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# « Pure » indexicals vs true demonstratives[1]

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## 1 Introduction

In the most widely accepted terminology, "indexicals" applies to a set of context dependent referential terms. Typical members of the set in English are: *I, here, now, we, you, tomorrow, he, they, this, that, this guy…*
Among this set, there is a classical (from Kaplan 1997) distinction between *pure indexicals* and *true demonstratives*.

| PURE INDEXICALS | (TRUE) DEMONSTRATIVES |
|---|---|
| Prototype: *I* | Prototype: *This woman* |

Table 1: Types of indexicals. The starting point (from Kaplan 1997).

The bases of the distinction are not made fully explicit by Kaplan, who gives only few examples. Perry (1997) introduces a related distinction between *automatic* (pure indexicals) and *intentional* (true demonstratives) indexicals, and proposes an explicit repartition of a larger set of indexicals between the two classes.

The alleged property which leads to introducing this distinction is roughly that some indexicals ("pure" indexicals) get automatically their reference when uttered ("pure indexicals" like *I, here* and *now*), while others ("true demonstratives" like *this woman*) require taking into account

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actions or intentions of the speaker in order to find the intended referent. Although this observation may sound correct at first glance, it raises serious problems when considered more closely. Many scholars have shown, for instance, that if so defined, the class of "pure" indexicals is empty (Mount 2008), or almost empty (Recanati 2001). Moreover, some expressions (e.g. *now* and *here*) may count as typical members of both classes, if the classes are so-defined, and no such approach can work without admitting "demonstrative uses" of (otherwise pure) indexicals, which undermines a clear distinction between the two categories.

The main problem with the classical distinction is that subsequent studies convinced us that neither a mere utterance (of a "pure" indexical) nor an auxiliary action like a pointing (for a true demonstrative) gives us by itself the intended referent without any extra inference (Lücking et al. 2015).

But this does not prove that the classical distinction has no substance. In this paper, I will introduce a crucial distinction between the *anchor* of an indexical and its denotation, a distinction which helps to realize what is insightful and what is wrong with the classical opposition between pure indexicals and true demonstratives and leads to a better definition of these two classes of indexicals. The work of Nunberg (1993) will be of particular relevance for this enterprise, not only because his notion of *index* of an indexical is the source of what I call its *anchor*, but also because his study makes room in the assignation of a referent to an indexical for the ontological *sort* of entity, e.g. *person*, *plurality*, *space*, *time*,…, an indexical has to denote. I will try to explain on these bases why different items of the same basic semantic category (indexicals or demonstratives) may seem to have different behaviors.

## 2   The classical distinction and its inadequacies

A basic idea supporting the classical distinction is that for some indexicals, their mere utterance "fully determines their reference" (Kaplan) although for others the reference of the indexical can be rather freely chosen by the speaker, provided that some conventions or some actions (like a Kaplanian *demonstration*) helps the hearer to find the intended referent. This is clearly reflected in Perry's terminology "automatic/discretionary" (Perry 2001) or "intentional" (Perry 1997):

|  | Narrow | Wide |
|---|---|---|
| Automatic | I, now*, here*[2] | tomorrow, yea |
| Intentional | now, here | that, this man, there |

Table 2: Types of indexicals (Perry, 1997: 597)

Another relevant distinction is the contrast between what Perry calls the "constitutive facts about the utterance" (agent, time position), the *narrow* context, and these facts "plus anything else that might be relevant", the *wide* context".

Perry's presentation makes explicit the main issues such an approach has to face. First, it does not give a unique category to some indexicals (*now,* and *here)*, an issue noted by Perry himself, which legitimates the asterisk in Table 2. Perry insists that depending on the stretch of space or time denoted by such indexicals, they can be analyzed as *automatic* (nothing more than their utterance is relevant), or *intentional* (the intentions of the speaker matter). In addition, this typology has to be completed by the notion of "demonstrative use" of "pure" indexicals. "One can point to a place on a map and refer to it as "here" [Kaplan, 1989a]. "*Now* and the present tense can be used to draw attention to and confer immediacy on the time of a past or future event, as when a history teacher says "Now Napoleon had a dilemma..."[Smith, 1989]" (Perry 1997: 599). But the notion of demonstrative use does not receive any precise definition although it appears clearly as a threat for both contrasts (automatic/intentional and narrow/wide). Last but not least, note that there is no cell in the table for demonstratives, although someone may find items in each of the four cells she may want to label "demonstrative" (e.g. *here, yea, this man)*.

It is not surprising, then, that most scholars exploring more carefully this way of drawing a line among indexicals, have to conclude that all indexicals, except possibly *I,* are demonstrative, or "impure" indexicals, or discretionary indexicals. Recanati (2001) provides a convincing set of examples showing that neither *here* nor *now* are pure indexicals in the classical sense, And Mount (2008) argues that it is not even impossible to challenge the thesis that *I* is a pure indexical since in some cases it does not denote the speaker of the utterance, but some object related to her (as in the famous example *I am parked outside)*.

Although there is an intuitive basis supporting the division of indexicals in two classes under the prototypes *I* and *this woman*, the classical way of

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[2] The asterisk is used by Perry to signal that *now* and *here* can be either automatic or intentional, depending on their denotation. See infra for more on this.

grounding the distinction on the opposition between automatic vs intentional indexicals leads mostly to question the validity of the intuition. It is easy to show that for none of them does their utterance fully determines their reference, and that for each of them, it is necessary to rely upon conventions, gestures, and intentions to decide what is the intended referent.

## 3    A more sophisticated view of indexicals. Nunberg (1993)

Nunberg (1993) accepts the classical view that "the meaning of indexicals provides a rule which determines the referent in terms of certain aspects of the context"  (Kaplan 1989 : 490), but tries to go further by "zooming in" on the  way indexicals actually get their reference.
Nunberg distinguishes three components in the semantics of indexicals.

