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**DESCRIPTIVE INDEXICALS, DEFERRED REFERENCE,
AND ANAPHORA**

Abstract. The objectives of this paper are twofold. The first is to present a differentiation between two kinds of deferred uses of indexicals: those in which indexical utterances express singular propositions (I term them deferred reference proper) and those where they express general propositions (called descriptive uses of indexicals). The second objective is the analysis of the descriptive uses of indexicals. In contrast to Nunberg, who treats descriptive uses as a special case of deferred reference in which a property contributes to the proposition expressed, I argue that examples in which a general proposition is indeed expressed by an indexical cannot be treated by assuming that the property is a deferred referent of the pronoun. I propose an analysis of descriptive uses of indexicals by means of a pragmatic mechanism of ‘descriptive anaphora’, which attempts to explain the special kind of contribution of the property retrieved from the context to the proposition that is characteristic of the descriptive interpretation.

Keywords: descriptive indexicals, deferred reference, anaphora, demonstratives, singular terms

1. Descriptive vs. Deferred

Whilst a plethora of examples which may be described as ‘descriptive indexicals’ has been presented in the literature, this has been done under various headings. As well as ‘descriptive indexicals’ (Recanati, 1993; 2005; Nunberg, 2004; Elbourne, 2005, 2008, 2013; Deigan, 2017; Lücking, 2017), also ‘descriptive interpretation,’ ‘deferrals’ (Galery, 2008), ‘descriptive pronouns’ (Galery, 2012) ‘deferred pronouns’ (Galery, 2016) and ‘attributive indexicals’ (Nunberg, 1993) have been utilized to indicate uses where indexical utterances express general propositions. The following is only a representative list rather than an authoritative one. Italics indicate the contextual

information available to communicators, while the relevant expressions are marked in bold:

- (1) **He** is usually an Italian, but this time they thought it wise to elect a Pole.
uttered by someone pointing at John Paul II as he delivers a speech with a Polish accent shortly after his election.
Recanati (2005)
- (2) **I** am traditionally allowed to order whatever I like for my last meal.
uttered by a condemned prisoner
Nunberg (1992)
- (3) **You**_{pl} are incapable of understanding why somebody would want to live in a big city,
addressed to a person from Montana by a New Yorker
Nunberg (1991)
- (4) **Today** is always the biggest party day of the year.
uttered on the last day of exams
Nunberg (2004)
- (5) **He** must be a giant.
said upon seeing a huge footprint in the sand
Schiffer (1981)

Nunberg (1993) proposed analyzing such uses of indexicals as cases of deferred reference.¹ Drawing a distinction between index and referent enabled him to claim that deferred reference is a general phenomenon, whilst direct reference is just a special case in which the index coincides with the referent; in general, the referent can be an object or a property. He claimed that there is a property in the latter case that contributes to the proposition expressed, and this kind of contribution – at least according to him – provides an account of descriptive uses of indexicals. Nunberg concluded that since indexicals can contribute properties as well as individual objects to the propositions expressed, they have the same range of interpretations enjoyed by definite descriptions. In this paper I will set aside the philosophical implications he draws from this claim and turn my attention instead to the term ‘contribute’ as it is used in the last statement. Although Nunberg admits that ‘it is somewhat misleading to say that the pronoun *we* “contributes” a property here’ (1993, p. 15), the phrase ‘contributing a property’

is repeated in virtually all the papers on the subject, including Recanati (2005, p. 303), Powell (2003, p. 5), and Galery (2008, p. 168).

However, if we pay closer attention to the ways in which properties can contribute to propositions, the cases gathered by Nunberg under the umbrella of deferred reference emerge as an inhomogeneous group. While most writers have attempted to provide unified accounts that would explain all such cases, I claim that they should be accounted for in divergent ways. In particular, I will attempt to demonstrate that differences in the ways in which a property contributes to a proposition result in either singular or general propositions being expressed. This leads to the conclusion that the fact that a property ‘contributes to the proposition’ cannot be regarded as a definitive sign of descriptive interpretation. Accordingly, I propose retaining the term ‘deferred reference’ for referential cases while favoring the employment of ‘descriptive indexicals’ or ‘descriptive interpretation’ for cases in which a general proposition is indeed expressed. I thus propose an interpretation of descriptive uses of indexicals that is not reliant upon deferred reference – a proposal which could alternatively be seen as a distinction between two kinds of deferred reference. Read in this way, I would claim that the analysis proposed by Nunberg may be retained for the singular case (including cases of reference to abstract properties, see below) but that it does not provide an adequate interpretation for those cases in which an indexical contributes to the expression of a general proposition.

When a pronoun *refers* to a property, the property that it contributes to the proposition does not yield a general proposition. This is because reference, at least according to standard accounts, is a relation between an expression and an object, either concrete or abstract. In turn, pronouns can refer to properties, even in the deferred manner proposed by Nunberg.² Let us imagine John pointing to a group of squares in a picture. He is able to declare,

(6) **This** is relatively easy to define,

ascribing the second-order property of ‘being relatively easy to define’ to the property of being a square. After all, we do not define concrete, individual things but rather properties, or words which may refer to properties. It seems that we can only refer demonstratively to abstract objects by means of pointing to their concrete exemplifications.³ The relevant property in this case, therefore, is the semantic contribution of ‘this’ to the proposition expressed. However, this proposition is not a general one but is instead singular, concerning the particular property of *being a square* or *squareness*.

Therefore, there are at least two ways in which a property can contribute to a proposition: one which leads to the formation of a general proposition and another which results in a singular one. For the general proposition, a property must be used to say something about a group of objects that have this property. Yet this is not the case when we ascribe a second-order property (*being relatively easy to define*) to an individual property (*squareness*). We ascribe this second-order property to just one property which is treated as an abstract object. Thus, in (6) the demonstrative *this* refers to a property and the property is the pronoun's contribution to the proposition expressed, although the proposition is still arguably singular.⁴

Therefore, if the generation of a general instead of a singular proposition is a distinguishing feature of descriptive uses of indexicals, then not all cases with an indexical that contributes a property to a proposition are cases of descriptive uses of indexicals. The contribution made must be of a particular sort. I claim that contributions of the required sort cannot be properly treated as cases of deferred reference in which the property is the referent for the indexical. As a result, I will argue that one should distinguish between deferred reference and descriptive indexicals, and I propose a way of doing so here. Finally, I will analyze the unique 'contribution' made by a property to the proposition expressed in cases of descriptive indexicals.

