Names and the Mass-Count Distinction

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Proper names form unusual types of noun phrases, noun phrases that may consist just in a name and fail to involve a common noun and seemingly a sortal. Not being formed with a common noun, the mass-count distinction seems inapplicable to proper names. Or rather it appears obvious that names belong to the count category by their very nature since they generally refer to unique, well-individuated entities. Focusing on German and to some extent English, this paper will review the role of sortals and the related question of a mass-count distinction among proper names. It appears that sortals do in fact play a significant role in the linguistic structure of proper names, and they do so in different ways in different types of proper name constructions, by their overt or silent syntactic presence.

The role of sortals in the semantics of proper names is not, though, a reference-fixing role (as philosophers such as Dummett and Lowe have argued). Rather it (at least in part) matches the role of individuating or 'sortal' classifiers in languages lacking a mass-count distinction, such as Chinese. Proper names do not themselves classify as count, whatever the individuals may be that they stand for. They classify as count only in the presence of a sortal classifier. Otherwise, they will classify as number-neutral or mass. Whereas English names generally come with an abstract sortal classifier, German simple names for certain types of entities (places, times, kinds, numbers, and expressions) don't.

The way the mass-count distinction applies to proper names, based on the presence of a sortal classifier, strongly supports the structural account of the mass-count distinction advocated by Borer (2005), the view that the mass-count distinction is not a matter of the content of nouns, but rather a matter of the absence or presence of an abstract classifier in the DP structure in which nouns appear.

The classification of names as number-neutral in the absence of a sortal classifier generalizes to other expressions or uses of expressions that fail to come with a syntactic mass-count distinction, namely *that*-clauses, predicative phrases, intensional NPs, as well as verbs with respect to their Davidsonian event argument position. In all those cases, the relevant

diagnostics show a classification as mass, rather than a division into mass and count, regardless of the content or semantic values of the expressions in question. The mass-count distinction is strictly a matter of syntactic structures involving or not involving a sortal classifier, whether common nouns, names, or other categories are involved.

The structural account of the mass-count distinction raises one major challenge, though, and that is how to make sense of it semantically, since the mass-count distinction can now longer be viewed as a conceptual or ontological distinction. Recent approaches to reference and quantification with plurals and mass nouns appear to provide an answer to the challenge This is first the approach of plural reference, the view that a definite plural does not refer to a single collective entity (a sum or set), but rather refers to several entities at once. Moreover, there is a corresponding approach to the semantics of mass nouns as involving mass reference not reducible to singular or plural reference.

There are other points about proper names that the paper will develop that should be of interest to linguists and philosophers alike, most importantly concerning the role of proper names in contexts of quotation. Thus, the paper will adopt the view that proper names are mentioned rather than used in both predicative contexts and in close appositions and that that is entirely compatible with Kripke's causal theory of proper name reference, which the paper will adopt, as opposed to recent predicativist views (deriving from Burge). Moreover, the paper will argue that certain proper names (in German and English) are not specified for the category of nouns at all, which means they are restricted in their occurrence to quotational contexts, such as contexts of close appositions.

1. Preliminaries

1.1. Views of the mass-count distinction

The mass-count distinction is first of all a syntactic distinction among nouns. Count nouns allow for the plural by displaying plural morphology; mass nouns don't. But the syntactic distinction appears to go along with a semantic distinction. The two most common approaches to the semantics of the mass-count distinction are ontological and conceptual approaches. One such approach takes entities in the extension of count nouns to come with individuation conditions or conditions of integrity, but entities in the extension of mass nouns to lack such

conditions.[1] Another version of such an approach to the semantics of the mass-count distinction is the extensional-mereological approach, which associates different mereological conditions with mass nouns and count nouns, such as cumulativity as a characteristics of plural and mass noun extensions, lack of cumulativity as a characteristics of singular count noun extensions and atomicity as characteristics of plural noun extensions but not mass noun extensions.[2] There are other varieties of the conceptual and the ontological approaches to the semantic mass-count distinction, which need not be listed in detail. What is important is that they all contrast with what I will call the *structural account* of the mass-count distinction due to Borer (2005). On that view, the mass-count distinction does not go along with a lexical-conceptual distinction among nouns (or an ontological distinction pertaining to their extensions). The lexical meanings of all nouns as such are mass or number-neutral. The mass-count distinction on that account does not reside in a difference in lexical meaning, but in a structural difference between count DPs and mass DPs. Count DPs contain a classifier phrase with an abstract classifier div as head, whereas mass DPs lack a classifier phrase. The abstract classifier div will merge with the noun and spelled out as plural morphology. Count DPs thus involve the very same structure as DPs with an overt classifier in classifier language such as Chinese. Nouns in Chinese may satisfy whatever conceptual or ontological conditions have been proposed as the characteristics of count nouns, yet they still require a classifier in order for a numeral or quantifier to be applicable.[3]

The plural NP *the three cats* then has simplified, the underlying structure in (1a), with div as the abstract plural marker acting as a classifier in the classifier phrase ClP:

(1) a. $[[\text{the}]_{D}\ [[\text{three}]_{Q}\ [<\text{e}>\ [[<\text{div}>]_{Cl}\ [[\text{cat}]_{N}]_{NP}]_{ClP}]_{QP}]_{DP}$

This is parallel to the overt classifier DP *three pieces of cattle*, which has, simplified, the structure in (1b):

[1] For such an approach see, for example, Moltmann (1997, 1998). In view of mass nouns like *police force, furniture* etc, this distinction may have to be cast in terms of merely perceived, not actual conditions of individuation or integrity

[2] For an overview of the extensional-mereological approach to the mass-count distinction, see Champollion/Krifka (to appear) and references therein.

[3] In other classifier languages such as Tagalog, classifiers are only optional (Doetjes 2012). In Chinese, bare nouns can function as arguments, bare classifier phrases can too, displaying different interpretations though, see Cheng/Sybesma (1999) and Li/Bisang (2012) for discussion.

(1) b. $[[e]_D\ [[three]_Q\ [[pieces]_{Cl}$ of $[[cattle]_N]_{NP}]_{ClP}]_{QP}]_{DP}$

Setting further details aside, in these structures, the classifier phrase is contained within a quantifier phrase or QP, which in turn is contained within a determiner phrase or DP.

The structural account of the mass-count distinction explains well the fact that almost all mass nouns can be turned into count nouns and conversely. The structural account of the mass-count distinction raises one major issue, however, and that is how count structures as classifier structures are to be interpreted, since mereological properties of noun extensions and conceptual features of lexical meanings will no longer be available, all lexical meanings as such being mass or number-neutral. There is recent approach to the semantics of plurals and mass DPs that appear suited for an interpretation of the mass-count distinction on the structural account. For plurals, this is plural reference, an approach to plurals that especially philosophical logicians since Boolos (1984) have explored (McKay 2006, Oliver/Smiley 2013, Yi 2005, 2006). On the plural reference approach, definite plurals refer to several individuals at once rather than standing for a single collective entity (a sum or set). That is, *the students* refers to each student at once, rather than standing for a single entity consisting of the students. Similarly, conjunctions of definite singular count DPs refer plurally to the referents of the conjuncts. That is, *John and Mary* refers to both John and Mary at once. Plural quantifiers such as *some students* introduce plural variables, variables that may stand for several individuals at once. Only singular count DPs refer to single entities or introduce singular variables that can stand only for single entities. Plural structures thus go along with plural reference and plural quantification, and singular count structures with singular reference and singular quantification.

There is a corresponding, though less developed recent approach to reference and quantification with mass DPs as not reducible to singular or plural reference and quantification (Laycock 2006, McKay to appear). Definite mass DPs such as *the wood*, on that approach, involve reference that is prior to both singular and plural reference, namely to 'stuff' that is neither 'one' nor 'many'. Similarly, mass quantifiers such as *some wood* involve quantification over what should be considered neither 'one' nor 'many'.

Given this approach, the mass-count distinction is semantically a matter of reference and quantification, rather than a conceptual-ontological distinction.

This paper will argue that German displays both proper names that are count (type 1 names) and proper names that are mass (type 2 names), which can be made sense of only on the

structural account of the mass-count distinction. German proper names thus provide a particularly strong piece of support for that account of the mass-count distinction.

1.2. Assumptions about the syntax of proper names

In addition to Borer's (2005) structural account of the mass-count distinction, the paper will make use of particular assumptions from distributive morphology, the view that there is no distinctive level of morphology aside from syntax (Halle / Marantz 1993). In particular, it will make use of the assumption that word roots do not as such come with a syntactic category, but merge with a syntactic category only in the syntactic context in which they occur. Thus, names will be considered roots that may or may not be specified for the syntactic category noun. Unlike what is generally assumed in distributive morphology, roots, on the present view, need not obtain a categorial specification in order to occur in a syntactic context, namely if they occur in a context of quotation.[4] That is, names not specified for the category noun will be restricted in their occurrence to contexts of quotation.