### 3.1 The deictic component

A key part of Nunberg's approach is what he calls "index": "the contextual element picked out by the linguistic meaning of an indexical expression like *you*, as well as (…) the thing picked out by a demonstration associated with the use of a word like *that"*(Nunberg 1993 : 4). This *index* is not the intended referent, but a clue for finding it, an argument of a complex function returning the referent itself. In a nutshell, the intended referent is supposed to have some distinctive relation to this index, a relation which helps to separate it from other individuals of the same sort. For instance, if the *index* of the demonstrative *this chair* is the dot of a laser pointer, the referent of this utterance is the closest chair *w.r.t.* that dot.

Nunberg admits that this is not the way the term « index » has been used in semantics, and justifies his terminological choice by arguing that it is consistent with Peirce's original usage of the term. For both reasons, and others (it looks rather tautological to say that an indexical has an index !), I will make a terminological move and use instead the term « anchor ». In my opinion at least, the notion is not different from Nunberg's *index* : the idea remains that an indexical requires to be anchored (= to find its intended referent by relation to some part of its context of use) and this *anchor*, is *not* the intended referent, but the argument of some function returning the intended referent.

### 3.2 The classificatory component

Indexicals also have a *classificatory component* (Nunberg), a constraint on the sort of entity denoted by the indexical. As examples of classificatory features, Nunberg mentions semantic sorts like *person, time, space, animate, male, plurality,* and the descriptive content of demonstratives (*that*

*car*). I will argue later that these sortal differences, in combination with the view that indexicals are "anchored" on their index can explain many differences of behavior between the indexicals of the same category (e.g. many differences between *I, here*, and *now*).

### 3.3 The relational component

Nunberg's theory includes a third component of the meaning of indexicals called *relational*, and defined as a constraint on the relation "between the index and the interpretation [denotation]". This component plays a role for distinguishing *we* from *I*: both indexicals are anchored on the same index (the speaker), but *we* must denote a plurality (descriptive component) *including* its index (relational component).

In Nunberg's text, the relational component is used for formulating a property distinguishing "pure" indexicals and demonstratives: in his own terms, "indexical uses of the third-person pronouns […] have no explicit relational component" (Nunberg 1993:9), in contrast to pure indexicals (e.g. *we*). We will come back to this as a weak point of the theory.


### 4    Partitions of indexicals in the more sophisticated theory

There is no way to distinguish, as in the classical approach, some indexicals as "pure" because they would target their reference by themselves, "automatically". In the more sophisticated theory, the referent is always under-specified by the deictic-anchoring component and any indexical can denote something very different from its mere referential anchor. Nunberg uses two oppositions for making differences among indexicals. He distinguishes, without any explicit comment about it, « participants terms » and  « non-participant terms », and makes, on the other hand, explicit claims about indexicals having a relational component and indexicals having no relational component.

### 4.1 *Participant terms vs non-participant terms*

Under the heading *participant terms*, Nunberg deals with *we, I, you, to-day, yesterday*, and when coming to *non-participants terms*, takes as paradigmatic examples "demonstratives and demonstrative uses of third person pronouns like *he* (…)" (Nunberg 1993: 23). This looks close to Perry's distinction between *narrow* and *wide* contexts (see above §2). Perry's contrast is based on the denotation[3] of the indexicals: either the denotation is

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[3] Perry's distinction would be difficult to apply to cases like *we* or *yesterday*. *We* denote both a necessary ingredient of its utterance, but, in addition entities which are not necessary ;

one of the necessary ingredients of any utterance (speaker, time, location) or it is an entity which is not within this small set. In Nunberg's approach, according to me, the relevant contrast supporting the difference between participant terms and non-participants terms is a matter of anchor (Nunberg's *index)*, not of denotation: either the *anchor* is defined as a necessary parameter of its utterance, or the anchor has to be stipulated by some special action concomitant to the utterance like a demonstration.

But Nunberg's approach is more complex, since he claims that a second distinctive property of *participants terms* is that they "have a relational component" whereas non-participants terms do not.

### 4.2 *Having* vs *not having an (explicit) relational component*

According to Nunberg, " (…) non-participant terms simply have no relational component; used indexically, they can contribute any individual or property that corresponds to their indices in some salient way" (Nunberg 1993:25).

What this claim intends to capture is the case of *we*, which takes as index the speaker, but has to denote a plurality including, or "instantiating", as Nunberg puts it, the index. Roughly speaking, Nunberg claims that only participant terms impose specific relations between their index and their denotation whereas non-participant terms impose no such relation. For the sake of the present purpose, it is not necessary to discuss in details this proposal, since Nunberg himself does not take it as the distinctive property setting apart true indexicals from demonstratives, but more as an interesting difference between the two classes.

Let me just say that this opposition raises many issues: it is first of all difficult to make precise the notion of having a "specific" relationship to some index (as opposed to having any relationship); secondly, it requires a special layer of the theory (relational component) which may look ad hoc; it is not obvious that the other parts of the theory cannot deal with the facts motivating it, like the interpretation of *we*[4] as opposed to the interpretation of *they*. My impression is that once one considers as crucial the different nature of anchors for indexicals (pure indexicals taking as anchors the parameters of their utterance vs true demonstratives taking as anchors the product of a dedicated action), as I do in this paper, one paves the way to making the relational component of Nunberg dispensable, but it does not seem necessary for the sake the present purpose to take a definite position on this.

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*yesterday* and *today* might be considered as members of different categories since *yesterday* is not part of the *narrow context* as defined by Perry, although *today* is.

[4] It does not seem impossible, for instance, to take as a property of the classificatory component the constraint that *we* must denote a plurality including the speaker-index.

