

## On “pure” and “impure” indexicals

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In the most received terminology, *indexicals* is used for a set of context-dependent referential terms: what they denote may vary (and most often does) from one of their utterances to the other.

English examples: *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  
prototype: *I*

(TRUE) DEMONSTRATIVES  
prototype: *this man*

The basis of the classical distinction is that pure indexicals find their referent “by themselves”, automatically, but that demonstratives are open to the choice of the speaker, and so need some extra help.

There is a clear intuition that there is something true about this partition of indexicals in two classes accepting *I* and *this man* as prototypes, but the correct way to formulate the basis of the distinction is not so easy.

First of all, more detailed investigations lead to the conclusion that the class of pure or automatic indexicals, as defined by Kaplan or Perry, is probably almost empty (Recanati 2001), or even empty (Mount 2008).

So if one wants to substantiate the intuition one has to go further than the classical theory even to explain the difference between the two prototypes.

And there is also a problem to keep in mind on this road: in all approaches to the splitting of indexical in two classes (prototype *I*/prototype *this man*), the case of the spatial basic indexical (*here*, Fr. *ici*) raises a special problem since it can be taken at the same time as a nice prototype of pure indexicals, and as a nice prototype of true demonstratives!

The listing of a term in two categories is not a problem in itself in linguistics, but requires some specific accommodation; if it is not a mere accidental homonymy (difficult to accept in this case), some story has to be told. And it is fair to say that there is no good story in the literature. Even the notion of “demonstrative use” of a pure indexical, looks *ad hoc*. It is used for the spatial indexical *here* but for no other indexical.

In this presentation I will discuss ways of giving substance to the splitting of indexicals in two classes under the two prototypes *I* and *this man*, keeping in mind that such a theory should properly accommodate the case of apparently double items like *here*.

### **1 The basis of the classical distinction and its inadequacies**

The basic idea sustaining 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, providing that some convention or some action (like a Kaplanian

*demonstration*) will help 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*	tomorrow, yea
Intentional	now, here	that, this man, there

*Types of indexicals (Perry, 1997)*

“The narrow context consists of the constitutive facts about the utterance, which I will take to be the agent, time and position. These roles are filled with every utterance.

The wider context consists of those facts, plus anything else that might be relevant, according to the workings of a particular indexical.” (Perry 1997)

Roughly speaking, 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. It is easy to show that for none of them 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.

The case of *here* and *now* are of particular relevance since they are supposed to constitute with *I* the basic trio of primitives indexicals, and one can find in Recanati (2001) a convincing set of examples showing that neither *here* nor *now* are pure indexicals in this basic and very strong sense. This was not ignored by Perry himself, who notes that the precise delimitation of the intended referent of *here* and *now* is not provided by the basic elements of the “narrow” context, hence the asterisk of the previous table.

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

If no indexical (or almost none) get “automatically” its referent when uttered, we need a more sophisticated theory for explaining how indexicals receive, in the end, a reference, and for trying to distinguish categories among the set.

A basis for this conception has been introduced in Nunberg (1993) and I will formulate in what follows an approach which owes a lot to his work. For time consideration, I skip a full discussion of Nunberg's original approach, and I make a free use of it, including some slight terminological moves.

Nunberg proposes to “zoom in” the way indexicals get their reference and to distinguish three components in their semantics:

### **A. The deictic component**

Indexicals come with recipe for finding their *index*; this index is not their referent, but just a basis for finding it, an argument of a function returning a referent. For Nunberg, for instance, *we* and *I* have the same index.

As Nunberg himself acknowledges, this is not the way *index* is most often used in related studies. So I think a more general and less misleading term would be useful. I will use the term *anchor*:

Moreover, Nunberg, correctly I believe, claims that the same category should apply to the target of a Kaplanian “*demonstration*”: this target, the part of the world which is actually reached by an ostension is not the referent of the associated demonstrative is not its referent, but a clue for finding it.

I propose to say that indexicals come with a *referential device* (a recipe for associating each of their utterance them with a *referential anchor*). The anchor does not give the intended referent, but is just one

argument of a process leading to it. To be brief, and rather imprecise, the intended referent is supposed to have a distinctive relation to the anchor, a relation which helps to separate it from other individuals of the same sort.

