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Ad hoc categorization and *languaging*: the online construction of categories in discourse

1. Introduction[1]

The aim of this special issue is to describe the process of ad hoc categorization in discourse, by focusing on its close relation to what has been labeled *languaging*.

The construction of categories is much more pervasive in discourse than one might assume, involving the use of various discourse strategies through which speakers concur towards as diverse goals as the individuation of the relevant exemplars to build the category upon, the overt naming of the category, its fine-tuning, and the delimitation of its boundaries. All these strategies represent an important aspect of the speakers' cooperative behavior, and involve the (often creative) exploitation of grammatical domains such as number and plurality, lexical derivation, and connectives, as well as the use of more transparent constructions through which categories are constructed and discursively manipulated (general extenders, exemplification/reformulation constructions, lists, etc.). The commonalities and differences characterizing these linguistic means, however, have never been systematically investigated under the umbrella of the process of ad hoc categorization. The present special issue aims to fill such a gap.

After introducing the concept of languaging and providing clear definitions for the notions of ad hoc categories and ad hoc categorization (Section 2), we will examine how ad hoc categorization can be achieved by speakers in discourse (Section 3). Section 4 is devoted to an overview of the contributions of this Special Issue, which explore structural, semantic and pragmatic aspects of ad hoc categorization across languages.

2. Ad hoc categorization in *languaging*

2.1. From language to languaging

The term *languaging* is used by different scholars in opposition to the term *language*, to emphasize the online dimension of the communication process rather than the static dimension of the communication product or tool (cf. Becker 1988, Steffensen 2009, 2015, Thibault 2017, Raimondi 2019, among others). Becker (1991) suggests that there is no such thing as language, but the only thing we can observe is the continuous activity of human communication, which coincides with what he calls 'languaging'. According to Love (2017: 117) languages are the result of a process of codification and abstraction emerging from languaging. Swain and Watanabe (2013) describe languaging as the "process of making meaning and shaping knowledge and experience through language" (Swain 2006: 98), and argue that the use of the progressive verb languag*ing*, instead of the noun language, forces a conception of language as a process rather than a reified entity.

A further distinction between languaging and *meta*languaging is introduced by Maschler (1994), whereby the former deals with "languaging about the world", while the latter denotes "languaging about languaging" (Maschler 1994: 326). According to Maschler, every act of languaging involves both levels, because speakers alternate reference to an extra-linguistic realm (i.e. the world) with reference to the specific linguistic choices they are making, informing hearers on the motivations underlying the words and utterances they are using.

[1] This Special Issue was designed and developed within the SIR project 'LEAdhoC – Linguistic expression of ad hoc categories' (prot. n.RBSI14IIG0), funded by the Italian Ministry of Education, University and Research and coordinated by Caterina Mauri.

Languag*ing* thus refers to the activity performed in speech, which is an ongoing process constantly evolving and developing, thanks to the evolving relation between interacting speakers. The crucial role of human coordination (i.e. collaboration) in languaging is underlined by Raimondi (2019: 19-20), who argues that "the notion of languaging activity is inherently dialogical and radically relational". Building on the biological theory of Maturana (1983) and on the theories of Cowley (2007) and Thibault (2011), which insist on the embodied nature of the languaging activity, Raimondi focuses on dialogicity as being a central aspect of linguistic communication and, in general, of collaborative human activities. According to Raimondi (2019: 24, cf. also Linell 2009), communicating human beings are inherently cooperative and interdependent, therefore each event of individual speech occurs within a discoursive framework of dialogue, making dialogicity a core feature not only of human languaging, but also, more in general, of human cooperative interaction.

