Countability shifts in the normative dimension[1]

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Abstract. In this paper, we discuss what we argue is a newly observed use of nouns like *woman, man,* and *lawyer*, in the sort of morphosyntax characteristic of count nouns. We argue that the relevant data constitutes normative uses of the relevant nouns, and we build an analysis on the assumption that such nouns are polysemous between descriptive and normative senses (Leslie 2015), using the formal account of polysemy in Pustejovsky (1998), and the analysis of countability in Rothstein (2010). In doing so, we provide evidence in support of the aforementioned kinds of analyses of social terms and countability, as opposed to others which do not seem to be able to account for the data in as straight forward a way.

Keywords: countability, Dual Character Concepts, shift, dot object, normative, English.

1. Introduction

(1) a. You're too beautiful to ignore. Too much woman. (Star Trek)
    b. The lieutenant needs to watch and learn. And I'm to be the teacher. Make a man out of him, Colonel. Sir, he's already too much man and not enough lawyer. (JAG)

The focus of this paper is utterances like those in (1) which we argue are countability shifts in the normative dimension. Countability shifts—i.e. a shift from the default count interpretation of a noun to a mass interpretation or vice versa—have been discussed at least since Pelletier (1975), and treated as syntactically driven by Rothstein (2010). In the aforementioned papers and several others (e.g. Chierchia, 1998, Erbach et al, 2019), countability shifts are typically discussed in terms of how we talk about concrete entities, either discrete countable solid objects being ground up into a substance, or substances being portioned into containers or sorted into kinds. While such grinding, portioning, and sorting shifts have been accounted for, we argue that the sort of shifts occurring in utterances like (1) are distinct from the previously discussed shifts, and that those in (1) cannot be captured by existing theories of countability.

In order to account for the sort of countability shifts in (1) we follow (Leslie, 2015) in assuming that nouns like *woman* and *man* can be understood as related to Dual Character Concepts, and we model them as dot objects in the style of Pustejovsky (1998). Dual Character Concepts (henceforth DCCs), introduced by Knobe et al. (2013), have been at the center of a substantial body of research more recently (e.g. Del Pinal and Reuter, 2017; Reuter, 2019; Reuter et al, 2020; Guo et

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al, 2021). The defining feature of DCCs is that they possess both a normative and a descriptive character. A popular example is the notion of "artist" (Knobe et al., 2013): we might be prepared to accept the sentence "In a sense, he is an artist, but if you really think about what it means to be an artist, he's not a real artist after all". The idea is that some social-role concepts like artist, father, mother, etc. have two independent criteria for membership; one based on descriptive features, and one based on normative features. Leslie (2015) applies this analysis to concepts like "woman" and "man", and the corresponding nouns, arguing that they present polysemy and that that membership to the corresponding category can be based on descriptive or normative criteria.

By following Leslie (2015) and assuming *woman* and *man* are polysemous nouns referring to both a descriptive and normative sense, it is possible to formalize the notion as dot objects in the style Pustejovsky (1998), and formally account for utterances like (1) using the original type shifting mechanism from Rothstein (2010) on the normative dimensions of *woman* and *man*. This analysis not only captures the novel data, but it also paves the way for treating other countability shifts that are rarely discussed in analyses of countability, but nevertheless constitute a significant portion of noun use.

2. Background

In this section, we first summarize the relevant characteristics of countability and countability shifts, focusing on the formal analysis in Rothstein (2010), which in-turn focuses on examples which we characterize as pertaining to the descriptive dimension of nouns like *boy*. We then summarize the relevant characteristics of descriptive and normative dimensions of Dual Character Concepts.

2.2 Countability and countability shifts

It has been noted at least since William Bullokar's 16th-century *Pamphlet for grammar* that English nouns are either countable or not, and that count nouns can be distinguished by their ability to occur directly with the indefinite article—e.g. *a cow*—numericals—e.g. *two cows*—and plural morphology—e.g. *cow*(*s*). Fell (1784) noted that *many* occurs with count nouns and Bain (1863) noted that *much* occurs with mass nouns. (See Tichý, 2021 for a fuller account of how countability has been discussed in English grammars and dictionaries in Modern English.) Nouns that typically do not occur in such contexts have been called non-count (e.g. Grimm, 2012), uncountable (e.g. Allan, 1980), though most commonly seem to be called mass (Pelletier, 1975). Though often discussed in this way as a binary distinction, it has also been shown that there are multiple categories of countability depending on the sorts of morphosyntactic environments in which nouns occur (see, e.g. Allan, 1980; Wierzbicka, 1988; Grimm and Wahling, 2021).

