that imperatives are impolite, face-threatening acts, when used in Facebook gym advertisements, imperatives function in quite the opposite way, namely as “a strategy used by advertisers to create a sense of familiarity between the advertiser and receiver” (2017, p. 16).

Given their brevity due to the limitations on available characters and visual space (as also observed of TV ads, see for instance Pennock-Speck and Fuster-Márquez, 2014), online advertisements tend to be short and to the point, and the imperatives they use become a central feature, whose role is to strengthen and enhance the ad's intended meaning (2017, p. 20). ‘Less being more’ is indeed the exact same tactic observed in TV ads, in which imperatives are bald-on-record, with no effort of mitigation — precisely the opposite to conversation strategies (Pennock-Speck and Fuster-Márquez, 2014, p. 423).

Is it clear from this body of work that there are differences in how directives are structured linguistically, in their function, and in their pragmatic interpretation across the different genres studied. But how much can these differences be attributed to genre effects and how much does the person producing the directive (the speaker, writer or company selling a product or service) or their perceived audience (are they speaking to a potential customer or subordinate?) affect the language used? In the digital space of Twitter, with its frequent absence of clear context and power dynamics between users, several of the strategies traditionally used to classify directive force prove insufficient. The present study attempts to bridge some of the gaps arising in the area of directives by analysing a large body of naturally occurring directives in Social Media language, produced (largely) by individuals (rather than institutions) in Aotearoa New Zealand, who are reacting to government measures imposed as a result of the Covid-19 virus outbreak. Because public opinion regarding such government measures is polarised, this data provides a unique opportunity to investigate the nature of directives and their types, produced with varying degrees of emotion and authoritative backing or entitlement (depending on whether tweeters support government measures or not), as well as probe the different politeness strategies employed to mitigate (or not) the force of these directives.

3. Data and method

3.1. Data

We collected a corpus of Twitter posts which appeared online between 22 February 2020 and 10 November 2020 using Python code and the Twitter API. The Twitter API enabled us to extract tweets by searching for specific users, keywords or hashtags. We collected all tweets containing the hashtag #Covid19NZ and variations of it (e.g. #covid19nz, #covid19_NZ, #COVID19NZ, #COVID19 nz, and so on). The data extracted was ‘cleaned’ by eliminating all tweets which only consisted of a retweeted message, hashtag, link or other multi-modal feature without additional text. This cleaning procedure ensured we could focus on text and thus language features, and that we did not have repeated data among out tweets, thereby amplifying the voice of some tweeters in comparison to others. Following cleaning, our data comprised 40,243 distinct tweets (the Covid19NZ Twitter Corpus or CNZT Corpus). From this corpus, we gathered a variety of tweets from 22 February to October 31 (research for this project began in early November; as such the available data for November was sparse at the time). Key events, such as changes in Alert Levels within Aotearoa New Zealand, guided us in determining which date ranges to select tweets from (the relevance of these events to tweeters was also reflected in the diachronic changes in the numbers of #Covid19NZ tweets). Once a range of dates were chosen, tweets were randomly selected from within this range. This was done using Excel by selecting rows to code at random without reading the tweet text. By using these time periods, we were able to analyse data discussing the most popular and controversial topics across a range of different Alert Levels, and account for the shifting perspectives of Twitter users. Once selecting this range of tweets, we were left with a more manageable body of data to code manually, ending up with 1001 unique tweets from 324 different tweeters.

While this is a pilot study and our findings in this small dataset cannot necessarily be said to be representative of the full CNZT Corpus, in terms of the spread of directives, we do have a reasonable amount of variation within this dataset of just
1001 tweets, which allows us to gauge some overall patterns. Having said that, our data encompasses categorical variables and a particular skewing, which prevents us from using inferencing statistics to directly predict directive type from stance. There is still considerable debate as to the ethics of using and presenting Social Media data in research. While, according to Twitter’s privacy policy, public content (including tweets) is available for research use, many Twitter users do not realize this (Fiesler and Proferes, 2018, p. 6). To respect the privacy of individual users, we have only shown tweets that were still publicly available and not deleted (as of December 2021), and anonymized tweets from non-verified users shown within this paper.

Because we were wanting to document and study the use of directives, the first step in our analysis was to code directives in these 1001 tweets. As the CNZT Corpus consists of computer-mediated discourse, it contains frequent uses of non-standard language, and also, given its topic of discourse, its content is innately heated in nature. The #Covid19NZ hashtag appears to trigger strong opinions and, in turn, generate a high number of directives. As discussed in Section 2, determining precisely how directives using indirect strategies should be classified is an area of uncertainty.

One immediate problem we encountered was that identifying whether a clause contains a directive or not is not a straightforward matter because some directives are less ‘direct’ than others. While English grammars, such as Huddleston and Pullum (2002) provide descriptions of directive constructions from a grammatical perspective, these descriptions are not sufficiently detailed to reliably identify (more) nuanced constructions which nevertheless encompass a directive discourse function, as illustrated below from our Twitter data:

\[
\text{(1)} \quad \text{And with that... The gates of Middle Earth are now officially closed. If you're not a hobbit you can\textbf{ }fuck right off #Covid19NZ}
\]

\[
\text{(2)} \quad \text{Could @realestateconz please suggest to Auckland real estate agencies that they ask their people to wear masks when they come to people's homes? #COVID19nz}
\]

\[
\text{(3)} \quad \text{It's 8.35am on Friday 3 April 2020, and New Zealand's Minister of Health is David Clark #nzpol #COVID19nz}
\]