From this brief overview of the literature on languaging, we can identify four central aspects that characterize this concept, namely i) procedural ongoing activity, ii) cooperative interaction, iii) dialogicity, iv) language as emerging from languaging. They are reminiscent of Grice's cooperation principle on the one hand, and research developed within conversation analysis and grammaticalization theories on the other hand (cf. Bybee and Hopper 2001, Traugott 2003, Bybee 2015, Traugott and Trousdale 2010). In particular, the role played by dialogicity and use in shaping language has received great attention in studies on so-called constructionalization (Traugott and Trousdale 2013), which focus on the emergence of grammar from recurrent discourse patterns. Other recent approaches have highlighted the online aspects of grammar by taking the consequences of the linearity of speaking in time for syntactic organization into serious consideration (Auer 2009; Auer & Pfänder 2011), by focusing on the specificities of dialogic syntax (Linell 2009; Du Bois 2014), or by identifying the linguistic correlates of spoken modality at all levels of grammar (Voghera 2017).

Against the background of an approach to linguistic data based on the observation of languaging, in the belief that language is a solution to cooperative needs and communicative aims, we aim to analyze how speakers, involved in a dialogic interaction, cooperate to build and identify categories in discourse.

2.2. Ad hoc categorization and its realization in languaging

Theories on categories and categorization see Eleanor Rosch's studies in cognitive psychology as a turning point (Rosch 1973, 1975), after which the notion of *prototype* has become a solid basis for any further discovery on how our mind organizes and abstracts over experience. Another turning point has been set by Barsalou's findings on the types of categories that we may conceive (Barsalou 1983, 1991, 2003, 2010), with common and stable categories being opposed to what he calls *ad hoc* categories. While the former can be roughly equated to traditional categories, being context-independent intuitions frequently conveyed by conventional expressions, the latter are goal-driven abstractions, created on the fly for communicative purposes. Ad hoc categories answer the need to classify the world in particular discourse circumstances and are typically expressed by complex, non-lexicalized linguistic structures such as "advertising that is broadcast in the interval of a football game".

Psychological evidence for the great role that context and discourse play in category construction (cf. Smith & Samuelson 1997, Whittlesea 1997) was a boost for studies on categorization in linguistics, both within cognitive approaches (Lakoff 1987, Wilson & Carston 2007, Carston 2010) and typological research (Berlin and Kay 1969, Levinson 2003). One of the major aims pursued through linguistic categorization theories is to account for the ways and reasons underlying the pragmatic and contextual adjustment of the meaning of words in context, whereby the actual category abstracted from a given linguistic item is different (narrower or broader) from the lexically encoded sense (Carston 2010, Croft & Cruse 2004, Lakoff & Sweetser 1994). A dynamic construal of categories, created as needed and situated in the here-and-now of the speech act (Croft & Cruse 2004: 92), allows to treat words and phrases not as labels for concepts, but rather as clues towards the

intended abstractions, on a par with non-linguistic clues, such as shared knowledge and contextual information.

Linguistic interaction, or *languaging* as defined in Section 2.1, is thus at the same time container and content of categorization processes, with speakers putting cooperation, negotiation and dialogicity into play for an ongoing and everchanging process of reciprocal fine-tuning. A great part of this mutual tuning is determined by reaching a common category construction, exploiting all the tools that discourse provides to manage this online process: if two speakers agree on how a category is to be construed, they agree on the reference, or set of referents, corresponding to the category, and this basically means that they agree on what they are talking about.

As argued by Mauri and Sansò (2018), the analysis of linguistic data allows us to observe how categories are construed and communicated, but does not say much about the category type, namely whether it is an 'ad hoc' or 'stable' category, because this crucially depends on cultural and contextual factors. Provided that all categorization is construed *on-line,* in a context-dependent way according to the speakers needs and expectations (cf. also Croft and Cruse 2004), linguistic data can reveal how the process of category construction is verbalized in languaging, i.e. by naming the category itself (e.g. *furniture, jewelry*), by enumerating representative exemplars that allow for the abstraction of a common set (e.g. *tables, chairs, etc.* or *earrings, bracelets, etc.*), by both naming and exemplifying the category (e.g. *furniture like tables, chairs and so on*), by listing exemplars and then anaphorically naming the set through an ad hoc reformulation (e.g. *earrings, bracelets… you know, fancy little objects she may wear*). In other words, once we take languaging as the observation point, we can follow the discoursive paths through which speakers find their way towards a shared category construction, and ultimately towards mutual understanding. For this reason, we follow Mauri and Sansò (2018) in switching from the notion of hoc categories, namely cognitive entities identified and studied in the field of experimental psychology, to the notion of ad hoc categori*zation*, that is, a process that may be identified and studied by observing languaging.