2. Deferred reference

Some authors (Borg, 2002; Powell, 2003) have criticized Nunberg's account of deferred reference by providing counterexamples. For such a strategy to be convincing, one must assume that we have a strong intuition about typical cases of this linguistic phenomenon and are able to confront its characteristics with Nunberg's proposal. Whether such clear intuitions exist is, however, a matter of debate: it is not easy to tell if a use of an expression is a case of deferred reference or, for example, a case of meaning transfer. The discussions between Ward, Nunberg and Sag seem to suggest the same. (see Ward, 2004; Sag, 1981; Nunberg, 1993, 1995, 2004a) Thus, I take Nunberg's account of deferred reference to be an attempt to delineate a technical concept. I find this concept to be a useful tool in analyzing linguistic phenomena, and so I take the characteristics Nunberg provided as its definition.

The idea stems from Quine's case of deferred ostension where 'we point at the gauge, and not the gasoline, to show that there is gasoline' (1968, p. 195). Its linguistic counterpart is deferred reference, which Nunberg pro-

posed explaining by postulating a distinction between the index and referent of an indexical. Nunberg uses plural pronouns to exemplify deferred reference.⁵ When I say

(7) **We** have won,

it is I – the speaker and part of the context of utterance – who am the index, but my team as a group is the referent of *we* as it is used in this sentence. Nunberg claims that even though the index often coincides with the referent, as is the case in typical uses of *I*, the distinction can be useful in explaining descriptive uses of indexicals. Even though the index is an object for indexicals, the referent could be an object, a group of objects, or even a property. According to Nunberg, in the case of descriptive uses of indexicals, the referent is a property (Nunberg, 1993, pp. 15–17, 20, 22, 25, 33).

According to this view, deferred reference is a two-stage mechanism by which a linguistic expression refers to something in the world by first picking out an element in the expression's context of utterance (an index) and only then referring to (possibly) another element of the context that corresponds in some manner to the index. This correspondence is pragmatic in nature and is supplied by the context. The referent is typically an object or property the speaker has in mind, and the index is used to direct the addressee's attention to the referent.⁶ This process is constrained by three components of meaning: deictic, classificatory and relational. The deictic component is associated with the index and is responsible for its identification; for demonstratives, the identification is determined by demonstration; for other indexicals, it is determined by their Kaplanian character. The classificatory component concerns the referent and includes features such as number and animacy, grammatical and natural gender as well as the content of the descriptor in phrases like *that writer* or *this woman*. The relational component of an expression constrains the relation between index and referent. Indexical expressions may differ in some or all of these respects, but the important difference is between what Nunberg calls participant and nonparticipant terms. Participant terms are those whose index is either the speaker or the hearer (the necessary participants of communication), i.e., *I*, *you*, *we*; demonstratives such as *this*, *that*, or *he* and *she* are nonparticipant terms. The relational component for participant terms includes the requirement that the index instantiates the interpretation,⁷ while nonparticipant terms have an empty relational component.⁸ These three components, deictic, classificatory and relational, comprise the meaning of an indexical. Nunberg ex-

plicitly supplies the meaning for a few of them and I will try to reconstruct some others that are used in the examples discussed. In what follows, ‘deictic component’ is abbreviated to ‘dc’, ‘classificatory component’ to ‘cc’, and ‘relational component’ to ‘rc’.

tomorrow – dc: the time of speaking; cc: calendar day; rc: the interpretation succeeds the time of speaking (p. 9);⁹

today – dc: the time of speaking; cc: calendar day; rc: the interpretation includes the time of speaking.

As is the case with *tomorrow* and *today*, the deictic components of *I* and *we* are identical:

I – dc: the speaker; cc: animacy, singularity; rc: the interpretation must be instantiated by the speaker (pp. 8, 20, 22);

we – dc: the speaker; cc: animacy, plurality; rc: the interpretation must be instantiated by the speaker (pp. 8, 18);

you_{pl} – dc: the addressee; cc: animacy, plurality; rc: the interpretation must be instantiated by the addressee (p. 16).

Since *he* is analyzable as *that male* and *she* as *that female*, this will be discernible in their classificatory components:¹⁰

he – dc: demonstration; cc: singularity, male; rc: \emptyset (p. 8, 23, 26, 32);

she – dc: demonstration; cc: singularity, female; rc: \emptyset (p. 8, 23, 26).

In the case of demonstratives, the deictic component sometimes constrains the identification of an index by virtue of the location of the index in relation to the speaker:

this – dc: demonstration, relative proximity to the speaker; cc: singularity; rc: \emptyset (p. 8, 23);

those – dc: demonstration, relative remoteness from the speaker; cc: plurality; rc: \emptyset ;

that painter – dc: demonstration, relative remoteness to the speaker; cc: singularity, painter; rc: \emptyset (pp. 8, 23, 26).

According to Nunberg, the components of meaning are not part of the utterance content, i.e. indexicals are indicative in both their direct and deferred uses. To support this point, Nunberg uses the example of *we* in

(8) **We** could have been the winners.

If its relational component, i.e. the requirement that the speaker belonged to the group referred to, were a part of the proposition expressed, (8) would be roughly equivalent to ‘My team could have been the winners’. But that, on the attributive reading, is true when the speaker might have belonged to whichever team won, while the truth of (8) depends on the actual team to which the speaker belongs possibly winning. This appears to support a requirement that the group itself and all its members enter the truth conditions of the utterance. Yet, according to Nunberg at least, this is too strong. As he points out, ‘people often use *we* and plural *you* without knowing which property of the index is relevant to determining the kind they are referring to’ (1993, p. 16), and this does not seem to prevent them from successfully referring.¹¹ Thus, for deferred reference we do not require that all members of the relevant group are its essential members, i.e. relevant for counterfactual truth-conditions, but only that the index is. Let us term the requirement that the index is an essential member of a group the *partial rigidity* of the indexical and consider it to be definitive for deferred reference of participant terms. This solely applies to participant terms since nonparticipant terms impose no requirement of instantiation.

