International Ecolinguistics Association

Article

English pronouns and human exceptionalism: A corpus-based study of singular 'they' usage for nonhuman animals

Michael H. Brown
Komazawa Women's University, Japan
E-mail: m-brown@komajo.ac.jp

Abstract

Singular 'they' has received considerable scholarly attention. It has a long-established history in English and has recently seen its usage extended into novel contexts such as in reference to specific persons. Its use in reference to nonhuman animals has also been attested, but this use has received comparatively little scholarly attention. This article traces the development and expansion of the use of singular 'they' in English, reviews the factors involved in pronoun selection for nonhuman animals, reports a study on the use of singular 'they' for nonhuman animals in a corpus of articles related to animal-welfare concerns, and discusses such usage within the context of a particular ecosophy, defined in the paper, that opposes human exceptionalism.

Keywords: pronouns, nonhuman animals, human exceptionalism, animacy, empathy, corpus linguistics

1. Introduction

Consider the data in Table 1, which shows a small sample of social media posts I have collected in which 'singular *they*' (ST) — the use of the English pronoun *they* with a singular antecedent or nonlinguistic referent — is used to refer to nonhuman animals.[1]

Table 1: Examples of ST usage for nonhuman animal antecedents/referents on social media

Text (Singular *they* has been **bolded**)	Antecedent / Referent
I like how **they**'re going "Oh someone like me! Human, boring. Oh someone like me!"	Chimpanzee (nonlinguistic referent)

[1] The posts' authors gave permission for these to be used as examples.

Don't freak out. This Grizzly was sedated and tagged. It's fine, it's alive. BUT LOOK HOW LARGE **THEIR** PAWS ARE. 😀	Grizzly
Look at how happy your dog is when you hold **their** paw!!! :D That big old smile spreads across **their** face.	Dog

While it is common to explore ST usage with human antecedents, these examples are interesting because using ST as an alternative pronoun to *it* for anymals[2] has been largely overlooked by those investigating ST, although such usage has been noticed (e.g., Fusari, 2018; Krauthamer, 2021).

Therefore, I aim to partially address this lacuna through the reporting of the distribution and frequency of ST with anymal antecedents in a corpus (hereafter, the corpus) of online public-facing articles published by an organization concerned with the welfare of anymals. More specifically, of the anymals written about in the corpus, this content and distribution analysis examines which of them are referenced with ST, how frequent such referencing is relative to *it*, and how balanced such reference patterns are throughout the corpus.

That first aim resides within another overarching aim: To contextualize and interpret the use of ST for anymals through scrutinizing how consonant it is with an ecosophy that is outlined in this paper. An ecosophy is understood here as a set of beliefs about ecological relations, particularly human ones, with "norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs" (Naess, 1995, p. 8). Thus, the paper contains a descriptive account of ST usage and analysis regarding such usage within a much broader ecosophical discussion; much of this paper is allocated to exploring the ecosophical positions and motivations undergirding the study.

To accomplish this, the paper has the following layout. First, an overview of ST is provided, including information regarding the sociopolitical implications of some pronoun choices; second, factors influencing pronoun selection for anymals in English are explored, with particular attention paid to the roles of animacy and empathy in the pronominal system; third, the paper's ecosophical outlook and how it motivates the exploration of pronoun usage for anymals is described; fourth, a corpus-based study of ST usage for anymals is reported; finally, there is a section discussing the study's findings, caveats, and potential directions for further research.

2. Background

2.1. Singular *they*

In its most traditional forms, ST is a long-established (Balhorn, 2004; Curzan, 2003) and

[2] I use the term *anymal*(*s*) in the rest of this paper as a human-excluding term in place of locutions such as *nonhuman animal*(*s*) (Kemmerer, 2006). Any use of *animal*(*s*) may be read as generally inclusive of all members of the taxonomic Animal Kingdom unless it is accompanied by a modifier that indicates otherwise.

frequently deployed English third-person pronoun (Baranowski, 2002; LaScotte, 2016; Newman, 1992; Paterson, 2011) for generic or unspecified antecedents. Recently, there are also cases of novel deployments of ST with specific antecedents (Conrod, 2018; Zimmer et al., 2016).

The grammaticality and acceptability of both the traditional and novel usages have been heavily debated. Centuries ago, English grammarians tried to suppress the use of ST through specious appeals to the grammar of Latin and overtly male-centric reasoning, such as claiming that the masculine encompasses the feminine (Bodine, 1975). Attempts to abolish ST failed, but they successfully attached a stigma to ST that saw it marginalized in pedagogic settings, prescriptive contexts, and formulations of Standard English.

Concerns about number (dis)agreement persist (MacKay, 1980); however, that morphosyntactically plural pronouns may be used for singular reference is not truly in question (e.g., Eberhard et al., 2005; Paterson, 2014; Sauerland et al., 2005). Other expressions of concern from linguists have been rooted in pessimism regarding ST's potential uptake (Lakoff, 1975). However, usage is widespread and expanding. A shift in perceptions of ST's acceptability has even been taking place in strongly prescriptive domains such that ST is rapidly replacing generic *he* in many contexts. Whereas a few decades ago ST could be described as "nonstandard usage" and "not accepted by most handbooks today" (Nichols, 1988, p. 180), it is now frequently accepted and even recommended as an epicene option by several influential style and usage guides (e.g., Easton, 2017; Lee, 2019). Kosei (1993) presciently wrote of this trend in attitudes: "just as the accusative plural *you* has supplanted the other forms of the second person pronouns for social reasons, *they* has begun to enter the cannons [*sic*] of sanctioned locutions and is driving singular (*sic*[3]) *he* out of its last stronghold, formal written language" (p. 54).

2.2. Society, gender, and pronouns

Among the most influential factors in the expanding acceptance of ST are social ones that agitate against sexism and androcentricity in language. Much of ST's growth over the past 50 years or so stems from social attitudes that value its utility as an alternative to generic *he*'s inherent male-centric bias (Martyna, 1978; Miller & Swift, 1976; Moulton et al., 1978; Ng, 1990).

Efforts to reform sexist language are influenced by awareness of how language may be implicated in the persistence of sexist thinking. Cross-linguistic research into grammatical gender — which is not always linked to sex and/or social gender[4] — has shown that the

[3] Elsewhere in the same paper Kosei predicts that "generic *he*" will be supplanted by ST and I believe "generic *he*" rather than "singular *he*" was intended in this quotation.

[4] Grammatical gender and gender in the sociological sense must not be confused. Gender in the linguistic sense is, in my usage, synonymous with 'noun class'. From this point on, when gender in the sociological sense is meant, 'social gender' or a similar locution is used. Use of the unmodified term 'gender' is reserved in this paper for gender/class in the linguistic sense.

way nouns are classified influences cognition. For instance, in languages with masculine/feminine gender distinctions for all or the vast majority of nouns, the masculine or feminine marking of some object plays a role in that object being perceived as having stereotypically masculine or feminine traits (Boroditsky et al., 2003; Clarke et al., 1981; Flaherty, 2001; Konishi, 1993). Androcentric conceptions of non-gendered stimuli might also be more common among those using languages relatively lacking in epicene pronoun options (Everett, 2011). Furthermore, gender systems marking common noun terms for anymals as masculine or feminine adversely affect people's ability to deduce accurate sex information if the gender does not align with the sex of the referent, indicating that "grammatical gender has non-trivial cognitive consequences" (Imai et al., 2010, p. 1165).

Old English had a masculine/feminine/neuter gender system that was not based on sex and/or social gender of the antecedent (Algeo, 2010). Nouns referring to men could be of feminine gender, and thus referred to with feminine *hēo*; nouns referring to women could be of masculine gender, and thus referred to with masculine *hē*; still other nouns whose semantics indicate sex and/or social gender might be of neuter grammatical gender, and thus be referred to with *hit* (which evolved into the modern *it*). A conspicuous example of this gender system not being based on sex and/or social gender: *Wifmann*, meaning 'woman' and the term from which *woman* evolved, is a masculine noun and thus would agree with the masculine pronoun *hē*. A more semantics-based system tied to sex and/or social gender began developing during the Old English period, but the traditional grammatical gender system persisted alongside it throughout the Middle English period. The stabilization of the third person singular pronominal paradigm familiar to most current users of English in which pronoun selection is tied to sex and/or social gender did not occur until the Modern English period.

Therefore, while English no longer has regular grammatical gender, a vestigial semantics-based 'notional gender' system (McConnell-Ginet, 2015)[5] on third-person personal pronouns in which masculine *he* and feminine *she* are predominantly thought of as indexing the sex and/or social gender of the antecedent/referent is now standard in many English varieties.[6] When an epicene pronoun for a human is needed, the so-called generic *he* has traditionally been prescribed. This convention normalizes masculinity as the default social gender because, although there may be epicene intentions, generic *he* is psychologically not epicene (Gastil, 1990; Hyde, 1984; Miller & James, 2009). Male-centric thinking is pervasive and linked to various harms (Bailey et al., 2019), and therefore this convention is problematic because it helps entrench androcentric thinking and social patterns. In contrast, perhaps similar to how the use of a social gender-neutral pronoun in Swedish has been found to reduce mental androcentricity (Tavits & Pérez, 2019), ST is an epicene option in English that can challenge sexist stereotypes and discrimination (Sczesny

[5] Many call this a 'natural gender' system, but I find this misleading and thus prefer 'notional gender'.
[6] But not all varieties. Some people's English varieties do not consistently deploy *he* and *she* in a manner reflecting a strict masculine/feminine distinction, but instead resemble free variation at times; e.g., some varieties used by indigenous peoples in North America (Leap, 1993).

et al., 2016).

Moreover, binary feminine and masculine pronouns are not appropriate for some individuals (e.g., some non-binary individuals), which means that 'he or she'-type locutions are frequently unsuitable solutions to the problems of generic *he*. Responding to this social need, ST has undergone an innovative extension: Some now use it for specific singular antecedents (Conrod, 2018; Zimmer et al., 2016). Thus, ST plays a role in addressing some social gender-linked matters that go beyond merely providing an alternative to the sexism of generic *he*.

This is not the first time that changes in the English pronominal system have been linked to social changes. The displacement of the now mostly archaic *thee*, *thy*, and, especially, *thou* with morphosyntactically plural *you* as the standard second-person singular pronoun in English was an instance of a pronoun shift coinciding with changes in the socioeconomic structures of society (Brown & Gilman, 1960; Krauthamer, 2021; Wales, 1987). As 'singular *you*' is historically linked to changes regarding socioeconomic status, so is ST currently linked to changes regarding matters of sex and social gender. And not only are they related, but such linguistic changes may in fact be "essential concomitants" of social ones (Halliday, 1978, p. 92).

