

Indexicals, Contexts and Unarticulated Constituents

John Perry
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Philosophers and logicians use the term “indexical” for words such as “I”, “you” and “tomorrow”. Demonstratives such as “this” and “that” and demonstrative phrases such as “this man” and “that computer” are usually reckoned as a subcategory of indexicals. (Following [Kaplan, 1989a].) The “context-dependence” of indexicals is often taken as a defining feature: what an indexical designates *shifts* from context to context. But there are many kinds of shiftiness, with corresponding conceptions of context. Until we clarify what we mean by “context”, this defining feature remains unclear. In sections 1–3, which are largely drawn from [Perry, forthcoming(a)], I try to clarify the sense in which indexicals are context-dependent and make some distinctions among the ways indexicals depend on context. In sections 3–6, I contrast indexicality with another phenomenon that I call “unarticulated constituents.”

1 Presemantic Uses of Context

Sometimes we use context to figure out with which meaning a word is being used, or which of several words that look or sound alike is being used, or even which language is being spoken. These are *presemantic* uses of context. I will contrast them with indexicals and anaphora, where context is used *semantically*.

Consider this utterance:

- (1) Ich! (said by several teenagers at camp in response to the question, "Who would like some sauerkraut?").

Knowing that this happened in Frankfort rather than San Francisco might help us determine that it was German teenagers expressing enthusiasm and not American teenagers expressing disgust. In this case context is relevant to figuring out which language (and hence which word with which meaning) is being used.

The vocable "ich" is a *homonym* across languages. Homonyms are words that are spelled and pronounced alike. For example, there are two words in English that are spelled and pronounced "quail"; one is a noun that stands for a small game bird, the other a verb for faltering or recoiling in terror. It makes sense to speak of two words that are pronounced and spelled the same, because words are not merely patterns of sound or combinations of letters, but cultural objects with histories; our two words "quail" derived from different French and Latin words. The term "vocable" can be used for what the words have in common, so if we need to be precise we can say the vocable "quail" corresponds to two words in English.

Each of the German teenagers, when they use the indexical "ich," designates herself, and so the expression "ich" designates differently for each of them. One might be tempted to consider this just more homonymity. Each has a different name for himself or herself, they just happen to all be spelled alike and sound alike; we have homonyms across idiolects of the same language. Such a temptation should surely be resisted as an explanation of the shiftiness of indexicals. For one thing, the word "ich" doesn't have different historical origins depending on which teenager uses it; they all learned the standard first-person in

German. The homonym account would be even worse for temporal and spatial indexicals. We would have to suppose that I use a different word “tomorrow” each day, since my use of “tomorrow” shifts its designation every night at the stroke of midnight.

An *ambiguous* expression like “bank” may designate one kind of thing when you say “Where’s a good bank?” while worried about finances, another when I use it, thinking about fishing.¹ Its designation varies with different uses, because different of its meanings are relevant. Again, all sorts of contextual facts may be relevant to helping us determine this. Is the speaker holding a wad of money or a fishing pole? It isn’t always simply the meaning of a particular word that is in question, and sometimes questions of meaning, syntax and the identity of the words go together:

(2) I forgot how good beer tastes.²

(3) I saw her duck under the table.

With (2), knowing whether our speaker has just arrived from Germany or just arrived from Saudi Arabia might help us to decide what the syntactic structure of the sentence is and whether “good” was being used as an adjective or an adverb. Is “duck” a noun or a verb in (3)? In this case, knowing a little about the situation that this utterance is describing will help us to decide whether the person in question had lost her pet or was seeking security in an earthquake.

2 Semantic Uses of Context

In cases of homonymy and ambiguity the context, the environment of the utterance, the larger situation in which it occurs, helps us to determine what is said. In these cases it is a sort of accident, external to the utterance, that context is needed. We need the context to identify which name, syntactic structure or

¹ Let’s assume that there is but a single word here, both of the meanings in question deriving from an original meaning of a raised shelf, natural or artificial. That is an oversimplification of the whole story.

² Thanks to Ivan Sag for the examples.

meaning is used because the very same shapes and sounds happen to be shared by other words, structures, or meanings.

The case of indexicals and anaphors is quite different. We still need context *after* we determine which words, syntactic structures and meanings are being used. The meanings *exploit* the context to perform their function.