In example (1), the potential ambiguity hinges on the modal verb can. The interpretation of can within this example is guided by Searle’s frequently referenced example Can you please pass the salt? (1979, p. 171), where can is described in Huddleston (1994, p. 416) as “part of the propositional content expressed, but not part of that of the directive conveyed”. Though the directive status of such examples can be debated, we coded cases such as (1) as declarative directives, following Huddleston and Pullum (2002, p. 941). Similarly, the sentence in example (2) has also been classified as an interrogative directive of ability, in accordance with Huddleston and Pullum (2002, p. 940). Though again potentially ambiguous, the usage of could/can/would modals within interrogatives has become conventionally recognized as containing directive force. Examples such as (3) are far more ambiguous. Though external context — mass outrage and calls for David Clark’s resignation following his breach of government mandated Covid-19 measures — suggests an interpretation of this tweet as a demand for David Clark’s resignation or firing, this could also be understood as a purely declarative statement. While such ambiguous examples are worthy of further analysis, they require a more elaborate and intimate knowledge of the tweeter’s intention (which we have no access to). For this reason, we cannot confidently code them as directive and thus excluded them from the analysis.

Following manual inspection of the data, we identified 491 tweets containing directives. Tweets containing multiple directive clauses were split into separate clauses as seen in example (4), giving us 754 separate directive clauses. While some users have several tweets represented in our data, some of which contain multiple clauses, the majority of tweeters are only
included in our data once. Most tweeters who are represented multiple times in our data have contributed four or fewer directive clauses; the maximum number of clauses from any one user is eleven.

![Example tweet](image)

| Tweet body                                           | Directive clauses |
|------------------------------------------------------|-------------------|
| Keep calm, wash your hands, and don’t be racist. and then we will get through this #Covid19 thing.  #Auckland #NZ | 1.1 Keep calm,  
1.2 wash your hands,  
1.3 and don’t be racist. |

The analysis section reports our findings in relation to this body of data (Covid19NZ Twitter Directive sub-Corpus or CNZT Directive Corpus) and the remainder of the paper reports on the coding and analysis of these 754 directive clauses (and the 491 tweets containing them).

### 3.2. Coding structural form and pragmatic force: directive types

As regards clausal-level structural properties of the directives analysed, these fall into three main clausal types: declaratives, interrogatives, and imperatives. Imperative clauses are inherently directive in nature, and are therefore the clausal type most intuitively understood as directive, whereas interrogative and declarative directive clauses are often far more difficult to classify due to their more indirect nature. While these categories cover a broad range of directive types, within these overarching clausal types there is still a great deal of variation. In order to more carefully examine the types of directives being used, we coded these into finer ‘directive categories’.

One of the most detailed discussions of structural elements found in directive clauses can be found in Huddleston and Pullum (2002, pp. 929–945). For Huddleston and Pullum, a key aspect which figures at the core of this discussion is the strength of the force with which a given directive can be said to “promote compliance” (2002, p. 929). This ranges on a spectrum, from the order/command imperative which requires compliance, as the speaker holds power over the listener, to weaker directives, such as imperative invitations, which leave compliance optional, and well-wishes, such as get better soon, which the addressee completely lacks the control to adhere to. While Huddleston and Pullum (2002) provide a particularly insightful discussion of these structural elements which can be said to contribute towards promoting compliance, there are two issues which remain problematic.

The first issue relates to the likelihood that compliance is indeed solely or primarily a direct result of the directive. Or whether alternatively, compliance arises from somewhere outside the directive, induced by some language-external, unknown factor (or combinations of factors). This cannot be objectively and reliably identified. It seems to us that a more fruitful approach is to consider pragmatic force of the directive; in other words, the relative (linguistic) force that the speaker is putting behind their directive. And here, in line with Huddleston and Pullum (2002), we can observe a spectrum from most forceful, for example, direct orders and commands (Lock NZ down) to least forceful, such as well-wishes (Look after yourself and stay safe).

Secondly, many of the categories proposed by Huddleston and Pullum (2002) are overlapping and co-occur within the same directive clause, and they target different types of features. Some of these are purely structural (e.g. is there an auxiliary like let), while others pertain to pragmatic force that is highly contingent on contextual factors (e.g. pragmatic rather than structural). The authors posit a number of ‘imperative directive categories’ which include: imperative demand, imperative request/plea/entreaty, imperative advice/recommendation, instructions/exposition, imperative invitation, cohortative let’s, open let-, auxiliary do, and well-wishes. Of the listed nine imperative directive categories, three of these — cohortative let’s, open let-, and auxiliary do — are conventionalized constructions which tend to have specific grammatical attributes. The other categories are identified largely on the basis of the pragmatic function they serve. This is problematic because a given directive clause could thus have multiple attributes at the same time, for example, it might constitute a plea but also contain a modal verb, so it would then be difficult to know how to classify it (or which aspect to privilege, the modal verb or the plea expressed). This can be seen in example (5) from the Twitter corpus where the modal verb can may be interpreted in two ways: containing conventionally understood directive meaning or as a genuine question of ministers’ ability to act on the stated idea.
In light of these difficulties, we propose to separate pragmatic force of directives (which is a more subjective, interpretative feature) from consideration of any special verb constructions used to code directives (which simply codes the presence of auxiliaries such as, modal verbs, let and negation).