Pronouns, despite mundane appearance, are thus brimming with social import. Pennycook (1994) observes that "a pronoun is always a highly complex piece of language that can rarely stand in a simple relationship to something else … pronouns are deeply embedded in naming people and groups, and are thus always political in the sense that they always imply relations of power" (pp. 174-175). That patterns of language do not merely describe the world, but actively construe the world in particular ways (Halliday, 2001), is clear when discussing pronouns and social gender. When it comes to pronouns and anymals, however, questions of social gender do not seemingly apply as they do for humans.[7] Concerning anymals, something else in the pronominal system appears more salient: Animacy.

2.3. Animacy and anymals

Confusing grammatical gender with social gender contributes to a misapprehension that it always conveys information about social gender. However, gender is a grouping of nouns into grammatical classes which can be based on a wide variety of features unrelated to social gender (Corbett, 1991). For example, Nishinaabemwin has a gender system that does not group nouns into feminine and masculine classes, but into animate and inanimate ones (Valentine, 2001). A simple description of English singular third person personal pronouns shows that they, too, have an animacy feature:

He [masculine, animate]

[7] For a troubling of the view that social gender does not apply to nonhuman animals at all, see Meynell and Lopez (2021).

She [feminine, animate]
It [neuter, inanimate]

What is lacking is an option that is neuter (or epicene) and animate. ST appears to provide this option. Accordingly, ST can refer to anymals. But, it is atypical to do so, and perhaps even subject to resistance. Pronouns are high-frequency words usually expressed with a high degree of automaticity, and thus it can be jarring[8] when some divergent-from-the-norm usage occurs. Some novel forms of ST usage indeed seem to require a restructuring of the pronominal system, which makes those forms genuinely difficult for some to accept as grammatical (Konnelly & Cowper, 2020). However, unlike the restructuring of the pronominal system that such forms may require, indexing anymals with ST is merely an alteration of convention within the system's traditional architecture. It requires nothing more than recognition that the category of nouns that may be indexed by ST already includes anymals.

Compare the use of ST with human and anymal antecedents below in (I) and (II), which demonstrate that indexing an anymal with ST operates within the system's traditional architecture, with (III), taken from Konnelly and Cowper (2020), which requires restructuring the system in a manner that deflates any obligation to use a 'notional gender' pronoun for sex and/or social gender-specified antecedents:

I. A student$_i$ forgot their$_i$ bag.
II. A jaguar$_i$ stalks their$_i$ prey.
III. Your brother$_i$ called to say they$_i$ would be late.

The issue for (II) is not whether it is grammatical, but that it is unconventional. It would be wrong, of course, to assume that changing a convention is without difficulty. I, for instance, have been trying to consistently use ST for anymals in my speech. Although it has gotten easier, even with strong motivation, automaticity is hard to alter. More generally, linguistic reforms are often met with hostility (Gustafsson Sendén et al., 2015; Mills, 2003), and the novelty of using ST for anymals could make uptake challenging. Presumably, however, if even limited uptake by some resulted in a higher frequency of exposure for others, eventually the unfamiliarity issue might be rendered moot given the effects of frequency on linguistic behavior (Ellis, 2002; Bybee, 2007). A relevant comparison: Since the 1970s, non-sexist language reforms in English have been widely adopted, though in the 1970s reform proposals were ridiculed and success could not have been predicted (Curzan, 2014).

[8] Mills (2019), regarding his use of the terms 'human animal' and 'nonhuman animal', writes that many take for granted that the categories 'humans' and 'animals' are in opposition and that this seems a "natural way to partition the world, so that … the constant mention of 'human animal' and 'nonhuman animal' sounds jarring and semantically off-key" (p. 68). A jarring effect could contribute to some form being deemed unacceptable, but, following Mills, it could also highlight avenues for both thought and language that would otherwise have been closed off.

The above is not necessarily a prescription to use ST for anymals, although some do argue that (Dunayer, 2001; Giaimo, 2016; Jacobs, 2004; Simon, 2021). Such normative arguments typically invoke anti-speciesist or welfarist moral sentiments and suggest the use of *it* to refer to an anymal should be considered inappropriate because it construes the anymal as a thing, not a being. This reasoning applies to not only personal pronouns, but to, for example, the relative pronouns *who* and *which* as well (Brown, 2017; Chau & Jacobs, 2021; Gilquin & Jacobs, 2006; Gupta, 2006). These arguments are based on concerns akin to those of the Dangerous Speech Project (2021) which defines 'dangerous speech' as "[a]ny form of expression … that can increase the risk that its audience will condone or commit violence against members of another group". Crucially, this definition does not say that the speech must be directed toward the at-risk group, only that among its audience are those who might condone or commit violence. Although the Dangerous Speech Project is concerned with human-to-human conflict, 'dangerous speech' fits the discussion at hand if one considers anymals a group against whom human violence may be condoned or committed. In other words, the concern is that construing anymals as things, not beings, may make it more likely that they will be mistreated and their mistreatment disregarded.

Of course, anymals may be referred to with *he* or *she*, but in the absence of certain criteria (e.g., knowledge of an anymal's sex), the common default in most cases in English is to use *it*. This could mean *it* does not actually imply inanimacy; but if so, what makes *it* nearly always inappropriate for humans? There is obviously an association of *it* with inanimacy and 'thinghood'. Conceivably, *he* and *she* might be specifically 'human pronouns' and *it* is for all non-human antecedents. However, this does not account for actually observed variation. Still, perhaps the indication of (in)animacy via these pronouns is more of a context-dependent continuum than a stark bifurcation (Sealey, 2018). *He* and *she* might refer to 'more animate to fully animate' antecedents while *it* might refer to 'less animate to completely inanimate' antecedents. Though even with such flexibility, the questions remain of why anymals would be 'less animate' and how 'lesser animacy' could contribute to all the same problems arising from a construal of inanimacy.

Maybe the above mischaracterizes the nature of animacy in the English pronominal system similar to the issue of conflating grammatical gender and social gender. Perhaps animacy has a different meaning in the linguistic sense than it does in general, where it is associated with 'aliveness'. Using *it* would not imply that anymals are actually inanimate or mere things, but be due to common names and terms for anymals being part of a noun class marked as 'grammatically inanimate' (or less animate), a feature which is perhaps influenced by, but not identical to, the general notion of animacy that is linked to 'aliveness'.

If so, there is little problem with some animates being referred to with *it*; similarly, being alive is not a prerequisite for an antecedent to be referred to with an animate pronoun. This makes some sense. When, for instance, *she* indexes a ship, the ship is not alive nor does it actually take on a sex or social gender, but the choice of *she* uses our notions of social gender, through a metaphorical relation, to characterize the ship. Likewise, if *it* is used to refer disparagingly to a human, the individual is still objectively animate, and the

disparagement comes from our notions of what inanimacy connotes. Animate pronouns do not only pick out animate entities, and neither does *it* only pick out inanimate entities. Rather, a characterization is performed based on our notions of (in)animacy regardless of the objective (in)animacy of the antecedent.

This accords with common descriptions of an anthropocentric animacy hierarchy. Humans sit at the top of this hierarchy and are considered fully animate. Anymals are lower in the hierarchy and considered, in a sense, less animate (Yamamoto, 1999). Thus, we have a traditional state of linguistic affairs in English with substantial variation; individual anymals, as less-animate animates, may be indexed with the animate pronouns *he* and *she*, but generally are referred to with inanimate *it*. However, this is a rationalization of observed usage; it does not determine that an anymal must ever be referred to with an inanimate pronoun or that anymals must be construed as less animate than humans. Comrie (1989) argues that animacy is not in fact a scale onto which all entities can be neatly placed and categorized, but derives from how humans interact within and think about the world.

What then is it that mediates pronoun selection for anymals? Simply knowing the sex of an anymal is not always sufficient to generate the use of *he* or *she* (Gardelle, 2012). Rather, there is often some social, emotional, or psychological connection felt toward an anymal that leads to animate pronoun selection. Halliday and Hasan (1976) describe the variation between animate and inanimate pronouns for anymals as depending on "primarily the speaker's relationship to the species in question" (p. 47). That one's perceived connection to an anymal is crucial in mediating pronoun selection suggests that it is not recognition of animacy that matters most, but recognition of some kind of similarity to oneself in, or closeness with, that other being. Essentially, it is empathy: a reduced or even blurred gap between subject and object, between the self and the other (Decety, 2011).

2.4. Empathy and pronouns

Basic empathy is expected to be extended toward other humans, and dehumanizing (including deanimizing) language represents a withdrawal of empathy, but the expectation to extend empathy to anymals is typically weaker, hence the variation in pronoun selection for them. Might the animacy hierarchy be better described as an empathy hierarchy (Langacker, 1991), or at least a hierarchy reflecting degrees of empathy (Matthews, 2007)? Shifting attention momentarily from English to languages throughout which animacy is marked much more pervasively, it might be more readily apparent how extending animacy to nonhuman entities may simultaneously encourage and/or reflect greater empathy for those entities. Such languages include many indigenous languages of North America, such as Blackfoot (Ritter, 2014) and Potawatomi, the latter of which Kimmerer (2017a) poignantly describes as having a 'grammar of animacy':

> To whom does our language extend the grammar of animacy? Naturally, plants and animals are animate, but as I learn, I am discovering that the Potawatomi

> understanding of what it means to be animate diverges from the list of attributes of living beings we all learned in Biology 101. In Potawatomi 101, rocks are animate, as are mountains and water and fire and places. Beings that are imbued with spirit, our sacred medicines, our songs, drums, and even stories, are all animate. The list of the inanimate seems to be smaller, filled with objects that are made by people. Of an inanimate being, like a table, we say "What is it?" And we answer Dopwen yewe. Table it is. But of apple, we must say, "Who is that being?" And reply Mshimin yawe. Apple that being is. (pp. 131-132)

Language plays important roles in cognition (Boroditsky et al., 2003; Enfield, 2015). Since there is some linkage between animacy and empathy, when so much of the world is construed as animate, empathy may be more readily available for entities more numerous and diverse than would otherwise be the case. Of course, this does not mean language alone causes one to feel or think a certain way; acknowledging that construing various entities as animate or inanimate has influence need not imply any strong determinism regarding cognition. Culture and material practices must play major roles, and there doubtless are many people who use languages that pervasively mark a wide variety of entities as animate who nonetheless do not feel much, if any, empathy for those entities. But it remains true that our linguistic practices influence how we reason and think about things (Lakoff, 1987).