In the case of anaphora, the contextual facts have to do with the relation of the utterance to previous nouns in the discourse. In the case of indexicals and demonstratives, rather different sorts of facts are relevant, having to do with the relation of the utterance to things other than words, such as the speaker, addressee, time and place of the utterance. Consider, for example "That man came to see me yesterday. He is interested in philosophy." Resolving the reference of "he" involves knowing two sorts of facts. First, one must know that the use of "he" is anaphorically related to "that man". Second, one must know at which man the utterance context of "that man" was directed.

We use the third-person pronouns "he" and "she" both anaphorically and demonstratively:

- (4) A woman wrote a very interesting dissertation at UCLA. She advocated subjective semantics
- (5) (Indicating a certain woman) She advocated subjective semantics in her UCLA dissertation.

How should we treat the occurrences of "she" in (4) and (5)? No one supposes they are mere homonyms. Many philosophers are at least tempted to suppose they are occurrences of a single ambiguous word, which sometimes functions as a variable and sometimes as an indexical [Kaplan, 1989a]. Many linguists find this implausible, and would prefer an account that gives a uniform treatment of pronouns, bringing the relativity to linguistic and other contextual factors into a single framework for a subject matter called "deixis" [Partee, 1989, Condoravdi and Gawron, forthcoming]. I have some sympathy with this point of view, but for the purposes of this essay I will set the issue of the precise connection of anaphoric and demonstrative uses of pronouns to one side.

3 Types of indexical contexts

With respect to contexts for indexicals, I want to emphasize two distinctions, which together create the four categories exhibited in Table 1:

Does designation depend on narrow or wide context?

Is designation “automatic” given meaning and public contextual facts, or does it depend in part on the intentions of the speaker?

I’ll show which expressions fit into these categories, and then explain them:

	Narrow	Wide
Automatic	I, now*, here*	tomorrow, yea
Intentional	now, here	that, this man

Table 1: Types of indexicals

Narrow versus wide contexts.

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 clearest case of an indexical that relies only on the narrow context is “I”, whose designation depends on the agent and nothing else.

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

The sorts of factors on which an indexical can be made to depend seem, in principle, limitless. For example,

It is yea big.

means that it is as big as the space between the outstretched hands of the speaker, so this space is a contextual factor in the required sense for the indexical “yea”.

Automatic versus intentional indexicals.

When Rip Van Winkle says, “I fell asleep yesterday,” he intended to designate (let us suppose), July 3, 1766. He in fact designated July 2, 1786, for he awoke twenty years to the day after he fell asleep. An utterance of “yesterday” designates the day before the utterance occurs, no matter what the speaker intends. Given the meaning and context, the designation is automatic. No further intention, than that of using the words with their ordinary meaning, is relevant.

The designation of an utterance of “that man”, however, is not automatic. The speaker’s intention is relevant. There may be several men standing across the street when I say, “That man stole my jacket”. Which of them I refer to depends on my intention.

However, we need to be careful here. Suppose there are two men across the street, Harold dressed in brown and Fred in blue. I think that Harold stole my wallet and I also think wrongly that the man dressed in blue is Harold. I intend to designate Harold *by* designating the man in blue. So I point towards the man in blue as I say “that man”. In this case I designate the man in blue—even if my pointing is a bit off target. My intention to point to the man in blue is relevant to the issue of whom I designate, and what I say, but my intention to refer to Harold is not. In this case, I say something I don’t intend to say, that Fred, the man in blue, stole my wallet, and fail say what I intended to, that Harold did. So it is not just any referential intention that is relevant to demonstratives, but only the more basic ones, which I will call *directing intentions*, following Kaplan [1989b].

In a case like this I will typically perceive the man I refer to, and may often point to or otherwise demonstrate that person. But neither perceiving nor pointing seems necessary to referring with a demonstrative.

The indexicals “I”, “now”, and “here” are often given an honored place as “pure” or “essential” indexicals. Some writers emphasize the possibility of translating away other indexicals in favor of them—replacing “today” for example

with “the day it is now”, or “this pencil” with “the pencil to which I now attend”.³ In Table 1, this honored place is represented by the cell labeled “narrow” and “automatic”. However, it is not clear that “now” and “here” deserve this status, hence the asterisks. With “here” there is the question of how large an area is to count, and with “now” the question of how large a stretch of time. If I say, “I left my pen here,” I would be taken to designate a relatively small area, say the office in which I was looking. If I say, “The evenings are cooler than you expect here” I might mean to include the whole San Francisco Bay area. In “Now that we walk upright, we have lots of back problems,” “now” would seem to designate a large if indefinite period of time that includes the very instant of utterance, while in “Why did you wait until now to tell me?” it seems to designate a considerably smaller stretch. It seems then that these indexicals really have an intentional element.