2.1. Sorting out the examples

2.1.1. *we* While the example (8) is a case of deferred reference, the pronoun *we* can also be used descriptively, i.e., not to refer to a group that rigidly contains the speaker but to talk about a group that, while currently instantiated by the speaker and available for propositional contribution due to a salient relation to the speaker, does not contain the speaker as its rigid member. An example from Bezuidenhout (1997, p. 384) can be of use here. Imagine you are standing with a group of university colleagues after a talk by a visiting speaker. Addressing the speaker, you say:

(9) **We** traditionally go for drinks after the talk.

The group about which you are speaking does not include you essentially in the sense characterized above, as you are not suggesting that the tradition

pertains only to talks at which you are present. Therefore, according to the proposed reconstruction of the notion of deferred reference, this example should not be considered a case of deferred reference.

2.1.2. I The case of *I* is a special one. Due to its classificatory and relational components that impose instantiation and singularity, *I* cannot refer to anything other than the index or a kind that corresponds to it. After all, ‘deferred indexical reference exploits correspondence between individual things’ (Nunberg, 2004a, p. 361, note 10), so instantiation in this case implies identity or a part-whole relation. Since kinds are not the sort of entity that has rights pertaining to meals, the relational component in the case of example (2) amounts to identity. However, the speaker in (2), who said

(2) **I** am traditionally allowed to order whatever I like for my last meal,

does not claim the existence of a tradition which is unique to his own last meal. Instead, he is communicating a general proposition that there is a tradition concerning whoever is a condemned prisoner. If it transpired that he was granted a pardon at the last moment, he himself would agree that he no longer has the right to claim a choice of a meal after all. Once again, the property of *being a condemned prisoner* contributes to the proposition expressed in some other way than by being referred to.

2.1.3. Plural you The case of *you* in (3) is more complicated:

(3) **You**_{pl} are incapable of understanding why somebody would want to live in a big city.

Recanati proposed interpreting such occurrences of *you* as making deferred reference to collective entities. A group which is understood as a collective entity possesses a property without its members individually possessing it (Recanati, 1993, p. 309). I am ready to agree that this kind of reference does take place, for example, in ‘We are dying out (nearly extinct, thin on the ground around here)’ (Nunberg, 1993, p. 13). Nunberg claims that this is a case of reference to a kind-level individual and I take it that Recanati’s collective entities are of the same ontological category.¹² There might be an objection that the relational component of *we* requires that the interpretation (in this case, the kind) be instantiated by the speaker, but this is probably a part of the theory of kinds, which holds that an individual object instantiates its kind, perhaps by means of the mereological part-whole

relation.¹³ Another problem manifested here is that if kinds are individual objects, it is unclear whether the plurality requirement is fulfilled. However, once again I am happy to accept this as being part of the mysterious nature of kinds; after all, bare plurals, e.g. ‘Koalas are almost extinct’, are a perfectly acceptable way of referring to kinds. Yet, if we want to retain the distinction between kinds and groups, in order to have kinds available as referents about which we predicate properties that do not apply to the members of those kinds (such as ‘being extinct’), then we must at least demand that kinds be regarded as collective entities in the sense described above. Hence, there are two kinds of deferred reference for plural pronouns: reference to (distributive) groups corresponding rigidly to the index, and reference to kinds corresponding to it.¹⁴ Yet, the utterance of the New Yorker cannot be interpreted in either of these ways because although the property of ‘being incapable of understanding why somebody would want to live in a big city’ is predicable of individuals (and thus reference to a group in the distributive sense can be considered), the addressee is not an essential member of the group. What the speaker says would be true even if the addressee turned out to be a New Yorker himself. (see Nunberg 1991, p. 10) What matters for conversational purposes is only that he is taken as a Montanan by the speaker and his audience. However, since *you* is a participant term, the partial rigidity requirement applies to it and demands that the addressee be an essential member of the group. Furthermore, the property is not applicable to the kind understood as a collective entity and thus (3) is not a case of deferred reference.

2.1.4. *he* and *she* Third-person pronouns may have both deferred (singular) and descriptive (general) interpretations. The first can be exemplified by Borg’s (2002, p. 494)

(10) **She** is gone,

said while indicating an empty chair on which a woman was sitting just a moment ago. The speaker has a particular woman in mind and wants to express an object-dependent proposition about that woman. On the other hand (5), which was termed a ‘paradigmatic’ case of deferred reference by Galery (2008, p. 161),

(5) He must be a giant,

cannot be analyzed as such. As Galery himself pointed out, the use of a modal here would be odd if the speaker had in mind a particular in-

dividual who left that footprint. Instead, he is talking about whoever left the footprint, so this is not a case of deferred reference understood as an interpretation process resulting in a singular proposition.

(1), repeated below, is more problematic:

- (1) **He** is usually an Italian, but this time they thought it wise to elect a Pole.

Although *he* in this case does not refer to an individual person, it is reported as contributing the role of the Pope (Recanati, 2005, pp. 298, 301) or referring to the property of being the Pope. Let us start from the ‘reference to property’ suggestion. First, properties are not the kind of entities which are ‘Italian’, so *he* does not literally *refer* to the property of being the Pope in (1). It could be said that the relevant property attributed here to the referent is not ‘being Italian’ but ‘being usually Italian’. Yet, ‘usually’ is a quantifier and should not be considered a part of a property here as the truth value of (1) depends exactly on how many Popes were Italian and how many were not. In effect, it depends on the first-order properties of individuals. (compare Elbourne, 2008, p. 443, note 29) Additionally, the pronoun *he*, if interpreted as deferred reference, imposes a constraint that the referent be an individual male due to its classificatory component. Properties are not male, so *he* should not be interpreted in (1) as deferred reference. Furthermore, Recanati explicitly says that *he* in this utterance is not referential. According to him, it is the role that contributes to the proposition, and a role is ‘formally represented as a partial function from situations to individuals’ (p. 298); according to Recanati, *he* here is semantically equivalent to a definite description. This suggestion requires more careful examination.¹⁵