While there is little unanimity about the syntax of proper names, there is one generalization that is uncontroversial, and that is that proper names may occur both as NPs and as DPs, depending on the syntactic context .Let us illustrate the generalization with proper name constructions in German. In German, when a proper name for a person is modified by an adjective, it must appear with the definite determiner in contexts in which it acts as a referential argument of a predicate as in (2a):

(2) Die schoene Maria kam an.
'The beautiful Mar arrived'.

That is, as arguments proper names need to be DPs. By contrast, as vocatives as in (3a) and exclamatives as in (3b), they need to be NPs, that is, they must appear without the definite determiner:

(3) a. (* Die) Schoene Maria, wie verehre ich dich!
'(The) Beautiful Mary, how I adore you!'
b. (*Die) Schreckliche Maria, wie hat sie das tun koennen !

[4] See in particular Borer (2005).

'(The) Terrible Mary, how could you do that !'

The restriction to NPs at first sight appears to holds for the predicate position of small-clause complements of verbs of calling (including baptism) (and has been reported as such by Longobardi 1994). But in fact, two kinds of appellative contexts need to be distinguish in which a proper name acts as the predicate of a small-clause complement: first the context in which the verb of calling describes a vocative or exclamative act or an act directed toward the vocative use (such as an act of baptism) and second the context in which the verb describes a referential use of the name. While English *call* like its German counterpart *nennen* is ambiguous between the two uses, in German the two sorts of acts can be described by two different verbs *sich wenden an* and *sich beziehen auf*, both involving predicative *als* ('as')-phrases. Only the former requires NPs, the latter requires DPs, whereas *nennen* allows both, depending on the act in question:

(4) a. Hans wandte sich an sie als 'schoene Maria'.
'John addressed her as 'beautifulMary'.
b. Hans bezog sich auf sie als ' *(die) schoene Maria'.
'John referred to her as 'the beautiful Mary'.'
c. Hans nannte sie 'schoene Maria' / 'die schoene Maria'.
'John called here 'beautiful Mary' /' the beautiful Mary'.

Thus, contexts of verbs of calling do not as such provide a diagnostics for DP or NP status.

One major issue for the syntax of proper names concerns the D-position when proper names occur without a determiner. On one important view, the name in that construction occupies the D-position, in virtue N-to-D movement (Longobardi 1994, Borer 2005), either overtly (in Italian) or at LF (in English). On another view, the D-position stays silent.[5] The movement account is compatible with the DP structures with proper names that this paper will make use of and can thus be adopted, but not too much hinges on such a decision.[6]

[5] See Matushansky (2006) for such a view.

[6] In German, there are two interesting morphological differences between names occurring as simple names and names occurring in the adjective-modifier construction, differences that bear on the question of N-to-D movement. First, genitive case is possible only with the simple proper name, not the name in the adjective modifier construction:

(i) a. Er gedachte Marias.
He thought Mary (gen)

There is one assumption regarding the D-position made by of Longobardi (1994), though, that this paper will not share. Like Longobardi, the paper will adopt the causal theory of reference with proper names due to Kripke.[7] That is, proper names do not refer to an object in virtue of an identifying description, but in virtue of a naming act (perceptually linked to the object) and a subsequent causal-historical chain of uses of the name. Reference, for Longobardi, is tied to the D-position, which is what triggers movement of a name to that position -- either overtly (in Italian) or at LF (in English). However, names in nonargument position, as vocatives and exclamatives, also refer, due to the very same causal-historical chain associated with the use of the name. It is only in the particular appellative context of naming or calling that a name occurring as an NP does not refer in virtue of an already established causal-historical chain. Thus, rather than being tied to reference as such, the D-position appears to be tied to argumenthood or the thematic relation ('agent', 'theme' etc) that the DP bears to the event described by the verb. This is what distinguishes names in DPs from vocatives and exclamatives. Later we will see more reasons not to associate the D-position with reference.

Given the causal theory of reference, sortals are not needed as part of an identifying description. Yet, some philosophers hold the view that sortals are always required for reference, even with a directly referential term that does not refer in virtue of an identifying description (Geach 1975, Dummett1973, Lowe 2006). On that view, the speaker when

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'He thought of Mary'.
b. Er gedachte der schoenen Maria
'He thought of the beautiful Mary.'

Second, in the adjective construction, the grammatical gender of the entire NP depends on the grammatical gender of the proper name that is in head position. Proper names in the diminutive, like all diminutives in German, are grammatically neutral, and in that construction they require a neutral determiner as well as a neutral relative pronoun:

(ii) a. das kleine Fritzchen, das / * der heute sicher kommt
the (neut) little Fritzchen (dimin) which / who is surely coming today

By contrast, the grammatical gender of proper names occurring by themselves depends strictly on the actual gender of the person referred to:

(ii) b. Fritzchen, den /* das ich so lange nicht gesehen habe
' Fritzchen, whom I have not seen in such a long time'

The data support the N-to-D movement account in that they indicate that the D and the N positions are associated with different syntactic features: genitive case with the D-position and syntactic gender features with the N position.

[7] Longobardi (1994) actually speaks of 'direct reference', the view that a term contributes nothing but the object itself to a proposition. But see Devitt (to appear) for a clarification that Kripke's causal theory reference does not imply direct reference.

referring to an object has to have a sortal concept in mind that provides the identity conditions of the object referred to. For a sortal concept to fulfill that role, though, it need not form part of the lexical content of the referential term, but rather it may come into play only by pragmatic enrichment.

1.3. Proper Names in quotational contexts

1.3.1. Names in close appositions

Quotation plays an important role, on the present view, for understanding both the structure and the meaning of proper name constructions. It is therefore important to lay out the assumptions that are made about the quotational contexts in which proper names occur.

One important quotational context in which proper names occur is that of close appositions (Jackendoff 1984), a construction that will play a central role in this paper. In a close apposition as in (5a), the sortal head noun is followed by a quoted name:

(5) a. the name 'John'

The syntactic structure of (5a) is exactly the same as that of (5b), which unlike (5a), however, refers to the referent of the name following the sortal, not its form:

(5) b. the poet Goethe

The fact that (5b) is of the very same construction type as (5a) (definite determiner - sortal head noun – further material) motivates the view that the name in (5b) is not used referentially, but is quoted, on a view of quotation such as that of Saka (1998) that permits quotation to involve not only form, but also meaning, reference and perhaps further connotation s associated with an expression.[8] Further support for the view that the name in (5b) is quoted comes from the fact that it cannot be replaced by a coreferential term:

(5) c. * the poet that poet

d. * the poet Schiller's most famous friend

[8] See also Moltmann (2013a, Chap. 6) and references therein for the view that the material after the sortal in close appositions is always mentioned, not used.

Note that this means that quoted names have to be able to refer and thus enter the causal-historical chain to their referent.

The quoted name in (5a) likewise cannot be replaced by an explicit expression-referring term either (of the sort *that name* or *the word John*). Moreover, close appositions of the expression-referring sort permit any linguistic material whatsoever to follow the sortal (the determiner the, *the word sequence the nice* etc). These two facts support a view of quotation according to which quotational contexts impose no syntactic requirements whatsoever on the material that can occur in them. I take such contexts to consist in a quotational phrase QuotP that may contain any linguistic material whatsoever, so that (5a) has the structure below:

(6) [the [[name]$_N$ [[‘John’]$_N$]$_{QuotP}$]$_{NP}$]$_{DP}$

Quotational phrases are not referential terms and thus do not refer to an expression type. Rather they convey the expression type in another way, let’s say by ‘presenting’ or mentioning it. If quotation amounts to the presentation or mentioning of an expression, quotation may not only convey an expression type, but also its meaning and even referent (Saka 1998). What the quotation will contribute to the meaning of the larger construction in which it occurs then depends on the environment, such as the sortal in a close apposition. If the sortal is *name*, then the subsequent quotation will contribute only the form of the name, if the sortal is *poet*, the quotation will contribute the referent of the name, etc. Thus, if quotation amounts to the self-presentation of an expression with its form, meaning, and perhaps referent, a unified account of close appositions of different sorts is available.

In general, not any sortal can appear as head of a close appositions. Rather there are lexical constraints on which nouns can fulfill that function, excluding, for example, *person*, *woman*, and *kind*:

(7) a. ?? the person Goethe
b. ?? the woman Mary
c. ?? the kind water

This is important to keep in mind for the discussion later of type 3 names, which involve close appositions in argument position.

1.3.2. Quotation and the predicativist theory of names

A second important quotational context in which names can occur is the predicate position of small-clause complements of verbs of calling, as in (8a), which, as Matushansky (2007) argues, is syntactically parallel to the small-clause construction in (8b):

(8) a. Mary called John 'Bill'.
b. Mary called John a fool.