4 Post-semantic Uses of Context

We contrasted presemantic and semantic uses of context. There is a third use, which I call “post-semantic”. In this type of case we lack the materials we need for the proposition expressed by a statement, even though we have identified the words and their meanings, and consulted the contextual factors to which the indexical meanings direct us. Some of the constituents of the proposition expressed are *unarticulated*, and we consult the context to figure out what they are.

Compare the following pairs of sentences:

(6a) It is raining

(6b) It is raining here.

(7a) They are serving drinks at the local bar.

(7b) They are serving drinks at the bar near here.

In many circumstances, (6a) and (6b) would convey exactly the same information, that it was raining where the speaker was. In both cases, the place where the rain must be taking place for the statement to be true is supplied by the context. But there is an important difference in how this place is supplied. In (6b) there is a part

³ See, for example, [Castañeda, 1967], [Corazza, forthcoming].

of the sentence, the indexical 'here', that designates the place. The relevant contextual fact is simply the place of the utterance. In (6a) there is no item in the sentence that designates the place. The contextual fact that provides the place is simply that it is obvious to everyone that the speaker is talking about the weather in the place she is at.

Suppose the speaker is talking on the phone with a relative who lives a number of miles away, where there has been a drought. She interrupts the conversation to utter (6a) to her family, gathered near the phone. In this case the reference is to the place where the relative is, not to the place where the speaker is. It is simply the facts about the speaker's intentions, perhaps limited by what the speaker can expect the audience to figure out, that determines which place is being talked about when (6a) is used.

In this case, I say that the place is an *unarticulated constituent* of the proposition expressed by the utterance. It is a constituent, because, since rain occurs at a time in a place, there is no truth-evaluable proposition unless a place is supplied. It is unarticulated, because there is no morpheme that designates that place.⁴

The words 'local' in (7a) and 'near' in (7b) both identify a relation between objects (like bars) and locations. They differ syntactically, in that 'local' has one argument place, for the bar, while 'near' has two, one for the bar and one for the location. But a location is needed with 'local' too; to determine whether (7a) is true or not, we need to determine not only which bars are serving drinks, but relative to which location the crucial bar is local. In many cases it will be the location where the speaker is, but it need not be. As a continuation of the aside

⁴ Calling this phenomenon "unarticulated constituents" instead of, say, "implicit reference" is simply meant to focus on what I think as the starting point of investigation, the question of how there can be a constituent in the proposition, with no corresponding expression in the utterance. I sometimes use more common and traditional term "implicit reference" for what the speaker does, that leads to there being a constituent that is unarticulated. But I think the term "implicit reference" is sometimes thought to be necessarily connected to what I regard as special case. In some cases of implicit reference there is a feature, a trace, a sort of phantom expression, that serves in place of an expression, so the referred to constituent really isn't unarticulated. Linguists often agree on the criteria for and presence of such features; it is a robust phenomenon. But I do think that saying there is such a feature should amount to more than saying that we use an -place predicate for an -ary relation. I am interested in the theoretical possibility and coherence of truly unarticulated constituents; I also hope, however, that I have found some convincing examples that they really occur.

mentioned above, (7a) could be a remark about the location where the relative on the other end of the phone finds himself, deciding whether to be dry or get wet.

I call the case of unarticulated constituents “post-semantic”. The task of identifying the unarticulated constituents of the propositions expressed by an utterance remains after all of the relevant semantic rules have been understood and applied.

Return for a moment to (6a) and (6b). (6a) It is raining.

(6b) It is raining here.

Here are two cases. Case 1: Fred hears Mary say (6a); he doesn’t know whether she is talking about the location where they are, or some other location—perhaps the location of the person to whom she is talking on the phone. So, in a sense, he doesn’t know what she has said. Case 2; Fred reads a postcard Mary has written (6b). He doesn’t know where she was when she sent it, so, in a sense, he doesn’t know what she said.

In Case 1, Fred has a task to perform once he understands the meaning of the sentence he hears. He has to figure out what location Mary was talking about. In performing this task, the semantics of the words of (6a) do not provide a guide. Fred will be guided, in figuring out what location Mary is talking about, by his knowledge of the particular situation. Who is Mary talking to? What is she likely to be trying to say? And so forth.