### 4.3 Indexicals: types of anchors and ontological sorts

There are some reasons, thus, to consider that the distinctive property setting apart pure indexicals from true demonstratives is that pure indexicals take as their anchor constitutive parameters of their utterance (speaker, time place), while true demonstratives must be given their anchor by some dedicated action.[5] The distinction between the *index* (my *anchor*) of an indexical and its denotation is a crucial clarification which helps to realize what is insightful and what is wrong with the classical approach: if there is something "automatic", always defined, with pure indexicals, it is not their denotation, but their anchor; there is something correct in the distinction between *narrow* and *wide* indexicals, but, again, it is not a matter of denotation, but a matter of anchoring

What is best explained on the basis of Nunberg's notions is why, within the set *I, here, now, we,* some indexicals may be said more "pure" than others. Remember Kaplan taking explicitly as pure only *I*, and the asterisks on *here* and *now* in Perry's tab 1 supra.

Leaving aside the issue of the relational component (see above), Nunberg's approach provides for each indexical a sort (classificatory component) and an anchor (deictic component):

|  | Classificatory component (Sort=) | Deictic component (Anchor=) |
|---|---|---|
| *I* | *Speaker* | Speaker |
| *Here* | *Place* | Place of utterance |
| *We* | *Plurality including the speaker* | Speaker |

Table 3: Some pure indexicals in the spirit of Nunberg (1993)

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[5] To take this distinction as a crucial feature distinguishing pure indexicals from true demonstratives is also well represented in the literature following Kaplan's work as well as in this work itself. I follow on this Corazza (2002, 2004) who takes this opposition as the first of three properties distinguishing the two categories: "I argued in favor of three main features that distinguish them: (i) The use of a pure indexical, unlike the use of a demonstrative, never requires a pointing gesture to fix the reference, (ii) The use of a pure indexical, unlike the use of a demonstrative, is not perception-based and (iii) Pure indexicals, unlike demonstratives, are never vacuous terms". (Corazza, 2002) The two other distinctive features retained by Corazza would deserve a more detailed discussion and look subordinate to the first one.

The denotation has to be found with the help of the anchor, by general mechanisms[6], and has to be of the ontological sort stipulated by the classificatory component.

This gives a plausible basis for explaining why *I* may be seen as less under-specified (more "pure" in the classical Kaplan-Perry's sense) than *here*, *now* and *we*): there is one and only one *speaker* that knowing that a given speaker is the referential anchor identifies, namely herself[7], but there are many places, time and pluralities that knowing that a given entity is the referential anchor might identify.

This is so first of all because *place*, *time*, *plurality*, are of a different ontological sort than *speaker*: *speaker* being usually defined as a person, is a countable discrete entity, whereas *time* and *space* are non-countable "massive-like" entities. This is confirmed by using a laser pointer and asking people to interpret: *this person (this glass, this table)* vs *this place, this group of students...*

Suppose that for *I, here, now*, the referential anchor is provided by the utterance itself (speaker, place, time) and for *this man, this place*, the referential anchor is the dot of a laser pointer:[8] it is interesting to observe that the classificatory constraint will lead to the same kind of opposition. *I, this man* will most often target their intended referent rather easily (often without any other clue), but *here* and *this place* will typically need the help of extra-factors in order to know which place exactly the speaker intends to focus on, just because considering their ontological category (*space*), it is not the case that standard relations like proximity or inclusion w.r.t. a referential anchor are enough for separating one stretch of space from the others. The stretch of space one intends to denote with *here* is notoriously imprecise and extensible, as noted by Perry (see above §2).

If we locate a part of the referential imprecision in the ontological constraint imposed by the representational component of indexicals, we can explain two things:

1. We expect the same kind of imprecision for all indexicals referring to non-countable entities: space, time, plurality, etc. A referential anchoring

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[6] The same mechanisms are supposed to be relevant for all indexicals, i.e. they are supposed to lead from the anchor (e.g. the dot of a laser pointer target of a demonstration) to the intended referent of the demonstrative.

[7] There is no other person that is closer or more strongly related to the speaker than her/himself.

[8] For the sake of the present paper we admit that a pointing gesture interpreted as a demonstration is correctly materialized as a laser pointer and its dot (a point or region of the visible environment), and we consider only in the discussion special cases in which a real pointing occurs. For more on the complexity of real pointings, see Lücking & al. (2015).

can never help to distinguish one such entity from the others, just because there is a huge number of such entities in relation to the anchor. And we do observe this for *here, now, you, they, these people, this group of persons*.

*2*. A Kaplanian demonstration cannot help solve the problem when the imprecision is ontological in nature. When using *here* with an explicit demonstration, one shifts the referential anchor from the utterance place to the dot of the pointer (I will come back to this), but there are many places including the pointer's dot.

Interim conclusion: in my own view of Nunberg's approach, maybe more explicitly than in Nunberg's text itself, the main feature setting apart pure indexicals from true demonstratives is the nature of their referential anchor. By using another component of Nunberg's approach, namely the classificatory content of indexicals, and the classical opposition between discrete countable entities and non-discrete ones, it seems possible to explain why indexicals of the same postulated category may behave differently, for reaching their intended referent, as a matter of "ontological imprecision".

## 5    The nature of referential anchors

What makes indexicals special *per se* is that they reach a denotation as the result of a complex function taking as argument an anchor, that is some specific part of the real world, and that each indexical specifies, as a part of its lexical definition, how to find its denotation on the basis of its anchor. Each indexical being lexically associated to a sort, once anchored, it remains to find which individual of the relevant sort is intended by the speaker by means of general principles (valid for all indexicals) which help to distinguish one and only one individual of the sort by relation to the anchor.