In (8a), obviously, the mentioning of the name will involve only the form not the referent of the name. I will assume that the name here forms a quotational phrase, just as in a close apposition, but now in a predicative function.[9]

(8a) appears to require the name to make the same sort of semantic contribution as an ordinary predicate such as *a fool* in the small clause in (8b). To account for this semantic parallelism, I will consider it sufficient that the act described by the verb of calling is one of attribution in both (8a) and (8b), attribution of a name in (8a) being analogous to the attribution of a property in (8b). Give the view of quotation outlined in the previous section, the parallel between (8a) and (8b) can be cast as follows. Just as (8b) describes the attribution of the property conveyed by the small-clause predicate to John, (8a) describes the attribution of the expression type conveyed by the small-clause predicate to John. The first act has satisfaction conditions that consist in John having the property in question, the second act results in the referent of *him* having the name in question (or being addressed by that name).

This view differs from Matushansky (2008), who does not consider the name in (8a) to be mentioned, but to act, like a common noun predicate, expressing a property of the sort 'being called N' or 'standing in a suitable contextually given naming relation R to N'. The possibility of names being used as predicates in small-clause complements of verbs of calling has been one of the motivations for such a predicativist theory of proper names (Matushansky 2008, Fara 2011, to appear), the theory according to which proper names are no different from common nouns. On the predicativist theory, names when forming referential terms act as part of a definite description with an unpronounced definite determiner, referring to the contextually unique object bearing the property expressed by the name (being called 'N').

[9] Note that in this context, as in close appositions, the quoted name does not form an expression-referring term since it could not be replaced by an explicit expression-referring DP or NP (*the name Bill, a familiar name).*

This is not the place for an extensive discussion of the predicativist theory of names. In the context of this paper, it will have to suffice to state the assumptions of the alternative account that I will adopt and to indicate how it makes sense of quotations occurring as predicates. On the present view, predicative occurrences of names do not require a property-denotation for names, but are compatible with the causal theory of name reference and can be viewed as quotations.[10] On the present view, the semantic function of names is not tied to predicate or common noun position; rather names may enter the causal-historical chain to their referent even in contexts of quotation.

I will add, though, some piece of empirical evidence for the present view of names in small-clause complements of verbs of calling and against the predicativist view. There are other contexts reserved for predicates in which quotations can occur, and not just quotations of names. One such context is that after the preposition *as*, as in (9a):

(9) a. John pronounced 'Kuesschen' as 'Kusschen'.

As generally requires a predicative complement, as in (9b):[11]

[10] Matushanksy takes predicative occurrences to challenge the causal theory of reference with proper names and to require a common noun denotation. The predicativist theory is also motivated by 'common noun' occurrences of names as in *several Marys* or *every Kennedy*. But see Jeshion (to appear) for an account of common noun uses of proper names in terms of meaning shift within the causal theory of names. The view that proper names refer in virtue of a causal-historical chain rather than an identifying property does not preclude their occurrence in 'common noun position'. Even in that position names should be able to stand for a unique individual in virtue of a causal-historical chain, or even for several individuals at once, as in the case of plural names such as *the Kennedys*.

[11] In German, *call* itself may have to be translated by a verb taking an *as*-phrase, namely with adjectival predicates:

(i) Er bezeichnete sie als klug.
he called her as intelligent
'He called her intelligent'.

Nennen 'call' only allows for NPs and names as small-clause predicates and not adjectives:

(ii) a. Sie nannte ihn einen Esel.
'She called him a donkey'
b. Sie nannte ihn 'Johnny'.
'She called him Johnny'.
c. ?? Er nannte sie klug.
'He called her intelligent'.

This together with the observation discussed next in the text (that the small-clause predicates in (iia) and (iib) require different preforms) may put some caution on the quest for a unified semantics of the English verb *call* (Matushansky 2008, Fara 2011).

(9) b. John treats Bill as a brother.

This indicates that predicative uses of names require a more general account of predicative quotation rather than motivating a view of names as predicates.

There is annother piece of support for the present view, and that is that despite their similarities, (8a) and (8b) are not entirely on a par. Both (8a) and (8b) describe acts of attribution, but the acts are obviously different in type, involving different conditions of satisfaction and different roles of the small-clause predicates. The difference manifests itself linguistically in German in the choice of different proforms for the small-clause predicates. In German, predicational *nennen* 'to call' goes along with the proforms *was* 'what' and *das* 'that' for the small-clause predicate, whereas appellative *nennen* goes along with the proforms *wie* 'how' and *so* 'so':

(10) a. Hans nannte ihn einen Esel. Maria hat ihn das / * so auch genannt.
'John called him a donkey. Mary called him that too'.
b. Was / * Wie hat sie ihn genannt? Er nannte ihn einen Esel.
'How / What did she call him ? She called him a donkey'.

(11) a. Er nannte sie 'Susi'. Er haette sie nicht so / * das nennen sollen.
'He called her Susi. He should not have called her so / that'.
b. Wie / * Was hat er sie genannt? Er nannte sie 'Susi'.
'How / What did he call her? He called her 'Susi'.'

Wie and *how* are also the proforms to replace *als* ('as')-phrases, as below:

(12) a. Er sprach 'Kuesschen' so aus.
he pronounced 'Kusschen' so
'He pronounced 'Kusschen' that way.'
b. Wie sprach er 'Kuesschen' aus?
'How did he pronounce 'Kuesschen'?'

This indicates that names as small-clause predicates with verbs of calling do not contribute a property in the same way as ordinary small-clause predicates do. Verbs of calling describe similar linguistic acts in the two constructions, acts in which the contributions of the

predicates of the small-clause complements play similar roles, and this is what accounts for the predicative status of names in that construction.

2. Type 1 name and type 2 names in German and English

2.1. Names for people and names for places

There are three types of proper names in German: type 1 names, type 2 names, and type 3 names. They differ, roughly, in the way in which they involve a sortal, as well as in the categories of entities they can apply to. The first two types consist of names that can occur as simple names in argument position. Type 1 names consist largely in names for people. Type 2 names consist to a great extent in names for places, such as cities, villages, countries, and continents. There are two linguistic characteristics distinguishing type 1 and type 2 names -- at least for a great part of German speakers. The two characteristics, which generally go together, concern:

[1] the choice of relative pronouns

[2] support of plural anaphora by a conjunction of proper names as antecedent.

German has two sorts of relative pronouns: *w-pronouns*, which consist just of the neutral pronoun *was*, and *d- pronouns*, which are *der* (masc), *die* (fem), *das* (neut). The choice among the two types of relative pronouns depends mainly on whether the NP modified involves a sortal noun or not. Simple quantifiers and pronouns require w-pronouns, for example *alles* 'everything', *das* 'that', *nichts* 'nothing', *etwas* 'something', *viel* 'much', and *vieles* 'many things':

(13) alles / nichts / viel / vieles, was / * das[12]
everything / nothing / much / many things that

By contrast, quantifiers with a sortal head noun require d-pronouns, as do gender-marked pronouns:[13]

[12] For some reason, *etwas* 'something' does accept d-pronouns in addition to w-pronouns:

(i) etwas, das / was

This means *etwas* is ambiguous between being derived from a simple quantifier and being derived from a sortal quantificational structure.

(14) a. jedes / ein / kein Objekt, das / * was
'every / some / no object that'
b. das / dieses Haus, das / * was
'the / this house, that / what'

How does *was* fare with full mass NPs? Here the data are complex and not entirely stable. With full mass NPs, *was* is chosen with certain determiners and quantifiers, but not with the definite determiner *das*:

(15) a. Ich hatte etwas / alles Geld, was / ?? das ich noch hatte, ausgegeben.
'I had spent some / all a little money, what I had.'
b. Ich hatte das Geld, das / * was ich noch hatte, ausgegeben.
'I had spent the money that I still had.'

Without going into greater detail regarding the empirical data, the generalization concerning the distribution of w-pronouns and d-pronouns appears as follows. D-pronouns require the presence of a count noun or a definite determiner as head. W-pronouns require the absence of a sortal or count noun as head as well as the absence of the definite determiner. Given the structural account of the mass-count distinction, this means that d-pronouns are licensed either by the definiteness feature of the definite determiner or the abstract classifier of a count noun, whereas w-pronouns require the absence of both

With this generalization, we can then look at how proper names behave with respect to the two sorts of relative pronouns. Proper names for people (and animals) clearly go together with d-pronouns:

(16) a. Hans, der / * was

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[13] *Was*, being neutral gender, cannot be used with masculine or feninine nouns or pronouns, for agreement reasons:

(i) a. jeder Mann, der / * was
'every man who'
b. jede Frau, die / * was
'every woman who'
(ii) a. er, der / * was
'he, who'
b. sie, die / * was
'she, who'

'John, who'

b. Maria, die / * was

'Mary, who'

This is not so, however, for names for places, at least for a good part of German speakers. Names for cities, countries, continents etc for the greater part of German speakers go together with w-pronouns, not d-pronouns:[14]

(17) a. Muenchen, was / * das ich sehr gut kenne

'Munich, which I know very well'

b. Ich kenne Berlin, was / * das du ja nicht kennst

'I know Berlin, which you do not know.'

c. Ich liebe Italien, was / * das dir ja auch gut gefaellt.