While the countability classes of Allan (1980), Wierzbicka (1988), and Grimm and Wahling (2021) are generally based on which morphosyntactic environments a noun does occur in, other analysis of countability focus on the morphosyntactic environments that a noun is claimed to

"predominantly" occur in (Chierchia, 1998) or whether a noun's "default interpretation" is claimed to be count or mass (Rothstein, 2010). In the latter sorts of accounts, the idea that a noun can have a predominant use is often discussed in the context of a noun being able to also be used in what might be called 'a-typical morphosyntax'. For example, Rothtsein (2010) gives *boy* as an example of a noun that has a default count interpretation as occurs in examples like (1), where the noun takes plural morphology and is the antecedent of the reciprocal *each other*.

1) The boys helped each other. (Rothstein 2010, p. 380)

At the same time, Rothstein (2010) shows *boy* can occur in examples like (2) where the noun does not occur in count morphosyntax, rather it receives a mass interpretation.

2) After the accident, there was boy all over the ground. (Rothstein 2010, p. 390)

The interpretation of *boy* in (2) is assumed to be in line with the "universal grinder" proposed in Pelletier (1975), for which all things put into the grinder come out as substances, allowing "boy all over the ground" to be equivalent to "substance-made-of-a-ground-up-boy all over the ground". In line with the generalization that concrete mass nouns correspond to substances (see, e.g. Quine 1960), the universal grinder is essentially a tool for allowing count nouns to refer to the sort of thing that is typically referred to by a mass noun—i.e. a substance. In the words of Chierchia (1998), an example like (2) would be characterized as a count noun being made mass. Importantly, such analyses also include discussions of ("predominantly") mass nouns being made count'. However, the nature of such shifts fall outside the scope of the present paper.

To formally account for examples like (2), Rothstein (2010) analyzes them as a matter of syntactic type shifting. In the analysis of countability in Rothstein (2010), count nouns are assumed to be type $\langle d \times k, t \rangle$, and mass nouns type $\langle d, t \rangle$, where k is a set of objects from M, which is a complete atomic Boolean algebra. A root noun meaning is a Boolean algebra of M-atoms structured under the join operation. A mass noun's meaning is identical to the root, and a count noun's meaning is derived via the application of the $COUNT_k$ operation which gives a set of ordered pairs, $\langle d, k \rangle$, which are the countable atoms in the relevant context. To account for the distribution of nouns across syntactic environments, certain syntax is assumed to sanction only count or mass nouns, depending on what their type is. So, because *boy*'s default is a count interpretation, $\langle d \times k, t \rangle$, it must be syntactically type shifted to a mass interpretation, $\langle d, t \rangle$, in order to occur in sentences like (2). The operation given for such a type shift is that in (3), wherein a lexically count noun, *P*, is shifted to a substance, mass, interpretation of contextually determined minimal parts and their sums.

3) $\lambda P \lambda x. \exists y [y \in \pi_1(P) \wedge x \sqsubseteq y \wedge \neg x = y]$ (Rothstein 2010, p. 392)

As described originally, "'Grinding' the denotation of boy will give ([3]), the set of proper parts of some semantically atomic entities in BOY_k. This is a set of contextually determined minimal boy-parts and their sums, but not whole atomic boys" (Rothstein 2010, p. 392).

In sum, Rothstein (2010) proposes that there are nouns with a default count interpretation that can be used in mass morphosyntax via a syntactic type shifting operation that is equivalent to the universal grinder, meaning that these shifted nouns are interpreted as referring to the substance derived from grinding up the otherwise countable individuals. Moreover, the syntactic count-to-mass shifts discussed in Rothstein (2010) correspond to sentences in which it seems that a solid, discrete object is broken down into a substance because of some event—e.g. via an accident as described in (2).

2.2 Dual Character Concepts and normativity

As mentioned in the introduction, the core idea behind DCCs is that of two independent characters, namely a normative one and a descriptive one (Del Pinal and Reuter, 2017; Knobe et al. 2013). While somebody might meet the criteria for the descriptive dimension of artist, they might not meet the criteria for the normative dimension, and vice versa. So it might be that the same entity, e, is considered to be part of the group G according to the normative criteria in place (e.g. producing art on the basis of inspiration, have a calling, etc.) and not according to the descriptive criteria (e.g. making art production your sole profession, being recognised as an artist, etc.), or the other way around. The dual character is thought to be typical of several subsets of social concepts in particular (e.g. Del Pinal and Reuter, 2017). As Guo et al. (2021) notice, this approach has predecessors in previous research; Lakoff (1987), for example, suggested that specific concepts, like "mother", are defined by a cluster of cognitive models. Depending on the situation, different criteria for "real" motherhood, for example, might be present: based on genetics, relationship, etc. In the DCCs model's terms, some of these criteria might be classified as descriptive, and others might be, on the other hand, normative, thus giving rise to two different dimensions.

Extending the DCCs analysis to gender roles and related generics, Leslie (2015) argues that generics like (4a) appeal to the normative dimension of "boy" rather than the descriptive dimension:

4)   a. Boys don't cry!
        b. Birds fly.