2.2. Descriptive indexicals as definite descriptions

If we are to account for the truth conditions of (1), we must count the number of popes in the actual world, so a situation here cannot be identified with a possible world. Yet, if we say that a role is a function from times to individuals, we will either have too many domain members – there is one pope for every time instant – or must decree that only relevantly different time moments or time intervals count. Recanati in (2005) does not define situations but takes them as basic.¹⁶ It is clear, however, that if definite descriptions are partial functions from situations to individuals, situations must resemble ‘smaller’ possible worlds (compare Barwise and Perry, 1983, p. 7, Kratzer, 1989 and Elbourne, 2008, pp. 410–411). In other

places, for example in (1999), (2000) or (2004), Recanati deploys Austinian situations which he declares are similar to those of Kratzer (1989). Yet, in the latter account, situations are ontological entities ordered by the part-whole relation. In order to count situations, Kratzer and Recanati rely on Berman's notion of a minimal situation, which is intuitively the smallest situation for which a particular sentence is true (Berman 1987). Because a situation in which a sentence is true is contained in infinitely many other situations, minimal situations are needed to make sense of quantification over situations. Yet, while the notion of a minimal situation has proved resourceful in several fields,¹⁷ its application to many phenomena faces serious difficulties whenever time needs to be taken into account. Situations that should be counted in the case of (1) could not be the kind of minimal situations that just contain a person and his property of being a pope, because for each individual who was ever a pope there were times at which he was not a pope. We need to take time into account to differentiate those situations in which somebody is a pope from those in which he is not a pope, and it seems that we must do so by including time in minimal situations. However, it is far from clear how we are meant to treat time in such theories and the identity criteria of situations that include time are particularly unclear.¹⁸ Kratzer, for example, does not deal with time at all.¹⁹ However, it is not just an absence of a positive account which is problematic here. Let us consider one of the intended examples of the proponents of a theory of situations (Lewis, 1975, p. 4; Berman, 1987, p. 47):

(11) Caesar seldom awoke before dawn.

Intuitively, the minimal situation will contain Caesar, his awakening, and the minimal time that contains that event. We then count those situations that occur before dawn, those that occur after, and compare the numbers. Without time, there would be just one situation containing Caesar and his awakening, so there would be nothing to count. On the other hand, without minimality we would count some events several times because the two situations containing the exact time of the event and the whole day containing the same particular event are different situations. All of this is counterintuitive. Yet, to be able to apply the notion of minimality in a nontrivial manner, time must be considered in such a way that a situation that contains, say, the first minute of an hour, is part of a situation that contains that hour and is otherwise the same. Such a treatment would work for a case like (11) because it makes sense to talk about a minimal stretch of time in which an event takes place. However, it would fail for static

predicates because if somebody is the prime minister in May 2018, he is prime minister on every day of that month and at each moment of every day of that month. In such cases, a minimal stretch of time makes little sense since there is none.²⁰

Kratzer (2017) agrees that not all situations are suitable as counting domains.²¹ To counter this situation, she introduces a different notion which is intended to replace that of a minimal situation in the truth conditions of quantified sentences that include static predicates. Portner (2009) terms such situations ‘countable’. A situation is countable with respect to a proposition p iff it is a maximal spatio-temporally self-connected situation in all of whose substitutions p is true. Yet, in the discussed examples of descriptive uses of indexicals we need to count situations in which there is a pope (or a president) and compare the numbers of those in which the only pope (president) is φ to the number of those in which he is not φ . The notion of a minimal situation is necessary in order to guarantee that there would always be one pope or one president. The notion of a countable situation would work in (1) as a replacement for the notion of a minimal situation, but it is just a byproduct of the fact that there is always a break between one pope and the next that neatly cuts self-connected situations in the right places. However, apart from a case in which a president dies during his term, there is no break between presidents and a maximal spatio-temporally self-connected situation would typically contain more than one president. Thus, while the notion of a minimal situation is not well defined for situations containing both time and static properties, the notion of a countable situation cannot replace it here. In the case of (1), the truth-conditionally relevant difference is only when the Pope is a different person. If we knew that, we would know all that is really needed to ascertain the truth value of the sentence. Kratzer’s theory of situations does not provide us with a general solution here.²² Recanati relied on this theory to specify what he means by a role, which he claimed is what an indexical refers to in cases like (1). However, for precisely the reasons stated above, it is doubtful if there exists such a function from Kratzer situations to individuals that Recanati postulates. Therefore, I believe that the property of being the Pope *does* in fact contribute to the proposition, but it does not do so by being referred to, either in a direct or in a deferred manner, and not always by providing the descriptor part of a definite description. I will return to this point in more detail below.

3. The mechanism of descriptive interpretation

Thus far, my claims have been purely negative: I have rejected several examples as being instances of deferred reference and simply *labeled* them as cases of descriptive uses. Below I propose a positive account of the mechanism of the ‘contribution’ of the property in these cases. I propose treating descriptive uses of indexicals as a special kind of anaphoric use which I call ‘descriptive anaphora’. Via the descriptive anaphoric mechanism, an indexical expression inherits its semantic properties from its antecedent. However, in contrast to classic anaphora, that antecedent stems from an extra-linguistic context: it is an object that points to a salient property which is in correspondence with it. That property contributes to the general proposition.²³

3.1. Descriptive anaphora

To explain the mechanism of descriptive anaphora, I will use example (4), as repeated below:

(4) **Today** is always the biggest party day of the year.

(4) is not a case of either direct or deferred reference because the classificatory component of *today* requires reference to a particular day. *Always*, on the other hand, is a general quantifier that in this sentence quantifies over days. *Today* presupposes singularity, while the quantifier excludes it. Referential interpretation of *today* would thus render this sentence inconsistent and, furthermore, we do not need to know the reference of *today* to realize that much.

In typical cases, descriptive anaphora is triggered by the use of quantifying words such as *traditionally*, *always*, or *usually* in contexts in which they quantify over the same kind of entities referred to by indexicals. In such contexts, the generality of the quantifiers clashes with the singularity of the default referential reading of indexicals. As a result, we search for the discourse antecedents of the pronouns. However, the antecedents are not supplied explicitly by the linguistic contexts but are objects identified through the linguistic meanings of the pronouns (in cases of pure indexicals) or by demonstration (for demonstratives). The objects are used as pointers to properties that correspond to them in a contextually salient manner. The context must be very specific in order to supply just one such property, which explains why there are not many convincing examples of the felicitous use of descriptive indexicals (compare Kijania-Placek, 2012 and 2015).