'I love Italy, which pleases you too.'

(18) a. Ich kenne Australien, was / * das du ja nicht kennst.

'I know Australia, which you do not know.'

b. Asien, was / * das weit groesser also Europa ist

'Asia, which is by far bigger than Europe'

In view of the generalization regarding w-pronouns and d-pronouns, this difference should be interpreted in the following way. Names for people in German involve a classifier phrase, containing an abstract classifier, whereas names for places in German don't. More specifically, in argument position, names for people in German will have a structure as in (19a), with an abstract classifier for persons *pers*, whereas names for places will have the structure in (19b):

(19) a. <u>The structure of a German type 1 name</u>

$[[e]_D[[pers]_{Cl}[[Hans]_N]_{NP}]_{ClP}]_{DP}$

b. <u>The structure of a German type 2 name</u>

[14] There is one type of exception to the generalization for those speakers and that is plural country names such as *die Niederlande* 'the Netherlands', which takes d-pronouns:

(i) die Niederlande, die
'the Netherlands, which'

The plural status of such names indicates an implicit sortal. In fact, here the sortal appears overt (*–lande*).

$[[e]_D[[Berlin]_N]_{NP}]_{DP}$

This means that German names for people are count names, whereas German names for places are mass names.

In English, as we will see, all names have a structure of the sort in (19a), regardless of the type of entity they stand for. That is, English names have the structure in (19c) with the most general abstract singular classifier ind ('individual') (the singular counterpart of Borer's (2005) plural classifier div):

(19) c. The structure of an English name

$[[e]_D[[ind]_{Cl}[[John]_N]_{NP}]_{ClP}]_{DP}$

This, of course, means that English names are count names.

There are two constructions with German names for places which do go along with d-pronouns. First, in close appositions, German names for places accept d-pronouns -- and only d-pronouns:

(20) die Stadt Muenchen, die /* was ich gut kenne
'the city of Munich which I know well'

Obviously, in this construction, it is the count noun that is the head of the construction that requires d-pronouns.

Another construction involves temporal modification, as below:

(21) das Berlin der 20iger Jahre, das / * was ich nicht kenne
'the (neut) Berlin of the 20ies which I do not know well'

There is a straightforward explanation of the acceptability of d-pronouns in such contexts and that is that the proper name here has undergone meaning shift from a name directly referring to a place to a noun expressing a sortal concept for stages of the place. As such, the name will be count (as is clear from *die verschiedenen Berlins der verschiedenen Epochen* 'the different Berlins of the different periods')

The choice of w-pronouns instead of d-pronouns goes along with another linguistic property, namely the lack of support of plural anaphora with conjoined proper names as

antecedents. In German, as in English, conjunctions of proper names for people are unproblematic as antecedents for plural anaphora:

(22) Hans mag Susanne und Maria. Bill mag sie auch.
'John likes Susanne and Mary. Bill likes them too.'

By contrast, conjunctions of names for places in German do not generally support plural anaphora. Rather, for the purpose of anaphoric reference to a conjunction of Gùùùerman place names, a definite NPs with a sortal head noun need to be chosen:

(23) a. Ich kenne Berlin und Muenchen. Anna kennt ?? sie / ok diese Staedte auch.
'I know Berlin and Munich. Ann knows them / those cities too.'
b. Ich mag Frankreich und Italien. Marie mag ?? sie / ok diese Laender auch
'I like France and Italy. Mary likes them / those countries too.'

Of course, conjunctions of close appositions with explicit place sortals and names for places do allow for plural anaphora:

(24) Ich kenne die Stadt Berlin und die Stadt Muenchen. Maria kennt sie auch.
'I know the city of Berlin and the city of Munich. Mary knows them too.'

English names for places differ from German ones in that as conjunctions they do support plural anaphora:

(25) a. I know Berlin and Munich. Mary knows them too.
b. I like France and Italy. Mary likes them too.
c. I would like to visit Australia and Africa. Mary would like to visit them too.

If names for people in German form count DPs, then the conjunction of such DPs will classify as a plural DP and thus be able to act as antecedent of a plural anaphor. Place names, lacking a classifier phrase, classify as mass, which won't allow them to form conjunctions acting as antecedents of plural anaphora. Conjunctions of mass definite DPs in general do not support plural anaphora, in German as in English:

(26) Maria hat das Silber und das Gold betrachtet. Sie hatte es / * sie noch nicht gesehen.
'Mary has looked at the silver and the gold. She had not seen it / them before.'

Thus, in German, names for places classify as mass and as such do not involve a classifier phrase, whereas in English they classify as count and as such do involve a classifier phrase.

2.2. The semantics of count and mass names as names with and without a classifier phrase

The involvement of a sortal classifier in German proper names is not in conflict with the view that proper names are directly referential terms, that is, terms whose reference is not mediated by a descriptive content. The sortal classifier simply marks proper names phrases as count DPs, given the structural account of the mass-count distinction. As such, it does not bear on the question of how count and mass DPs with names refer and what sorts of entities they refer to.

The absence of a sortal classifier with German names for places moreover is not in conflict with particular philosophical views about the role of sortals for reference. Some philosophers (in particular Geach 1957, Dummett 1973, Lowe 2006) have argued that a sortal concept is needed for reference with a proper name, since the sortal concept provides the required identity condition of the object that the proper name is used to refer to.[15] The abstract sortal playing the classifier role with type 1 names does not play a referent-identifying role, though, since reference is equally possible with a type 2 name not involving an abstract sortal classifier.[16] Rather the abstract sortal plays the role of a classifier as in languages that have overt numeral classifiers of the individuating or sortal kind.[17]

The contribution of sortal classifiers in Chinese is not that of serving the individuation of objects. Sortal classifiers in languages such as Chinese are needed for the application of

[15] An association of a name with a sortal was needed on Geach's (1957) view of relative identity, identity relative to a sortal. Given relative identity, a name can stand for an object with identity conditions only if it is associated with a sortal. But Geach also allowed names without associated sortal. The latter would stand for objects that then can then enter sortal-relative identity relations. Geach thus distinguished between names for an object and names of an object.

[16] The distinction between names for people and names for places in German furthermore does not reflect Geach's (1957) distinction between a name of an object and a name for an object, see Fn 11.

[17] Individuating or sortal classifiers need to be distinguished from measuring or mensural classifiers, see Cheng /Sybesma (1999) and Rothstein (2013).

numerals and quantifiers even with nouns whose content specifies identity conditions for the objects described, such as nouns for 'animal' or 'human being'. Similarly, I will suggest that the contribution of (abstract or overt) sortal classifiers in German and English type 1 names and in count DPs in general is best understood as specifying singular or plural reference (or singular or plural quantification), as opposed to mass reference (or mass quantification). Here is a description of what the semantics of singular, plural, and mass DPs along these lines would look like.

The point of departure is the idea that the formulation of the semantics of plurals and of mass nouns should itself stay plural and mass respectively, rather than turning singularist when describing the semantic values of plural and mass DPs. Given plural reference, reference with a singular count DP means reference to an entity as one, and reference with a definite plural DP means reference to several entities at once, or a plurality 'as many'. Thus, what *the students* stands for is 'the students', not a single collective entity (a set or sum) consisting of the students, that is, *the students* stands for each student at once. Plural reference also applies to the conjunction of two definite singular count DPs, such as *Hans und Maria* 'John and Mary', which will refer to the semantic values of the two conjuncts at once, that is, *Hans und Maria* refers to both John and Mary at once. Plural anaphora likewise refer to several entities at once and therefore require their antecedent to stand for a plurality 'as many', which only a plural DP or a conjunction of count DPs can do.

Neither singular reference (reference to an entity as one) nor plural reference (reference to several single entities at once) should apply to definite mass DPs. Definite mass DPs do not refer to entities 'as one', but involve a more basic notion of reference, involving reference to stuff that is neither 'one' nor 'many' (Laycock 2006 and McKay, to appear). Thus, for example, *the silver* does not refer to a single thing that is a quantity of silver, or to the various pieces of silver, but rather it just refers to 'stuff' that is silver. Likewise *Berlin*, in German, would stand not for a single thing as the referent of *Berlin*, but to 'whatever' *Berlin* refers to.[18] Mass reference also applies to the conjunction of definite mass DPs, such as *the silver and the gold* or *Berlin und Muenchen* 'Berlin and Munich'. The conjunction of two mass DPs will not refer to two single things at once or stand for a plurality 'as many'. Rather it will just stand for 'something' or 'the stuff' consisting of what the two conjuncts stands for. Thus, *the silver and the gold* will stand for the 'stuff' consisting of the silver and the gold, and *Berlin und*

[18] Note, though, that Laycock (2006) and McKay (to appear) formulate their semantics only for mass DPs with common nouns. They do not consider mass proper names, to which their semantics as stated would not be applicable.