In other words, generics like (4a) (but not those like (4b)) have an "hortatory" force that expressed admonition and encouragement, rather than descriptive value: the message that (4a) sends is not that boys do not cry, but rather that boys **should not** cry, because it appeals to the normative understanding of what a boy is: a young man, and therefore a human of supposedly great strength, not overly emotional, etc. Importantly, the role of generics in communicating normativity is at the centre of a substantial amount of research concerned with the extent to

which generics like (4a) have developmental consequences (e.g. Gelman et al, 2008; Leslie, 2012; Leslie, 2014) and can inform our understanding of social cognition (Berio and Musholt, submitted).

Leslie's analysis revolves around examples like (5) where the speaker clearly does not appeal to the descriptive dimension of *man* or *woman*, but rather to the normative dimension. (5) communicates that some criteria for being a woman are not met by Clinton (and that some criteria for being a man are, conversely, not met by Obama and a large part of his administration). The statement's communicative value lies not in denying that Clinton fails to meet descriptive criteria for womanhood, but in denying that she meets the normative ones—e.g. a caring, loving attitude, etc. On the other hand, (5) is likely to communicate to the reader or hearer that Obama lacks attributes like decision, strength, or control that are normatively attributed to men.

5)   Hillary Clinton is the only man in the Obama Administration. (Leslie 2015, p. 111)

In Leslie's proposal, the normative dimension is not to be interpreted as the usual or typical function of a specific social role associated with the concept; rather, it is related to an idealisation of the basic function. So, in the case of *scientist* or *artist,* an idealisation of the basic function of these social roles is what marks the normative dimension: for example, a lifelong commitment to truth and unbiased research for the scientist, or to aesthetic values for the artist. When it comes to the descriptive dimension, Leslie (2015) assumes that a descriptive dimension for the concept of "woman" would rely on biological sex; as she recognises, while this misses an important distinction between biological sex and social gender, it is possibly the most wildly held view outside of academic and activist circles[2].

When it comes to the origin of the normative force of DCCs, several ideas are currently being discussed in the literature. Del Pinal and Reuter (2017), for example, argue that the notion of commitment is central to understanding the normative force: we categorize agents in terms of the commitment to "fulfill the basic function of the corresponding social roles" (Del Pinal and Reuter, 2017, p. 491). While this is a possibility, and one that the authors deem compatible with at least one interpretation of Leslie's proposal, we'll focus here more generally on what kind of normative content can be attached to specific social roles like gender roles, in order to show in what way the debate around DCCs and current feminist literature can inform our understanding of specific countability shifts.

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[2]Importantly, we do not to endorse the equivalence of sex and gender in any way, on the contrary we recognise and support the need to change the received view of these concepts so that they can better give justice to transgender people as well as any other social group who is severely affected by the gender binary. The descriptive criteria here hypothesised serves as possible description of how the concept is often used; for the importance of an ameliorative analysis, see Haslanger (2000), Jenkins (2016); for a in depth discussion of the notion of "woman" in feminist terms, see Mikkola (2009).

Feminist literature has long discussed the normative roles attached to genders (for an overview see Mikkola, 2019), and an overview of the various accounts would go outside of the scope of this paper. For the purpose of this analysis, we can rely on Manne (2018); Manne argues convincingly for a set of determined normative expectations coming with the two most accepted genders. In particular, women are expected to be providers of care, emotional labour, affection, nurture, soothing and security, while men are supposedly expected to be entitled or aspiring to wealth, honor, face, status, power, and so on. According to the dual and normative nature of this requirement, social agents whose behavior matches the expectations of their gender are rewarded, while the social actors that fail to meet the expectations are punished in a number of ways—e.g. by losing social status and face, consideration, power, etc. While Manne's account is meant to provide a functionalist explanation of misogyny (as opposed to a psychologist one), what is relevant for our purpose is the clear delineation of normative requirements she proposes for the role of women. In Manne's account, women are expected given their social role to be providing a series of moral goods, including pleasure and security. When these goods are not given to the men, it is when the expectations are not met and the consequent payback follows.

When it comes to the idealized functions that Leslie deems central for the normative set of criteria for DCCs, then, it is possible to borrow Manne's insight in assuming that the idealized functions attached to gender role might see the attribution of the traits spelled out above. Such a framework allows sentences like (6) to be understandable.

Note that Leslie (2015) argues that an important advantage of her analysis is that it embraces polysemy for the social kind terms in question, rather than proposing a pragmatic route. In particular, she maintains that there is a lexically available, normatively loaded sense for some of these social kind terms. In particular, she argues for a polysemy interpretation on the basis of a variety of considerations ranging from developmental data to theoretical motivations. On the one hand, she argues that the fact that statements like (6a) and sexist rebukes like (6b) generate a natural normative interpretation—i.e. they are interpreted as rebukes to women that put career before family, as in (6b), or to friends that let friends drive when drunk, as in (6a), supports the polysemy interpretation. The descriptive interpretation of (6a) is not obviously false, she argues, and the descriptive interpretation of (6b) seems to be a matter of empirical research for sociologists: in neither case, however, the statements seem to be *prima facie* false in their descriptive sense to prompt conversational interpretation, and hence to suppose a pragmatic component.