Ad hoc categorization is characterized by being context-dependent and goal-driven, and it leads to the abstraction of a shared category by means of dialogical and cooperative linguistic interaction. Let us consider example (1) from the KIParla corpus of spoken Italian:[2]

(2) 1 A: *io ho paura che questa vada a cercare parecchio il pelo nell'uovo*
I'm afraid that this (professor) will split hairs a lot
2 B: *dici?*
You think so?
3 A: *eh questo mi fa paura*
Eh this is what I fear
4 *cioè sai quelle precise che vogliono sapere tutto cioè i il boccaccio anche (.)*
I mean you know those nit-picking (professors) who want to know everything I mean Boccaccio even
5 *anche il colore delle mutande voglio di-*
even the color of his underwear I mean
6 B: *ah ho capito*
Ah I see (KIParla corpus BOA3001)

In example (1) two students are interacting, A is trying to guide B to identify the type of professor she is talking about, who causes A's feeling of fear. To do this, A starts by naming the aspect that she fears (*the professor will split hairs,* line 1), and to reply to B's doubt (*you think so?*, line 2) she builds a category of professors to which the one at issue belongs. The process of category construction starts by signaling reformulation (*cioè* 'I mean', line 4) and searching for the interlocutor's collaboration (*sai* 'you know', line 4), then proceeds by labeling the category through the complex relative clause *quelle precise che vogliono sapere tutto* 'those nit-picking (professors) who want to know everything', (line 4). However, A feels that the label is not informative enough, probably because the

[2] The KIParla corpus is publicly available at www.kiparla.it. It includes spoken data collected in Turin and Bologna in the years 2016-2019 (see Mauri et al. 2019).

universal quantifier *everything* is too inclusive and generic, therefore provides another reformulation (introduced again by *cioè* 'I mean', line 4), this time by listing two highly specific exemplars of what the professor could ask, namely *il boccaccio*[3] and *il colore delle mutande* 'the color of (Boccaccio's) underwear', whereby the second example is a clarification of the first one. The choice of these two examples is highly meaningful for B, to the point that he ultimately provides the sought feedback *ho capito* 'I see', which confirms mutual understanding. Usually, examples are chosen by virtue of their being prototypical and representative of the category, but here it is clear that A's intention is different: the color of Boccaccio's underwear is a non-prototypical and extreme exemplar, aimed at pushing the borders of the category 'everything' so far as to include the least predictable case, namely non-relevant details that are impossible for a student to learn.

What we observe in (1) is thus a camel hump pattern, whereby the speaker labels the category, which is then reformulated and exemplified in order to make it more accessible for the interlocutor, until he is able to abstract and construe it in the right way. The categorization process in (1) is not only highly dependent on context, but is also rooted into and led by the dialogical and cooperative interaction of languaging. The interlocutor's feedback is the ultimate goal that drives the categorization process, which was indeed triggered by the manifestation of some doubt (*dici?* 'You think so?', line 2), that is, by the risk of potential misunderstanding. Beyond the cognitive dimension of abstraction towards the identification of the category (described as an indexical process by Mauri 2017 and Mauri and Sansò 2018), the languaging perspective indeed highlights the cooperative dimension of conversation, in which ad hoc categorization is instrumental to building shared knowledge and mutual agreement.