However, whether there is a clash is a pragmatic matter as it depends on the domain of quantification of the quantifier, which for most adverbs of quantification is not given as part of the semantics of the word. If *always* quantified over periods of time that are smaller than a day (or over events), there would be no conflict between *always* and *today*.²⁴

The broad use of the term ‘anaphoric’ for cases in which there is no articulated expression that serves the role of the antecedent is an established one among contemporary linguists and philosophers of language,²⁵ and I follow Kripke in my use of objects as means of expression. In a recent paper on Frege’s semantics (Kripke 2008), he treats objects as parts of language. For Frege, an indexical expression, together with an object that is part of the context of its utterance (be it the speaker, time of utterance, etc.), forms a hybrid proper name²⁶ which only considered as such a hybrid has sense and reference. (Frege, 1892, 1897, 1918) Although the objects are parts of the context of utterance, being parts of the expression of Fregean thought makes them, as Kripke put it, ‘an unrecognized piece of language’ (2008, p. 202). In a similar vein, Nunberg (1993, pp. 19–20) wrote the following about indexicals: ‘this is the characteristic and most remarkable feature of these expressions. They enable us to turn the context itself into an auxiliary means of expression, so that contextual features are made to serve as pointers to the content of the utterance’. In my account, indexicals are anaphoric *not* on expressions available in the linguistic context, but on objects identified by the linguistic meaning of the indexicals, or by an accompanying demonstration. These objects are used here as a means of communication, playing the role of pointers to properties that correspond to them in a salient manner.

What is important is not only that the structure of a general proposition is determined by the binary quantifier that triggers the mechanism of descriptive interpretation in the first place,²⁷ but also that the property retrieved by the addressee via descriptive anaphora serves as a context set that limits the domain of quantification of the quantifier. The property is not a referent for the original pronoun. To return to the example, the salient property in (4) is *last day of exams* and *always* is a binary quantifier, $\text{always}_x(\varphi(x), \psi(x))$, which is interpreted in accordance with generalized quantifier theory (e.g., Barwise and Cooper, 1981; Peters and Westerståhl, 2006).²⁸ In this case, the general proposition is:

$\text{always}_x(\text{last-day-of-exams}(x), \text{biggest-party-day-of-the year}(x))$.

Since *always* is a binary universal quantifier, its truth-conditions are the usual ones:²⁹

$$M^{gi} \models \text{always}_x(\varphi(x), \psi(x)) \text{ iff } \varphi^{M^{gi}} \subseteq \psi^{M^{gi}}.$$

The resulting general proposition, ‘The last day of exams is always the biggest party day of the year’, concerns the day of utterance only to the extent that the day belongs to the context set.

In the case of (1),

- (1) **He** is usually an Italian, but this time they thought it wise to elect a Pole,

the mechanism of descriptive anaphora is triggered once again by the inconsistency between the indexical and the quantifier, and John Paul II is the demonstrated antecedent. His salient property of ‘being a pope’ serves as the context set for the binary quantifier ‘usually’, $\text{usually}_x(\varphi(x), \psi(x))$. In this case, the general proposition becomes:

$$\text{usually}_x(\text{pope}(x), \text{italian}(x)),$$

with the usual truth conditions for the (generalized) majority quantifier (see Peters and Westerståhl, 2006):

$$M^{gi} \models \text{usually}_x(\varphi(x), \psi(x)) \text{ iff } |\varphi^{M^{gi}} \cap \psi^{M^{gi}}| > |\varphi^{M^{gi}} \setminus \psi^{M^{gi}}|.$$

The resulting general proposition is therefore the expected ‘Most popes are Italian’. In general, the interpretation process can be given by the following schema:

$$IND \text{ is } Q\psi \Rightarrow Q_x(\varphi(x), \psi(x))$$

where Q is a quantifier, φ is the property corresponding to the object which is the antecedent for the indexical (*IND*), and ‘ \Rightarrow ’ should be read as ‘expresses a proposition of the following structure’.

The descriptive use of an indexical is not its basic one; it is instead the case that the process of descriptive anaphora is triggered by the inadequacy of its basic uses, be they anaphoric, deictic or deferred. In (4) no proposition is expressed either anaphorically (in the standard sense of an anaphora with a linguistic antecedent) – *today* does not admit of this kind of interpretation – or via direct or deferred reference, because the singularity of these latter interpretations is in conflict with the generality of *always*, which in this context quantifies over days. Even though the inconsistency of referential interpretation is context dependent with respect to what kind of objects are quantified over, it is not context dependent with respect to the interpretation

of the indexical: as long as we know that *always* quantifies over days, we do not need to know which day would be referred to by *today* in order to be aware of that inconsistency. As long as we know that the kind of objects quantified over by the quantifier is the same as the kind of objects typically referred to by the indexical, we exclude basic interpretations and rely only on the linguistic meaning of the indexical – its Kaplanian character. Borrowing the terminology from Galery (2016), I term such cases of descriptive uses of indexicals *structural*.

Precisely because no proposition is expressed either anaphorically or referentially, the proposition generated by descriptive anaphora is the proposition expressed and not merely the one which is implicated in a Gricean sense. My proposal should thus be seen as falling within the field of truth-conditional pragmatics, i.e. theories that allow pragmatically inferred content to contribute not just to implicatures but to utterances' truth-conditions. According to truth-conditional pragmatics, pragmatic contribution is thus not limited to providing values to indexical elements of a sentence (compare for example Kamp, 1981; Sperber and Wilson, 1986, 2004; Heim, 1988; Jaszczolt, 1999; Recanati, 1993, 2004, 2010; Levinson, 2000; Carston, 2002; Galery, 2012, 2016; Kijania-Placek, 2012, 2017).

3.2. Other types of descriptive uses of indexicals

3.2.1. Unavailability of the referent (the epistemic case) However, not all cases of descriptive uses of indexicals are triggered by an inconsistency between an indexical and a quantifier. Some, for example,

(5) He must be a giant,

stem from the unavailability of basic interpretations. In (5) the referent is not present, and because the utterance is a conversation starter there is no linguistic antecedent for the pronoun. Since the speaker has no particular male individual in mind, and the classificatory component requires that the referent be male and excludes reference to the footprint, deferred interpretation is no longer an option, therefore the descriptive interpretation is considered.³⁰ Again in the spirit of Galery (2016), although not in a sense explicitly deployed by him, I term epistemic those cases of the descriptive uses of indexicals which are triggered by a lack of knowledge about the potential referent due to its unavailability in the context of utterance.³¹ In these cases, speakers do not have direct epistemic access to the referent and thus their attitudes cannot be *de re*.³²