6)   a. Friends don't let friends drive drunk
       b. A woman puts family before career

On the other hand, Leslie points out that evidence suggests that preschoolers struggle to understand implicatures, especially scalar ones (e.g. Barner et al, 2009). However, children seem to interpret descriptive regularities as prescriptive in some circumstances, and language seems to play a role in this (Roberts et al, 2017); moreover, data suggests that preschoolers interpret generics quite often in an essentializing (and so arguably related to normativity) fashion

(Cimpian and Markman, 2011). Additionally, generic language seems to encourage the formation of social categories (Rhodes et al, 2018).

3.   Data: How much *much woman* and *much man*?

In this section, we compare utterances from the Corpus of Contemporary American English (Davies 2008), henceforth COCA, in which the human nouns *woman* and *man* are used with the vague quantifier *much*, which therefore enforces a mass reading of the aforementioned nouns. Because the first example (1a) was observed while watching TV and therefore had a rich context for interpreting the utterance, the TV subcorpus of COCA was used to (i) investigate the extent to which such uses of these nouns exist, and (ii) provide the possibility of seeking visual contextual elements which might be necessary for interpreting each utterance.

While *woman* occurs in singular and plural form 50,211 times in COCA-TV, *much woman* occurs 9 times. *Man* occurs in singular and plural, 222,911 times and *much man* 17 times. Since occurrences with *much* constitute 0.00018% and 0.00008% of the occurrences of *woman* and *man* respectively, it is clear that such uses are relatively rare; compare to 284 occurrences of *many women* (0.00566%) and 463 occurrences of *many men* (0.00208%). While it is unclear exactly what grounds Rothstein (2010) used for determining whether a noun's default interpretation is count or mass, such statistics might support the claim that *woman* and *man* are prototypically count, given they respectively occur with the vague count quantifier *many* roughly 31 and 27 times more frequently than they do with the vague mass quantifier *much*. For a more complete picture of the distribution of nouns across countability environments in COCA, see Grimm & Wahling (2021).

While neither *much woman* nor *much man* occurs with very high frequency, they nevertheless might occur enough times for the examples in (1) to not be considered completely ad-hoc. On the assumption that the default interpretation of *woman* and *man* are count, all of the examples of *much woman* constitute a shift from count to mass, and 13 of the 17 *much man* instances constitute a shift from count to mass. The other for *much man* examples are those like (7) where *much* modifies something else, in this case money, and *man* simply occurs in another sense, in this case, a form of address for the addressee.

7)   How much do you charge? Not much man. (That '70s Show)

Notably, *too much woman* and *too much man* account for the majority of the respective count-to-mass shifts: 8 of the 9 *much woman* instances and 7 of the 13 *much man* shifts are preceded by *too*. The other co-texts that occur are BE *much* (4 instances), *as much* (2 instances), and *that much* (1 instance).

8)   a.   Your friend is much woman. (DC's Legends of Tomorrow)
         b.   you're not man enough to be pregnant. I'm as much man as you are. (Full House)

      c.   It's just when you've had that much man… (The Naked Gun 2$^{1/2}$)

Unlike the examples from Rothstein (2010), none of the count-to-mass shifts occur in a context where there is some sort of event that "grinds" the discrete objects (in this case women and men) into a substance, rather all of the people discussed remain whole. Because all of the people remain whole, the syntactic type shift that gives, the set of contextually determined minimal woman- and man-parts and their sums, can only be said to apply while the countable atoms from which the parts are derived remain in their atomic state.

While none of the examples discuss people as "ground up" objects, certain examples do seem to address the volume of human-material referred to by *woman* or *man* in the respective examples. Consider those in (9), where two women and one man are dancing together, and the two women are described as "too much woman" for the man, or where a cyborg is being discussed and the parts of him that remain are referred to as "much man". Both examples seem to refer to the volume of the discrete entities that make up the respective women and man.

9)   a.   Hey Carter, join us. There's too much woman on this deck for Scoggs to handle.
                [Context: one man (Scoggs) is dancing with two women.] (Deep Blue Sea, 1999)
      b.   Who knows what else they've done to the man? Or how much man is left at all.
                [Context: referring to a cyborg] (Agents of Shield)

In sharp contrast to the examples in (9) which seem to discuss the volume of space occupied by the referents of *woman* and *man* respectively, other examples clearly are not discussing volume. Consider again the examples in (10), where the shows respectively present an average sized woman and man as referents. Given it is not the size of the people discussed, there must be another dimension referred to as *much woman* and *much man*.