In Case 2, once Fred understands the meaning of the sentence he reads, he has also task to perform, in order to understand what was said. Again, he needs to know what location Mary was talking about. But here semantics provides a partial guide. He needs to identify the location she was at to serve as the designation of the use of “here”. Because he knows the meaning of “here,” Fred knows exactly what fact is relevant. He doesn’t need to know much about Mary; just where she is and that she is using English.

5 Unarticulated Constituents: When Things are Not Worth Mentioning

Now I want to make some points about the conditions under which we leave the constituents of what we say unarticulated. I am not offering anything like a comprehensive account, only making some observations. Of course, the general theme is clear: we don't articulate the objects we are talking about, when it is obvious what they are from the context.

The first type of case are those in which, with respect to a certain n -ary relationship, there is a unique object that always plays a certain argument role for a certain population. Perhaps the residents of Z-land never get any information about the weather anywhere else, and don't care anyway. When they say, "It is raining," they mean, "It is raining in Z-land". They use an $n-1$ -place predicate to convey information about an n -ary relation. Here are four more examples of this sort of case:

A population (children, say) who only get information about what time it is in their own time zone, and only take actions whose success depends on things happening at particular times in their own time zone. They report the time with the 1-place predicate, "It's ()-o'clock". But the relation they are conveying information about it is a 2-ary relation: *It's ()-o'clock at place p.*

An agent that never needs to have information about how the world looks except from its own perspective. It will treat n -ary relations involving itself as $n-1$ -ary relations, and treat properties of itself as propositions, for example, *Bird in front!* rather than *Bird in front of me.*

If we think of our own world as just one of many possible worlds (David Lewis style), then each contingent relation has an argument place for the world. But our language ignores this. The actual world is an unarticulated constituent of our thought and speech.

According to physics, every judgment about time is true only relative to an inertial frame; “simultaneous” is a 3-ary relation; but we normally treat it as a 2-ary relation, ignoring the inertial frame parameter.

In these examples I have not carefully distinguished between constituents that are unarticulated in speech and those that are not even thought of. In [Perry, 1986] I try to develop some helpful vocabulary for making this distinction.

In the second kind of case I want to discuss, the occupant of the unarticulated argument role does not stay the same, as in all of the examples of the first kind of case. Although the occupant changes, the relation of the occupant to the agent is always the same.

Suppose the Z-landers use the 1-place predicate “Rains(t)” for the 2-ary relation of rain at a place at a time. But they have become nomads. The place at issue (the one that determines the truth of their utterances and the success of the actions based on them) is the place they are at, at the time of the utterance.

Note that, unlike the original Z-landers, these folks will get in trouble if they try to accumulate information about raining: It didn’t rain 2 days ago, it didn’t rain yesterday, it didn’t rain today, so it won’t rain tomorrow.

Cases of the third type are like those of the first type except that properties of the entire set of objects that occupy the unarticulated parameter have been noticed and incorporated into the language. If we adopt the Lewis perspective on possible worlds, then our concepts of necessity and possibility are like this. I don’t articulate the possible world I am at, and I don’t talk about how things are at other specific worlds. But I recognize in addition to properties of the possible world I am at properties of the set of worlds. “Philosophy is necessarily fascinating,” for example, is true if philosophy is fascinating in all of the possible worlds.

6 Concluding Remarks

Let us say that we talk about an object, when we express propositions that have that object as a constituent. We have a variety of ways of talking about objects,

including referring to them indexically, describing them, naming them, and as we have seen, not mentioning them explicitly at all. At a first pass, we might say that indexicals provide a way of talking about objects that doesn't require us to know much about what they are like or what their names are, but does require that we know what relation they have to us—or more accurately, to the context of utterance. Descriptions and names provide ways of talking about objects that don't require us or our listeners to know the relations of those objects to us, but do require us to know what they are like or what they are named.

For example, I can refer to Bill Clinton as “you” if I am talking to him. I don't need to know his name or much about him. A more likely case is that I refer to him by name or describe him, while I have no idea of whether he is in Washington or Los Angeles or abroad—and thus have no ability to even point in his general direction, refer to him demonstratively.

Implicit reference is appropriate when it is obvious who or what is being spoken about, for one reason or another. But the reasons for this obviousness can be quite varied. In one kind of case, the constituent may be left unarticulated because it is so centrally involved in the agent's concept of the relation in question, that he has never really separated the constituent from the relation. In another, all that is special about the object is that right at that point in the conversation, it just is obvious that it is the one that would be talked about.

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