3. The online construction of categories across languages

Evidence for both universal patterns and cross-linguistic variation in the linguistic expression of ad hoc categorization comes from typological studies and corpus-based research on specific languages (Mauri 2017, Mauri & Sansò 2018 and 2019). Despite the possible variation in the types of abstraction resulting from this process, which may be a class of entities or an event frame, we can identify a semantic core that invariably characterizes the linguistic strategies employed to convey ad hoc categorization. These strategies systematically mention one or more explicit exemplars of the category, evoking the existence a larger set characterized by some context-relevant property. The exemplars work as arrows pointing to the higher-level category and are employed by speakers to guide the hearers' attention towards some accessible and representative case, from which the category can be effectively abstracted.

According to Mauri and Sansò (2018), these constructions show what can be considered a categorization *trigger*, namely some prosodic, morphological or syntactic element encoding reference to a larger, non-exhaustive set beyond the mentioned items (cf. Mauri, Goria and Fiorentini 2019 on non-exhaustivity). It is this element that triggers the abstractive inferential process towards the identification of the context-relevant category, crucially involving similative reasoning (cf. van der Auwera & Kalyanamilini, this issue). According to the level at which the trigger lies, we can identify syntactic and morphological categorization triggers across languages. Syntactic strategies include list constructions and general extenders (cf. Barotto & Mauri 2018; see Fiorentini & Magni, forthcoming, on *etcetera*), and non-exhaustivity markers, such as so-called *representative* or *non-exhaustive connectives* (Haspelmath 2007; cf. Japanese *toka* in (3)), i.e. connectives that specifically encode that the connected items are just members of a category including other similar elements (cf. Ariel, this issue; Miola & Fiorentini, this issue):

(3) Japanese (Japonic; Chino 2001: 42): non-exhaustive connective *toka*
kinō depāto de sēta ***toka*** *kutsu* ***toka*** *o katta.*

[3] Giovanni Boccaccio (1313-1375) is one of the most important Italian writers of the 14th century, author of the collection of novellas known as the Decameron.

yesterday store LOC sweater CONN shoe CONN ACC buy:PAST[4]
'[…] I bought a sweater, shoes and some other things.'

In discourse, ad hoc categorization is also conveyed by means of exemplifying constructions, namely strategies indicating that a given phrase is to be interpreted as being merely a potential exemplar of a higher-level category: in we compare the two questions '*Why don't we meet at the pub tonight?'* vs. '*Why don't we meet at* ***let's say*** *the pub tonight?',* we notice that, in the latter, pub has to be taken as an instance of a larger category, namely 'place where one can have a beer' (Barotto 2017; Goria, this issue).

Languages frequently recur also to reduplication and morphological strategies, to refer to ad hoc categories or to trigger ad hoc categorization. Morphological strategies include associative or similative plural constructions (cf. *mbe* in (4), Dogon; see Moravcsik, this issue; Daniel, this issue), by which speakers may extend the reference of a given noun to include some individual or entities typically associated with the referent of that noun;

(4) Dogon (Tommo So, Corbett 2000: 111): similative plural marker *mbe*
ibɛ *ya-ɛ-w* *yo,* *isu* ***mbe*** *nie* ***mbe*** *bawiɛ*
market go-AOR-2SG if fish PL oil PL buy.IMP.2SG
'if you go to the market, buy fish, oil and other such things.'[5]

New lexical labels for ad hoc categories are productively created through derivational collective morphology (cf. Mauri 2017, Magni 2018), and compounding strategies (cf. (5), English), which can be created to refer to a specific, context-relevant category, for which no label is available in the language (cf. Arcodia and Mauri, this issue):

(5) English (Pauline Kael, The New Yorker, 1970)
I doubt whether even the breathless, *gosh-gee-whiz-can-all-this-be-happening-to-me TV-celebrity-author* himself could cap this shlock classic with another.

Finally, we find also reduplication, which in some languages may be used to convey ad hoc categorization (Inkelas 2014). In Turkish, for instance, *m*-reduplication is systematically used to express the meaning of 'etcetera': as can be noted in (6), *odalarí* means 'rooms' and *odalarí modalarí* means 'rooms etcetera'.