10)   a.   You're too beautiful to ignore. Too much woman. (Star Trek)
                [Context: The addressee is an average sized woman.]
       b.   The lieutenant needs to watch and learn. And I'm to be the teacher. Make a man
                out of him, Colonel. Sir, he's already too much man and not enough lawyer. (JAG)
                [Context: The referent is an average sized man.]

4. Analysis

As a means of accounting for the differences between the meanings in (9) versus those in (10), we propose that it is possible to use descriptive and normative dimensions of the words *woman* and *man*. In (9), the descriptive dimension is referred to: In (9a), the presence of two people that fit the descriptive dimension of *woman* constitute too much volume of said people for the one man to handle, and in (9b), the replacement of certain of volume of a person that fits the descriptive dimension of *man* with machines constitutes not as much of said person still existing in terms of volume. In (10), the normative dimension is referred to: In (10a), the referent and ad-

dressee, Yeoman Janice Rand, is presumably too much of a provider of pleasure, care, affection, etc. for the addressor Captain James T. Kirk (from the mirror universe) to be able to otherwise ignore; while in (10b), the referent, Lt. Gregory Vukovic is presumably too entitled/aspiring towards wealth, honor, face, and status, and too powerful, decisive, and respected to be able to fulfil the normative qualities of a lawyer, perhaps something like being precise, controlled, boring, etc. Certain examples, like those in (8a) and (8c) are somewhat more ambiguous without being able to assess the volume of the referents, and either interpretation might be true in the respective contexts.

We propose that the countability shifts in the descriptive dimension, as in (9), can straightforwardly be accounted for within the analysis in Rothstein (2010), though without additional machinery, it is not possible to use this analysis to also capture the countability shifts in the normative dimension as in (10). However, following Leslie (2015) in treating *woman* and *man* as polysemous, and by integrating the analysis of polysemy in Pustejovsky (1998) into the analysis of countability in Rothstein (2010), it is possible to formally account for data like that in (10). In short, we can account for utterances like (10) by assuming that they constitute syntactic type shifting that affects the normative dimension of the concepts related to the nouns *woman* and *man* respectively. In what follows, this section will provide the relevant background on the analysis of polysemy in Pustejovsky (1998), and will show how this can be integrated into the analysis of countability in Rothstein (2010).

Pustejovsky (1998) uses dot objects as a means of capturing polysemy. Dot objects, α, are defined as Cartesian products in which (11) holds, where R is a relation that holds of types, e.g. $\tau_1 \cdot \tau_2$. An example given in Pustejovsky (1998) is that of *book* which in one sense is a physical

11) $\lambda x.y \; \exists R[\alpha(x{:}\tau_1.y{:}\tau_2) : R(x,y)\ldots]$ (Pustejovsky 1998, p. 14)

object and the other being the information contained in a particular book, each one of these senses being one of the types that the HOLD relation holds over: the physical object holds the information. The logical form for *book* can then be represented with the logical form in (12).

12) $\lambda x.y \; \exists e' \exists v[\mathrm{BOOK}(x{:}physobj.y{:}info) : \mathrm{HOLD}(x,y) \wedge \lambda w \lambda e[\mathrm{READ}(e,w,x.y)] \wedge$
                                        $\mathrm{WRITE}\,(e',v,x.y)]]$ (Pustejovsky 1998, p. 15)

Such an analysis, as argued in Pustejovsky (1998) allows for sentences like (13a) and (13b) to both be true, given the first refers to some information that can be believed and the other to a physical object that can be bought.

13)   a.   Mary doesn't believe <u>the book</u>.
          b.   John bought <u>his books</u> from Mary. (Pustejovsky 1998, p. 5)

Following the analysis of *woman* and *man* as polysemous between descriptive and normative dimensions in Leslie (2015), it is possible to use the dot object analysis of polysemy from Pustejovsky (1998) for polysemous social terms like *woman* and *man*. The descriptive and normative dimensions can be assumed as the two types, and a relation like a *HAS.ROLE* relation can be assumed to hold over the two types. Following Leslie (2015)'s analysis of *woman* the normative dimension is the idealised social role people identified as a woman are supposedly supposed to play. Adopting the sort of logical forms in Pustejovsky (1998), such a dot object for *woman* could be represented as that in (14), though note that we leave open the events associated with this noun as such a discussion falls outside the scope of the present paper.

14) λx.y [WOMAN(x:descriptive.y:normative) : HAS.ROLE(x,y)…]

Integrating Pustejovsky (1998) and Rothstein (2010), the $COUNT_k$ operation applies to WOMAN, making it a count noun and identifying members of WOMAN, in either the descriptive or normative sense, who count as one in k.