Furthermore, the traditional description of the hierarchy's organization could be rethought. Placing humans at the top reflects an anthropocentric organization; however, thinking of the system as empathy-based favors an egocentric organizing principle (Gardelle & Sorlin, 2018). In an egocentric system, it would not be humans *per se* at the top of the hierarchy, but the language-using-subject and those in whom the subject perceives the strongest connections. Langacker (1991) describes this as ranking entities "according to their potential to attract our empathy, i.e., on the basis of such matters as likeness and common concerns" (p. 307). Even the notion that this system is hierarchically ordered may be disputed. Rather than a vertical arrangement, it might be pictured as a series of concentric rings with the language-using-subject and those who most attract their empathy, including non-humans, in and near the center.

3. Ecolinguistic and ecosophical considerations

3.1. The ecosophy in general

The ecosophical points presented here are not unique or original to this paper, though perhaps the arrangement is idiosyncratic. To begin, if one thinks that anymals are beings deserving of a higher degree of moral status than they are currently afforded in many situations, then there is a clear moral basis for preferring that ST be used for anymals in place of *it*; not because pronouns force people to think a certain way, but because they may subtly influence the likelihood that various sorts of anymal mistreatment may be condoned

and committed. However, concerns regarding the moral status of anymals are not the only reasons to prefer ST to *it*. Separating ourselves from animality in myriad ways degrades our understanding of ourselves. As Mills (2019) comments on speciesism and this dualism: Independent of, though perhaps complementary to, the sense of "'do[ing] the right thing'... [there is] the possibility of an expanded and transformed sense of the human" (p. 67). The use of ST for anymals may have implications not only for how we think about and treat anymals, but for how we think about ourselves and our roles in the world.[9]

Construing anymals as more like things than beings, but insisting (rightly) that humans be construed as beings, naturalizes a radical division that places humans outside the category of ANIMAL.[10] Midgley (2003) writes that this sense of ANIMAL "represents the forces that we fear in our own nature, forces that we are unwilling to regard as a true part of it" (p. 136). This conceptual division obscures humanity's inescapable animality and contributes to us "not only los[ing] the ability to empathise and to see the non-human sphere in ethical terms, but [we] also get a false sense of our own character and location that includes an illusory sense of agency and autonomy" (Plumwood, 2009, p. 17). It shrouds the ecological situatedness of humans. It is human exceptionalism.

I understand human exceptionalism to be a story[11] that there is something called NATURE from which something called HUMAN — which does not correspond to 'all humans' — is separate, and which posits not only an ontological apartness, but material and relational supremacy of the HUMAN over NATURE. The supremacy of the HUMAN is frequently appealed to in ways that make it seem 'natural' or perhaps 'biological'. Are we not capable of things that no other animal can do? Do our capabilities not indicate that we have transcended and become 'masters' over the 'natural world'? But granting that as a species we have many unique and incredible capabilities does not entail supremacy. Supremacy is not an argument about innate or biological superiority; it is akin to a creed or political doctrine regarding rule and dominion.[12]

When examined from outside of a frame in which it is 'common sense' (Lakoff, 2000), the cleaving of HUMAN from NATURE and other animal species may appear odd. Brevik

[9] It is worth reading Mills's (2019) elaboration of this point: "As feminists have argued that a repressive masculinity prevents men from partaking equally in the pleasures of child-rearing, and the development of (what is currently categorized as) their 'feminine' side, as anti-racists have pointed out how segregation and the delusion of white superiority have historically prevented many whites from recognizing and enjoying the multi-diversity of human culture, so anti-speciesists could make a case that the rigid categorial divide between 'human' and 'animal' has alienated us from our own animality, the recognition of our kinship with the creatures on the rest of the planet, and the potential within us for a vastly enhanced range of experiences currently stigmatized as unworthy of our rational selves" (p. 69).

[10] This orthography is used in this section to indicate conceptual categories.

[11] The sense of story intended here is that of a cognitive structure (such as ideologies, metaphors, and framings) in the minds of individuals spread across a culture which influences how they perceive the world (Stibbe, 2015).

[12] For example, white supremacy can be thought of as a society-organizing principle and associated set of practices for white rule independent of any belief in a 'biological' racial hierarchy (Key, 1949; Lowndes, 2008).

and Barbieri (2019) call it a "magic wall" and illustrate its oddity with several linguistic examples.[13] But it is dangerous, too. One consequence of this conceptual partitioning is a world-as-resource thesis in which everything but that which is deemed HUMAN exists to be exploited (Ghosh, 2021). Whatever people do not want to pay for is rendered as NATURE (von Werlhof, 1988) and cheapened[14] (Moore, 2015; Patel & Moore, 2018). Plumwood (2002, 2009) argues that human exceptionalism is ultimately harmful to non-humans and humans alike, and that a key task for challenging it is "(re)situating humans in ecological terms" (2002, p. 8). Working toward (re)situating humans in ecological terms is a central pillar of the ecosophy presented here. In negative terms, this means that the ecosophy opposes human exceptionalism, including the idea that humanity is radically discontinuous with other animals.

In positive terms, the ecosophy embraces the animality of humanity (Midgley, 2012; Waldau, 2020). Not animality in a pejorative sense, but that part of what it means to be human is to literally be an animal, an aspect of our being that emphasizes our ineluctable ecological relations (Forbes, 2008; Gilbert et al., 2012; Sagan, 2011; Skillings, 2016, 2018). Identifying humans as animals in continuity with other species (De Waal, 2016) makes the task of (re)situating ourselves in ecological terms easier because it makes it easier to elude the confines of HUMAN/NATURE dualism.

However, (re)situating people in ecological terms means the ecosophy is not concerned with situating humanity within NATURE, but within ecosystemic relations. Because "the word *nature* is a notorious semantic and metaphysical trap … an inherently ambiguous word" (Marx, 2008, p. 9), I reiterate that it is a specific sense of the word — a sense denoting a NATURE distinct from HUMAN (Williams, 1980), a sense that only came to prominence relatively recently (Ducarme & Couvet, 2020) — which is suspect in this ecosophy. For this ecosophy, it is ecology, organisms' interactive relationships amongst themselves and their environments, rather than NATURE, that is the key concept (Bookchin, 2004). The ecosophy might even contain an ironic sentiment of "in the name of ecology itself: 'down with Nature!'" (Morton, 2007, p. 13).

Furthermore, the ecosophy embraces certain sociopolitical orientations. The story of human exceptionalism is not an inevitable or universal story that all peoples hold. It is intimately linked to colonial-capitalist systems that ignore the agency of nonhumans (Watts, 2013). Indeed, the development of the modern meanings of HUMAN-adjacent concepts such as SOCIETY, across the divide from NATURE, coincided with and functioned as crucial logics for the rise of colonial-capitalist systems (Patel & Moore, 2018). These systems manifest what Malcom Ferdinand calls "a way of inhabiting the Earth that doesn't recognize the other as a co-inhabitant of the Earth" (Lambert, 2021, p. 22). Of course, the

[13] Among other examples, they point out how the 'magic wall' makes it normal to say things like "Nature's contributions to people" or "Human-Animal interactions" but not things like "Nature's contributions to algae" or "Moose-Animal interactions".

[14] The 'cheapness' of NATURE has two senses: cheap in price, but also cheap in the sense of being inferior in moral-ethical and sociopolitical matters.

idea that humans are 'different' or 'special' in some sense is much older than capitalism and European colonialism, but the development of a sharp splitting of HUMAN from NATURE as a foundational world-organizing concept is of this era.[15] In its wake, the human mind is cut off from not only other entities with whom we are ecologically entangled, but even from the human body itself (Davis & Todd, 2017).

In contrast, there are many cultures around the world that do not subscribe to such logics (Acosta & Abarca, 2018), but instead emphasize life on Earth's webs of interdependence and reciprocity (Coulthard, 2014; Kimmerer, 2017b). While not monolithic, many of these cultures view people's relationship to the Earth not in terms of dominance or supremacy, but of partnership (Alfred, 2005; Kelbessa, 2005), frequently underscored by principles of intersubjectivity with other entities (Viveiros de Castro, 1998; Descola, 2013) and the capacity to conceptualize our relationality as extending to nonhumans (Behrens, 2014; Deloria, 2001; Escobar, 2020; Murove, 2009; Salmon, 2000; TallBear, 2011). Nonetheless, it is the case that the dualist story of the discontinuity of HUMAN and NATURE is entrenched, hegemonic even, in many places.

It is also important to re-note that the HUMAN category does not include all humans. Those who are included are part of SOCIETY. All others are part of NATURE and therefore subordinate. Consequently, human-to-nonhuman relations of domination and exploitation mirror many oppressive intra-human relations. Plumwood (1993, 2002) maps dualisms of HUMAN and ANIMAL or HUMAN and NATURE onto dualisms such as MALE and FEMALE that are used to naturalize relations of dominance, the presumed 'superior' side associated with reason and agency and the presumed 'inferior' side associated with emotion and passivity. A similar dualism is noted by Graeber (2004) who describes how people who consider themselves MODERN construct conceptual walls that radically separate themselves from those they consider PRIMITIVE. Losurdo (2011) notes that European and settler-colonizer justifications for the displacement and genocide of indigenous peoples, deemed PRIMITIVE and outside SOCIETY, were explicitly based on linking them to animality and NATURE. And because exploitative divisions of labor under capitalism have been built upon the categorization of certain people (e.g., racialized peoples, women) as NATURE (Patel & Moore, 2018; von Werlhof, 1988), dualist perspectives underpin racialized and patriarchal class warfare, too. The HUMAN/NATURE split is the raw ideological ground for many oppressive tendencies.

Moreover, language that categorizes some people as NATURE is often animalizing language, an instrument of dehumanization premised on there being a categorical gap between the dehumanizers themselves and animality (Kim, 2017; Ko, 2019; Nibert, 2013; Taylor, 2017). The links between how some people construe themselves as discontinuous with nonhumans, and thereby justifying supremacy of the HUMAN over NATURE, and how some people construe themselves as discontinuous with other humans in ways that

[15] The stabilization of the modern pronominal paradigm this paper is concerned with is of this era, too.

naturalize various social hierarchies and supremacist systems, run deep. There is, therefore, a necessary practical point: Since HUMAN/NATURE dualism contributes to the dehumanization and oppression of marginalized human groups, trying to fight intraspecies prejudices while insisting on human exceptionalism may be self-defeating (Kymlicka, 2018). In sum, human exceptionalism is an organizing concept in colonial-capitalist systems that renders any entity categorized as NATURE, including many humans, as cheap and disposable.