To this end, our pragmatic force categories are inspired by the original pragmatic categories proposed by Huddleston and Pullum (2002) and refined as a result of the manual coding of our large data sample of tweets. Table 1 provides an overview of

| Category         | Explanation                                      | Example                                                                 |
|------------------|--------------------------------------------------|-------------------------------------------------------------------------|
| Strongest force  | Prototypical directive                           | Direct command, request or order with strong force and entitlement      |
| Criticism        | Clause acts as a warning or threat, reprimand or show of disappointment | ...                                                                      |
| Plea             | Directive is softer and appealing to emotions    | ...                                                                      |
| Advice           | Clause gives advice, suggestion or reminder      | ...                                                                      |
| Offer            | Clause provides an offer or invitation           | ...                                                                      |
| Well-wishers     | Clause offers wishes of goodwill                 | ...                                                                      |
| Indirect directive | Clause is barely directive, sometimes borderline between a mere statement and a directive | ...                                                                      |

Table 1: Proposed pragmatic force categories of directive clauses.
the eight categories we identified in our data, ordered from most forceful directive category to the least forceful directive category. Here, the most forceful directive also proved to be the most prototypical directive within our dataset. We have defined prototypicality following Taylor’s notion of a conceptual core (1989) coupled with probabilistic approaches to language a-la Pierrehumbert (2001). As such, we take frequency of use to be linked to prototypicality effects.

It must be made clear that we do not mean to suggest that our criteria for coding pragmatic force does not involve ambiguity or difficult, borderline cases. By its very nature, pragmatic meaning is interpretative in nature. However, we found that for the majority of the 754 directive clauses coded, we were largely in agreement, and there were only a handful (less than 20) which required a discussion and debate.

In regard to the continuum posited across the different categories, this is only a tentative proposal, based solely on our intuitions. Experimental data would be required to check to what extent addressees rate the force of a given directive type in a similar manner to our intuitions. In particular, while it is perhaps straightforward to determine that prototypical directives are most forceful, at the other end of the continuum the two categories of well-wishes and indirect directives are more problematic to place on the continuum, and we leave this aspect for future research. Moreover, these categories are a great fit for the Twitter dataset that we have analysed, but further naturally occurring data from other sources will be beneficial to corroborate these categories.

As regards various verb types, we again used Huddleston and Pullum (2002) as a starting point for our categories, see Table 2 for an overview of the different categories identified.

| Category      | Explanation                                                                 | Example                                                                 |
|---------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------|
| LET           | Main verb in tweet contains let or let’s as an auxiliary verb                | ![Example](example1.png)                                               |
| Modal auxiliary| Main verb in tweet contains a modal auxiliary, including must, can, should, have to, need, may. | ![Example](example2.png)                                               |
| Negation      | Main verb in tweet is negated, or there might be no verb in the construction: "no (to) X" | ![Example](example3.png)                                               |
| Main verb     | Main verb in tweet has no modal auxiliary or let, and is in positive form (it could have temporal auxiliaries). | ![Example](example4.png)                                               |

Our data also contained one example of DO auxiliary used in a directive of the type *Please do X*, but given its rarity, we ignored this category. One final observation is in order here, which is that one advantage of the categories we propose is that they are non-overlapping, apart from one single case of a LET clause which also contained the modal verb “can” (this was coded as a LET clause in our data for simplicity).

3.3. Coding stance

The second dimension of interest was tweeter stance. Here, stance is understood as “the way in which speakers express points of view, attitudes, feelings and evaluations, and position themselves in relation to some proposition (i.e. subjectivity) and to other speech participants (i.e. intersubjectivity) and their particular stances” (Kaltenböck et al., 2020, p. 1). Following Biber et al. (1999, p. 970), stance has largely been determined by considering “two distinct structural components: one expressing the stance, while the other […] presents the proposition framed by the stance expression” — in this dataset, most frequently the government of Aotearoa New Zealand’s Covid-19 health measures as they were at the time of the tweet.

A key difference about this parameter and all others coded in our tweets is the fact that stance holds at the tweet level, not at the directive clause level, meaning that all directive clauses within a tweet will be coded with the same (global) stance.
During our coding, we discovered that tweets fell into three delineated stance groups: (A) against current government measures, (B) in agreement with current government measures, (C) in general agreement with measures but calling for stronger measures. Additionally, some tweets containing directives were neutral in stance and some few tweets contained unclear stance. These unclear tweets were particularly tricky: although the user was expressing stance, it was either too difficult to determine exactly what this was or too complex to fall into a single stance group. Table 3 summarises these and provides some examples:

### Table 3

| Category                        | Explanation                                                                 | Example                                                                 |
|---------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Against Measures (ANTI)         | Tweet is opposed to current government measures; calls for looser measures within any area relating to Covid-19. | ![Example](image1)                                                     |
| For Current Measures (PRO)      | Tweet supports government measures current as at the time of the tweet.      | ![Example](image2)                                                     |
| For Stronger Measures (WANT STRONGER) | Tweet calls for stronger government measures within any area relating to Covid-19. | ![Example](image3)                                                     |
| Neutral Stance (NEUTRAL)        | Tweet lacks stance; often only contains reiteration of reported facts.       | ![Example](image4)                                                     |
| Stance Unclear (UNCLEAR)        | Stance is present in the tweet, but it is unclear where the tweeter stands (in relation to current government measures). | ![Example](image5)                                                     |