(6) Turkish (Göksel and Kerslake 2005: 91-92)
Eve çat kapı bir alıcı geldi, ***odalarí modalarí*** *dolaştı.*
'Today a potential buyer came without notification, and looked at the rooms, etcetera'

The on-line construction of categories is thus much more pervasive in grammar than one might assume, involving such diverse grammatical domains as number and plurality, lexical derivation, connectives and more transparent constructions such as general extenders. All these construction types share a common function but differ as to the way the category is abstracted away from the given exemplars. As already mentioned, a categorization trigger scopes over some overt category member, an exemplar, which is processed as the starting point for abstraction. The more morphological the strategy, the more the exemplar is likely to be one and to play a pivotal role in the category construction (cf. Mauri 2017), leading to an exemplar-driven category label (see Arcodia & Mauri, this issue, for the concept of 'exemplar-driven naming'). The more syntactic the strategy, the more we observe the ongoing process of set construction and mutual cooperation, rather than category

[4] Glosses provided by the authors of this paper: ACC=accusative; CONN=connective; LOC=locative; PAST=past
[5] Glosses: 2SG=second person singular; AOR=aorist; IMP=imperative; PL=plural

naming, with the speaker providing open lists of exemplars, reformulations and appeals to the hearer's attention.

In discourse, ad hoc categorization can be realized within specific utterances or across turns, and may be crucially influenced by the speakers' expectations regarding their shared knowledge or the mutual relations they aim to maintain or construe (cf. Ariel, this issue; Goria, this issue). Furthermore, the use of an exemplar together with a categorization trigger does not guarantee the success of the abstraction, therefore interacting speakers usually employ a redundant set of strategies to increase the occasions of mutual understanding, as we observed in example (1). They typically undertake a complex shared activity of formulation, reformulation, exemplification, negotiation, abstraction and reference, mirroring the (possibly unplanned) process of category construction.

4. Overview of the Special Issue

Not only do speakers make use of a bundle of different strategies to encode categories for which there is no ready-made lexical label, but they also resort to these strategies in conversation when a lexical description of the category is available, for communicative and interactional needs. As argued by Mauri and Sansò (2018), ad hoc categorization has mostly to do with how categories are verbalized in discourse, rather than with specific types of categories being conveyed.

This Special Issue builds on this basic claim and tries to integrate studies coming from both corpus-based and typological research, in order to explore how ad hoc categorization is performed through language and in languaging. Cross-linguistic variation and intra-linguistic variation (as it emerges from interactional corpus data) reveal correspondences and similar patterns that drive us to tackle the question of how ad hoc categorization is construed in languages by looking at both types of data. We will therefore decided to include contributions examining cross-linguistic variation (papers by Daniel, van der Auwera & Kalyanamilini, Moravcsik), and contributions examining spoken data from three typologically diverse languages, namely English, Chinese and Italian (papers by Ariel, Arcodia & Mauri, Miola & Fiorentini, Goria). Such converging evidence will show that ad hoc categorization is pervasive in *languaging*, and that speakers ultimately build sets and abstract over such sets in an indexical, context-dependent way.

This issue aims to provide a contribution to the rising debate on ad hoc categories, through the analysis of different areas of grammars involved in the construction of categories. First, we will address the use of lists and the construction of non-exhaustive sets, which will be the object of three papers discussing the use of dedicated connectives, based on data from English and Italian discourse. Second, we will provide cross-linguistic investigations on plural number and the construction of ad hoc groups, through a detailed analysis of associative and similative plurals. Third, we will consider similatives and the indexical reference to a context-dependent category, providing typological evidence for similarity demonstratives (e.g. *such*). Finally, category naming will be discussed and analyzed, with special attention to compounding phenomena involving at least one exemplar of the category to which they refer to (e.g. Chinese *dāoqiāng* 'sword-spear > 'swords, spears and similar things = weapons', Arcodia, Grandi & Wälchli 2010)

Moreover, complementary perspectives in the analysis of data will be integrated, combining a synchronic perspective (adopted in the analysis of data from English, Italian and Chinese, and in the typological surveys) with a diachronic perspective (adopted in the analysis of Chinese and Italian data). Both synchrony and diachrony will be further complemented by a discourse perspective with a focus on on-line processing (adopted in the analysis of spoken data of English and Italian).