However, alternatives to HUMAN/NATURE dualism do not guarantee more just or ecologically-wise outcomes (Aronowsky, 2021). The ecosophy is warranted, therefore, in not only being concerned with isolated notions of ecological harmony, but of liberation and justice in human-to-human terms as well. The ecosophy posits that ecological and social problems are co-constitutive. This facet of the ecosophy motivates the view that to (re)situate humans in ecological terms, we cannot ignore the structures that have allowed human exceptionalism to achieve hegemony; consequently, (re)situating humanity in ecological terms entails transforming prevailing social ideologies and navigating human politics (Commoner, 1973; Morton, 2017).

3.2. Pronouns and the ecosophy

Challenging human exceptionalism is a monumental undertaking. Still, there are sites, linguistic and otherwise, where this often taken-for-granted story may be exposed and confronted. Among these sites are linguistic patterns that maintain the story that humans and other animal species are discontinuous. This does not mean that people should never use language that differentiates themselves from other animals. The argument is not about whether humans are unique.[16] Rather, the concern is whether humans, in a given context, are using language in ways that habitually obfuscate or deny their own animality and ecological-situatedness.

Ecolinguistic interrogations may reveal how various linguistic forms sustain or resist certain stories. Provided an ecosophy, one may evaluate whether the language used in a given context is consonant with the ecosophy. For instance, when linguistic forms are employed that reinforce or naturalize human exceptionalism, there is a lack of consonance with the ecosophy of this paper. To the degree that linguistic forms are deployed which resist that story in a manner consistent with the liberatory ideals of the ecosophy, there is consonance, or at least comparatively greater consonance, with the ecosophy.

This illuminates my motives for investigating the use of ST with anymals: Using ST with anymals appears to be a way of using language that is broadly consonant with the ecosophy. Rather than depending on anti-speciesist or welfarist moral positions (though not incompatible with them), the ecosophy is concerned with a particular conception of what it means to be a human and that avoiding the use of *it* to refer to anymals may be part

[16] All species are unique in their own ways and there is no reason to deny that which is unique about humans, but human uniqueness is not derived from non-animality.

of the creation, recovery, or promotion of stories in which humanity itself is not understood oppositionally to anymals or to so-called NATURE.

This might seem *prima facie* a mismatch of a grand goal, of (re)situating humanity in ecological terms, and a locus of attention, anymal pronouns, that could never be adequate. But this misunderstands the point. There is no single solution, only many partial and individually inadequate efforts that move toward the target, some more directly than others. Exploring how pronoun usage may aid in moving toward the target is one piece of an extremely large puzzle. And it may be a surprisingly dynamic one. Recall, pronoun shifts have been implicated in social changes before. As Tavits and Pérez (2019) wrote concerning the introduction of a novel epicene pronoun in Swedish, our language choices are not complete solutions, but having identified "a normatively worthy endeavor, the evidence … suggests that mere changes in words can, in fact, help societies more closely adhere to [an] ideal" (p. 16786). There is no claim that reworking pronoun usage (or language reform in general) is sufficient, only that it is a move, among many possible moves, in the direction of much-needed story-changing.

Neither is changing stories the end-goal. Stories are cognitive structures, but they operate as logics for networks of material practices, and these are the ultimate target. There are many actions that may have immediate material impacts, but to effect sustainable, long-term change, structural transformations are required. Individually and collectively, transforming our self-conceptions can aid us in making the needed structural transformations (Taylor & Taylor, 2021); this is where linguistic reform is key. Language which resists a stark categorical division between HUMAN and ANIMAL (or the umbrella category NATURE) is important because "[w]e cannot reconstruct the world and create genuinely new worlds using the same categories by which we are destroying it" (Escobar, 2020, p. 6). For the long-term transformations required, language's performativity, the ways that language functions as a social action (Austin, 1975), needs to accompany material actions because it provides the power to imagine other worlds against what can seem like an unchangeable reality. Of course, there are many possible avenues of linguistic reform leading in this direction which means that pronominal reform itself might not be strictly required. But among potential linguistic reforms, it may have substantial performative power. Through the effects of iteration/repetition, pronouns play a significant role in the scripts through which social gender, for example, is constructed (Butler, 1990, 1993) and, I argue, in how humans and anymals are constructed as radically discontinuous — and thus could be crucial elements in resisting that conceptual discontinuity.

Finally, I note that besides ecosophical motives, corpus-assisted exploration of ST usage for anymals is interesting on general sociolinguistic grounds because it can illuminate things about the author(s) and their intentions (Baker, 2006). Moreover, it might contribute to knowledge of ST's trajectory and predictions of its future distribution in relation to other third-person singular pronouns (Krauthamer, 2021). Thus, while I am contextualizing this study within primarily ecosophical concerns, there are many ways for readers to approach the topic and data independent of these concerns.

4. The study

4.1. Set-up

The present study explores ST usage in a corpus of articles sampled from the website of the Humane Society of the United States (HSUS), an organization whose work pertains to the welfare of anymals. A corpus is a collection of texts stored in electronic formats to facilitate computer-assisted analyses. Corpus methods allow for a much higher volume of linguistic data to be analyzed than is practical with many other methods (McEnery and Hardie, 2012).

The research questions for this study are both quantitative and qualitative. First, in the corpus, when the sex of an individual anymal is unknown or unclear from the context, how often is the pronoun *they* used relative to the inanimate pronoun *it*? Second, how thoroughly is ST usage with anymals distributed throughout the corpus as measured by dispersion? Third, which anymals receive ST, and is the usage consistent? Finally, there is a more open-ended enquiry informed by the findings from the first three questions. This enquiry follows an iterative process of checking and rechecking the corpus data with the following question in mind: If ST usage with anymals is inconsistent in some way, what factors might be behind the inconsistency? The findings for each of these questions inform an appraisal of whether anymal pronouns in the corpus are consonant with this paper's ecosophy.

From a section of the HSUS website offering advice for interacting with 'pets' and 'wildlife' primarily in or around people's homes or private property, 60 articles were collected during the months of January and February 2018. Half of the sampled articles are focused on interactions with 'pets' and the other 30 are focused on interactions with 'wildlife'.[17] Each article focuses on a specific kind of anymal (e.g., dogs, cats, bears, or bats); some anymals are the focus of more than one article (e.g., cats are the focus of five articles); the 60 articles focus in total on 27 different kinds of anymals ('mice' are counted twice in this metric since there are articles for both 'pet' mice and 'wildlife' mice). The total number of words in the corpus is approximately 44,400. A prior version of the corpus was used in a preliminary study which found animate pronouns (*he*, *she*, ST, and 'he or she'-types of constructions), combined, were greatly preferred to inanimate *it* when referring to anymals in the corpus (Brown, 2018).

AntConc (Anthony, 2019), a software application for corpus analysis, was used to extract into concordance lines all occurrences of the pronouns *it* and *they* in their subjective, objective, and possessive cases, and their reflexive forms. These concordance lines were then manually analyzed. Occurrences of these pronouns that are in reference to non-anymals (e.g., humans, bowls) were excluded from further analysis. Additionally,

[17] The decision to use the terms 'Pets' and 'Wildlife' here is based on the fact that these are the terms used by the HSUS on their website to categorize these articles. There were no other categories in this section of the website (for example, there were no 'Livestock' or 'Laboratory' categories), although in general the HSUS is concerned with the welfare of anymals that might be categorized as such.

occurrences of *they* in reference to plural antecedents were excluded from further analysis. Therefore, the remaining occurrences of these pronouns in the corpus are third person singular references to anymals. In total, 291 pronouns matching these criteria were found. Appendix 1 contains a breakdown of the data.

4.2. Relative frequencies

Of the 291 pronouns analyzed, 277 were ST and 14 were *it*. The relative frequency of ST to *it* is approximately 20:1. Compared to the use of *it*, ST occurred with much greater frequency.

To augment this picture of ST usage, occurrences of ST and *it* for anymals were also broken down according to whether they are found in articles categorized as 'Pets' or 'Wildlife'. In the articles for 'Pets', there are 239 occurrences of ST used for anymals and 3 occurrences of *it* used for anymals; here the relative frequency of ST to *it* is approximately 80:1. In the articles for 'Wildlife', there are 38 occurrences of ST used for anymals and 11 occurrences of *it* used for anymals; here the relative frequency of ST to *it* is approximately 3:1. These results can be viewed in Table 2

Table 2: Relative frequency of ST to *it* for nonhuman animals

Corpus section	Occurrences of ST	Occurrences of *it*	Relative frequency (ST to *it*)
'Pets'	239	3	80:1
'Wildlife'	38	11	3:1
Overall	277	14	20:1

Compared to the use of *it*, ST occurred with greater frequency in both sub-corpora. However, ST's raw and relative frequencies were much greater in the 'Pets' sub-corpus than in the 'Wildlife' sub-corpus.

4.3. Distribution and dispersion

Measuring dispersion is important, though underutilized (Gries, 2021), in research involving corpora because merely reporting the frequencies can be unintentionally misleading. Imagine, for example, that all 277 occurrences of ST in the corpus occurred in a small handful of articles. In that case, only reporting that the corpus contains 277 occurrences of ST may make it seem evenly distributed throughout the corpus, but it is actually limited to that small handful. Dispersion measurements are important for contextualizing and interpreting basic frequency statistics and, in this case, for evaluating usage consistency.

There are a variety of dispersion measurements (for a discussion of several, see Gries,

2010). Some measurements, such as Deviation of Proportions, or *DP* (Gries, 2008), are more effective than others at discriminating between skewed and uniform distributions. *DP*, in the present case, may be particularly helpful because one of the things it does is consider the size[18] of each part of the corpus. This matters because article length varies greatly. A normalized version of *DP*, the measurement DP_{norm} (Lijffijt & Gries, 2012), is reported below.

Under this measurement, values closer to 1 indicate the linguistic item in question is less evenly dispersed in the corpus, whereas values closer to 0 indicate the linguistic item is well dispersed. Here, three variations of DP_{norm} are calculated for the whole corpus. When considering the corpus as having two parts, "Pets" and "Wildlife", DP_{norm} is approximately 0.74. When considering the corpus as having 60 parts (60 articles), DP_{norm} is approximately 0.68. When considering the corpus as having 27 parts (27 anymal units), DP_{norm} is approximately 0.49. Thus, while ST is less well dispersed between the two sub-corpora or between the individual articles, it is relatively more well dispersed when considering the corpus as being composed of anymal units.