#### 3.4. Coding politeness strategy

Directives are inherently face-threatening acts (FTAs) as they impede upon the addressee’s future actions — they either act as directed, or (may) have to respond otherwise. Because of this, a range of politeness strategies, or FTA-avoiding strategies, are used to either mitigate or strengthen the force of the directive. In coding politeness strategies, we have been guided by Brown and Levinson’s work on politeness and have followed their model of FTA-avoiding strategies (1987, p. 60); Figure 1 summarises the categories present in our data.
Table 4
Politeness categories.

| Category                          | Explanation                                                                 | Example |
|----------------------------------|-----------------------------------------------------------------------------|---------|
| (Bald) On record, without redress | Directive clause makes no attempt to mitigate face-threatening act.         |         |
| On record, positive politeness redress | Threat is mitigated using positive politeness strategy.                       |         |
| On record, negative politeness redress | Threat is mitigated using negative politeness strategy.                      |         |
| Off record                       | No explicit face-threatening act committed.                                  |         |

Table 5
Statistical association of variable associations.

| Variable association             | Pearson Correlation | Cramer’s V |
|----------------------------------|---------------------|------------|
| Clause type and Stance           | $\chi^2 = 69.700$, df = 8, p < 0.001* | 0.215 |
| Pragmatic force and Stance       | $\chi^2 = 93.336$, df = 24, p < 0.001* | 0.176 |
| Verb type and Stance             | $\chi^2 = 69.315$, df = 12, p < 0.001* | 0.175 |
| Politeness and Stance            | $\chi^2 = 50.461$, df = 12, p < 0.001* | 0.149 |
| Addressee type and Stance        | $\chi^2 = 24.345$, df = 4, p < 0.001* | 0.180 |
| Subject type and Stance          | $\chi^2 = 24.676$, df = 4, p < 0.001* | 0.181 |
| Loanwords and Stance             | $\chi^2 = 8.2022$, df = 4, p = 0.084 | 0.104 |
| Imperative hashtags and Stance   | $\chi^2 = 5.1918$, df = 4, p = 0.268 | 0.083 |
| Vocative and Stance              | $\chi^2 = 7.5858$, df = 4, p = 0.108 | 0.100 |
Blum-Kulka’s 1987 work on indirectness and politeness in Hebrew and English requests provides additional insights into the perceived politeness of certain strategies, particularly indirect strategies. While helpful, within this work the role of context, something often difficult to ascertain in Twitter data, proved key to interpreting the politeness of requests.

3.5. Coding of grammatical subjects in directive clauses

We were additionally interested in how tweeters expressed the grammatical subjects of directive clauses. In prototypical directives, the subject is often either you or an implied you. However, in our dataset, there were several other types of subjects present. One technical affordance provided by Twitter is the ability to explicitly tag the intended addressee by using the @-handle as in example (6). This means that tweets can contain both a grammatical subject and an explicitly stated intended addressee simultaneously. To examine this, we coded three further categories: whether the subject was implicit or explicit, individuated or non-individuated, and whether or not a vocative noun phrase was used. We discuss each in turn. Where directives were aimed at a specific individual subject, rather than an implicit subject or a collective group (such as a country, business or government body), these were coded as individuated, as in example (6):

(6)

In the above tweet, @jacindaardern is specified as the intended subject; while you is used later in the clause, this is an anaphoric reference back to @jacindaardern. This tweet is also coded as having an explicit subject — @jacindaardern. The use of @jacindaardern also functions as a vocative noun phrase: here, in tagging Jacinda Ardern’s Twitter handle, the tweeter seeks to attract the Prime Minister's attention. Where tweets included the Twitter handles of specific users as a part of their directive (directly before, directly after, or embedded within the clause), these were coded as containing vocative noun phrases.

(7)

In contrast, the use of the you in the above tweet is indicative of a non-individuated generic subject: you is whoever reads the tweet rather than a specific person. Within this tweet, you is an implicit subject, and this tweet does not contain a vocative noun phrase.

(8)

The above tweet is slightly more difficult to analyse because while there is an overt subject, it is a collective group and not a specific individual. It is not clear exactly who is included in the category of intended addressee and who is not (presumably anyone who is living in Aotearoa New Zealand at the time, but this is not certain). For these reasons, we coded this tweet as non-individuated, with an explicit subject and a vocative noun phrase (New Zealand).

3.6. Additional features: imperative hashtags and use of indigenous Māori loanwords

Further features coded included the presence of imperative hashtags and Māori loanwords. Imperative hashtags are best defined as hashtags that contain a full directive clause. Where most directives were included in the main body of the tweet, many tweets strengthened or clarified their message through the use of hashtags. We have coded imperative hashtags as
directive clauses in and of themselves, but have further noted their presence as they are a unique feature of Social Media language. An example is seen below, where the tweeter indicates their support for the government mandated lockdown through the use of the hashtag #LockItDown, the only directive in the tweet.

Maori loanwords, or borrowings — for example, kiwi and Aotearoa — have long been recognized as a key feature of New Zealand English (NZE), and carry social meaning for those who use them [Zenner et al., 2019]. As a “tool to express (social) identity” [Zenner et al. (2019)], these loanwords can offer another way for Twitter users to communicate information about themselves and their ideologies — for example, their own personal Maori identity or their support of Maori culture and aspirations. While there is considerable ongoing debate as to the line between code-switching and borrowing, this is not the focus of our paper. We have followed the operationalization of identifying borrowings previously used elsewhere when discussing both Maori and Pakeha speakers ([Trye et al., 2020], [Zenner et al., 2019], [Calude et al., 2018], Macalister 2006). Loanwords were present in a small proportion of the tweets in our dataset and, where these loanwords were used either in the body of the tweet or in hashtags, we coded these as present, as in the tweet in (10).