In their paper "*Such* similatives: a cross-linguistic reconnaissance", Johan van der Auwera & Kalyanamalini Sahoo provide a preliminary exploration of the semantic and formal properties of the English word *such* and some of its counterparts in other languages, suggesting that such words are 'demonstrative similatives' (or, equivalently, 'similative demonstratives'), i.e., their meanings lie at the intersection of the semantic dimensions of similarity and demonstration. The use of similatives,

as in *I have seen such a dog before*, *such* crucially involves the notion of an *ad hoc* category. In this use *such* refers to an indefinite exemplar of an *ad hoc* category construed on the basis of the similarity of that exemplar to another, definite exemplar. It is normally not the definite dog that is in front of her eyes that the speaker has seen before, but another one, an indefinite one, but of the same type. Perhaps both dogs have big yellow spots on their ears and it is this *ad hoc* category that both dogs are exemplars of.

Edith Moravcsik ("The place of ad hoc categories within the typology of plural expressions") argues that ad hoc categories should be assigned a place among plurals, by showing that they fall into the same subtypes that other plural expressions do: they may be based on similarity or contiguity and, like other plurals, at least some of its forms tend to involve humans. Ad hoc categories differ from other plurals in that they involve partial rather than complete lists and thus they fill a systematic gap in the typology of plurals.

The paper by Michael Daniel ("Associative plural as indexical category") discusses the role of the Animacy Hierarchy as a cross-grammatical factor which governs the lexical distribution of associative plurals, arguing that associative plurals as an interpretation of nominal plurality are not licensed by the high position that the noun holds on the Animacy Hierarchy but is a combined effect of coercion by the unique reference inherent to proper names and associative links easily recoverable for human referents. Interpretation of associative plurals thus relies upon activation of set relations its referent holds to other entities in the speech act situation. Associative plural is therefore argued to be an indexical rather than a functional semantic category.

Mira Ariel ("Or constructions, argumentative direction and disappearing 'alternativity'") discusses the puzzling fact that the most frequent reading associated with or constructions is Higher-level category (Ariel, 2015), where the speaker introduces into the discourse only a single concept, explaining why this is not so puzzling after all. Such a "non-alternativity" reading could come about for a construction whose initial function is 'alternativity' between multiple, distinct options. The idea is that in order to constitute relevant alternatives, 'X' and 'Y' must in effect be construable as members of a single higher-level category. By definition, then, *X or Y* evokes not only the members 'X' and 'Y', but also (the higher-level) category that includes them, the relevant evolution involving a shift in foreground and background between the individual alternatives and the higher-level category.

In his paper "The discursive construction of categories. Categorization as a dynamic and co-operative process", Eugenio Goria provides a preliminary overview of a corpus study on spoken Italian illustrating different types of structurally unrelated constructions that are recruited by the participants to perform categorization in spontaneously occurring interactions, while Emanuele Miola and Ilaria Fiorentini ("Disjunctive/conjunctive/whatever: the development of Italian *barra* ('slash') as a non-exhaustive connective") investigate the use and functions of *barra* in Italian, the lexical realization of the punctuation mark < / >, which has recently come to be used also for the expression of alternatives (also with an adjunctive sense), and is developing a new function as a non-exhaustive connective.

Finally, Giorgio Arcodia and Caterina Mauri ("Exemplar-based compounds: The case of Chinese") investigate a specific naming strategy, which is based on compounding and exemplification, examining data from Chinese. They focus on 'exemplar-based compounds', i.e. compounds consisting of at least one lexeme denoting an exemplar of the category referred to by the whole compound, and show how the exemplar-driven abstraction characterizing these constructions evolved into systematic reference to a category and to its individual items, revealing a change from a procedural category construction to a naming concept label.

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