Next, two variations of the measurement DP_{norm} are calculated for each of the sub-corpora. For the "Pets" sub-corpus, when considering it as having 30 parts (30 articles), DP_{norm} is approximately 0.57. When considering it as having 9 parts (9 anymal units), DP_{norm} is approximately 0.32. For the "Wildlife" sub-corpus, when considering it as having 30 parts (30 articles), DP_{norm} is approximately 0.64. When considering it as having 18 parts (18 anymal units), DP_{norm} is approximately 0.53. Dispersion results are in Table 3.

Table 3: Dispersion of ST in the corpus (DP_{norm})

	Whole corpus	'Pets' sub-corpus	'Wildlife' sub-corpus
Split into sub-corpora	0.74	n/a	n/a
Split into articles	0.68	0.57	0.64
Split into anymal units	0.49	0.32	0.53

Within both the 'Pets' and 'Wildlife' sub-corpora, the same pattern as when looking at the corpus as a whole is present: ST is less well dispersed when looking at individual articles, but more well dispersed when looking at anymal units. However, ST is more well dispersed in the 'Pets' sub-corpus than in the 'Wildlife' sub-corpus for both the article-based and anymal units-based measurements, and this difference is especially stark for the latter.

4.4. Which anymals receive ST and which anymals receive *it*? And why?

In the corpus some anymals are referred to only with ST, some with variation between ST and *it*, some only with *it*, and some are never referred to with either, as shown in Table 4.

[18] The number of words in a part of the corpus divided by the total number of words in the corpus.

Table 4: Which anymals are referred to with which pronouns?

Pronouns	Anymals
Only ST	*Pets*: Cats, Dogs, Mice, Gerbils, Guinea Pigs, Rats, Hamsters *Wildlife*: Bears, Foxes, Bats, Turtles, Woodchucks
ST and *it*	*Pets*: *Wildlife*: Coyotes, Cougars
Only *it*	*Pets*: *Wildlife*: Snakes, Squirrels
Neither ST nor *it*	*Pets*: Fish, Ferrets *Wildlife*: Deer, Chipmunks, Beavers, Mice, Sparrows, Geese, Turkeys, Crows, Sea Lions

Many things could be noted about this breakdown, and the following points are not meant to be exhaustive. First, no 'Pets'-category anymals are referred to with *it*. This accords with the conventional view that avoiding *it* for anymals may be motivated by the perceived closeness of the human-anymal relationship, which simultaneously raises a question about whether dividing anymals into 'Pets' and 'Wildlife' itself affects 'closeness' perceptions.

Second, only two anymals are referred to solely with *it*. One of those anymals, squirrels, is only referred to with *it* once. It is difficult to say much about this. Snakes, on the other hand, are referred to with *it* eight times, more than half of the total occurrences of *it* for all anymals combined. It is striking that snakes would be uniquely linguistically treated this way; what might account for it? At first glance, one factor may be that snakes are reptiles while most of the anymals that received ST are mammals. Although turtles are reptiles, too, they were categorized as 'Pets'; again the 'Pets' and 'Wildlife' categorizations may be crucial. Other possible factors are snakes' symbolism and cultural associations with various negative traits such as dishonesty. A more direct possibility is that snakes are perceived as dangerous or scary, and this physical fear drives using *it* for snakes. Or some combination of all of these may be happening. While these possibilities are speculative, the fact is that snakes are treated differently in the corpus in terms of the pronouns used for them.

Third, manual inspection showed that there is one occurrence in the corpus of ST referring to "a bird" in one of the articles about cats. Aside from that, there are no birds referred to with ST or *it*. In fact, following a special inspection, there were no singular references to any bird (i.e., no ST, *it*, *he*, *she* or 'he or she'-type constructions) in the entire corpus. Nor to fish. It may be that they are less likely generally to be referred to individually, raising questions regarding the role of individuation, though ones outside this paper's scope.

5. Discussion and evaluation

5.1. Complications and limitations

Manual analysis led to the discovery of some concordance lines that complicate the aforementioned findings. One discovery is that two of the occurrences of a cat being referred to with ST are not instances where the sex of the cat is unknown. These occurrences are presented in (IV):

IV. Chirps and trills are how a mother cat$_i$ tells their$_i$ kittens to follow them$_i$.

The sex of a 'mother cat' is not in question; nonetheless, I have decided to keep these occurrences in the findings despite not being occurrences where the anymal's sex is unknown. Were these two occurrences removed, the relative frequency of ST to *it* would be reduced to 275:14. The impact on the overall picture is minor; as with the initial calculation, this ratio also simplifies to approximately 20:1. Worth mentioning regarding these occurrences is that they mirror findings from Meyers (1993) and Strahan (2008) that traditional ST is sometimes used even when the referent or antecedent's social gender is previously specified or otherwise known (e.g., cases in which ST refers to *grandmother*). Of course, this might also be predicted if ST is considered a default option available for any animate antecedent.

Another complicating discovery is that perusal of some articles revealed cases where generic *he* and generic *she* are deployed when referring to sex-indefinite anymals. One conspicuous example: While in the corpus squirrels are never referred to with ST, there is one instance of a squirrel being referred to with *it*, and thus squirrels are categorized in the findings as receiving 'only *it*'; however, instances of generic *she* being used to refer to a sex-indefinite squirrel appear, such as in (V):

V. The squirrel$_i$ tries to climb onto the feeder and encounters the baffle, which blocks her$_i$ access.

This study is focused on ST and *it*, but as this discovery indicates, a more complete picture of pronominal alternatives to *it* would include analysis of generic *he* and *she* as well.

In addition to such complications, there are certain limitations that should be noted. Methodologically, it must be understood that this kind of corpus-based study is a 'snapshot' of language use in a specific context. In this 'snapshot', ST is frequently used for anymals and is greatly preferred to *it*; but this description stops at the edges of the 'snapshot'. Another important methodological point is that the kind of analysis performed here can only capture externally observable aspects of the language. Psychological and ethnographic factors that contribute to certain forms being produced are unexamined; we can see what forms were in fact produced but cannot determine why they were produced, and it is thus only a partial description of the usage being investigated (Widdowson, 2000).

Theoretically, one issue that arises in the ecolinguistic/ecosophical orientation of this paper is that it might appear that the argument is that using animate pronouns for anymals is always reflective of an empathetic disposition toward anymals or is always a challenge to the dualist conception underpinning human exceptionalism. This is not the case. Using *it* for anymals does not by itself indicate that one is not generally taking humane or empathetic stances (Stibbe, 2012); neither is using animate pronouns for anymals necessarily a marker that such stances are being taken (Gilquin & Jacobs, 2006; Gupta, 2006; Cook, 2015). The mechanisms, linguistic and otherwise, that distance anymals from humans are complex, and seemingly neutral or humane locutions may mask problematic underlying attitudes (Davis, 2018). Reforming pronoun usage may be part of making desired changes in broader linguistic, conceptual, and material spheres more likely, but it does not ensure them.

5.2. Ecolinguistic appraisal

Addressing the narrow question of whether usage of ST and *it* in the corpus are more or less consonant with this paper's ecosophy, the fact that ST is greatly preferred to *it* when referring to anymals is a point in favor of an evaluation that the usage is consonant with the ecosophy. However, the ST usage is unevenly distributed. Notably, *it* remains the preferred pronoun in the corpus for snakes, and there are noticeable distributional differences between 'Pets' and 'Wildlife'; these points work against an evaluation that there is consonance with the ecosophy. Stibbe (2015) suggests evaluating language use as 'beneficial', 'ambivalent' or 'destructive' according to an ecosophy. Since there are points for and against viewing pronoun usage in the corpus as consonant with the ecosophy, 'ambivalent' appears to be an appropriate description. Yet, this might still be understood as relatively welcome since, in many other contexts, one might expect the use of *it* to not merely predominate, but in fact be the sole variant.

Of course, this is a limited evaluation restricted to the issue of pronouns. There are many other elements of language use in the corpus that might be subjected to an ecolinguistic appraisal, such as the frames evoked by the category-terms 'Wildlife' and 'Pets', issues of salience and erasure, the agency or lack thereof attributed to anymals, or the content of the 'solutions' for handling various 'problems'. Were other elements of language use also ecolinguistically evaluated, it is possible that despite the pronominal choices being viewed relatively positively, the corpus's language might overall be deemed far from consonant with the ecosophy.

5.3. Other observations and potential avenues

One thing that falls outside the scope of this study but that may be worth investigating is the issue of whether using ST for anymals could be encouraging confusion or difficulty in matching the pronoun to the correct antecedent, or whether use with some types of anymal

antecedents, or the lack of a linguistic antecedent, might be judged less acceptable than others. Moulton et al. (2020) have found, for instance, that the presence or lack of a linguistic (human) antecedent can affect the acceptability of ST. I did not personally find any of the occurrences of ST in the corpus to be infelicitous, and in other work, the use of ST to refer to an anymal did not appear to cause any problems in terms of reader understanding (Brown, 2019); still, familiarity might affect how easily processing occurs in certain contexts. Are there factors or conditions that would make the use of ST with anymals confusing or ambiguous in some cases such that it causes processing troubles, or causes exceptionally strong judgments against its acceptability? Would using ST for an anymal referent for which there is no previous linguistic antecedent, as in (VI), affect ratings of acceptability or cause processing difficulty?

VI. (Upon seeing an unaccompanied dog in an unexpected place): They$_1$ must be lost.[19]

Another potential line of enquiry is exploring whether usage of ST for anymals is driven by deliberate choice or is spontaneously produced. For instance, it is unclear whether the use of ST in the corpus is a conscious, perhaps editorial, attempt to avoid using *it* or whether it is simply an automatic, unconscious production. My hypothesis is that it is based on a deliberate attempt to avoid using *it*. In other contexts, however, the use of ST for anymals might be a predictable outcome arising from ST's general increase in perceived acceptability. As ST becomes more common in a variety of contexts, it might come to be used automatic-like for anymals, displacing *it* in a manner analogous to the displacement in other settings of generic *he*, without the producer(s) consciously thinking about it.[20] Enquiry into this possibility links to a need to differentiate how individuals on their own might produce ST for anymals from how it could be a matter of prescription (e.g., if an organization tells its writers that according to the house style *it* is inappropriate for anymals and that they should use *he*, *she*, or *they* instead). Prescription itself could, of course, have a profound impact on uptake, acceptance, and normalization.