Muenchen will stand for ‘something’ consisting just of Berlin and Munich, without that being a single thing. A consequence of this is that plural anaphora will be unable to take conjunctions of mass DPs as antecedents. The conjunction of mass DPs will involve mass reference, not plural reference and thus will not stand for a plurality ‘as many’ as is required by a plural anaphor.

2.3. Names for churches and palaces

There are two smaller classes of names in German that behave just like names for people, that is, that are type 1 names, namely names for churches and names for palaces. Names for churches and palaces choose d-pronouns rather than w-pronouns and support plural anaphora when conjoined:

(27) a. Sanssouci, das / ?? was kleiner ist als Versailles.
‘Sanssouci, which is smaller than Versailles’
b. Zarskoe Selo, das / ?? was groesser ist als Pavlovsk
‘Zarskoe Selo, which is bigger than Pavlovsk’
(28) a. Ich kenne Notre Dame und Sainte Chapelle. Sie sind beide sehr schoen.
‘I know Notre Dame and Sainte Chapelle. They are both very beautiful.’
b. Ich liebe Zarskoe Zelo und Pavlovsk. Maria liebt sie auch.
‘I love Zarskoe Zelo and Pavlovsk. Mary loves them too.’

In the adjective-modifier construction, the definite determiner must be neutral, regardless of the gender of a suitable sortal noun (note that *Kirche* ‘church’ is feminine and *Palast* ‘palace’ masculine):

(29) a. das / * die schoene Notre Dame
‘the beautiful Notre Dame’
b. das / * der erstaunliche Zarskoe Selo
‘the amazing Zarskoe Selo’

Neutral gender is rather chosen based on the nature of the referent. This means that names for churches and palaces involve a neutral abstract classifier that lack counterparts as common nouns.

2.4. Names for numbers

Number words such as *two* can occur in argument position, as below, and thus at least syntactically be used as names.[19]

(30) Two is smaller than four.

Number words when used as names differ in German and English justas names for places do. German number words in argument position go along with w-pronouns rather than d-pronouns (Moltmann 2013a, Chapter 4, 2013b):

(31) Zwei, was / * das kleiner als Vier ist, …
'two, which is smaller than four, …'

Moreover, conjunctions of German number words do not support plural anaphora:

(32) a. Hans addierte zehn und zwanzig. Maria addierte * sie / ok diese Zahlen auch.
'John added ten and twenty. Mary added them too.'
b. Zehn und zwanzig sind durch zwei teilbar. * Sie sind keine Primzahlen.
'Ten and twenty are divisible by two. They are not prime numbers.'

Conjunctions of number words in German differ in that respect from those in English, which do support plural anaphora, as shown by the acceptability the translations of (32a, b).

German number words may also enter the construction of type 3 names -- that is, close appositions with an unpronounced sortal head , which, as expected, go along with d-pronouns:[20]

[19] It has been argued that number words in argument position are singular terms only syntactically and do not refer to numbers as objects (Hofweber 2005, Moltmann 2013a, Chap. 6, 2013b). On that view, number words retain their meanings as quantifiers or plural properties when occurring in argument position. Number words in argument position thus would nonreferential expressions and as such be classified as the unmarked category as number-neutral or mass(Section 4) (Moltmann2013a, Chap. 6). But then number words in argument position should count as number-neutral also in English, which, as we will see, is not the case.

[20] Interestingly, this construction is restricted to relatively low numbers, a constraint that does not hold for close appositions with an overt head:

(i) a. die zehn,?? die zwanzig, ?? die dreiundzwanzig, ??? die hundert

(33) die Zwei, die / * was eine Primzahl ist
the (fem) two which is a prime number

In (33), the feminine gender of *die* matches the feminine gender of the unpronounced sortal *Zahl*.

The difference between German and English number words is to be explained in the very same way as the difference between German and English names for places: English number words in argument position involve a classifier phrase with an abstract classifier and thus are categorized as count, supporting plural anaphora when conjoined. German number words in argument position lack a classifier phrase and thus are categorized as mass, selecting w-pronouns and not supporting plural anaphora when conjoined. Again, this difference between English and German number words won't bear on the sorts of entities that number words in argument position stand for (and how they are able to stand for what they stand). The difference between German and English number words would be compatible with number words standing for numbers as abstract objects in both cases. [21]

2.5. Names for times

Times, such as years, months, or days, generally do not receive names by any form of baptism, but rather by a conventional scheme, attributing names for years on the basis of a numerical sequence, to months, in a given year, on the basis of an established sequence of month-names, and so for days in a given week. Yet names for times look just like proper names: they lack an article and have a unique referent, given the relevant temporal context. In German, they clearly go together with w-pronouns:

(34) a. 1960, was / * das interessanter ist als 1970
'1960, which is more interesting than 1970'
b. Montag, was / * der mir besser passt als Dienstag, ist ein Feiertag.

'the ten, the twenty, the twentythree, the hundert
b. die Zahl dreiundzwanzig, die Zahl hundert
'the number twentythree, the number hundert'

[21] The behavior of German number words with respect to relative pronouns and plural anaphora is mistakenly taken as an argument for the nonreferential status of number words in general in Moltmann (2013a, Chapter 6, Section 7, Moltmann 2013b).

‘Monday, which suits me better than Tuesday is a holyday.’

A close apposition is required to make d-pronouns acceptable:

(35) das Jahr 1960, das / * was interessanter ist als 1970, …
‘the year 1960, which is more interesting than 1970, …’

Names for times moreover do not support plural anaphora, unlike their English counterpart:

(36) a. Ich habe an 1960 und 1970 gedacht. Maria hat auch an * sie / ok diese Jahre gedacht.
‘I have thought about 1960 and 1970. Mary thought about them / those years too.’
b. Anna schlug Montag und Dienstag vor. Maria schlug * sie /ok diese Tage auch vor.
‘Ann proposed Monday and Tuesday. Mary proposed them / those days too.’

German names for times thus pattern with German names for places and numbers, being classified as mass rather than count. Similarly as in the case of names for places and numbers, this is so despite the fact that names for times stand for well-individuated entities, and moreover despite the fact that names for times are part of a conventionalized schema for naming the temporal entities in a certain order. It means that German names for times, unlike their English counterparts, simply do not come with a classifier phrase.

2.6. Bare mass nouns as names for kinds

Bare mass nouns in German and in English can act as names for kinds with a range of predicates, as below:

(37) a. Magnesium ist ein wichtiges Mineral.
‘Magnesium is an important mineral.’
b. Weisses Gold ist selten.’
‘White gold is rare.’

Given the mass status of the nouns in other uses (*too much magnesium, little gold*), this raises the question of the mass-count classification of their uses as names for kinds. Again we see a striking difference between English and German.

First, we can note that in German, bare mass nouns when used as names for kinds require w-pronouns:

(38) a. Magnesium, was / * das lebenswichtig ist, ist ein wichtiges Metal.
'Magnesium, which is of vital importance, is an important metal.'
b. Wasser, was / * das gesuender ist als Bier, kostet nichts.
'Water, which is healthier than beer, cost nothing.'

Furthermore, in German conjunctions of bare mass nouns do not support plural anaphora:

(39) a. Gold und Silber werden zum Schmuckherstellen verwendet. * Sie glaenzen.
'Gold and silver are used to make jewelry. They are shiny.'
b. Magnesium und Eisen sind lebenswichtig. Jeder braucht * sie / ok das / * es beides.
'John needs magnesium and iron. Mary needs them / that / that / it both.'

The acceptability of the English translations, however, makes clear that conjunctions of names for kinds in English do support plural anaphora. Bare mass NPs as names for kinds in English thus are subject to the same condition on names in English as we have seen with names for places, numbers, and times.

It then appears safe to generalize that all names in English require a classifier phrase with an abstract classifier. English names thus are subject to the condition in (40a), whereas German names are subject to the condition in (40b):

(40) a. <u>Syntactic condition on name roots in English</u>
Name roots specified for the category noun in argument position require a classifier phrase (with the abstract classifier ind).
b. <u>Syntactic condition on name roots in German</u>
Name roots for people, palaces, and churches in argument position require a classifier phrase. Name roots for places, numbers, times, and kinds in argument position do not require a classifier phrases.

Name roots (in English and German) not specified for the category noun won't require a classifier phrase, that is, type 3 names, to be discussed shortly.