What makes *we* and *they* different is that they use different referential anchors: *we* take as referential anchor a parameter of its utterance (its speaker), whereas *they* take as referential anchor a part of the context which has to be made salient by some special action of the speaker targeting some part of the context, or by some special property of the context itself dispensing the agent of such an action. This leads to distinguish two kinds of referential anchors:

a. Automatic reflexive anchors

Any utterance provides a set of potential anchors, its *agent, time,* and *location*;[9] part of the conventional meaning of some indexicals (pure index-

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[9] This is so on the basis of general postulates for actions sentences : there is no uttering action without an agent and a time and place of occurrence. So any utterance provides an anchor, a part of the real world which can be used for finding a denotation the speaker intends to share with the hearer.

icals) is that they use these anchors: *I, here, now, we ...* are typical examples. Considered as potential anchors, the parameters of use of an utterance have interesting properties: they are always defined (no utterance without an agent, a time and place), and in face-to-face communication, they are accessible to the participants.

b. Contingent external anchors

It is possible to accompany any utterance of a referential expression by a Kaplanian demonstration, like a laser pointing. If understood as a demonstration, a pointing is supposed to provide an anchor for the utterance of the expression. Pointing is a process which has been largely documented and discussed in the literature (see for instance Lücking et al. 2015 for a short recent review). For the sake of the present discussion we adopt a pretheoretical simple conception, and the typical example of using a laser pointer to help the audience to see what we mean. In a nutshell, our simplistic conception is the following: if an action distinguishing a specific part of the context is associated by the speaker with the utterance of a referential expression, there is a good chance that she is doing so for helping the audience grasp what exactly she is talking about. This provides an anchor (a specific part of the real world targeted by the pointing) by relation to which the intended referent is supposed to be found out.

Let us assume that the selection of the relevant anchor is lexically specified as a part of the deictic component of indexicals and we get the table 4 picture:

|  | *I, here, now, we, …* | *She, this woman,…* |
|---|---|---|
| Anchor | The utterance itself<br>Reflexive<br>Necessarily defined | e.g. the dot of a pointer<br>External<br>Contingent |
| Classical denomination | (pure) indexical | (true) demonstrative |

Table 4: Two classes of indexicals and their respective anchors.

This derives that the mere utterance of *I, here, now* is fine in any context, but that the mere occurrence of *this man* requires a special context, some special action or some specific property of the context isolating some part of the environment as a potential anchor for a demonstrative. This looks like a difference between a total function (pure indexicals) and a partial function (true demonstratives). Note that "to be fine" just means to get a referential anchor, not at all to identify the intended referent without any extra-help. For instance, *we* and *this group of persons*, once anchored (respectively on the speaker, and to the dot of a pointer), remain both imprecise concerning the delimitation of the intended plurality. As already said (see above §4) one source of imprecision comes from the fact that both expressions denote

a mass-like entity (a plurality of persons) whereas the anchor provides an individual, the speaker, for *we,* and the dot of the pointer, a restricted area of the visible context, for *this group of persons*. On the sole basis of the anchor, it is impossible to decide what is the extension of the plurality the speaker intends to denote. The main difference is that for *we*, the inclusion of the anchor (*me*) in the plurality is obligatory, whereas for *this group of persons*, the anchor may be anything closely related to the group of persons I intend to denote. In my view, this is so because *we*, by virtue of its classificatory component can only denote a plurality including the speaker, although for the demonstrative *this group of persons*, any place I point to can be an anchor, and the inclusion of this anchor in the denotation is only possible and frequent: I can point to a place close to a group of persons in order to denote them.

A short comment in passing related to Nunberg's « relational component » §4 above. : it does not seem completely right to say that demonstratives can denote « any individual or property that corresponds to their indices" (Numberg 1993 :25); it is very difficult for instance to use true demonstratives to denote any person or plurality that can be denoted by a pure indexical anchored on the speaker, i.e. to use, say, *this person*, or *this group of person*, for denoting respectively the speaker or addressee, or a plurality including them : only *I, you* and *we* can be so used. This should be made part of the theory at some point, but I do not think that Nunberg's relational component, as it is, can do the job, since, as I understand it, it formulates a positive constraint on all pure indexicals (their index must « instantiate » their denotation), although I have in mind a negative constraint on some demonstratives (true demonstratives cannot denote individuals when these individuals are in the denotation of pure indexicals anchored on the speaker).

## 6    From anchors to denotations

The distinction between the *anchor* of an indexical and its denotation, which I consider a good point of Nunberg's approach as compared to the classical presentation may also be seen as a weakness, because the precise way leading from anchors to denotation remains to be made fully explicit and is only covered in my own presentation by the rather vague expression « general principles ».

In my view, the distinction anchor/denotation opens a field of investigation, which is not accessible from the classical theory, by "zooming on" the referential process, and leads to much fruitful research, empirical as well as theoretical: it would be rather unfair to ask the initial distinction itself to say the last word on the topic before deserving any consideration. It seems to

me that the result of some recent works on pointing by means of gaze and gestures (Kranstedt et al. 2006, Lücking et al. 2015) tend to establish that the material target of a pointing gesture, whatever it is, never gives you automatically the intended referent without the help of some extra-inferences which remains to be stated explicitly.