One more ecolinguistically oriented line of enquiry could explore the use of animate pronouns in English extending beyond metaphoric uses (e.g., for vehicles) and animal taxa. Grammatically this is reasonable; semantic flexibility of animate pronouns is evident in some varieties of English where they are used to reference antecedents typically understood as inanimate (Siemund, 2002). After taking the ecosophy into account, is there good reason to limit animacy, linguistically, to animals? Might a kind of animal bias in our modes of thinking and expressing ourselves be of future concern (Sebo, 2022)? What about using ST for, say, vegetal lifeforms? Or even more radically, what if one recognizes, say, bodies of water or a mountain as being animate or 'alive' in some relevant sense (Chemhuru, 2019)?

[19] The subscript notation here, using a *1* rather than an *i*, indicates pronoun use without a linguistic antecedent.

[20] The social media posts noted at the beginning of this paper might be indicative of this sort of automatic and unconscious extension of ST to anymals.

Kimmerer (2017c) has speculated on the revolutionary potential of using animate pronouns in English for not only fauna, but also flora and entities such as the wind. Such a proposal is striking; is it worthy of greater attention?[21]

6. Conclusion

The corpus-based study presented here shows ST being greatly preferred to *it* for sex-indefinite anymals, and reasons to welcome this usage are given according to a particular ecosophy. However, the use of ST to index anymals and its distribution throughout the corpus are inconsistent. Notably, *it* remains preferred for snakes. Similarly, anymals categorized as 'Wildlife' were sometimes referred to with *it,* while anymals categorized as 'Pets' never were. Therefore, regarding the narrow question of whether pronoun usage in the corpus is consonant with the paper's ecosophy, the appraisal is not wholly positive because of inconsistency, but is on balance positive in light of the conventional default use of *it* for anymals that would be expected in many texts. However, this appraisal only considers pronoun usage; it is not an evaluation of whether the corpus's language in general is consonant with the ecosophy.

References

Acosta, A., & Abarca, M. M. (2018). Buen Vivir: An alternative perspective from the peoples of the Global South to the crisis of capitalist modernity. In V. Satgar (Ed.), *The climate crisis: South African and global democratic eco-socialist alternatives* (pp. 131-147). Johannesburg: Wits University Press. DOI: 10.18772/22018020541.

Alfred, T. (2005). Sovereignty. In J. Barker (Ed.), *Sovereignty matters: Locations of contestation and possibility in Indigenous struggles for self-determination* (pp. 33–50). Lincoln: University of Nebraska Press. DOI: 10.2307/j.ctt1dnncqc

Algeo, J. (2010). *The origins and development of the English language* (6th ed.). Boston, MA: Wadsworth Cengage Learning. (Based on original work by Thomas Pyles).

Anthony, L. (2019). AntConc (Version 3.5.8) [Computer Software]. Tokyo, Japan: Waseda University. Available from https://www.laurenceanthony.net/software

Aronowsky, L. (2021). Gas guzzling Gaia, or: A prehistory of climate change denialism. *Critical Inquiry, 47*(2), 306-327. DOI: 10.1086/712129

Austin, J. L. (1975). *How to do things with words*. Oxford: Oxford University Press.

Bailey, A. H., LaFrance, M., & Dovidio, J. F. (2019). Is man the measure of all things? A social cognitive account of androcentrism. *Personality and Social Psychology Review, 23*(4), 307-331. DOI: 10.1177/1088868318782848

Baker, P. (2006) *Using corpora in discourse analysis*. London: Continuum.

Balhorn, M. (2004). The rise of epicene they. *Journal of English Linguistics, 32*(2), 79-104.

[21] This could resemble 'rights of nature' arguments, which at first may seem outlandish, but make headway in time (Taylor, 2016).

DOI: 10.1177/0075424204265824

Baranowski, M. (2002). Current usage of the epicene pronoun in written English. *Journal of Sociolinguistics, 6*(3), 378-397. DOI: 10.1111/1467-9481.00193

Behrens, K. G. (2014). An African relational environmentalism and moral considerability. *Environmental Ethics*, *36*(1), 63-82. DOI: 10.5840/enviroethics20143615

Bodine, A. (1975). Androcentrism in prescriptive grammar: Singular 'they', sex-indefinite 'he', and 'he or she'. *Language in Society, 4*(2), 129-146. DOI: 10.1017/S0047404500004607

Bookchin, M. (2004). *Post-scarcity anarchism* (3rd ed.). Edinburgh: AK Press.

Boroditsky, L., Schmidt, L. A., & Phillips, W. (2003). Sex, syntax and semantics. In D. Gentner & S. Goldin-Meadow (Eds.), *Language in mind: Advances in the study of language and thought* (pp. 61-79). Cambridge, MA: MIT Press.

Brevik, K., & Barbieri, L. (2019). There is no magic wall. *Minding Nature, 12*(2), 31-39.

Brown, M. H. (2017). Nonhuman animals and the relative pronoun 'who' in English learner's dictionaries and graded readers. *Language & Ecology*. http://ecolinguistics-association.org/journal

Brown, M. H. (2018). Rejecting human-animal dualism via pronoun choice: Evidence from an animal welfare discourse corpus. *SELSA 2018: Official Proceedings of the 5th Symposium on Language and Sustainability in Asia*, 15-20. http://doi.org/10.5281/zenodo.1451007

Brown, M. H. (2019). The reality and necessity of teaching singular 'they'. *The 2018 PanSIG Journal*, 28-35. https://pansig.org/publications/2018/PanSIG_2018_Journal.pdf#page=33

Brown, R., & Gilman, A. (1960). The pronouns of power and solidarity. In Thomas A. Sebeok (Ed.), *Style in language* (pp. 253-77). Cambridge, MA: MIT Press.

Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. London: Routledge.

Butler, J. (1993). *Bodies that matter: On the discursive limits of sex*. London: Routledge

Bybee, J. (2007). *Frequency of use and the organization of language*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780195301571.001.0001

Chau, M. H., & Jacobs, G. M. (2021). Applied linguistics, language guidelines, and inclusive practices: The case for the use of *who* with nonhuman animals. *International Journal of Applied Linguistics*, *31*(2), 301-303. DOI: 10.1111/ijal.12357

Chemhuru, M. (2019). The moral status of nature: An African understanding. In M. Chemhuru (Ed.), *African Environmental Ethics: A critical reader* (pp. 29-46). Cham: Springer. DOI: 10.1007/978-3-030-18807-8_3

Clarke, M. A., Losoff, A., McCracken, M. D., & Still, J. (1981). Gender perception in Arabic and English. *Language Learning, 31*(1), 159-169. DOI: 10.1111/j.1467-1770.1981.tb01377.x

Commoner, B. (1973). *Ecology and social action* [Lecture]. Albright Lecture in Conservation, University of California, Berkeley. https://nature.berkeley.edu/site/lectures/albright/1973.php

Comrie, B. (1989). *Language universals and linguistic typology: Syntax and morphology*. Chicago: University of Chicago Press.

Conrod, K. (2018). Pronouns and gender in language. In K. Hall & R. Barrett (Eds.), *The Oxford handbook of language and sexuality*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780190212926.013.63

Cook, G. (2015). 'A pig is a person' or 'You can love a fox and hunt it': Innovation and tradition in the discursive representation of animals. *Discourse & Society*, *26*(5), 587-607. DOI: 10.1177/0957926515576639

Corbett, G. (1991). *Gender*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139166119

Coulthard, G. S. (2014). *Red skin, white masks: Rejecting the colonial politics of recognition*. Minneapolis: University of Minnesota Press.

Curzan, A. (2003). *Gender shifts in the history of English*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511486913

Curzan, A. (2014). *Fixing English: Prescriptivism and language history*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9781139107327

Dangerous Speech Project. (2021, April 19). *Dangerous speech: A practical guide*. Dangerous Speech Project. https://dangerousspeech.org/guide/

Davis, K. (2018). The disengagement of journalistic discourse about nonhuman animals: An analysis. In A. Matsuoka & J. Sorenson (Eds.), *Critical animal studies: Towards trans-species social justice* (pp. 73-93). London: Rowman and Littlefield International.

Davis, H., & Todd, Z. (2017). On the importance of a date, or, decolonizing the anthropocene. *ACME: An International Journal for Critical Geographies*, *16*(4), 761-780.

Decety, J. (2011). The neuroevolution of empathy. *Annals of the New York Academy of Sciences*, *1231*(1), 35-45. DOI: 10.1111/j.1749-6632.2011.06027.x

Deloria, V., Jr. (2001). American Indian metaphysics. In V. Deloria, Jr. & D. R. Wildcat, (Eds.), *Power and place: Indian education in America* (pp. 1-6). Golden, CO: Fulcrum Publishing.

Descola, P. (2013). *Beyond nature and culture* (J. Lloyd, Trans.). Chicago: University of Chicago Press. (Original work published 2005).

De Waal, F. (2016). *Are we smart enough to know how smart animals are?* New York: W. W. Norton.

Ducarme F., & Couvet D. (2020). What does 'nature' mean?. *Palgrave Communications, 6*. DOI: 10.1057/s41599-020-0390-y

Dunayer, J. (2001). *Animal equality: Language and liberation*. Derwood, MD: Ryce.

Easton, L. (2017, March 24). *Making a case for a singular 'they'*. The Associated Press Blog. https://blog.ap.org/products-and-services/making-a-case-for-a-singular-they

Eberhard, K. M., Cutting, J. C., & Bock, K. (2005). Making syntax of sense: Number agreement in sentence production. *Psychological Review, 112*(3), 531-559. DOI: 10.1037/0033-295X.112.3.531

Ellis, N. C. (2002). Frequency effects in language processing: A review with implications

for theories of implicit and explicit language acquisition. S*tudies in Second Language Acquisition, 24*(2): 143-188. DOI: 10.1017/S0272263102002024

Enfield, N. (2015). Linguistic relativity from reference to agency. *Annual Review of Anthropology, 44*(1), 207-224. DOI: 10.1146/annurev-anthro-102214-014053

Escobar, A. (2020). *Pluriversal politics: The real and the possible* (D. Frye, Trans.). Durham, NC: Duke University Press. (Original work published 2018).

Everett, C. (2011). Gender, pronouns and thought: The ligature between epicene pronouns and a more neutral gender perception. *Gender and Language, 5*(1), 133-152. DOI: 10.1558/genl.v5i1.133

Flaherty, M. (2001). How a language gender system creeps into perception. *Journal of Cross-Cultural Psychology, 32*(1), 18-31. DOI: 10.1177/0022022101032001005

Forbes, J. D. (2008). *Columbus and other cannibals: The Wetiko disease of exploitation, imperialism, and terrorism*. New York: Seven Stories Press.