2.7. Pure quotations as type 1 and type 2 names

There is one more type of name that manifests the difference between German and English names, namely pure quotations in contexts in which they act as referential terms. Pure quotations are uses of expressions that in certain contexts appear to involve the formation of expression-referring terms and thus the formation of DPs. The subject position in (41a) and the object position in (41b) are contexts in which a pure quotation arguably acts as a referential term (permitting replacement by an explicit expression-referring term of the sort *the name Anna*):[22]

(41) a. 'Anna' ist zweisilbig.
'Anna' is disyllabic.'
b. Hans buchstabierte 'Anna'.
'John spelled 'Anna'.'

This then gives rise to the question: are pure quotations as DPs mass or count? Clearly the mass/count status of pure quotations is independent of the mass/count status of the expression that is quoted, since pure quotations stand for that expression itself and not entities that that fall under the expression's descriptive content. Even if a noun is count, when it is quoted it no longer needs to have count status. In fact, in German pure quotations in contexts as in (41a, b) take w-pronouns rather than d-pronouns:

(42) a. 'Anna', was / * das der Name dieser Frau ist, ist zweisilbig.
'Anna, which is the name of this woman, is disyllabic'.
b. Hans buchstabierte 'ich', was ein Pronomen ist.
'John spelled 'I', which is a pronoun.'

Moreover, conjunctions of pure quotations in German do not support plural anaphora:

(43) a. 'Anna' und 'Marie' sind zweisilbig. ??? Sie sind nicht dreisilbig.
''Anne' and 'Marie' are disyllabic. They are not trisyllabic.'
b. Hans schrieb 'Ich' und 'Du' an die Tafel. ??? Bill schrieb sie auch an die Tafel.

[22] Pure quotations as they occur in (41a, b) thus differ from pure quotations as small-clause predicates of verbs of calling, in *as*-phrases, and in close appositions, where they do not form expression-referring terms and thus DPs.

‘John wrote ‘I’ and ‘You’ on the blackboard. Bill wrote them on the blackboard too.

Pure quotations in English, by contrast, do support plural anaphora, as the English translations in (43a, b) illustrate.

If pure quotations in the contexts in (41a, b) involve the formation of expression-referring DPs, then again the difference between English and German consists in that in English such DPs need to contain a classifier phrase with an abstract classifier, but not so in German, where they will classify as mass. More precisely, one may assume that pure nominalizations when headed by a quotational phrase node (QuotP) may be nominalized by being specified as nouns (and thus act as names of expressions). Then the pure quotation *‘Anna’* in English will have the structure in (44a), whereas in German it will have the structure in (44b):

(44) a. $[[e]_{D}[[ind]_{Cl}[[[\text{‘Anna’}]_{QuotP}]_{N}]]_{NP}]_{ClP}]_{DP}$

b. $[[e]_{D}[[[\text{‘Anna’}]_{QuotP}]_{N}]]_{NP}]_{DP}$

Both structures would permit movement of N to D to fill in the determiner position.

3. Type 3 names in German: names for mountains, lakes, and temples

The third class of proper names in German is of a rather different linguistic type. This class includes names for mountains, lakes, and temples. Names in this class cannot occur on their own in argument position, unlike type 1 and type 2 names.[23]

Names for mountains must occur either with an explicit sortal (which may be from another language) or with a masculine definite determiner. In both cases, the name will go together with a d-pronoun. Here are examples of the first option:

(45) a. der Mont Blanc, der

b. die Zugspitze, die

c. das Erzgebirge, das

The second option is exemplified below:

[23] A good empirical source for the generalizations to follow is Engels (2010).

(45) d. der Fujiyama, der
e. der Vesuv, der
f. der Etna, der

The masculine gender matches the masculine gender of the German sortal *Berg* 'mountain'.

Particularly interesting are names for mountains that are unfamiliar to a given speaker. It is striking how well speakers' intuitions regarding such names confirm the generalization. Just knowing that 'Kailash' is the name for a sacred mountain in Tibet, German speakers have very firm intuitions that the name cannot occur on its own in argument position, but requires the masculine definite determiner:

(46) a. * Man darf Kailash nicht besteigen.
'One is not allowed to climb Kailash.'
b. * Kailash ist heilig.
'Kailash is sacred.'

In argument position, *Kailash* must be used either in a close apposition with an overt sortal or with the masculine definite article alone:

(47) a. Man darf den Berg Kailash / den Kailash nicht besteigen.
'One is not allowed to climb the mountain Kailash / the Kailash.'
b. Der Berg Kailash / Der Kailash ist heilig.
'The mountain Kailash / The Kailash is sacred.'

This is in remarkable contrast to English. The English translations of (46a) and (46b) are both acceptable.

In German, names for mountains in argument position thus generally must appear in close appositions, containing as head either an overt sortal noun or an unpronounced sortal, as in the structure $[[der]_D\ [[e]_N\ [Kailash]_{QuotP}]_{NP}]_{DP}$. As was argued in Section 1.3.1., the name in such a close apposition does not occur referentially, but occurs in a quotational context, though still contributing its referent rather than its form to the compositional semantics of the DP as a whole.

There are certain sorts of names for mountains that are exceptions to the generalization above. Names for alps, for example, may be feminine (*die Jungfrau, die Dent Blanche*) or

neutral (*das Wiesmies*).[24] Such names should be considered idiomatic. Syntactically, they are close appositions, but without the compositional semantics going along with it. Rather they are assigned their referent as a whole (that is, they enter as complex phrases the causal-historical chain to their referent).[25]

The very same pattern as with German names for mountains can be observed for German names for lakes. Many names for lakes in German contain an explicit sortal (which, again, may come from a different language). Examples are *der Bodensee, der Zuricher See, der Lago Maggiore*. Such names go along with d-pronouns. By contrast, noncomplex names for lakes have to be either used in a close apposition or with a masculine definite determiner, whose gender matches the gender of the sortal noun *See* 'lake'. Again, names for lakes not familiar to the relevant speakers trigger clear intuitions that they must go with the masculine definite determiner in argument position. Thus, just knowing that *Mansarovar* is a name for a lake (the lake, by the way, next to mount Kailash, which is equally sacred), German speakers know that the name can be used only in a close apposition, a sortal compound, or with the masculine definite determiner:

(48) der See Mansarovar /der Mansarovarsee / der Mansarovar
'the lake Mansarovar / the Mansarovar lake / the Mansarovar'

(49) a. I will * Mansarovar / ok den Mansarovar sehen.
'I want to see Mansarovar / the Mansarovar.'

b. * Mansarovar / ok Der Mansarovar ist ebenso heilig wie der Berg Kailash.
'Mansarovar is equally sacred as Kailash.'

The same constraint holds for English, as the translations above illustrate.

Also names for temples in German behave that way. For a fairly familiar temple name, this is illustrated below:

(50) Wir haben * Parthenon / ok den Parthenon / ok den Parthenontempel besichtigt.
'We have visited Parthenon / the Parthenon / the Parthenon temple.'

[24] Thanks to a referee for having pointed this out to me.

[25] The same treatment as idiomatic expressions should be given to certain German names for places that come with a definite determiner, rather than occurring as simple names in argument position determiner (*die Camargue* 'The Camargue', *die Turkei*'Turkey').

Here English again patterns just like German, requiring the definite determiner with names for temples in argument position.

Let us then take a generally less familiar temple name, the name for a temple near Nara in Japan called *Houriaji*. Knowing that this is the name for a temple, speakers generally judge the use of the simple proper name in argument position unacceptable. Rather the name requires the masculine definite article, whose gender matches the sortal *Tempel* 'temple':

(50) b. Ich will * Houriaji / ok den Houriaji / ok den Tempel Houriaji sehen.
'I want to see Houriaji / the Houriaji / the temple Houriaji.'

The masculine gender of the definite article clearly matches the masculine gender of the sortal noun *temple* 'temple'. As with names for mountains, this indicates that German names for temples in argument position must occur in close appositions containing an overt or unpronounced sortal head. As is generally the case with type 3 names in German, the choice of the gender of the definite determiner depends strictly on the gender of the sortal noun that goes along with the type of object the name stands for.[26]

An important question then is, why should certain names when in argument position *have* to occur in the complement position of a close apposition? Let us note first that such names can occur in other contexts, namely as vocatives, as in (51a) and exclamatives as in (51b), and then, as expected, they occur without a determiner:

(51) a. Kailash, endlich erblicke ich dich!
'Kailash, finally I see you!'
b. * Der Kailash, endlich erblicke ich dich!.
'The Kailash, finally I see you!'

As predicates of small-clause complements of verbs of calling, type 3 names occur either without or with a determiner, as in (51), depending on whether the calling act is directed

[26] There are some yet to be explained differences between the construction with an overt sortal and the one with an unpronounced sortal. Thus the plural is possible in the former, but not the latter:

(i) a. die Tempel Houriaji und Toji
'the temples Houriaji and Toji'
b. die Houriaji und Toji
the (plur) Houriaji and Toji.