I would just like to give some brief speculative comments on the way leading from anchors to denotations of indexicals. I see anchors as part of the utterance environment, identified either by the speech act per se (for pure indexicals) or by some dedicated action (like a Kaplanian demonstration). They are interpreted as clues for finding which individual of the associated sort the speaker wants to say something about. This sort plays a crucial role for isolating the referent, and the issue is: "which $x$ (sort associated with the indexical) a relation to $a$ (the anchor) helps to distinguish as the intended referent from any other conceivable $x$." Again, the idealized case of using a laser pointer may help. When interpreting "this vase" in front of a window display with the help of the laser dot, we ask our partner to consider a vase that a relation to the dot separates from others; this would be in the general case a relation of proximity: "take the individual I intend to speak about as the closest vase w.r.t. the dot". This allows, for instance to point on any part of the window display if there is only one vase in it, or using a very large or badly defined dot. In contrast, if there are more than one vase in the window display the relative proximity vases/dot will be relevant for deciding which vase is the referent: as a rule, the intended referent will be the closest vase w.r.t. the dot: if there is no such vase (imagine some vases on a circle and a dot on the center of the circle) then no referent can be chosen on the basis of this clue.

For indexicals associated to sorts covering non-discrete entities (like spaces, times and pluralities), there is no relation to a punctual anchor which might separate one individual of the sort from others. Lets us consider "these vases" in the previous example (a window display). A natural interpretation is "all the vases of the window display"; we can derive this interpretation in the following way: there is a unique collection of vases which are the closest vase w.r.t. the dot, namely all the vases of the visible display containing the dot (all other vases would be less close). But *these vases* can also be used for any collection of vases closer to the dot than others, especially if other properties of the display help to separate collections of vases. Suppose for instance there are three vases on the left of the display, and four on the right, with a large space in-between without any vase: then a dot on the left part of the display will be interpreted as denoting the three left vases, and a dot on the right part as denoting the four right vases.

These brief comments are just a very schematic view of a field of investigation which has to be considered for itself but may be of some interest for the discussion of the so-called "demonstrative uses" of pure indexicals.

## 7    On demonstrative uses of pure indexicals

The notion of "demonstrative use" of an indexical is very often used at some point in the discussion about the typology of indexicals (Bennett 1978, Kaplan 1989, for instance) but never discussed in great detail. The main claim of the present paper is that the classical distinction of two classes of indexicals is correct, event though it can only be defended once a clear distinction is made between the anchor and the denotation of an indexical, and once the role of the sort lexically associated with an indexical is acknowledged. A brief discussion of the notion of demonstrative use of indexicals is in order, just because the notion itself may be interpreted as an argument in favor of the view that there is not, after all, a clear-cut difference between the two categories.

### 7.1 Generalizing the notion of demonstrative use

Let us begin by a working definition: an utterance of a referential term (indexical, proper name, ...) accompanied by a dedicated action understood as a demonstration (e.g. a laser pointing) is a demonstrative use of this term.

One has, first, to clarify the relation of a demonstrative use of a term with genuine demonstratives as conceived in the approach introduced above. In my view, a genuine demonstrative requires to be anchored by means of an associated action (a Kaplanian demonstration) or by taking into consideration some specific features of the situation directing the attention of the participants towards some part of the discourse situation. Suppose for instance two injured persons, unable to move any part of their body except their phonatory organs and aware that they share the perception of their immediate environment. Imagine that the wind suddenly breaks one of the windows of the room in which these persons are lying on their hospital bed. One of them might say "This window must be fixed" and be correctly understood by her room-mate. In this sentence, *this window* is a standard demonstrative because its anchor is contingent, although it is not associated with any specific *action* of pointing. Keeping in mind that what is required by a true demonstrative is not necessarily a genuine action of pointing, it will be easier to limit the discussion of demonstrative uses of referential terms to cases in which they are used with an explicit pointing. In this restricted sense, the injured persons previously mentioned would be able to use demonstratives, but unable to make demonstrative use of demonstra-

tives (and of any other referential term), just because they are unable to accomplish any action except speaking.

Once admitted that some actions are recognized as the typical complement of true demonstratives because these actions provide the anchor demonstratives need as a basis for finding their intended referent, nothing prevents one from using similar actions of pointing with other categories. Let us briefly take an example outside the scope of the present discussion, namely proper names. Proper names do not require to be anchored (in the sense that indexicals do), probably because they are associated with another kind of recipe for finding their intended referent. But one can use a proper name and point to some person present in the discourse situation. It would be conceived, in my terms, as a demonstrative use of a proper name. The proper name does not cease to be a proper name, but the pointing, for what concerns the intended referent of the proper name, is much more relevant than any other possible concomitant action (say, rubbing one's nose when pronouncing it). If I point to some part of the environment with a laser pointer when pronouncing "M. Smith", there are great chances that the hearer is invited to use the dot, roughly as she would have done if I had said "this person", namely: "consider this dot as an anchor helping to separate the entity I intend to refer to from others because it is more closely related to this dot than any other". Now, I am also using the proper name *M. Smith* to let my hearer know which individual I intend to denote. There are very interesting topics to discuss about this particular example, but I will not go into them. The main point I would like to focus on is that things work only if both determinations of the intended referent are compatible; a typical situation is the following; the hearer has never met M. Smith, and does not know the name of the person picked up by the demonstration: she will thus accommodate that this person is the one I call "M. Smith". This is a frequent way of learning how to fix the reference of a proper name. But any divorce between the proper name and the demonstration will lead to failures. For instance, my hearer knows the person we use to denote by using "M. Smith", and is convinced that the person I point to is another person. Or my hearer knows the proper name of the person I point to, and knows that his proper name is not *Smith*.[10] If the two determinations of the denotation are compatible, a demonstrative use will either add information for the hearer ("I intend to speak of M. Smith, and here is how you have to fix the

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[10] Such cases of divorce between the two ways of finding the intended denotation would be interesting to discuss by themselves, but they are beyond the main focus of this paper and have already been discussed at length in the literature.

reference of this name") or will be a confirmation acknowledging the presence of Smith in the context[11].