4. Analysis

Having considered the range of phenomena we encountered in the directive clauses of the tweets analysed, we now turn to the patterns uncovered in the 754 clauses coded. We discuss each pattern and leave implications of these to the discussion section.

Before we begin to discuss each variable coded in turn, it is worth mentioning that because the variables are categorical, it not possible to conduct any hypothesis testing. Instead, we will be visualising patterns by means of bar plots and mosaic plots, using R software (R Core Team, 2017) and the ggplot package (Wickham, 2016). In light of the large body of data available to us, we wanted to investigate association measures between the various linguistic variables and the stance of the tweet. To that end, we plotted each variable by stance and calculated their corresponding Pearson Correlation values (none of our counts were zero); see Table 1 for the results (the significant ones are shaded). The Pearson Correlation value tells us whether the association between these values is statistically significant. However, what the correlation values do not tell us is how strong the association is. To calculate strength of association between the various pairs of variables, we calculated Cramer’s V values (following Levshina, 2015, p. 222); see Table 5. The table shows that while some of the variables do indeed show a significant association, the strength of association is generally low (Cramer V values are all fairly low, with 0.215 being the highest, between clause type and stance).

We now turn to individual variables, beginning with clause types Fig. 1. The left-hand panel of Fig. 2 provides a stacked bar-chart containing the raw frequencies of use of the three clause types (declarative, imperative and interrogative), grouped by stance (anti-measures, pro-measures, wanting stronger measures, no stance stated, unclear stance), on the x-axis. As can be seen in the bar-chart, the tweets which support government measures (the ‘pro’ category) account for an overwhelming majority of the data. As such, the trends regarding this group are likely the most representative and accurate. And as expected of typical directive clauses, the majority of the clauses coding these are imperatives (across all stance categories).
The right-hand panel of Fig. 2 provides a mosaic plot of the same data, in which the various categories are illustrated proportionally to their overall representation. The grouping accounts for the higher proportion of pro-measures tweets and a Pearson Correlation is used to compare observed against expected counts within each category.

The mosaic plot tells us that while the use of imperatives is largely proportional to expectations, declaratives are used more than expected by tweeters wanting stronger measures and less than expected by those pro-measures. Similarly, interrogative clauses are used more than expected in tweets complaining against the measures and even more by those wanting stronger measures, and less than expected by those supportive of government measures. In other words, those supporting measures tend to go for the prototypical directive clauses, namely imperative clauses, whereas those wanting stronger measures or anti-measures, opt for more unusual strategies, particularly interrogative clauses.

Turning to pragmatic force of the directive, Fig. 3 provides the same type of plots as Fig. 2, namely a stacked bar-chart on the left-hand panel and a mosaic plot on the right-hand panel, but this time, we are looking at pragmatic force types (grouped
by stance, as before). It is clear that there is a wide variation of different types of directives used across all the different stance categories, with prototypical directives (direct commands, orders and so on) making up the majority of the examples throughout, followed by pleas and criticisms. As anticipated, criticisms are used significantly more than expected by tweeters who are generally unhappy with current measures, either because they are opposed to them or because they are calling for stronger measures. What is interesting is that those wanting stronger measures appear to deviate most in their linguistic strategies from the prototypical directive type: besides resorting to criticisms, they also exhibit higher use than expected of indirect directives and pleas. We will see in what follows that this trend (of those wanting stronger measures deviating in their linguistic choices from other stance groups) holds for other variables, not just pragmatic force. Tweets which are anti-measures tend to shy away from advice (in addition to the already mentioned increased use of criticisms). Finally, those who are happy with current measures are higher users of well-wishing directives (as well as use fewer criticisms, as might be expected).

The third variable in our data was verb type. Here, we turn to Fig. 4 which shows that most tweets do not use any special verbal auxiliaries (modals or let’s)). This is particularly significant in relation to those who support current measures (they use significantly fewer clauses containing modal verbs than expected, see Fig. 4, right-hand panel). Tweets calling for stronger measures seem to once again break away from expected patterns, by using fewer main verb clauses (no special auxiliaries) than expected and more clauses containing modal verbs and negation.

Fourthly, we come to politeness; see Fig. 5. According to the left-hand bar-chart, all tweets overwhelmingly favour the bald on record strategy, regardless of stance, followed by a tendency — also across most stance groups — of going off record. Intriguingly, it appears that tweets tend to be located at polar opposites of the politeness continuum: they either involve directives with no mitigation or regard for face-saving acts, or else, they opt out of committing the face-threatening act altogether. The mosaic plot on the right-hand side of Fig. 5 suggests that pro-measures tweets shy away from being off record, perhaps owing to their higher sense of entitlement (they are upholding the status quo), while conversely, those calling for stronger measures shy away from going bald on record (given their own position against the status quo) and opt for off the record more than expected.