Yet, while this type of descriptive uses of indexicals differs from the examples considered in the previous section in terms of the trigger of the descriptive interpretation, the interpretative mechanism is the same: we search the context for a salient property that corresponds with the demonstrated object. The property may have (and in the case of (5) does have) the structure of a relation whose one relatum is fixed by the demonstrated object. While it is this two-argument relation that is salient in the context, it is the resulting property that contributes to the proposition. In the case of (5), the property is ‘being somebody who left this footprint’. The sentence does not contain an overt quantifier which constrains the structure of the proposition expressed; however, in analogy to the use of bare plurals for the expression of a quantified sentence, I postulate a covered binary quantifier for the interpretation of examples like (5). It will usually be a universal quantifier or the definite description quantifier, but which quantifier in particular will give the structure to the general proposition that is expressed is a contextual matter and depends mainly on what is predicated of the objects quantified over (compare Carlson 1977 and Kratzer 1995). An analogy with bare plurals may also be illustrative here: ‘Mice are mammals’ is interpreted by a universal quantifier, while ‘Mice will come out of this hole if you wait long enough’ is interpreted by an existential quantifier. In the case of (5), the type of the quantifier (a definite description) is dictated by the predicated property of leaving a footprint, which typically is a property of just one individual.³³ As a result, the structure of the proposition expressed is the following:

$\text{the}_x(\text{male-who-left-this-footprint}(x), \text{giant}(x))$

– ‘The man who left this footprint (whoever he is) is a giant’.³⁴

3.2.2. The irrelevance of the basic interpretation (the pragmatic case) Sometimes, however, descriptive anaphora is triggered by the clear irrelevance of the referential interpretation: it is simply incompatible with the salient goal of the utterance or is obviously trivial or false.³⁵ This occurs when the singular proposition that would be expressed if the indexical was interpreted referentially comes into conflict with the pragmatic purpose of expressing it, such as warning or critique. It is then that this pragmatic conflict triggers a descriptive interpretation. Nunberg furnishes us with another instructive example in this regard, one which is drawn from the Peter Weir movie *The Year of Living Dangerously*. In this film, Mel Gibson plays Mr. Hamilton, a reporter in Indonesia who is trying to uncover arms ship-

ments intended for the local communists. Of course, he would be in trouble if they found out and thus Hamilton receives the following warning when talking to a warehouse manager about the shipments:

- MR. HAMILTON?
BE CAREFUL WHO YOU TALK TO ABOUT THIS MATTER.
I'M NOT P.K.I., BUT I MIGHT HAVE BEEN.³⁶

Following Nunberg (1991), I paraphrase the last sentence as:

- (12) I might have been a communist.

This sentence is semantically consistent under referential interpretation. When interpreted in this manner, it would express a modal proposition that contains a singular proposition about the utterer of the sentence in its scope. Such a proposition is true if and only if that very person is a communist in some counterfactual situation. Yet that proposition is impotent as a warning: for Hamilton's safety here it is totally irrelevant who his current interlocutor is in a counterfactual situation as long as he is not a communist in the actual situation. Somebody must be a communist in this world in order for Hamilton to be placed in danger. For what has been uttered to work as a warning, we cannot interpret the modality as concerning the speaker's properties in some other, counterfactual situation. Thus, the sense of the warning is not a singular one which concerns this particular speaker; instead, I claim that it is a general proposition generated by the mechanism of descriptive anaphora.

We search the context for a property of the speaker which is the extralinguistic discourse antecedent for *I*. The aim of the utterance (a warning) excludes properties that identify this person in the actual world because he said that he himself is not a communist. In this case, his salient property is *warehouse manager*. The property serves the purpose of the context set for the binary existential quantifier, which is implicit in this type of modal sentence:

$\text{possible}(\text{exists}_x(\text{warehouse-manager}(x), \text{communist}(x)))$

This proposition is true if and only if there is a possible situation in which there is a warehouse manager who is a communist. This time, the actual situation is one of those which is possible and so the warning is not cancelled, but the content of the resulting modal proposition is still too weak to sustain the warning – it is almost always true. In the analysis above,

I have assumed that the modality considered is a metaphysical modality and this assumption is the source of the weakness of the resulting content. But maybe the modality is epistemic? In (1993, p. 306) Recanati even claimed that if we assume an epistemic interpretation of the possibility, we can retain the directly referential reading of ‘I’ in this example, and thus it should not be treated as a case of a descriptive use of an indexical.³⁷ In Kijania-Placek (2012) and (2014) I have argued that direct reference is not sustainable in this case, even under epistemic interpretation of the modal.³⁸ The epistemic reading of the possibility seems intuitively correct, however, and I will consider it below.

An additional argument against a referential reading of indexicals in cases similar to (12) comes from Borg’s example, which is based in turn on those by Recanati (1993) and Nunberg (1993). A mother is reproaching a child who has just opened the door to her grandmother without first checking to see who it is (Borg, 2002, p. 14):

- (13) You shouldn’t have done that, she might have been a dangerous criminal.

In this case, even reference to the child’s knowledge at the time before the door was opened would not make epistemic interpretation of the modal tenable as long as we retain the referential reading of ‘she’ in (13), since the child always knew that the grandmother was not a criminal (we assume that she was not). Thus, the epistemic interpretation of the modal supplies us with patently absurd results, regardless of whose knowledge and at which time is taken into account, if the knowledge concerns the grandmother herself. The metaphysical interpretation of the modal fares no better since it gives us an interpretation of the whole utterance which is either trivial or a manifestly false (if we exclude the world in which the grandmother is a criminal from accessible worlds) proposition. The intended proposition expressed by (13) is a general one that concerns whoever is at the door. Such a proposition is generated by descriptive anaphora when the grandmother is taken as the antecedent for *she* as it is used in (13). The antecedent (the grandmother herself) is pointing to her salient property, *person at the door*, which is the semantic propositional contribution of this use of *she*. As a result, the proposition expressed by the sentence embedded in (13),

- (13a) She might have been a dangerous criminal,

is

`might-have(thex(person-at-the-door(x), criminal(x))).`

The question remains as to what kind of possibility is deployed in this case. I have argued above, with reference to example (12), that metaphysical possibility gives a trivial interpretation even if we interpret the indexical descriptively because its force is not strong enough to sustain the warning expressed by the utterance. In the case of (13), it seems that the force might be sufficient to sustain a reproach. Be that as it may, both kinds of possibility provide us with adequate truth conditions in this case: ‘It was (really) possible that the person at the door was a criminal’ or ‘Your knowledge at the time of opening the door did not preclude the person at the door being a criminal’. In the case of (12), however, because of the inherent actual future rather than the counterfactual character of a warning, I prefer the epistemic interpretation:

$\text{might-have}^{epis}(\text{exists}_x(\text{warehouse-manager}(x), \text{communist}(x))).$

The modality might be relativized to the past (prior to the utterance) knowledge of the addressee: ‘From what you knew before, it was not precluded that there are warehouse managers who are communists’ (or ‘warehouse managers whom you meet in Indonesia’). But a more natural move as far as the warning is concerned is to relativize the modality to the actual knowledge of the speaker that he shares with Hamilton by warning him that ‘For all I know, it is not precluded that there were (and are) warehouse managers in Indonesia who are communists’. It is only the latter interpretation that provides the requisite content and the force of the warning in this beautiful scene from ‘The Year of Living Dangerously’.