Fusari, S. (2018). Changing representations of animals in Canadian English (1920s-2010s). *Language & Ecology*. http://ecolinguistics-association.org/journal

Gardelle, L. (2012). Pronominal gender in references to animals. *Anglophonia: French Journal of English Linguistics, 16*(32), 11-23. DOI: 10.4000/anglophonia.127

Gardelle, L., & Sorlin, S. (2018). Anthropocentrism, egocentrism, and the notion of animacy hierarchy. *The International Journal of Language and Culture, 5*(2), 133-162. DOI: 10.1075/ijolc.00004.gar

Gastil, J. (1990). Generic pronouns and sexist language: The oxymoronic character of masculine generics. *Sex Roles, 23*, 629-643. DOI: 10.1007/BF00289252

Ghosh, A. (2021). *The nutmeg's curse: Parables for a planet in crisis*. Chicago: University of Chicago Press.

Giaimo, C. (2016, March 30). *Why writers fight style guides over animal pronouns*. Atlas Obscura. https://www.atlasobscura.com/articles/why-writers-fight-style-guides-over-animal-pronouns

Gilbert, S. F., Sapp, J., & Tauber, A. I. (2012). A symbiotic view of life: We have never been individuals. *The Quarterly Review of Biology, 87*(4), 325-341. DOI: 10.1086/668166

Gilquin, G., & Jacobs, G. (2006). Elephants who marry mice are very unusual: The use of the relative pronoun who with nonhuman animals. *Society & Animals*, *14*(1), 79-105. DOI: 10.1163/156853006776137159

Graeber, D. (2004). *Fragments of an anarchist anthropology*. Chicago: Prickly Paradigm Press.

Gries, S. T. (2008). Dispersions and adjusted frequencies in corpora. *International Journal of Corpus Linguistics, 13*(4), 403-437. DOI: 10.1075/ijcl.13.4.02gri

Gries, S. T. (2010). Dispersions and adjusted frequencies in corpora: Further explorations. In S. T. Gries, S. Wulff, & M. Davies (Eds.), *Corpus-linguistic applications: Current studies, new directions* (pp. 197-212). Amsterdam: Brill. DOI: 10.1163/9789042028012_014

Gries, S. T. (2021). Analyzing dispersion. In M. Paquot & S. T. Gries (Eds.), *A practical handbook of corpus linguistics* (pp. 99-118). Cham: Springer. DOI: 10.1007/978-3-030-46216-1_5

Gupta, A. F. (2006). Foxes, hounds, and horses: Who or which? *Society and Animals, 14*(1), 107-128. DOI: 10.1163/156853006776137113

Gustafsson Sendén, M., Bäck, E. A., & Lindqvist, A. (2015). Introducing a gender-neutral pronoun in a natural gender language: The influence of time on attitudes and behavior. *Frontiers in Psychology*, *6*. DOI: 10.3389/fpsyg.2015.00893

Halliday, M. A. K. (1978). *Language as social semiotic: The social interpretation of language and meaning*. London: Edward Arnold.

Halliday, M. A. K. (2001). New ways of meaning: The challenge to applied linguistics. In A. Fill & P. Mühlhäusler (Eds.), T*he ecolinguistics reader: Language, ecology, and environment* (pp. 175-202). London: Continuum.

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. London: Routledge.

Hyde, J. S. (1984). Children's understanding of sexist language. *Developmental Psychology, 20*(4), 697-706. DOI: 10.1037/0012-1649.20.4.697

Imai, M., Schalk, L., Saalbach, H., & Okada, H. (2010). Influence of grammatical gender on deductive reasoning about sex-specific properties of animals. In R. Catrambone & S. Ohlsson (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 1160-1165). Austin, TX: Cognitive Science Society.

Jacobs, G. M. (2004). *Speaking vegetarian: Toward nonspeciesist language* [lecture]. 36th World Vegetarian Congress, Florianopolis, Brazil. https://ivu.org/congress/2004/lectures/Jacobs.html

Kelbessa, W. (2005). The rehabilitation of indigenous environmental ethics in Africa. *Diogenes, 207*, 17-34. DOI: 10.1177/0392192105055167

Kemmerer, L. (2006). Verbal activism: "Anymal". *Society & Animals*, *14*(1), 9-14. DOI: 10.1163/156853006776137186

Key, V. O., Jr. (1949). *Southern politics in state and nation*. New York: A. A. Knopf. https://archive.org/details/southernpolitics0000keyv_d3i3

Kim, C. J. (2017). Murder and mattering at Harambe's house. *Politics and Animals, 3*, 1-15.

Kimmerer, R. W. (2017a). Learning the grammar of animacy. *Anthropology of Consciousness, 28*(2), 128-134. DOI: 10.1111/anoc.12081

Kimmerer, R. W. (2017b). The covenant of reciprocity. In J. Hart (Ed.), *The Wiley Blackwell companion to religion and ecology* (pp. 368-381). Oxford: John Wiley & Sons. DOI: 10.1007/978-94-6209-293-8_4

Kimmerer, R. W. (2017c). Speaking of nature: Finding language that affirms our kinship with the natural world. *Orion Magazine*. https://orionmagazine.org/article/speaking-of-nature

Ko, A. (2019). *Racism as zoological witchcraft: A guide to getting out*. Brooklyn, NY: Lantern Books.

Konishi, T. (1993). The semantics of grammatical gender: A cross-cultural study. *Journal of Psycholinguistic Research, 22*, 519-534. DOI: 10.1007/BF01068252

Konnelly, L., & Cowper, E. (2020). Gender diversity and morphosyntax: An account of singular *they*. *Glossa: A Journal of General Linguistics, 5*(1). DOI: 10.5334/gjgl.1000

Kosei, M. (1993). English grammar and sexism with special reference to generic *he* and singular *they*. *女子大文学. 外国文学篇, 45*, 23-55. (大阪女子大学英文学科). DOI: 10.24729/00011161

Krauthamer, H. S. (2021). *The great pronoun shift: The big impact of little parts of speech*. London: Routledge.

Kymlicka, W. (2018). Human rights without human supremacism. *Canadian Journal of Philosophy, 48*(6), 763-792. DOI:10.1080/00455091.2017.1386481

Lakoff, G. (1987). *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.

Lakoff, R. (1975). *Language and woman's place*. New York: Harper & Row.

Lakoff, R. (2000). *The language war*. Berkeley: University of California Press.

Lambert, L. (2021). A future named "Ayiti": Thinking decolonial ecologies from the Caribbean world: A conversation with Malcom Ferdinand. *The Funambulist, 35*, 20-23.

Langacker, R. W. (1991). *Foundations of Cognitive Grammar, volume 2: Descriptive application*. Stanford: Stanford University Press.

LaScotte, D. K. (2016). Singular *they*: An empirical study of generic pronoun use. *American Speech*, *91*(1), 62-80.DOI: 10.1215/00031283-3509469

Leap, W. (1993). *American Indian English*. Salt Lake City: University of Utah Press.

Lee, C. (2019, October 31). *Welcome, singular "they"*. APA Style Blog. https://apastyle.apa.org/blog/singular-they

Lijffijt, J., & Gries, S. T. (2012). Correction to Stefan Th. Gries' "Dispersions and adjusted frequencies in corpora". *International Journal of Corpus Linguistics, 17*(1), 147-149. DOI: 10.1075/ijcl.17.1.08lij

Losurdo, D. (2011) *Liberalism: A counter-history* (G. Elliot, Trans.). London: Verso. (Original work published 2005)

Lowndes, J. E. (2008). *From the new deal to the new right: Race and the southern origins of modern conservatism*. New Haven, CT: Yale University Press.

Mackay, D. (1980). On the goals, principles, and procedures for prescriptive grammar: Singular *they*. *Language in Society, 9*(3), 349-367. DOI:10.1017/S0047404500008253

Martyna, W. (1978). What does 'he' mean? *Journal of Communication, 28*(1), 131-138. DOI: 10.1111/j.1460-2466.1978.tb01576.x

Marx, L. (2008). The idea of nature in America. *Daedalus, 137*(2), 8-21. https://www.amacad.org/publication/idea-nature-america

Matthews, P. H. (2007). *The concise Oxford dictionary of linguistics* (2nd ed.). Oxford: Oxford University Press.

McConnell-Ginet, S. (2015). Gender and its relation to sex: The myth of 'natural' gender. In G. Corbett (Ed.), *The expression of gender*. Belin: De Gruyter Mouton. DOI: 10.1515/9783110307337.3

McEnery, T., & Hardie, A. (2012). *Corpus linguistics: Method, theory and practice*. Cambridge: Cambridge University Press.

Meyers, M. W. (1993). Forms of *they* with singular noun phrase antecedents: Evidence from current educated English usage. *Word*, *44*(2), 181-192. DOI: 10.1080/00437956.1993.11435898

Meynell, L., & Lopez, A. (2021). Gendering animals. *Synthese, 199*, 4287-4311. DOI: 10.1007/s11229-020-02979-4

Midgley, M. (2003). *The myths we live by*. London: Routledge.

Midgley, M. (2012). On being an anthrozoon. *Minding Nature, 5*(2), 11-16.

Miller, M. M, & James, L. E. (2009). Is the generic pronoun he still comprehended as excluding women? *The American Journal of Psychology*, *122*(4), 483-496. DOI: 10.2307/27784423

Miller, C., & Swift, K. (1976). *Words and women: Language and the sexes*. New York: Anchor Press.

Mills, C. W. (2019). Ideology and social cognition: The challenge of theorizing 'speciesism'. *Australasian Philosophical Review, 3*(1), 60-70, DOI: 10.1080/24740500.2019.1705233

Mills, S. (2003). Caught between sexism, anti-sexism and `political correctness': Feminist women's negotiations with naming practices. *Discourse & Society, 14(*1), 87-110. DOI:10.1177/0957926503014001931

Moore, J. W. (2015). *Capitalism in the web of life: Ecology and the accumulation of capital*. London: Verso Books.

Morton, T. (2007). *Ecology without nature: Rethinking environmental aesthetics*. Cambridge, MA: Harvard University Press.

Morton, T. (2017). *Humankind: Solidarity with nonhuman people*. London: Verso.

Moulton, J., Robinson, G. M., & Elias, C. (1978). Sex bias in language use: "Neutral" pronouns that aren't. *American Psychologist, 33*(11), 1032-1036. DOI: 10.1037/0003-066X.33.11.1032

Moulton, K., Han, C., Block, T., Gendron, H. & Nederveen, S. (2020). Singular *they* in context. *Glossa: A Journal of General Linguistics, 5*(1). DOI: 10.5334/gjgl.1012

Murove, M. F. (2009). An African environmental ethic based on the concepts of ukama and ubuntu. In M. F. Murove (Ed.), *African ethics: An anthology for comparative and applied* ethics. Durban: University of Kwazulu-Natal Press.