We now turn to the nature of subject types and intended addressees. Fig. 6 shows a more even distribution of implied and explicitly coded subjects across the various stance groups (left-hand panel). However, there is a significant preference for tweets which call for stronger measures to have explicitly coded subjects and conversely, fewer of these opt for implicit subjects (right-hand panel).
Probing this issue further, Fig. 7 illustrates the patterns of use in individuated and non-individuated subjects (left-hand panel). The great majority of subjects are non-individuated; they collectively reference an entire social group, typically the whole country or the government. The only significant trend here is once again, for those wanting stronger measures, who seem to use individuated subjects more often than expected (right-hand panel). The use of vocatives was not prevalent in the data and did not show any significant trends.

The use of Maori loanwords and imperative hashtags did not show any significant trends (hence no mosaic plots are shown for these variables, see Fig. 8 for bar-charts of each variable, respectively). According to the bar-charts, most tweets did not contain any of these but their use was noted across all stance categories.
5. Discussion and conclusion

This paper is concerned with the analysis of directive clauses in naturally occurring spontaneous discourse, as found on the Social Media platform Twitter. The analysis we presented so far can be summarised in three main ways: 1) contributions and implications to linguistic theory in identifying and classifying directive clauses, 2) specific linguistic trends identified in relation to the various stance groups according to which tweets were classified in the Aotearoa New Zealand related corpus and 3) global linguistic patterns identified in relation to the use of directives in Social Media discourse. We discuss each of these in turn. Several questions and limitations remain, which also discuss in the latter part of this section.

This work aims to contribute to current linguistic theory in relation to identifying and classifying directive clauses. English grammars, such as Huddleston and Pullum (2002) document in some detail the ways in which English speakers' express directives, with particular attention to form. As discussed in the background section, directive clauses can be expressed with
the help of a wide variety of verbal forms (modals, let, do, or simply the negative particle no). Similarly, they can take the form of different clause types (interrogative, imperative and declarative). At the same time, directive constructions also enlist various pragmatic aspects, related to politeness strategies, in that speakers have a variety of mitigation tools available when faced with the possibility of a directive, they can assert the directive (or not), with or without redress. While these are all possible choices available to English speakers, it is not always straightforward to disentangle them from one another.

Aside from grammars, such as Huddleston and Pullum (2002) and Quirk (1972) which offer descriptions of grammatical constructions and pragmatic functions utilized to express various forms of directives, there have been several different solutions posited to address the slippery nature of non-prototypical directives. Among these, Kaufmann (2012) utilizes a cross-linguistic perspective and a mix of semantics and pragmatics to provide a framework for understanding imperatives, and Takahashi (2012) probes prototypicality effects of imperatives (though not directives in general). As discussed in section 3.2, we follow Taylor (1989) and Pierrehumbert (2001) in our classification of prototypicality. While all of these approaches are beneficial to unravelling the knot that is the study of directives, there is still a tangle of disagreement and overlap within this area. Though there have been some attempts to identify and classify directives by referring to both syntactic and pragmatic characteristics (as in Huddleston and Pullum, 2002), many of these lead to results that are not clearly delineated or objectively operationalizable in a real data example.

Additionally, while there has been attention given to directives in spoken language, and, to a lesser extent, written language, there has been minimal comment on naturally occurring directives on Social Media and, to the best of our knowledge, there have been no studies centred on directive use on Twitter. While the aforementioned approaches to classifying directives are helpful for their respective genres, they are not as appropriate for analysing large corpora of Social Media data, a unique genre where not all of the usual variables (such as relative social power) can be easily determined. While we have utilized previously suggested operationalizable categories as a foundation for our research, these have had to be reworked to fit this particular genre and we have created additional categories to help fill gaps where necessary.

Given that directive constructions are not typically found in great abundance in spontaneous discourse, the global Covid-19 pandemic has unexpectedly provided a rich and large body of readily available data from which to build a detailed window into how speakers of English (among others) put together directive constructions off-the-cuff, spontaneously and with little opportunity for editing. Leveraging this data has been fruitful in two ways. First, it has allowed us a glimpse of the large amount of variation which is indeed present in directive constructions. As discussed in the current literature cited above, not only do speakers have a great number of options available to them in regard to the use of directives, but our data shows that indeed, they are also making full use of these. Secondly, using current work from grammars, pragmatics research and syntactic research as a basis and the large data set from Twitter, we propose a set of operationalizable characteristics and criteria for describing and classifying directive clauses, which brings all these linguistic areas together (at the same time). The most relevant categories to directive clauses we found — on the basis of the Social Media data analysed here — are: clause type (interrogative, imperative, declarative), verb type (modal, let, negative, main verb/no special auxiliary), politeness strategy (off the record, on record with positive politeness redress, on record with negative politeness redress, bald on record with no redress), subject type (+explicit), and intended addressee (+individuated).

Using the criteria proposed here, we were able to extract the most frequent patterns of the variables coded and also keep track of the stance groups which deviated most significantly from expected patterns. These are summarised in Table 6.