**B. The descriptive component**

Indexicals have also 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*). This descriptive content is part of the content of the indexical, and support inferences like:

I came            a person came

We came         a group of person came.

I will argue that this dimension of their semantics in combination with the view that indexicals are anchored can explain many differences of behavior between the members of indexicals of the same category (e.g. *I, here, now*)

**C. The relational component**

In the original presentation of Nunberg, there is a third component of the meaning of indexicals called *relational*, defined as a constraint on the relation “between the index [referential anchor] and the interpretation [denotation]”. As illustrated by its application to the example of *we*, what Nunberg has in mind is the following:

WE	referential anchor	denotation
	the speaker	a plurality
Relational component		inclusion

NB: In Nunberg's own system, there is no strong defense of the necessity to postulate this third component. Its main use in the theory is to deal with *we* and *tomorrow* :

	anchor	relational component	representational
<i>we</i>	<i>the speaker</i>	<i>inclusion</i>	<i>plurality</i>
<i>tomorrow</i>	<i>the utterance time</i>	<i>after</i>	<i>day</i>

The relation to the anchor might also be considered as a (relational) part of the representational meaning.

	anchor	representational component
<i>I</i>	<i>the speaker</i>	<i>person identical to ()</i>
<i>we</i>	<i>the speaker</i>	<i>plurality including ()</i>
<i>tomorrow</i>	<i>the utterance time</i>	<i>day after the day of ()</i>

This may look just a matter of elegance, or economy for the theory, but unfortunately, this component is crucial for distinguishing the two sets of indexicals in Nunberg own work.

**3 Partitions of the set of indexicals in the more sophisticated theory of Nunberg**

No way to distinguish, as in the classical approach some indexicals as “pure” because they would target their reference by themselves, “automatically”. The referent is always under-specified by the deictic-anchoring component and any indexical can denote something very different from its mere referential

anchor. So, even if one admits that in order to interpret an indexical one must first know for sure what is its anchor, there is no indexical such that this index provides the intended referent.

Nunberg introduces a new proposal for making a neat difference between the set of indexicals having *I* as their more representative element, and the class of demonstratives (*he, this man*).

He claims that what makes *I* and friends (*here, now, we, tomorrow...*) special is that they have a *relational component* whereas other indexicals like *he* and *this man* “have no explicit relational component”.

Numberg does not discuss this idea in great details, and just uses this claim for explaining the difference between *we* and *they* in the funny example of the pupil and the signature of an authorization :

We don't have signed yet  
They don't have signed yet

To take this difference as the basic conceptual distinction among indexicals raises several issues.

First, there is no strong defense in the paper of any independent necessity for postulating a specific relational component (see above).

Second, to say that *they* (as opposed to *we*) “have no explicit relational component”, is not precise (is there any *implicit* relational component), and inherits the vagueness of the notion “to have a relation to”.

Conclusion: the distinction between indexicals having and indexicals not having a *relational component* does not provide a clear theoretical basis for distinguishing the group *I, here, now, we ...* from the group *they, this man*, even if the intuition that some indexicals are more directly related to the basic parameters of their utterance that others may seem correct. See the opposition *narrow/wide* of John Perry.

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

Leaving aside the issue of the relational component (see above), Numberg's approach provide for each indexical a sort (representational component) and an index (deictic component):

	Representational	Deictic
<i>I</i>	person	speaker
<i>here</i>	place	place of utterance
<i>now</i>	time	time of utterance
<i>we</i>	plurality	speaker

The deictic component just provides a referential anchor (index), not the referent. The referent has to be found with the help of the anchor, by general mechanisms, and has to be of the ontological sort stipulated by the representational component.

This gives a straightforward basis for explaining why *I*, is less under-specified (more pure than the others) : there is one and only one *person* that knowing he is the referential anchor identifies, namely himself, but there are many places that knowing that a given point is the referential anchor might identify. This is so just because *place, time, plurality* are of a different ontological sort than *person*. 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 the utterance (speaker, place,time) and for *this*

*man, this place*, the referential anchor is the dot of a laser pointer : it is interesting to observe that the representational constraint will lead to the same kind of opposition. *I, this person* will target their intended referent on their own (without any other clue), but *here* and *this place* will 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 the relation to a referential anchor can separate one space from the others.