## 7.2 Pure indexicals in demonstrative use

Now a similar process is open for any other referential term which does not require an associated demonstration like pure indexicals: one is free to use them with a demonstration, if the demonstration is not incompatible with what would happen without it, and especially if it gives a better clue for finding the intended referent. When a pointing, if interpreted as a demonstration, would lead to a denotation incompatible with the canonical interpretation of the pure indexical, it is not interpreted as a demonstration, and there is no demonstrative use at all; for instance, if I point to you while saying "I". But, in any case, it is not impossible to take the pointing as an additional clue for finding the intended referent compatible with the canonical interpretation of the true indexical, a demonstrative use can be accepted. The emerging view of demonstrative use of "pure" indexicals is as follows: interpret the "pure" indexical as usual; try, then, to interpret it as a true demonstrative anchored by the concomitant pointing (try to interpret as "this entity" on the basis of the pointing); if so-doing returns a denotation compatible with what you got, accept the pointing as a demonstration anchoring the expression: either it will denote the same entity in another way, or it will contribute to be more precise about the intended denotation (to eliminate alternatives compatible with the interpretation of the "pure" indexical qua-"pure" indexical.

Let us consider for the sake of illustration demonstrative uses of *I, you,* and *we*. If I point to you when saying *I*, you will never interpret it as a demonstrative use, because the pointing and *I* are incompatible. You will think my pointing has other motivations. If I point to you when saying *you*, you will take my pointing as a demonstrative use: the canonical interpretation of *you* (singular, like French *tu*) as a "pure" indexical can denote any of my interlocutors; a concomitant utterance of "this person" would have denoted *you*, because you are one of my potential interlocutors, the demonstrative use can be interpreted as eliminating alternatives compatible with the canonical use, and is thus accepted as anchoring the denotation on you. If I point to you by saying *we*, this may count as a demonstrative use anchored by my pointing. Used as a "pure" indexical, *we* can denote any group of persons including me; to use a concomitant pointing on any person of the environment (you or anyone else) has to be interpreted as if I had

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[11] In a sense, the speaker, by using the demonstration, makes clear to her hearer that she might have use « this person » for targeting the intended denotation, even though she uses a proper name.

used a demonstrative bound to denote a set so-defined (a plurality including me) anchored by the dot of the pointing (for instance you): this derives correctly what is observed: in such a situation, if one takes my use of *we* as a demonstrative use, she will understand that I intend to denote a plurality of persons including me, and anchored on the dot of the pointer, exactly as a use of a true demonstrative like "these persons" would have been, that is, in the most general case, a group of persons including also you.

### 7.3 Pure indexicals in demonstrative use are not true demonstratives

When considering the triplet of pure indexicals (*I, here, now*), one can observe interesting differences about what happens when their utterance is accompanied by an explicit pointing towards some part of the context, as shown in Table 4:

| True indexical | Supplemented by a demonstration |
|---|---|
| *I* | "irrelevant or for emphasis" (Kaplan) |
| *Here, now*[12] | The demonstration provides a new anchor (Bennett) |

Table 5 : Demonstrative uses of some "pure" indexicals

Some implicit views of what happens when one supplements *here* with an explicit demonstration rely on the idea that *here* is no longer a pure indexical (anchored on its place of utterance) and becomes a true demonstrative (anchored on the demonstration target) similar to a genuine demonstrative like (at/in) *this place*.

But this idea faces theoretical as well as empirical issues. First, there are some reasons to think that *here* remains anchored on its place of utterance, in some way or other, and is not free to denote any place identified by any pointing as a true demonstrative like *this place* is. It is not easy to document this affirmation with fully convincing written examples, probably because in narrative prose, what is considered as the place of utterance, is often relative to the point of view of the characters. My main point is that a pure indexical like *here* cannot be used to denote some spatial entities accessible by pointing, when these entities are considered as spatial entities disjoint from the place of utterance, although a true demonstrative like *this place* would work correctly. I just give an invented example involving French

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[12]  Although *here* and *now* are rarely discussed separatley, and are thus supposed to share most of their properties, there are interesting differences about their demonstrative use, I will come back to this.

data for the sake of illustration. Suppose a mother speaks to her young daughter about her dead father:

(1) Mother: Ton père n'est plus avec nous, il est au ciel maintenant.
Your father is no longer with us. He is in the heaven now.
(2) Daughter: Et pourquoi est-il *ici (là-haut/là-bas/à cet endroit)?
And why is he *here now (up there/over there/ in this place?

Such examples indicate that when a pure indexical enters a demonstrative use, it does not become a true demonstratives and preserves its inherent properties, that is a strong relationship to its place of utterance. The problem with (2) seems to be that once the first sentence has asserted that the father's place is not part of the world accessible from the discourse situation, it becomes impossible to refer to this place with the indexical *ici* (even if the speaker uses a concomitant pointing towards the sky), although most true demonstrative and definite NPs are able to do so. To be brief, the pure indexical *ici,* even in its demonstrative uses, can only have access to a spatial entity conceived as being part of the discourse's location.

The second issue with the view that *here* would become a demonstrative when used in association with a pointing is theoretical. It is rather difficult to explain how a term denoting its place of utterance, can be transformed into a term denoting any *other* space when associated to a demonstration.
It might be even more natural to assume that *here* is a demonstrative, like *this place*, and that there is a default interpretation of true demonstratives used without any demonstration, namely that for so-used demonstratives, it is the basic necessary anchors of the utterance which are used. This assumption has to be made anyway for dealing with a frequent interpretation of true demonstratives like 'this place" (= here), or "these days (= now). One might be tempted then to explore the view that *here* is a demonstrative, and that its pure-indexical-like uses are just the "non-demonstrative" uses of demonstratives Bennett (1978:15). Of course this does not account for the empirical evidence mentioned in the previous paragraph, but this remains an option to be considered. I will try to explore later this view and try to show it leads to the same results and requires the same additional assumptions regarding the special properties of time and space, as the sorts associated to *now* and *here*.