Table 6
Most frequent patterns observed across the Twitter directive sub-corpus.

| Linguistic Feature | Most frequent variant | Stance group most likely to deviate from general patterns observed |
|--------------------|-----------------------|---------------------------------------------------------------|
| clause type        | imperative followed by declarative | anti-measures tweets, pro-measures tweets, wanting stronger-measures tweets, declaratives, interrogatives |
| pragmatic force    | prototypical directives followed by pleas, indirect directives or criticisms | anti-measures tweets, pro-measures tweets, wanting stronger-measures tweets, directives, criticisms |
| verb type          | main verb captures directive, sometimes a modal auxiliary is also used | pro-measures tweets, wanting stronger-measures tweets, modal auxiliaries, main verb (only) directives |
| politeness         | bald on record         | pro-measures tweets, wanting stronger-measures tweets, off the record directives, bald on record ones |
| subject types      | implied (not overtly coded) | anti-measures tweets, pro-measures tweets, wanting stronger-measures tweets, explicit subjects, individuated addressees |
| intended addressees| non-individuated addressees | anti-measures tweets, pro-measures tweets, wanting stronger-measures tweets, explicit subjects, individuated addressees |
Zooming out to a more general view of the data, we have uncovered three global trends in relation to the directive clauses which tweeters used in our corpus. First, we can use the above summary to extrapolate a profile of the prototypical directive construction, based on the general frequencies of use we detected across the various variables coded. To this end, we found that the prototypical directive clause tends to be expressed by means of an imperative clause and a regular main verb, sometimes accompanied by a modal verb, and typically this verb involves a directive (or commanding) meaning expressed without a helping auxiliary (e.g. *use*, *follow*, *ring*, *self-isolate*) or alternatively a plea or criticism. Its subject is implied and not overtly expressed and the intended addressee is generic and non-individuated (unnamed). Furthermore, prototypical directives are uttered boldly on record with no effort to mitigate their force. There are striking parallels between our findings in relation to strong entitlement and little mitigation in the informal, spontaneous Twitter data we analysed and the public signs which were analysed by Svennevig (2021). Like Svennevig’s analysis of public signs, we also find that strong entitlement in directives is coupled with little or no effort at saving face. This is also in line with parents talking to children, as in Craven and Potter’s (2002) study, but not with the pastors and cantors corpus by Stevanovic and Peräkylä (2012). One point of difference between our data and the public signage corpus is that Tweeters do not seem to go to great lengths in legitimizing the high entitlement of their requests by reference to pre-existing rules or norms, nor do they seek compliance by recourse to affiliation.

Secondly, our data shows that while it is possible to look across the board to extract the profile of a prototypical directive construction (in our corpus), the spread of the data shows a remarkable amount of variation across all the stance groups coded. For most variables, we can find examples in which tweeters use all the various linguistic options available to them regardless of the stance they are taking.

Thirdly, and conversely, by coding the stance toward government measures of each tweet, we are able to glean to what extent there is an association between stance and linguistic characteristics of the directive used. In other words, while we see a great deal of variation across stance groups, we can still also detect some general patterns. In particular, we find that tweeters who appear content with and supportive of government measures tend to be the ones who most use the prototypical directive construction, as profiled above. This is in keeping with their (likely) high sense of entitlement; they are backing the ‘official line’.

On the other hand, tweeters who are unhappy with government measures, and especially those who are lobbying for stronger measures to be put in place, are the most likely to significantly deviate from the prototypical directive schema. This begs the question, why would those who want stronger measures be most distinctive in their use of directives, even compared to tweeters who are opposed to government measures? We can only speculate to the reasons driving this use, but one possibility might be that those who are calling for stronger measures may be feeling in a minority and therefore putting in more (linguistic) effort into expressing their demands in alternate ways. Interestingly, when putting forward a high-cost request (in other words, increased contingency), everyday Twitter users lacking authority seem to address their requests more explicitly to individuated addressees who they feel may be able to action their requests — but, perhaps in recognizing their own lack of power and the weight of their requests, tend to temper this with more indirect, creative phrasing. An alternative view could be that these individuals come from a greater variety of social circumstances and that this is reflected in the language strategies they chose to use. For example, health care officials may use different directive strategies than non-medical staff due to differences in the nature of their concerns, their knowledge levels about Covid-19, and levels of entitlement.

No work is without limitations and, of course, ours suffers from at least a number of these as well. Arguably the most important issue is representativeness. While no corpus can be irrefutably representative of all speakers of a given language, Twitter is likely to be biased towards certain parts of the English-speaking population, most notably, younger speakers. In addition, our data does contain a skew toward tweets with pro-government stance. Future studies using data from later years, when increasing public dissatisfaction may reveal a more balanced dataset, would be helpful in checking our initial observations. Finally, while there are advantages in being able to compare groups by holding the topic of discourse (Covid-19) constant across the corpus, it is also likely that there may be other directive types which this type of data did not draw out (for example, we found only one instance of a *do*-directive clause, but we cannot be sure to what extent this is related to the topic of discourse). Additional research into the use of directives on Social Media may add further nuance to the unique and complex uses of naturally occurring directives.

**Conflicts of interest**

None.

**Acknowledgement**

We thank David Trye for extracting and cleaning the Twitter data, and for comments to the draft and we thank attendees of the New Zealand Discourse Conference 8 for their comments and suggestions. We acknowledge the financial support from the University of Waikato Summer Research Scholarship. All remaining errors are our own.
References

Antaki, C., Kent, A., 2012. Telling people what to do (and, sometimes, why): contingency, entitlement and explanation in staff requests to adults with intellectual impairments. J. Pragmat. 44 (6–7), 876–889. https://doi.org/10.1016/j.pragma.2012.03.014.

Blum-Kulka, Shoshana, 1987. Indirectness and politeness in requests: same or different? J. Pragmat. 11, 131–146. https://doi.org/10.1016/0378-2166(87)90192-5.

Biber, D., Johansson, S., Leech, G., Conrad, S., Finegan, E., Quirk, R., 1999. Longman grammar of spoken and written English (Vol. 2). Longman, London.