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

1. We expect the same kind of imprecision for all indexicals referring to non-countable entities: space, time, plurality. A referential anchoring can never help to distinguish one such entity from the others, just because there is a huge number of such entities in relation to a given point. And we do observe this for *here, now, you, they, these people, this group of persons*.

2. A Kaplanian demonstration cannot help solving 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 on this), but there are many places including the pointer's dot.

It would be interesting to discuss in this perspective the singular *you* (French *tu*) and the plural *you* (French *vous*), but for space consideration, I will not do it.

Interim conclusion: in the spirit of Nunberg's approach, it is possible to derive some interesting differences and similarities between indexicals, but difficult to justify how to draw a line setting apart different basic categories within this set, for instance to explain the difference between *we* and *they*, as tried by Nunberg himself.

#### **4 The nature of referential anchors**

What comes to mind is that what makes *we* and *they* different might be 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 agent targeting some part of the context, or by some special property of the context itself dispensing the agent of such an action.

This opposition is not completely absent in the classical theory, at least in Perry's one under the heading *Narrow/wide*, although the notions are not put in focus in the discussion.

Common properties of indexicals

Indexicals are referential expressions used to isolate specific parts of the world. Their peculiarity among referential expressions is that they use for so doing a referential anchor which has to be settled for each of their utterance.

Two kinds of referential anchors

a. Automatic reflexive anchors

The mere utterance itself provides a set of potential anchors, its *agent, time, and location* in virtue of postulates : there is no utterance without an agent and a time and place of occurrence. This is nothing more than the basic postulate for action sentences. A part of the conventional meaning of some indexicals 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 the face to face communication, they are accessible to the participants.

b. Contingent external anchors

There are other ways to provide anchors for the utterance of a referential term: for instance it is possible to accompany any utterance of the term 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.

Let us assume that the selection of the relevant anchor is lexically specified as a part of the deictic component of indexicals:

	<i>I, here, now</i>	<i>he, this man</i>
Referential anchor	basic, necessary	external, contingent
	s, l, t of the utterance	e.g. The dot of a pointer
Classical denomination	(pure) indexicals	(true) demonstratives.

This derives that the mere utterance of *I, here, now* is fine in any context, but the mere occurrence of *this man* requires a special context, some specific action or some specific property of the context. It looks like a difference between a total function (*I, here, now*) and a partial function (*he, this man*). Note that “to be fine” just means to get a referential anchor, not at all to identify the intended referent without any extra-help. See above.

**5 On demonstrative uses of (pure) indexicals**

The notion of “demonstrative use” of an indexical is very often used at some point (Bennett, Kaplan...), but never discussed in great detail.

Working definition: an utterance of a referential term (indexical, proper name,...) accompanied by a demonstration (e.g. a laser pointing) is a demonstrative use of this term.

For true demonstratives, a demonstrative use is just what is required by their linguistic definition : they require a specific action for getting an anchor.

For basic, essential, “pure”, indexicals, this is not the case: a demonstration is not required, and demonstrative uses deserve some comments...

And moreover an explanation of some differences:

Basic indexical	+ demonstration
<i>I</i>	“irrelevant or for emphasis” (Kaplan)
<i>here</i>	accepted, and providing a new anchor (Bennett)
<i>now</i>	???

These differences have been noted but remains largely unexplained in existing approaches.

*Here* is actually a striking case, since it is often taken as a typical basic indexical (member of the set *I, here, now*), but is also considered as a typical true demonstrative (member of the set *here, this, that*,

*this man*).

Basic indexicals

*I*

*here*

*now*

True demonstratives

*this man*

*here*

*this place*

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

But this idea faces theoretical as well as empirical issues:

Empirical: there are some reasons to think that *here* remains anchored to its place of utterance.

Theoretical: difficult to explain how a term denoting its place of utterance can be transformed into a term denoting another disjoint place by a mere demonstration.