**7.4 Contrasting the demonstrative uses of *here* and *now***
The line I will follow is that *here* and *now* are pure indexicals, which have the demonstrative uses they have, because of the *sort* they are associated with (i.e. space and time).

The demonstrative *this place* receives as its anchor the dot of the pointer. In the sophisticated approach, the anchor *is not* the intended referent, but just a clue for finding it. Consider how it works for *this man* used with a laser pointing. The dot of the pointer is some spatial entity of the environment, and the intended referent is the closest man w.r.t. this anchor. You can point on him, under him, over him, etc. If there is something special with *this place*, it is possibly that the anchor and the referent are of the same sort: both are spatial (non discrete) entities. How can a place (anchor) be a clue for helping to find another place (referent)? Is it true that *this place* will always denote a spatial entity *including* the anchor? Although true in most cases, I think that this no more than a *default* option, something we will assume in the absence of more specific information. A typical situation is one in which the discourse context provides independent ways of distinguishing different spatial entities in the context. Consider for instance a shell game (French bonneteau): one can use "Where is the coin? In this place?" (pointing under, over, … the place where the coin might be). Let us assume that for a demonstrative like *this place,* the *inclusion* of the anchor in the intended denotation is assumed in the absence of more specific information regarding the kind of space you intend to refer to. In the shell game, the default does not apply because the context gives information about which kind of spaces are intended, namely spaces hidden by the vases.

Assume that *here i*s a pure indexical, not a demonstrative. It is anchored on the utterance location, and will denote a spatial entity "related" to the anchor (close to it), and in the absence of more specific information (default) including it. Now as any other referential term, it *can* be accompanied by a demonstration, pointing to some location of the accessible context. This use is accepted when the demonstration can be interpreted as a way of being more precise about what is intended, an extra-help. Such an action is, with no doubt, a specific piece of information, which cancels the default. We get, then, the intended referent as a space related to the *demonstratum*, and by default including it. Roughly speaking, *here,* is in such cases, a pure indexical taking advantage of a demonstration to specify more precisely its referent.

|  | Pure indexical | Demonstrative use |
|---|---|---|
| Anchor | Place of utterance (l.ut). | Demonstratum, (l.dem.) |
| Referent | A space related to l.ut. | A space related to l.dem. |
| Default | A space including l.ut. | ~~A space including l.ut.~~ A space including l.dem. |

Table 5 : Demonstrative use of the pure indexical *here*

This way of deriving the demonstrative uses of *here* manages to explain how the demonstrative is a way of being more precise, by eliminating some alternatives for the intended referent, as in the other demonstrative uses considered before.

It is rather easy to explain why this demonstrative use option is open for the *spatial* indexical *here*, and why it is less accessible for other pure indexicals. I have already claimed that a demonstrative use is accessible if it is useful, which is possible only if the indexical interpretation leaves alive many alternatives, which opens the possibility to interpret the demonstration as eliminating some of them. This explains directly that *I* has no demonstrative use, although *you* has many (see above).

This predicts also that indexicals denoting non-discrete entities will easily have demonstrative uses, and this is true for terms denoting pluralities like *we* and *you*, as it is for terms denoting spatial and temporal entities like *here* and *now*.

There is a difference between *here* and *now* that is related to the sort they are bound to denote, respectively space and time. This is probably why *here* is often considered as a true demonstrative (to be included in the same grammatical category as *this place)*, which is less frequent for *now*. An obvious difference is that it is easy to create spatial anchors by pointing on some part of the visible situation (e.g. with a laser pointer), but impossible to create temporal anchors by so doing. Things work as if, in a discourse situation, the only accessible anchor for interpreting temporal demonstratives were the time of the discourse itself and if it were impossible to use some equivalent of a Kaplanian demonstration for pointing to other temporal entities to be used for anchoring demonstratives. Remember that we distinguished above two ways for providing anchors for demonstratives: either the speaker executes a dedicated action like pointing with her finger (a Kaplanian demonstration), or the discourse situation itself makes salient some entity used as anchor. For temporal demonstratives, only the second option would be open, just because it is not possible to isolate temporal entities by pointing to them. This explains why there are no demonstrative use of the temporal indexical *now* comparable to the uses of *here* based on a contingent anchor and helping to make more precise its intended demon-

stration. This is just because there is no temporal demonstrations. But, if we are correct, *now* being a *pure* indexical, it will not be easy either to use it in narrative fragments and to anchor it on time events made salient by the ongoing discourse, as one can use freely true demonstratives like "this day", "this time".[13]

The result is that the main alleged demonstrative uses of temporal *now* one can find involve narration and are of the kind: "Now Napoleon had a dilemma..."[14]. There are important differences between *now* and true demonstratives like *this day, this moment* ("At this moment, Napoléon had a dilemma"); Although true demonstratives can be used freely for referring to time entities made salient in narrative discourses, *now* looks rare and marked, evoking in many cases reported speech (actual or interior). This contrast is not unexpected in the present approach: if *here* and *now* are pure indexicals and not true demonstratives, their interpretation remains anchored to their utterance parameters. In order to take them as demonstrative uses, an explicit signal is expected, like a Kaplanian demonstration. This is different from true demonstratives, which exploit either a dedicated action like a pointing, or the salience properties of the situation. If Kaplanian demonstrations can only provide *spatial* anchors (a laser pointing can only focus on spatial entities), and if temporal entities cannot be demonstrated, then temporal indexicals will not have demonstrative uses based on demonstrations (in contrast to spatial indexicals), and the alleged examples of demonstrative uses of *now* (as those of *here*) require another analysis, possibly confirming the intuition that they might be reported uses of true indexicals[15].