Blum-Kulka, House, Julian, Kasper, Gabriele, 1989. Cross-Cultural Pragmatics: Requests and Apologies. Ablex Publishing Corporation.

Brown, P., Levinson, S.C., 1987. Politeness: Some Universals in Language Usage. Cambridge University Press.

Calude, A.S., Miller, S.D., Pagel, M., 2018. Modelling loanword success a sociolinguistic quantitative study of Māori loanwords in New Zealand English. In: Corpus Ling. Ling. Theor. 1–38. https://doi.org/10.1515/cllt-2017-0010.

Couper-Kuhnlen, E., 2014. What does grammar tell us about action? Pragmatics 24 (3), 623–647. https://doi.org/10.1075/prag.24.3.08cou.

Craven, A., Potter, J., 2010. Directives: entitlement and contingency in action. Discourse Stud. 12 (4), 419–442. https://doi.org/10.1177/1461464510370126.

Drew, P., 2008. Contingency and action: a comparison of two forms of requesting. Res. Lang. Soc. Interact. 41 (2), 129–153. https://doi.org/10.1080/083518082028611.

Drew, P., Couper-Kuhnlen, E., 2014. Requesting in Social Interaction. John Benjamins.

Fiesler, Casey, Proferes, Nicholas, 2018. “Participant” perceptions of twitter research ethics. Social Media + Society 4 (1), 1–14. https://doi.org/10.1077/205630518763366.

Kaltenböck, Gunther, López-Couso, María José, Méndez-Naya, 2020. The dynamics of stance constructions. Lang. Sci. 82, 1–12. https://doi.org/10.1016/j.langsci.2020.101330.

Huddleston, R., 1994. The contrast between interrogatives and questions. J. Ling. 30 (2), 411–439. https://doi.org/10.1017/S0022226700016704.

Huddleston, R., Pullum, G.K., 2002. The Cambridge Grammar of the English Language. Cambridge University Press.

Kaufmann, M., 2012. Interpreting Imperatives. Springer.

Levshina, N., 2015. How to Do Linguistics with R—Data Exploration and Statistical Analysis. John Benjamins.

Lindström, A., 2005. Language as social action: a study of how senior citizens request assistance with practical tasks in the Swedish home help service. In: Hakulinen, A., Selting, M. (Eds.), Syntax and Lexis in Conversation. John Benjamins, pp. 209–230. https://doi.org/10.3366/cor.2006.1.1.85.

Malaciler, J., 2006. The Maori lexical presence in New Zealand English: constructing a corpus for diachronic change. Corpora 1 (1), 85–101. https://doi.org/10.3386/cor.2006.1.1.85.

Pennock-Speck, B., Fuster-Márquez, M., 2014. Imperatives in voice-overs in British TV commercials: ‘Get this, buy that, taste the other. Discourse Commun. 8 (4), 413–443. https://doi.org/10.1080/14614456.2014.953758.

Pierrehumbert, J.B., 2001. Exemplar dynamics: word frequency, lenition and contrast. In: Bybee, Joan L., Hopper, Paul (Eds.), Frequency and the Emergence of Linguistic Structure. John Benjamins, Amsterdam, pp. 137–175.

Quirk, R., 1972. A Grammar of Contemporary English. Longman.

R Core Team, 2017. R: A Language and Environment for Statistical Computing [Computer Software]. R Foundation for Statistical Computing. http://www.R-project.org.

Searle, J.R., 1979. Expression and Meaning: Studies in the Theory of Speech Acts. Cambridge University Press.

Stefanovic, M., Peraly, A., 2012. Deontic authority in interaction: the right to announce, propose, and decide. Res. Lang. Soc. Interact. 45 (3), 297–321. https://doi.org/10.1016/j.langsoc.2012.09.001.

Svennevig, J., 2021. How to do things with signs. The formulation of directives on signs in public spaces. J. Pragmat. 175, 111–134. https://doi.org/10.1016/j.pragma.2020.12.016.

Takahashi, H., 2012. A Cognitive Linguistic Analysis of the English Imperative with Special Reference to Japanese Imperatives. John Benjamins.

Taylor, J., 1989. Linguistic Categorization. Oxford University Press, Oxford.

Twee, D., Calude, A.S., Bravo-Marquez, F., Keegan, T.T., 2020. Hybrid Hashtags - #YouKnowYoureAKiwiWhen your Tweet contains Māori and English. Front. Special Issue Comput. Sociolingu. https://doi.org/10.3389/fisoc.2020.00015.

Wickham, H., 2016. ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag, New York. ISBN 978-3-319-24277-4. https://ggplot2.tidyverse.org.

Zjakic, H., Han, C., Liu, X., 2017. The social meaning potential of loanwords: Empirical explorations of lexical borrowing as expression of (social) identity. Ampersand 6. https://doi.org/10.1016/j.amper.2017.01.002.

J. Burnette, A.S. Calude Journal of Pragmatics 196 (2022) 6–23

Andreea S. Calude is a Senior Lecturer in Linguistics at the University of Waikato, in New Zealand. She has written on various aspects of English lexis and grammar, with a particular focus on New Zealand English and using a corpus linguistics approach and quantitative analyses. She is also the author of two Routledge books for a wide audience, Mysteries of English Grammar (2021, with Laurie Bauer), and Questions about Language (2020, edited with Laurie Bauer).