The line I will follow is that a demonstrative use of a basic indexical like *here* does not make it a true demonstrative, but just a basic indexical supplemented by a demonstration. In a nutshell, a demonstrative use of a basic indexical is not a metamorphosis from one category to the other, but just a way of being more precise about the intended referent.

Let us compare *here* and *this place*. Both denote spatial entities.

As a basic indexical, *here* receives as anchor its place of utterance.

As a demonstrative, *this place* receives as its anchor the dot of the pointer (target of a required demonstration).

In the sophisticated approach, the anchor *is not* the intended reference, but just a clue for finding it: it is assumed that the intended entity  $\alpha$  can be separated from the others by means of some typical relation to the anchor.

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 spacial (non countable) entities.

How can a place (anchor) be a clue for helping to find an other 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 spaces in the context.

Scenario: In a shell game (French *bonneteau*)

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.

Assume that *here* is a basic indexical, not a demonstrative. It is anchored to the utterance place, 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 place of

the accessible context, the so-called “demonstrative use”. 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 information, which cancels the default. We get, then, the intended referent as a space related to the anchor provided by the demonstration, and by default including it. Roughly speaking, *here*, is in such cases, a basic indexical taking advantage of a demonstration to specify more precisely its referent.

A schematic picture for the interpretation of *here*

Process:	basic indexical	demonstrative use
anchor	utterance's location (U.L.)	demonstration's target (DT)
referent	a place related to U.L.	A place related to U.L. and more precisely to D.T.
default	including U.L	including (DT)

What this approach explains is why in the demonstrative use the intended referent, in general, does not include the utterance location. It is because such an inclusion is just a default, and because a demonstration overrides the default.

It explains also in what respect a demonstrative use of a basic indexical is not a true demonstrative. This is so because a basic indexical is a basic indexical, and thus can only be used for places which are related to the utterance location. This the major difference between *here* and *this place*. One can use *this place* for any place, but for *here* some relation to its utterance location must be preserved. It is not impossible to find empirical confirmations for this, but to discuss evidences at length would take time I do not have now.

It is also easy to understand why a basic indexical referring to spatial entities like *here* easily accepts explicit pointing (as with a laser pointer) as ways of helping to be more precise about its intended referent: what such a demonstration provides is a place related (via the pointing) to U.L. so it is not “irrelevant”, and will denote a potential referent for the basic indexical, and a way of being more precise, because there are spatial entities which can be separated from others by means of some relation (e.g. proximity) to the new anchor (D.T.), and so it is not just for “emphasis” that a pointing may be used.

The special case of *I*, and probably the reason why it is taken as the prototype of, (and maybe the only) pure indexical, is that it denotes a unique countable entity (there is in general a unique identifiable speaker for an utterance of *I*).

A comparison to *now* is more interesting. Conceived as a basic indexical, its intended referent is a temporal entity related to the time of its utterance, and by default including it. There is no demonstrative uses using explicit demonstrations probably because it is not possible to target by means of a pointing gesture any temporal entity. This may confirm that *here* is special because it is *spatial*.



## Concluding remarks and remaining issues

In the line of Nunberg's approach distinguishing the *anchor* ("index") of an indexical from its intended referent, what seems to be the most important distinction between indexicals is the following:

Basic indexicals:	<i>I, here, now...</i>	anchored to necessary parameters of their utterance.
Demonstratives:	<i>they, this man,...</i>	anchored to contingent special dedicated actions.

What I have tried to explain, in addition, is why, some indexicals may seem more "pure" than others, *id est* why once anchored, their intended referent follows more automatically than for others. I deduced this mainly as a mere consequence of the *sort* of entity an indexical refers to.

Last, I have tried to start a discussion about the notion of "demonstrative use" of indexicals in order to explain the status of basic spatial indexicals like *here* or *ici* in French, which look very close to true demonstratives.

Two crucial issues would remain to be clarified in order to go further and are just signaled or simplified in the above discussion:

- the general principles leading from an anchor to a referent.
- the notion of contingent special features or dedicated actions anchoring demonstrative indexicals. A laser pointing is just a simple case of a much more complex process.

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