15) λx.y [$WOMAN_k$(x:descriptive.y:normative) : HAS.ROLE(x,y)…]

Following these assumptions, *woman* and *man* have "default" count interpretations, wherein both the descriptive and normative senses are indexed to countable individuals. A consequence of this, is that there is no coercion in utterances like (5) where the normative sense of *man* refers to Hilary Clinton: this is simply the normative use of the count noun *man*.

At the same time, these assumptions mean that it must be the case that shifts occur in both (9) and (10) for the utterances to be felicitous. Following Rothstein (2010), the mass syntax of the quantifier *much* requires a mass noun and so the count nouns *woman* and *man* are respectively type shifted using the type-shifting operation in (3). For the examples where the descriptive dimension talks about the volume of the people referred to, (9), the nouns *woman* and *man* respectively refer to the set of proper parts of some semantically atomic entities in $WOMAN_k$ and MAN_k, that is sets of contextually determined minimal biologically-female-person-parts and their sums and biologically-male-person-parts and their sums. For the examples where the normative dimension talks about the extent to which the referents fulfill expectations of social roles , (10), *woman* and *man* respectively refer to the the sets of contextually determined minimal parts of what goes into fulfilling a particular social role. While the latter is more abstract, following Manne (2018), the shift of the normative dimension of *woman* would refer to minimal parts of atomic entities that provide care, emotional labour, affection, nurture, soothing, security, etc. rather than simply being biologically female.

5.   Discussion

While the notion of "grinding" the normative dimension is abstract, we note two things to clarify the meaning of the sentence. First is that examples like (9) show that no "grinding" need take

place, rather it can simply be that the matter that make up the people are discussed as a substance named *woman* or *man* rather than as discreet objects. In parallel, we would say that the normative characteristics that make up the people are discussed together as a sort of substance without reference to the whole women and man these characteristics are used to identify. Second, consider that Leslie (2015) suggests that specific quantifiers might have the role of selective for the normative sense of a dual character concept, as it becomes clear when considering examples like (16).

16)   a. Kant was ten times the philosopher that Berkeley was (Leslie, 2015)
        b. I can't think of anyone who, like Thatcher, is twice the man and twice the woman of any other MP.[3]

In these examples, Leslie argues that the quantifier expression selects for a normative sense of *philosopher* and *man* and *woman* and "allows for a numerical comparison of the degree to which two individuals approximate to the ideal" (Leslie, 2015, p.117). While these examples clearly refer to only the normative dimensions, recall that examples with *much* can be either the descriptive (9) or normative (10) dimensions might be referred to. Nevertheless, the sort of interpretation we are arguing for is similar to that hypothesised by Leslie: type shifting the normative dimension to a mass reading allows for the formulation of a judgement on the degree to which the individual in question satisfies the requirements underlying the social ideal in question. In this sense, no "grinding" need occur, rather the normative criteria are simply measurable by degree, like much beauty, or much strength.

While it is possible to account for data like (10) by assuming (i) *woman* and *man* are polysemous between descriptively identified entities and normatively identified entities (Leslie 2015, Manne 2018), (ii) polysemous nouns can be treated as dot objects, (iii) and nouns are encoded as either count or mass, and syntactically shift to occur in opposing syntax (Rothstein 2010), in what remains of this section we present several other approaches that might be taken to account for the data we have presented in Section 3.

5.1 Too much woman/man as colloquialism?

The fact that 8 of the 9 instances of *much woman* were *too much woman* and 7 of the 13 relevant instances of *much man* were *too much man,* one might consider that the longer constructions are a sort of colloquialism or multi-word expression and the only way of referring to the normative dimension of the respective nouns, while the other instances of *much woman* and *much man* are more ad-hoc and largely only interpretable given the longer colloquialism. On the other hand, it seems that adjectival uses of *woman* and *man* such as that in (9b), "you're not man enough", are straightforwardly felicitous and therefore that the mass interpretation of the normative dimensions of *woman* and *man* are relatively freely accessible. Moreover, given the fact that generics

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[3] (http://www.guardian.co.uk/politics/the-womens-blog-with-janmartinson/2012/jan/05/margaret-thatcher-feminist-icon as found in Leslie, 2015)

about gender are readily interpreted as normative by children, as we outlined above, and that gender stereotypes are so common, the normative dimension seems freely available, and subject to shifts such as those presented here.

5.2 Expanding descriptive and normative polysemy to other nouns.

While the focus of our initial work was specifically on the nouns *woman* and *man,* we thank Anton Benz for asking about the extent to which this sort of analysis could extend beyond social roles like man, woman, artist, etc., for example if *bicycle* could be said to have descriptive and normative dimensions. This reminds us of an example of a count-to-mass shift we have discussed with Hana Filip, namely that in which an item of value is discussed as in (17) where it is not necessarily the size of car that is discussed, but the expense of the car.

17)   How much car can you afford?