4. Conclusion

I have differentiated between 1) cases of deferred reference proper in which the indexical contributes to the expression of a singular proposition and 2) the descriptive uses of indexicals which result in general propositions. This proposal was followed by an analysis of descriptive uses of indexicals by a pragmatic mechanism which I term ‘descriptive anaphora’. This was an attempt to explain in what way a property retrieved from the context contributes to the general proposition expressed by an indexical utterance. According to the account proposed here, the property serves as a context set for the binary quantifier which constrains the structure of the proposition. The mechanism is triggered by the failure of basic level interpretations.

According to Recanati, the descriptive interpretation of an indexical requires mandatory saturation since “the latter provides a ‘trigger’ for the process of transfer” (1993, p. 313). However, as I hope to have shown, descriptive interpretation may be initiated by the inconsistency of a sentence before the level of saturation is reached. Even if we admit that it is a matter of pragmatics as to which objects are quantified over for most adverbs of quantification – and, as a result, whether there is inconsistency or not – saturation is not required: we do not need to know which particular individual is referred to by an indexical in order to detect inconsistency, as long as we know that the quantifier ranges over the same kind of objects as the indexical would refer to by default. Thus, even though the inconsistency depends on pragmatic features on the quantifier’s side, it relies solely on the linguistic meaning on the side of the indexical. However, since it relies on such a concept of inconsistency, my analysis must assume some relation between the different interpretations of indexicals. Although indexicals are semantically underdetermined in my account, thus admitting referential as well as descriptive interpretations,³⁹ I assume the semantic primacy of (standard) anaphoric and referential interpretations, whether direct or deferred.

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N O T E S

¹ An example of deferred reference: when talking about the occupations of a preschool child’s parents, we point to a girl and say, ‘He is a lawyer’, referring thus to her father. In (2004) Nunberg drops the deferred reference interpretation, opting instead for a directly referential reading. That account, however, requires accepting controversial ontological assumptions and I will not be concerned with this in this paper.

² Examples of such uses were given by Borg in (2001).

³ Examples of deferred ostension to abstract objects by pointing to their exemplifications were given by Quine (1968, p. 193–195) and Nunberg (1978, 1979).

⁴ Compare Neale’s (1990) criteria of singularity.

⁵ Here I am only concerned with deferred reference of indexicals. In Kijania-Placek (2018) I have argued for treating some uses of names as cases of deferred reference, although Nunberg opted against such an interpretation in (1992).

⁶ Nunberg (1993, p. 25). Compare also Elbourne (2008), p. 439.

⁷ Elbourne in (2008) interprets the relational component of some indexicals (such as *we*) as a requirement that their interpretation is either an individual, possibly plural, or ‘a definite description whose actual instantiation is such that the index is a part of it’. (p. 420) I argue against the definite description interpretation below.

⁸ I.e. the relation between index and referent of non-participant terms can be given by any salient relation and is thus not constrained by the linguistic meaning of the term.

⁹ Page references in this part of the paper are to Nunberg (1993).

¹⁰ Kaplan (1989, p. 524). Following Kaplan, I mean here not the biological sense of ‘male’ and ‘female’ but the grammatical sense of gender. Thus, this captures uses such as ‘She’s a beauty’ when said of a boat. I owe this example to Steven Davis, whose remarks on an earlier draft of this paper helped me to clarify some points.

¹¹ The example he uses is ‘We don’t talk with our mouths full.’ (Nunberg 1993, p. 16)

¹² Elbourne takes kinds to be ‘a complex sort of individual’ (2008, p. 420).

¹³ Nunberg is unclear on this point. While discussing this example he is ready to admit that *we* refers to a kind, but later, on page 27 (1993), he claims that ‘reference to kind-level individuals will be available with singular nonparticipant terms, whose relational component imposes no requirement of identity between index and interpretation’. This last claim is made with reference to *I*. A classic paper on reference to kinds is Carlston (1977). Carlson treats kinds as a specific kind of objects, which on the one hand are individuals, but on the other have parts that are individuals as well. Thus, kinds are individuals which may be present in different places at the same time (‘kinds are not spatially bounded’) and properties attributed to kinds may be both collective and distributive (see note 14 below). (Carlson 1977, p. 444, 451) Such a theory imposes severe ontological commitments and Carlson does not give reasons for postulating such objects other than the fact that his theory allows uniform treatment of all utterances involving kind terms. Compare also Kratzer (1995). It is not clear to me that Nunberg uses the term ‘kind’ in a way similar to either of these authors.

¹⁴ A group understood in the distributive sense possesses a property derivatively, only if its members possess it. A possible example of a deferred use involving a distributive sense of a group is ‘You (i.e., you people) must not have stop lights in your country’, uttered by a police officer to a driver who speaks little English (Nunberg, 1993). The important difference between this example and (3) is that the policeman refers to whatever nationality the addressee belongs to; therefore, the addressee is a rigid member of the interpretation, in compliance with the requirements of the relational component of the pronoun. On the distinction between collective and distributive groups and properties, compare Neale (1990) as well as Link (1983) and Davidson (1969).

¹⁵ Similarly, Elbourne (2008) interprets *he* in this example as a definite description. As a consequence, he must assume that ‘the speaker intends to quantify over papal reigns’. The criticism below applies to Elbourne’s interpretation as well as to Recanati’s. It also indirectly applies to accounts that rely on the singular concept interpretation of descriptive uses of indexicals, such as Sæbø’s (2015). For a more direct criticism of the latter, compare Kijania-Placek (2018a).