Naess, A. (1995). The shallow and the deep, long-range ecology movement: A summary. In A. Drengson & Y. Inoue (Eds.), *The deep ecology movement: An introductory anthology*. Berkeley, CA: North Atlantic Books.

Newman, M. (1992). Pronominal disagreements: The stubborn problem of singular epicene antecedents. *Language in Society, 21*(3), 447-475. DOI: 10.1017/S0047404500015529

Nibert, D. (2013). *Animal oppression and human violence: Domesecration, capitalism, and global conflict*. New York: Columbia University Press.

Nichols, P. C. (1988). Language policy and social power: Gender and ethnic issues. In P. H. Lowenberg (Ed.), *Georgetown University Roundtable on Languages and Linguistics 1987: Language spread and language policy: Issues, implications and case studies* (pp. 175-186).

Georgetown: Georgetown University Press.

Ng, S. H. (1990). Androcentric coding of *man* and *his* in memory by language users. *Journal of Experimental Social Psychology*, *26*(5), 455-464. DOI: 10.1016/0022-1031(90)90069-X

Patel, R., & Moore, J. W. (2018). *A history of the world in seven cheap things: A guide to capitalism, nature, and the future of the planet*. London: Verso.

Paterson, L. L. (2011). Epicene pronouns in UK national newspapers: A diachronic study. *ICAME Journal, 35*, 171-184.

Paterson, L. L. (2014). *British pronoun use, prescription, and processing: Linguistic and social influences affecting 'they' and 'he'*. London: Palgrave Macmillan. DOI: 10.1057/9781137332738_5

Pennycook, A. (1994). The politics of pronouns. *ELT Journal, 48*(2), 173-178.

Plumwood, V. (1993). *Feminism and the mastery of nature*. London: Routledge.

Plumwood, V. (2002). *Environmental culture: The ecological crisis of reason*. London: Routledge.

Plumwood, V. (2009). Nature in the active voice. *Australian Humanities Review*, *46*. http://australianhumanitiesreview.org/2009/05/01/nature-in-the-active-voice/

Ritter, E. (2014). Featuring animacy. *Nordlyd, 41*(1), 103-124. DOI: 10.7557/12.3315

Sagan, D. (2011, November 18). *The human is more than human: Interspecies communities and the new "facts of life"*. Fieldsights. https://culanth.org/fieldsights/the-human-is-more-than-human-interspecies-communities-and-the-new-facts-of-life

Salmon, E. (2000). Kincentric ecology: Indigenous perceptions of the human-nature relationship. *Ecological Applications, 10*(5), 1327-1332. DOI: 10.1890/1051-0761(2000)010[1327:KEIPOT]2.0.CO;2

Sauerland, U., Anderssen, J., & Yatsushiro, K. (2005). The plural is semantically unmarked. In S. Kepser & M. Reis (Eds.), *Linguistic evidence: Empirical, theoretical, and computational perspectives* (pp. 413-434). Berlin: Mouton de Gruyter. DOI: 10.1515/9783110197549

Sczesny, S., Formanowicz, M., & Moser, F. (2016). Can gender-fair language reduce gender stereotyping and discrimination? *Frontiers in psychology*, *7*. DOI: 10.3389/fpsyg.2016.00025

Sealey, A. (2018). Animals, animacy and anthropocentrism. *International Journal of Language and Culture*, *5*(2), 224-247. DOI: 10.1075/ijolc.00008.sea

Sebo, J. (2022). Animal. *The Philosopher, 110*(1), 5-9.

Siemund, P. (2002). Animate pronouns for inanimate objects: Pronominal gender in English regional varieties. In D. Kastovsky (Ed.) *Anglistentag 2001 Vienna* (pp. 19-34). Trier: Wissenschaftlicher Verlag.

Simon, S. (2021, April 3). *Animals deserve gender pronouns, too*. NPR. https://www.npr.org/2021/04/03/984008349/opinion-animals-deserve-gender-pronouns-too

Skillings, D. (2016). Holobionts and the ecology of organisms: Multi-species communities or integrated individuals? *Biology & Philosophy 31*, 875-892. DOI: 10.1007/s10539-016-9544-0

Skillings, D. (2018). *I, holobiont: Are you and your microbes a community or a single entity?* Aeon. https://aeon.co/ideas/i-holobiont-are-you-and-your-microbes-a-community-or-a-

single-entity

Stibbe, A. (2012). *Animals erased: Discourse, ecology, and reconnection with the natural world*. Middletown, CT: Wesleyan University Press.

Stibbe, A. (2015). *Ecolinguistics: Language, ecology and the stories we live by*. London: Routledge.

Strahan, T. E. (2008). 'They' in Australian English: Non-gender-specific or specifically non-gendered? *Australian Journal of Linguistics, 28*(1), 17-29. DOI: 10.1080/07268600701877473

TallBear, K. (2011, November 18). *Why interspecies thinking needs indigenous standpoints*. Fieldsights. https://culanth.org/fieldsights/why-interspecies-thinking-needs-indigenous-standpoints

Tavits, M., & Pérez, E. O. (2019). Language influences mass opinions towards gender and LGBT equality. *Proceedings of the National Academy of Sciences, 116*, 16781-16786. DOI: 10.1073/pnas.1908156116

Taylor, A. (2016). Who speaks for the trees? *The Baffler, 32*. https://thebaffler.com/salvos/speaks-trees-astra-taylor

Taylor, S. (2017). *Beasts of burden: Animal and disability liberation*. New York: The New Press.

Taylor, A., & Taylor, S. (2021). Our animals, ourselves. *Lux, 3*. https://lux-magazine.com/article/our-animals-ourselves

Valentine, J. R. (2001). *Nishnaabemwin reference grammar*. Toronto: University of Toronto Press.

Viveiros de Castro, E. (1998). Cosmological deixis and Amerindian perspectivism. *The Journal of the Royal Anthropological Institute, 4*(3), 469-488. DOI: 10.2307/3034157

von Werlhof, C. (1988). On the concept of nature and society in capitalism. In M. Mies, V. Bennholdt-Thomsen, and C. von Werlhof (Eds.), *Women: The last colony* (pp. 95-112). London: Zed Books.

Waldau, P. (2020). Humilities, animalities, and self-actualizations in a living earth community. In S. Mickey, M. E. Tucker, & J. Grim (Eds.), *Living earth community: Multiple ways of being and knowing*. Cambridge: Open Book Publishers. http://books.openedition.org/obp/12922

Wales, K. (1987). *Personal pronouns in present-day English*. Cambridge: Cambridge University Press.

Watts, V. (2013). Indigenous place-thought and agency amongst humans and non humans (First woman and sky woman go on a European world tour!). *Decolonization: Indigeneity, Education & Society*, *2*(1), 20-34.

Widdowson, H. G. (2000). On the limitations of linguistics applied. *Applied Linguistics*, *21(*1), 3-25. DOI: 10.1093/applin/21.1.3

Williams, R. (1980). *Problems in materialism and culture*. London: Verso.

Yamamoto, M. (1999). *Animacy and reference: A cognitive approach to corpus linguistics*. Amsterdam: John Benjamins.

Zimmer, B., Carson, C., & Solomon, J. (2016). Among the new words. *American Speech, 91*(2), 200-225. DOI: 10.1215/00031283-3633118

Appendix 1: Full breakdown of ST and *it* usage for anymals in the corpus

	ST occurrences	*It* occurrences		ST occurrences	*It* occurrences
Sub-corpus: Pets			Sub-corpus: Wildlife		
Unit: Cats			Unit: Bears		
Cats 1	7	0	Bears 1	0	0
Cats 2	9	0	Bears 2	0	0
Cats 3	24	0	Bears 3	1	0
Cats 4	15	0	Unit: Deer		
Cats 5	69	3*	Deer 1	0	0
Unit: Dogs			Unit: Chipmunks		
Dogs 1	10	0	Chipmunks 1	0	0
Dogs 2	0	0	Unit: Beavers		
Dogs 3	15	0	Beavers 1	0	0
Dogs 4	8	0	Unit: Foxes		
Dogs 5	11	0	Foxes 1	7	0
Unit: Mice (Pets)			Unit: Snakes		
Mice 1	0	0	Snakes 1	0	8
Mice 2	12	0	Unit: Mice (Wildlife)		
Unit: Fish			Mice 3	0	0
Fish 1	0	0	Unit: Bats		
Fish 2	0	0	Bats 1	1	0
Unit: Gerbils			Bats 2	8	0
Gerbils 1	0	0	Bats 3	0	0
Gerbils 2	9	0	Bats 4	0	0
Gerbils 3	0	0	Unit: Sparrows		
Gerbils 4	1	0	Sparrows 1	0	0
Unit: Guinea Pigs			Unit: Geese		
Guinea Pigs 1	0	0	Geese 1	0	0
Guinea Pigs 2	17	0	Unit: Turkeys		
Unit: Ferrets			Turkeys 1	0	0

Ferrets 1	0	0	Unit: Crows		
Ferrets 2	0	0	Crows 1	0	0
Ferrets 3	0	0	Unit: Turtles		
Unit: Rats			Turtles 1	2	0
Rats 1	14	0	Turtles 2	1	0
Rats 2	0	0	Unit: Coyotes		
Rats 3	0	0	Coyotes 1	0	0
Rats 4	4	0	Coyotes 2	3	0
Unit: Hamsters			Coyotes 3	9	0
Hamsters 1	13	0	Coyotes 4	1	1
Hamsters 2	0	0	Coyotes 5	0	0
Hamsters 3	1	0	Unit: Cougars		
			Cougars 1	1	1
			Unit: Sea Lions		
			Sea Lions 1	0	0
			Unit: Woodchucks		
			Woodchucks 1	3	0
			Unit: Squirrels		
			Squirrels 1	0	0
			Squirrels 2	0	1
			Squirrels 3	1**	0

* In 'Cats 5', the three occurrences of *it* are not in reference to a cat, but to "prey". These occurrences are included in the total number of occurrences of *it* although there are no occurrences of a cat being referred to with *it*.

** In 'Squirrels 3', ST is not used to refer to a squirrel, but to "a bird". This occurrence is included in the total number of occurrences of ST although there are no occurrences of a squirrel being referred to with ST.