This suggests that a silent head noun in close appositions must be singular and cannot be plural.

toward the referent (involving a vocative use of the name), as also in (52a), or whether it makes reference to it in the third person, as also in (52c):

(51) Er nannte den Berg ‘Kailash’ / ‘den Kailash’.
‘He called the mountain Kailash / the Kailash.’
(52) a. Er wandte sich an den Berg als ‘Kailash’.
‘He addressed the mountain as ‘Kailash’.’
b. Er bezog sich auf den Berg als ‘der Kailash’.
‘He referred to the mountain as ‘the Kailash’’.

In the treatment of type 3 names in argument position as close appositions, the view of quotation outlined in Section1.3. plays a crucial role. What distinguishes type 3 names from type 1 and type 2 names in German is that type 3 names in argument position can occur only in close appositions, which I take to mean that they can occur only in a quotational context. Why should an expression resist any syntactic contexts except quotational contexts? This is because such an expression lacks a syntactic categorical specification altogether and quotational contexts fails to impose any syntactic conditions whatsoever. Quotational contexts not only admit expressions of any syntactic category, but allow for any linguistic material whatsoever from whatever language (as in *the word ‘amour’*, *the morpheme ‘ki’*, *the sound ‘pff’*). Thus, type 3 names as roots are not specified for the category noun at all, which forces them to appear in quotational contexts only. As roots in a context of quotation, type 3 names will still obtain a phonetic form, but they will not engage in any syntactic conditions.

Vocatives and exclamatives may be regarded as occurring in quotational contexts as well. It is plausible that vocatives in fact are complements of a DP with an unpronounced second-person pronoun as head. As such, vocative NPs may have the same quotational status as the material following the sortal in a close apposition. Similarly, exclamatives might be considered complements of an implicit exclamative pronoun , which in turn may be viewed a second person pronoun on a deferred use.

In close appositions, as vocatives, and as exclamatives quoted type 3 names can still contribute semantically: being a link in a causal-historical chain does not require an occurrence of an expression to fulfill any particular syntactic condition. Quotation, given the way it was conceived in Section 1.3., may involve the presentation of both the expression’s phonological form and its referent. The (silent or overt) sortal head noun in a close apposition

then simply has the function of mapping the referent of the quoted name onto itself, only requiring that it be of the relevant sort.

Close appositions with type 3 names superficially resemble classifier constructions in which the individuating classifier is obligatory. However, the syntax and semantics of close appositions with type 3 names is in fact very different from that of classifier constructions. Type 3 names require a sortal because type 3 names are restricted to quotational contexts such as that of close appositions. Only in a close apposition with a sortal head noun can they form referential terms referring to the entity to which they are linked.

The sortal in a close apposition does not play the same role as a classifier. A classifier in general is needed to give a noun count status; in close appositions with type 3 names the sortal is needed to establish a quotational context. This has various consequences. First, the sortal in close appositions does not bear on the choice of determiner. In fact, close appositions generally reauire the simple definite determiner and thus the sortal head noun does not serve the application of numerals or quantifiers as classifiers do in classifier languages. Second, unlike classifier constructions, close appositions may involve two sortals: the sortal head noun and possibly the abstract sortal classifier in type 1 names, as in *the poet Goethe*. Thus, the similarity between close appositions and obligatory classifier constructions is rather coincidental.[27]

4. **Nonreferential arguments and the mass-count distinction**

An important generalization regarding the classification as mass or count concerns expressions (or occurrences of expressions) that are not referential or quantificational DPs. These are nonreferential expressions or occurrences of expressions of various sorts that can act as subjects or as complement of verbs. They all lack a syntactic mass-count distinction and in fact classify as mass rather than count.

[27] It is remarkable that names for churches and for temples are treated so differently in one and the same language. In German, names for churches are type 1 names, whereas names for temples are type 3 names. Whether roots are specified for the category noun, and if they are, whether they are specified for an abstract classifier or not may not be entirely arbitrary. Rather it reflects degrees of integration into the language goins along with the importance of types of objects in the culture in question.. A name root that is not specified for any category, as name roots of type 3 are, are less integrated into language than name roots that are specified for the category noun, and the most integrated are those that are specified for the category noun as well as an abstract classifier. The reason why names for temples are less integrated into German than names for churches may then be traced to the dominance of Christianity in German culture.

Among those, first of all, are *that*-clauses and infinitival clauses. They are CPs and thus do not come with a syntactic mass-count distinction. There are good reasons to regard *that*-clauses and infinitival clauses as nonreferential, since they do not generally allow for a replacement by a full NP that explicitly refers to a propositions or proposition-like entity (*the proposition that S, the fact that S* etc).[28] (54a, b) show that CP-complements take w-pronouns not d-pronouns:

(54) a. Hans hofft, dass die Sonne scheinen wird, was / * das ich nicht hoffe.
'John hopes that the sun will shine, which I hope too.'
b. Hans hofft, zu gewinnen, was / * das Maria auch hofft.
'John hopes to win, which Mary hopes too.'

Predicative complements (NPs or APs) and complements of transitive intensional verbs are two further types of nonreferential occurrences of expressions. They may express properties or intensional quantifiers, but they do not refer to them (and thus would not allow for a replacement by an explicit property-referring term such as *the property of being X*). Again predicative complements and complements of transitive intensional verbs take w-pronouns:[29]

(54) c. Hans wurde Musiker, was / * das Maria auch wurde.
'John became a musician, which Mary became too.'
d. Hans such eine Sekretaerin, was / * die Maria auch sucht.
'John is looking for a secretary, which Mary is looking for too.'

Moreover, conjunctions of all three types of nonreferential expressions do not support plural anaphora:

(55) a. Hans fuerchtet, dass es regnen wird und dass kaum jemand kommt. Maria fuerchtet das / * sie auch.
'John fears that it will rain and that hardly anyone will show up. Mary fears that / * them too.
b. Maria wurde eine gute Geigenspielerin und eine ausgezeichnete Kuenstlerin. Anna

[28] See Moltmann (2013a, Chapter 4) and references therein.

[29] For the nonreferential status of *that*-clauses see Moltmann (2013a, Chapter 4).

wurde das / * sie auch.

'Mary became a good violinist and an excellent artist. Mary became that / * them too.'

c. Hans braucht eine Sekretaerin und einen Assistenten. Maria braucht das / * sie auch.

'John needs a secretary and an assistant. Mary needs that / * them too.'

Lack of plural anaphora support holds not only in German, but, importantly, also in English, as is illustrated by the English translations of (55a-c). Instead of plural pronouns, conjunctions of nonreferential expressions can be antecedents only of the mass pronouns *das* in German and *that* in English. Nonreferential (occurrences of) expressions are thus classified as mass both in German and English.

The explanation for that is straightforward, given the structural account of the mass-count distinction. First of all, CPs lacking a classifier phrase will be categorized as mass. Predicative NPs, even though they are NPs and not DPs, may involve a classifier phrase, since they can be count. However, predicative NPs, expressing properties and not being referential, do not stand for the sorts of things that would fall under the classifier. Instead they involve a shift of semantic value, which is not targeted by the classifier. For that reason, predicative NPs should classify as mass, not count. Complements of transitive intensional verbs likewise involve a meaning shift from describing entities that fall under the conceptual meaning of the nominal content to, say, an intensional quantifier. Thus, for the same reason, they should classify as mass rather than count, even if the complement is syntactically a count NP.

The three nonreferential (occurrences of) expressions cannot syntactically go along with expressions playing the role of individuating classifiers. However, there is a class of expressions that plays a similar role, ensuring countability for what seem to be the semantic values of nonreferential expressions. These are quantifiers with the noun *thing* such as *two things* or *several things*, as below:

(56) a. John believes several things, that S, that S', and that S''.

b. Mary became several admirable things, a pianist, a dancer, and an actress.

c. John needs two things, a secretary and assistant.

Such quantifiers also enable quantification over the semantic values of mass NPs:

(57) John counted two things in the bottle: the water and the air.

Quantifiers with *–thing* can act as nominalizing quantifiers (Moltmann 2003, 2013a). That is, they can have the semantic function of introducing entities on the basis of the content of nonreferential expressions.

A nominalizing function is also possible with sortal-free quantifiers in German, that is, single word quantifiers that select w-pronouns:

(58) a. Hans glaubt das, was Maria sagt.
'John believes everything that Mary says.'
b. Hans sagte alles, was er wusste.
'John said everything that he knew.'

Complex nominalizing quantifiers in German involve the count noun *Ding* as a separate noun and, as expected, take d-pronouns:

(59) die Dinge / ein paar Dinge, die Hans sagte
'the things / a few things that John said'

Again, this shows the association of d-pronouns with count nouns, regardless of semantic function and of what is described.