### 7.5 Indexicals interpretation of true demonstratives vs pure indexicals

The conclusion of the above approach is that *here* is a true indexical which is very easy to complement by a Kaplanian demonstration in order to get the so-called "demonstrative uses". Another way of telling the story would be to claim that *here* is a true demonstrative, and that true demonstratives when deprived of any explicit demonstration are supposed to take as anchors the parameters of the utterance situation. This option has been evoked above §7.3.

Consider for instance (3) :

(3) This country met this year many issues.

A natural interpretation, out of the blue, is "the country (I am presently in) met the year (we are presently in) many issues". This means that the

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[13] We made similar observations for *here*.
[14] See supra §2.
[15] See for instance Predelli (1998).

basic necessary anchors provided by any utterance, in particular its time and place, can be used for anchoring demonstratives of the corresponding sort, if there is no other signal for finding contingent anchors.[16] It might be tempting then, to try an analysis of *here* and *now* as true demonstratives, and to see the cases in which they are anchored on the parameters of their utterance as the regular default behavior of all true demonstratives deprived of any demonstration. Again the different status of temporal and spatial anchors would play a role: for *now* the anchoring on moments distinguished by pointing being impossible, there will be very few genuine demonstrative uses; for *here,* the anchoring to locations distinguished by pointing being standard, genuine demonstrative uses will be as regular as pure indexical-like uses. This analysis would offer the picture of Table 6:

| Anchoring | Pure indexicals | True demonstratives |
|---|---|---|
| | *I, you, we* | *This place, here, now…* |
| Basic anchors of u. | Obligatory | Default |
| Contingent anchors | Possible if informative | Regular |

Table 6. A radically simplified picture of indexicals.

Although this picture meets the criteria of simplicity and of one to one correspondence from items to categories, the main argument for not preferring it and preferring the idea that *here* and *now* are pure indexicals having demonstrative uses is empirical. The picture of Table 6 does not account for some empirical differences between *here/now* and true demonstratives like *this place/this moment*, namely that to use them for entities disjoint from the spatio-temporal anchors of their utterance is much more marked than a full status of demonstratives would have predicted. For instance, true demonstratives, can be easily used as anaphors to a previously introduced entity, as in (4):

(4) They entered the park. At *this moment*, they no longer had any protection.

If *now* were just a demonstrative, it would be as easy to use it in anaphoric uses than it is to use 'at this moment », but it is not, and its use is marked, as noted above. The approach defended in this paper predicts these differences, by viewing *here* and *now* as native pure indexicals and this is one reason for preferring it.

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[16] Imagine for instance the considered sentence in an historical essay about France in 1989.

## 8    Conclusions

This paper argues that what makes indexicals indexical is that they must be *anchored*, and that what supports their splitting in two classes, "pure" indexicals, and "true" demonstratives, is the nature of their anchor: either their anchor is provided by the necessary defined basic parameters of the utterance (speaker, place and time), or it is provided by a contingent action (like a Kaplanian demonstration), or by some contingent property of the discourse context making some entity salient.

This paper claims then, that the classical distinction among indexicals between pure indexicals and true demonstratives can be defended against criticisms once one adopts a slightly more sophisticated framework for describing the process by which indexicals get their reference. The difference between the anchor of an indexical and its intended denotation, and the relevance of the sortal constraint each indexical imposes on its denotation have been shown to be crucial for defending the thesis that the classical distinction is basically correct: pure indexicals and true demonstratives are mutually exclusive categories distinguished by the nature of their respective anchors. The paper attempts moreover to argue that some differences of behaviour between indexicals, which might be invoked against the claim, can be explained as a consequence of the *sort* associated to each indexical. It also attempts to go a little bit further in the analysis of the so-called "demonstrative use" of pure indexicals, arguing that the notion of "demonstrative use" is not *ad hoc*, and can be used without weakening the clear-cut difference between pure indexicals and true demonstratives.

Two sources of complexity have been met but not considered in the paper. 1. The complex processes leading from anchors to intended denotations. On this topic, we think the detailed work on pointing reported in Lücking et al. (2015) is a very interesting and promising field of research. 2. The precise delimitation and internal complexities of the two postulated categories. For instance, we discussed the pure indexical *here*, without taking into account that *there* might be analyzed as another pure indexical. But this analysis in itself would be a threat for the claims of this paper, because, at first glance, the empirical arguments we gave for supporting the view that *here* is a pure indexical (not a true demonstrative) do not extend to *there*, which can be used, roughly, in the same contexts than the true demonstrative expression "in this place". In a joint paper with T. Asic (Corblin & Asic 2016), we argue that the French lexical item *là*, which has some common properties with the English *there*[17], is neither a pure indexical, nor a true

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[17] There are many differences as well between the French *là* and the English *there*. One of them, pointed to me by Olivier Bonami (p.c.) is that *there* looks more strongly *distal* that *là*. I

demonstrative, but an instance of a third semantic class of indexicals, i.e. *definite* expressions, exemplified in French by short definites like *la femme, l'homme, le chien*, etc. So if the present paper attempts to provide a neat separation of a set of typical indexicals in two disjoint classes (pure indexicals/true demonstratives), it is likely that this distinction is too coarse for covering the whole set of indexicals, and that more fine-grained distinctions are necessary for covering indexical expressions which does not fall strictly in one or the other category, although they may appear to share some properties of both.

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share the intuition and I think that trying to deal with it in depth is a fruitful direction for research, not only in order to document the contrast between the two items, but also because it focuses on the opposition *proximal/distal* which may play no role for grounding the basic distinction between pure indexical and true demonstratives, but will come into play once the precise delimitation of the class of indexicals and its internal complexity will receive attention.

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