On the one hand, a bicycle, for example, can be identified by having certain characteristics that describe bike shaped-things, two wheels, a seat, handle bars, and certain kind of shape, and these characteristics could be used to refer to things from bikes that are ridden, models of bikes, paintings of bikes, etc. On the other hand, models and paintings of bikes can be easily called "not real bikes" given they cannot be ridden, which might be able to be distinguished as a normative property, along with some characteristics like costing a certain amount of money.

However, when it comes to DCCs, one reason they seem to be comprised mostly of social kind concepts like "artist" and "lawyer" is that a key distinctions between the descriptive and normative dimensions is their independence from one another, i.e. their double dissociation. A given individual can be a member of a kind according to the descriptive criteria, which are met, but not according to the normative criteria, that might not be met instead. Considering the artist from the very first example, one might see the same person as rightfully described as an artist according to the descriptive dimension, while also perceiving them as not an artist when it comes to the normative dimension, and vice versa. According to this double dissociation, one can acknowledge the fact Hilary Clinton is a woman in the descriptive sense while also denying she has the requisites to be a woman in a normative sense, determined by the social norms upheld in these circumstances by the person performing the judgement (as sexists as they might be).

While the descriptive and normative dimensions of "woman" and "artist" **can** be easily separated and each respectively be used to identify a woman or an artist that has been said to fail to be identified by the other dimension, we propose it is not possible to do the same for *bicycle* or *car*. While a model of a bike could be said to fit the descriptive sort of criteria but not the normative sort of criteria established above, it is not clear that there are any bikes that fit only the normative criteria, but not also the descriptive criteria. In this way, it seems unlikely that explaining data like (17), is best done by assuming a shift to a normative dimension of *car*. In personal correspondence, Hana Filip has speculated (17) is a somewhat fixed expression.

Furthermore, when we consider the idealised function of the social role that Leslie deems as the core of the normative component, we see that it can only apply to social kinds. In this sense, we follow Leslie's suggestion that

> " […] *as a minimal condition of a kind having a dual character, there has to be a plausible characterization of the social role of that kind such that it can be successfully carried out by someone who does not meet the descriptive criterion for membership in the kind, and conversely, that meeting the descriptive criterion of the kind does not entail successfully carrying out the social role*." Leslie, 2015, p. 125

Note that this also implies that not all social kinds will possibly be DCCs; when we consider the notion of "bartender", or "acquaintance" (Leslie's examples), we might argue that there is no such a thing as an idealised role that can be carried out by someone who does not meet the descriptive criterion in normal circumstances. In other words, the social role of a bartender is normally understood as a specification of what it is to be bartender, so the social role does not seem to be distinct from the descriptive criteria (Leslie, 2015).

5.4 A metonymy based account

Rather than account for (17) with a normative dimension of car, it might be the case that such shifts can be accounted for with metonymy. Such an account of countability shifts is not new, rather it has been argued for by Kövecses and Radden (1998), Ziegler (2007), Beckmann et al. (2018) among others, with Kövecses and Radden (1998) arguing that examples like (2), where an entity is "ground up" into a substance, constitute instances of OBJECT FOR MATERIAL CONSTITUTING THAT OBJECT metonymy. Conversely, Kövecses and Radden (1998) also discuss WHOLE THING FOR A PART OF THE THING metonymy giving the example of *the car* standing for *the parts of the car that need washing* in a sentence like *the car needs washing*. This sort of metonymy could be said to account for examples like (17), where *car* could be standing for *value of a car,* the idea being communicated being something like 'How much value of a car can you afford?'. In addition to accounting specifically for constructions like (17), metonymy has the advantage of not needing independent descriptive and normative dimensions of car.
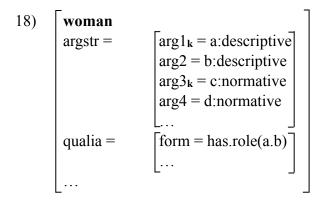
For instances like those in (10), where *woman* is referring to something we have proposed could be characterized as the normative dimension of *woman,* a metonymy based approach could work as well. In the same way that *car* stood for *value of a car,* one could argue that *woman* stands for a certain part of the woman, therefore being an instance of a WHOLE THING FOR A PART OF THE THING metonymy. One might propose that the part of *woman* being stood for in (10a) is the normative dimension entirely, or one might propose a more specific part such as her beauty, given it is also which is characterized as 'too much'. Assuming that beauty is part of the concept *woman* follows from the discussion in Manne (2018), where women are said to be expected to provide moral goods like, among many, pleasure (Manne, 2018, p.22). While Manne might not explicitly mention it, one could take *pleasure* to be possibly also aesthetic pleasure—i.e. beauty. Manne (2018, p.301) does discuss how beauty, for a woman, convenes high status that reflects on the man that accompanies her. With such assumptions in place, a "the whole woman for her beauty"

instance of WHOLE THING FOR A PART OF THE THING metonymy could be used to account for the interpretation of (11a) rather than a countability shift. However, it is not clear how this would apply to other examples, like (8b) or the lawyer bit of (10b); in these cases, since the individual is deemed to possess not enough (or not at all) of the property they are expected to have, it is not very clear what specific parts might be referred to here. Our analysis has the advantage of accommodating for these examples as well, on top of connecting these shifts with discussion of the social implications surrounding social kinds and stereotypes.