5. Verbs and the mass-count distinction

The most unexpected categorization of a syntactic category as mass is that of verbs with respect to their (Davidsonian) event argument position. This goes entirely against the standard view in semantics according to which verbs with respect to their event argument position involve a mass-count distinction, but it is entirely expected on the structural account of the mass-count distinction.. Given the standard semantic view, telic verbs such as *fall, wake up,* and *hit* classify as count, taking single or plural events as arguments, and atelic verbs such as *sleep, walk,* and *laugh* count as mass. In particular, on the extensional mereological account of the mass-count distinction, telic verbs are count, because they are atomic with respect to their event argument position, whereas atelic verbs are mass because they are not atomic, or not necessarily atomic.

However, verbs in fact uniformly display characteristics of a mass category (cf. Moltmann 1997, Chap. 7). First of all, conjoined verbs or VPs do not support plural anaphora (Geis 1975, Neale 1988):

(60) John greeted Mary and kissed Sue. He did that / * them this morning.

Moreover, adverbial quantifiers generally display the form of mass quantifiers. Thus, English uses as adverbial quantifiers *much, a little, little* rather than *many, a few, few*, and similarly in other languages. Furthermore, number words such as *three* are generally not useable as adverbials, applying to verbs directly; rather they require the classifier *times* in order to count events. This holds regardless of the conceptual content of the verb and how well it distinguishes events as countable units. This is illustrated with telic verbs below:

(61) a. John woke up three times.
b. John left only one time.

Frequency adverbials such as *frequently* and *rarely* appear to be plural event quantifiers. However, frequency adverbials do not actually classify as plural quantifiers since they can also modify mass NPs as in *the frequent rain* (Moltmann 1997). Frequency expressions impose a temporal condition of distance among subevents, which thus become countable. But as with mass expressions in general, such a lexical condition does not make frequency expressions classify as count rather than mass.

Finally, an indication of the mass status of verbs is that relative clauses modifying VPs require w-pronouns rather than d-pronouns, regardless of telicity:

(62) a. Hans sang, was / * das Maria auch tat.
'John sang, which Mary did too.'
b. Hans nahm einen Apfel, was / * das Maria auch tat.
'John took an apple, which Mary did too.'

Thus, again, a category not syntactically marked for mass or count is categorized as mass rather than count, regardless of the conceptual content or the ontology involved. The structural account of the mass-count distinction straightforwardly accounts for the categorization of verbs as mass. Verbs cannot occur in a nominal classifier phrase category

with an abstract head and therefore classify as mass, the default category. Only an adverbial phrase headed by the count noun *times*, involving itself a classifier phrase, will allow the application of a number word.

6. Conclusions

Names play a special role in language. Whether or not they are adopted from another language, names are not subject to the same constraints on linguistic structure as other expressions. Names are special in particular in that they display different degrees of integration into the language, as illustrated by German type 1, type 2, and type 3 names. Type 1 names display the most integration, being specified as nouns and associated with an abstract sortal classifier (and thus classify as count). Type 2 names are specified as nouns but fail to be associated with an abstract sortal classifier (and thus classify as mass). Type 3 names are not categorized as nouns at all and thus are restricted in their occurrence to quotational contexts, such as contexts of close apposition.

On the present view, all three types of names in German are considered directly referential, or better entering a causal-historical chain to previous uses of the name grounded in the name's bearer. The ability to refer is not even tied to the name forming a DP since it is available also for a name when occurring as an NPs in non-argument position, that is, in a close apposition, as a vocatives, and as an exclamative.

Proper names in German give a particularly striking piece of support for Borer's (2005) structural account of the mass-count distinction. The distinction between type1 and type 2 names in German could not possibly be accounted for within the standard views of the mass-count distinction. The structural account of the mass-count distinction raises the question of how the distinction between mass and count DPs should be understood semantically, since on the structural account, mass and count no longer concern how things are individuated or conceptualized. The non-singularist approach to the semantics of plurals, plural reference, as well as a corresponding recent approach to the semantics of mass DPs appears to provide a promising way of interpreting the mass-count distinction as a distinction in the structure of DPs.

References

Boolos, G. (1984): 'To be is to be Value of a Variable (or to be the Values of Some

Variables).' *Journal of Philosophy* 81, 430-449.

Borer, H. (2005): *Structuring Sense. Volume I. In Name only*. Oxford UP, Oxford.

Burge, T. (1973): 'Reference and Proper Names'. *Journal of Philosophy* 70, 425-439.

Carrara, M. / A. Arapinis / F. Moltmann (eds.) (to appear): *Unity and Plurality. Logic, Philosophy, and Semantics.* Oxford University Press, Oxford.

Champollion, L. / Krifka (to appear): *Mereology*. In P. Dekker and M. Aloni (eds): *Cambridge Handbook of Semantics*. Cambridge University Press.

Cheng, L. / R. Sybesma (1999): 'Bare and not so Bare Nouns and the Structure of NP'. *Linguistic Inquiry* 30.4., 509-542.

Devitt, M. (to appear): 'Should Proper Names Still seem so Problematic? In A. Bianchi (ed.): *New Essays on Reference*. Oxford UP, Oxford.

Doetjes, J. S. (2012): 'Count-Mass Distinctions across Languages'. In Maienborn, C. / K. von Heusinger / P. Portner (eds.): *Semantics: An International Handbook of Natural Language Meaning. Part III*, 2559-2580. de Gruyter, Berlin.

Dummett, M. (1973). *Frege: Philosophy of Language*. Harvard University Press, Cambridge, MA..

Engels, C. (2010): *1000 Heilige Orte. Eine Lebensliste fuer eine Kulturelle Weltreise*. Tandem Verlag, Potsdam.

Fara Graff, D. (2011): 'Don't Call me Stupid'. *Analysis* 71.3., 492-501.

---------- (to appear): 'Literal Uses of Proper Names'. In A. Bianchi (ed.): *New Essays on Reference*. Oxford UP, Oxford.

Geach, P. (1957): *Mental Acts*. Routledge.

Geiss, M. (1975); 'Two Theories of Action Sentences'. *Working Papers in Linguistics*, Ohio State University, Columbus, 12-24.

Halle, M. /A. Marantz (1993): *Distributive Morphology and the Pieces of Inflection*. In K. Hale / J. Kayser (ed.): The View from Building 20. MIT Press, Cambridge, 111-176.

Hofweber, T. (2005): 'Number Determiners, Numbers, and Arithmetics'. *Philosophical Review* 114.2., 179-225.

Jackendoff, R. (1984): 'On the Phrase the Phrase 'the Phrase'. *Natural Language and Linguistic Theory* 2.1., 25-37.

Jeshion, R. (to appear): 'Names not Predicates'. To appear in A. Bianchi (ed.): *On Reference*. Oxford UP, Oxford.

Laycock, H. (2006): *Words without Objects: Semantics, Ontology, and Logic for Non-Singularity*. Oxford University Press.

Longobardi. P. (1994): ‘Proper Names and the Theory of N-Movement in Syntax and Logical Form’. *Linguistic Inquiry* 25, 609-665.

Lowe, J. (2006): *The Four-Category Ontology*. Oxford UP, Oxford.

Li, X. / Bisang, W. (2012): ‘Classifiers in Sinitic Languages: From Individuation to Definiteness Marking’. *Lingua*122.4., 335-355.

Matushansky, O. (2006): ‘Why Rose is the Rose’. In O. Bonami / P. Cabredo-Hoffher (eds.): *Empirical Issues in Syntax and Semantics* 6, 285-307.

---------- (2008): ‘On the Linguistic Complexity of Proper Names’. *Linguistics and Philosophy* 21, 573-627.

McKay, T. (2006): *Plural Predication*. Oxford UP, Oxford.

---------- (to appear): ‘From Mass to Plural’. In Carrara et al. (eds.).

Moltmann, F. (1997): *Parts and Wholes in Semantics*. Oxford UP, Oxford.

---------- (2003): 'Nominalizing Quantifiers'. *Journal of Philosophical Logic*.35.5., 445-481.

---------- (2013a): *Abstract Objects and the Semantics of Natural Language*. Oxford UP, Oxford.

---------- (2013b): ‘Reference to Numbers in Natural Language’. *Philosophical Studies* 162.3., 499-534.

Neale, S. (1988): ‘Events and ‘Logical Form’’. *Linguistics and Philosophy* 11, 303-323.

Oliver, A. / T. Smiley (2013): *Plural Logic*. Oxford UP, Oxford.

Saka, P. (1998): ‘Quotation and the Use-Mention Distinction’. *Mind* 107 (425), 113-135.

Yi, B.-Y. (2005): ‘The Logic and Meaning of Plurals. Part I’. *Journal of Philosophical Logic* 34, 459-506.

---------- (2006): ‘The Logic and Meaning of Plurals. Part II’. *Journal of Philosophical Logic* 35, 239-288.