¹⁶ Personal communication.

¹⁷ One example is Heim’s (1990) analysis of the donkey sentences.

¹⁸ It is sometimes claimed (Elbourne 2008) that Kratzer’s theory of situations is a variant of that of Barwise and Perry, but these theories differ substantially in their treatment of time. For Barwise and Perry, a state of affairs (which is their equivalent of a Kratzer situation) consists of a situation type and a spatio-temporal location. Since states of affairs at different locations are not comparable (Barwise and Perry 1983, p. 55), there is no way of introducing into this theory a non-trivial notion of a minimal situation (in Berman’s sense).

¹⁹ ‘[W]e are neglecting matters of time. [...] The situations we are considering all have the same temporal location’ (Kratzer, 1989, p. 616).

²⁰ The minimality of moments of time would not help here as we would have infinitely many situations for each case. von Stechow (2004) pointed out the necessity of including time in the criteria of individuation of situations, but he did not propose any solution, claiming just that ‘[t]he issue of individuating the right situations to quantify over is one of the major tasks for further research’ (p. 140).

²¹ ‘Counting Principle[:] A counting domain cannot contain non-identical overlapping individuals’ (Kratzer 2017; Kratzer borrows this principle from Casati and Varzi 1999). ‘[A] domain of quantification is never appropriate if there are part-whole relationships holding among its members’ (Kratzer, 1995, p. 169).

²² For an extended argument, compare Kijania-Placek (2012) and (2014).

²³ Compare Kijania-Placek (2012), (2014), (2015), (2017) and (2018a). Galery (2016) proposes an account of descriptive indexicals that is based on a concept of ‘implicit’ anaphora. On Galery’s account, “the antecedent is inferred in the context and [...] is able to provide the pronoun with an interpretation” (p. 287). Since the identification of an object in the context is also required, the additional step in the interpretation – from the object to the inferred antecedent to the interpretation – is not well motivated. More importantly, his proposal is based on Dynamic Syntax (Kempson et al., 2001, Cann et al., 2005), and it thus relies on the epsilon calculus, which itself is a conservative extension of first-order predicate logic (Galery, 2012, 2016). This potentially undermines the applicability of Galery’s account to the analysis of examples involving majority quantifiers, such as *usually* (compare Barwise and Cooper, 1981; Peters and Westerståhl, 2006, Rescher, 1962, Mostowski, 1957 and Kijania-Placek, 2000). Notably, even though Galery mentions examples such as (1), he does not provide explicit analysis for them. My motivation for using the generalized quantifier framework (below) is exactly the expressive power of that logic.

²⁴ Here is an example that does not lead to a descriptive interpretation of *today*: ‘No matter how many times I have tried to pass the test, already three times today, I have always failed.’

²⁵ See, for example, Partee (1989), Roberts (2010), Kripke (2009), Ehlich (1982). Read et al. (1990) classifies even the use of perceptual information or goals for the resolution of the sense of incomplete definite descriptions as anaphora (1990, pp. 116–118).

²⁶ The phrase ‘hybrid proper name’ was suggested by Kühne (1992). See also Poller (2008).

²⁷ This claim will be qualified below.

²⁸ I use Courier New font style for formal counterparts of natural language quantifiers and predicates.

²⁹ Compare Peters and Westerståhl (2006) as well as Lewis (1975). In what follows, M is a model, g is an assignment of objects from the domain of the model to individual variables, i is a context, \models is a satisfaction relation between a sentence (or an open formula) and a model and context, under an assignment; φ and ψ are open formulas, $|A|$ signifies the cardinality of the set A , φ^{Mgi} is the interpretation of formula φ in model M and context i under assignment g , “ \cap ”, “ \setminus ”, and “ \subseteq ” are the standard set-theoretical operations of intersection, complement and subset, respectively.

³⁰ The point that it is the lack of the referent in the context that triggers the descriptive reading was made by Bezuidenhout (1997, p. 401). Compare also Kijania-Placek (2012).

³¹ Galery in (2016) is talking about “an epistemic source” of the descriptiveness of the interpretation, when “the hearer arrives at some descriptive interpretation due to some lack of knowledge about the specific individual in question.” (p. 291) He uses the term ‘deferred pronouns’, but his characterization – “uses that depend on some (usually, perceptual) feature of the environment but receive a descriptive interpretation (instead of

a deictic or indexical one)” (p. 287) – is exactly parallel to my use of the term ‘descriptive indexicals’. Galery does not explicitly propose a typology for the descriptive uses of indexicals, but I borrow his terminology for that purpose.

³² On the interpretation of descriptive uses of indexicals in attitude reports, see Kijania-Placek (2012) and (2015).

³³ As Galery indicated (2016, p. 289), if the hearer does not recognize the demonstrated object as a footprint, she/he would be unable to retrieve the truth conditions of (5). Similar remarks concern not realizing that typically one footprint is left by one footprint maker.

³⁴ ‘Must’ here is just evidential. Compare Chafe & Nichols, 1986 and especially Chafe, 1986. Thanks to Geoffrey Nunberg for discussion of evidentials and of many other points in this paper. Compare also Kijania-Placek (2015) and (2018a).

³⁵ Although I argue here – in the spirit of Sperber and Wilson’s relevance theory – that the proposition generated by descriptive anaphora is an expressed proposition, my account is compatible to some extent with the claim that the proposition is just implicated (in the sense of Grice 1975 and 1989), the irrelevant proposition being the expressed one. I assumed as much in my earlier papers (Kijania-Placek, 2009). The example considered here and on which I mainly relied before may seem to allow an interpretation in terms of implicature, but other similar examples resist such an interpretation. See example (13) below.

³⁶ ‘P.K.I.’ is an abbreviation for ‘Partai Komunis Indonesia’.

³⁷ Recanati attributes the epistemic interpretation to Schiffer. I have not discussed epistemic interpretation in earlier versions of this paper, but discussions with Peter Pagin, Francois Recanati and correspondence with John MacFarlane prompted me to be explicit on this matter. I owe much to these discussions.

³⁸ In a nutshell, the intuitive component of the argument relies on the fact that the warning is sustained even after an explicit declaration of the interlocutor that he is not a communist, while it should be cancelled if the warning concerned himself directly.

³⁹ They are not type-referential, in Recanati’s terms. See also Powell (2003) and Bezuidenhout (1997).

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