5.5 Countability without shifts

This paper has largely discussed countability within the sort of framework assumed by Chierchia (1998) and Rothstein (2010) wherein nouns have a "predominant" or "default" interpretation in terms of countability, and that any use in the opposing countability class constitutes a shift from the "default" to the other. We also mentioned that Allan (1980) and others have discussed countability in terms of class, in which it seems there are not shifts per se, rather there are simply some nouns that only seem to have count uses, some nouns that only seem to have mass uses, and many nouns that have different combinations of count uses and mass uses. It seems that, under such a view, *man* and *woman* would not be said to shift at all in examples where they are used as mass nouns, rather that they simply have a mass use. While discussing uses like *much woman* in terms of shifts might seem to be an endorsement of such a view, we do not necessarily see it as right or more advantageous, rather discussing this way provided the opportunity to advance formal discussion of countability by proposing that polysemy is something that certain formal models do not account for but can with relatively simple integration such as those like that in Pustejovsky (1998).

Accounts of countability like that in Pelletier (2012) would hold that, "rather than trying to perform some sort of type-shift or a coercion or a construction of a related meaning, all these values already are part of the lexical meaning of [of the noun]. And the effect of the semantic rule—indeed, the semantic rules for all the different syntactic combinations—is to delete some aspects of the lexical item's semantic value from consideration in the current syntactic context. In this way, the meanings of lexical items are both +MASS and +COUNT" (Pelletier 2012, p. 20). So, in the case of *woman* and *man*, an account like that of Pelletier (2012) would hold that the two nouns are both count and mass, they have +MASS descriptive and normative senses as well as +COUNT descriptive and normative senses, and examples like (9) and (10) simply delete the +COUNT meanings from the semantic value of *woman* and *man,* and leave only the +MASS meanings, which include both a mass descriptive meaning and a mass normative meaning. To such an account of countability, we have at least added to the discussion of what sort of +MASS and +COUNT meanings that certain words have. In the framework from Pustejovsky (1998), such an inventory of countability senses might look something like that in (18), where a COUNT$_k$ operation similar to that in Rothstein (2010) distinguishes the senses which are +COUNT while those that are +MASS remain unmarked.

18)
$$
\begin{bmatrix}
\textbf{woman} \\
\text{argstr} = \begin{bmatrix} \text{arg1}_k = \text{a:descriptive} \\ \text{arg2} = \text{b:descriptive} \\ \text{arg3}_k = \text{c:normative} \\ \text{arg4} = \text{d:normative} \\ \ldots \end{bmatrix} \\
\text{qualia} = \begin{bmatrix} \text{form} = \text{has.role(a.b)} \\ \ldots \end{bmatrix} \\
\ldots
\end{bmatrix}
$$

Furthermore, it is possible that discussions such as this can help explain why certain nouns fall into certain countability classes in the sense of Allan (1980) among others. More plainly, by elucidating the different senses of nouns and the countability of these senses, then it would be possible to determine the full range of uses that a noun might have with respect to different count and mass environments, such as fuzzy denumerators like *many* or the use of the singular noun with *all*. By understanding which senses are used in which countability environments, it could be possible to build a more predictive version of the sort of model of countability proposed in Pelletier (2012).

6.   Conclusion

In sum, we have analyzed utterances like (1) for what we believe is the first time in discussions either of countability or philosophy of gender. We have proposed that it is possible to straightforwardly account for the meaning of such utterances by integrating the proposal of Leslie (2015) that *woman* and *man* are polysemous, with the account of polysemy in Pustejovsky (1998), and the account of countability in (Rothstein 2010). In this way, we have integrated ground breaking theories in philosophy of gender (e.g. Manne, 2018) and interpretations of gender kind terms as DCCs (Leslie, 2015), with leading theories of countability (Rothstein 2010). We have also shown that alternative analyses are possible, but would require further work to more fully account for the meanings in the key examples.

Importantly, we have relied here on Leslie's proposal to consider "man" and "woman" as behaving like DCCs. When it comes to empirical support for this idea, Guo et al. (2021) have found that, while metalinguistic judgements (e.g. whether it sounds natural to use phrases such as "true woman") revealed a DCC nature of gender roles, violating gender norms did not consider disqualification from being a "truly a man/woman". They speculate, and we agree, that this might be dependent on an historical change in people's conception of gender and its normativity, with younger generations being more prone to disregard strong gender norms. When it comes to linguistic data such as that we presented in this paper, we believe it might serve as evidence that some of these gender norms, while slowly and luckily disappearing, are very much alive in specific contexts.

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