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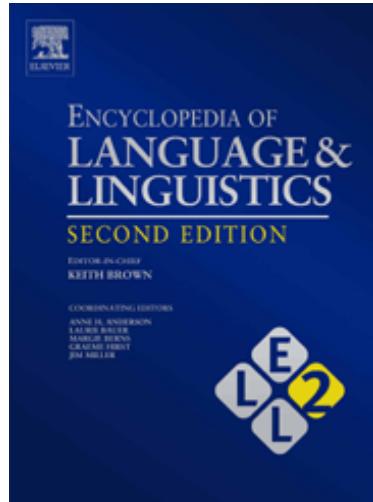


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defended by Donald Davidson and Daniel Dennett (*see Radical Interpretation, Translation and Interpretationalism*).

*See also:* Behaviorism: Varieties; Compositionality: Philosophical Aspects; Holism, Semantic and Epistemic; Radical Interpretation, Translation and Interpretationalism; Rules and Rule Following.

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## Indexicality: Philosophical Aspects

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In most of our linguistic interchanges and thinking episodes, we rely on context to select items of discourse and items of thought. One often succeeds in talking and thinking about something because one is situated in a given context. In natural language we have tools whose specific function is to exploit the context of use in order to select an item in one’s surroundings. If one says, ‘It is raining here’ while in London, one refers to London because one’s utterance occurs in London. Were one to utter the same sentence in Paris, one would be referring to Paris. We can use the very same words and yet refer to very different items. When you use ‘I’, for instance, you refer to yourself, whereas when I use it, I refer to myself. We use the very same linguistic expression with the same conventional meaning. It is a matter of who uses it that determines *who* the referent is. Moreover, when Ivan, pointing to Jane, says ‘she’ or ‘you,’ he refers to Jane; Jane, however, cannot refer to herself using ‘she’

or ‘you’ (unless she is addressing an image of herself). If we change the context – the speaker, the time, the place – in which these expressions occur, we may end up with a different referent.

Among the expressions that may switch reference with a change in context, we have personal pronouns ('my', 'you', 'she', 'his', 'we...'), demonstrative pronouns ('this', 'that'), complex demonstratives ('this pencil', 'that brunette in the corner...'), adverbs ('today', 'yesterday', 'now', 'here...'), adjectives ('actual', 'present'), and possessive adjectives ('my pencil', 'their car...').

These expressions have been termed, following Peirce, *indexicals*. Indexicals constitute the paradigm of context-sensitive expressions, i.e., those expressions that rely on the context of use to select an object of discourse. Reichenbach (Reichenbach, 1947) claimed that indexicals are *token reflexive*, for they can be defined in terms of the locution ‘this token’, where the latter (reflexively) self-refers to the very token used. So, ‘I’ can be defined in terms of ‘the person who utters this token’, ‘now’ in terms of ‘the time at which this token is uttered’, ‘this pen’ in terms of ‘the pen indicated by a gesture

accompanying this token', etc. The reference of an indexical expression depends on its particular linguistic meaning: 'the utterer of this token' is the linguistic meaning (the *character* (Kaplan) or *role* (Perry)) of 'I', while 'the day in which this token is uttered' is the linguistic meaning of 'today', and so on. The meaning of an indexical can be viewed as a rule which one needs to master to use an indexical correctly. An indexical's linguistic meaning can be conceived as a function taking as its argument the context and giving as its value the referent/content (this is Kaplan's famous content/character distinction).

It is often the case, however, that the linguistic meaning of expressions such as 'this', 'that', 'she', etc., together with context, is not enough to select a referent. These expressions are often accompanied by a pointing gesture or demonstration, and the referent will be what the demonstration demonstrates. Kaplan (1977) distinguishes between *pure indexicals* ('I', 'now', 'today',...) and *demonstratives* ('this', 'she',...). The former, unlike the latter, do not need a demonstration – or *directing intention*, Kaplan (1989) – to secure the reference.

In their paradigmatic use, pure indexicals differ from demonstratives insofar as the latter, unlike the former, are perception based. When one says 'I', 'today', etc., one does not have to perceive herself or the relevant day to competently use and understand these expressions. To competently use and understand 'this', 'she', etc., one ought to perceive the referent or demonstratum. For this reason, when a pure indexical is involved, the context of reference fixing and the context of utterance cannot diverge: the reference of a pure indexical, unlike the reference of a demonstrative, cannot be fixed by a past perception.

Moreover, a demonstrative, unlike a pure indexical, can be a vacuous term. 'Today', 'I', etc., never miss the referent. Even if I do not know whether today is Monday or Tuesday and I am an amnesiac, when I say 'Today I am tired,' I refer to the relevant day and to myself. By contrast, if one says 'She is funny' while hallucinating, or 'This car is green' while pointing to a man, 'she' and 'this car' are vacuous.

In addition, pure indexicals cannot be coupled with sortal predicates, while 'this' and 'that' often are used to form complex demonstratives such as 'this book', 'that water'. Sortal predicates can be considered to be *universe narrowers* which, coupled with other contextual clues, help us to fix a reference. If one says 'This liquid is green' while pointing to a bottle, the sortal 'liquid' helps us to fix the liquid and not the bottle as the referent. Moreover, personal pronouns which work like demonstratives (e.g., 'she', 'he', 'we',) have a built-in or hidden sortal. 'She', unlike

'he', refers to a female, while 'we' usually refers to a plurality of people, of whom one will be the speaker.

Indexicals are generally conceived of as singular terms that contribute a referent to what is said. According to the *direct reference* view (from Kaplan and Perry), utterances containing indexicals express singular propositions, i.e., propositions whose constituents are the referents of the indexicals. As such, indexicals are usually characterized as expressions whose interpretation requires the identification of some element of the utterance context, as stipulated by their linguistic meaning. Thus, an utterance of 'I am tired' expresses a proposition containing the referent of the first person pronoun, and one understands it insofar as one knows to whom the term 'I' refers in the context in which it is uttered. The linguistic meaning governing the use of the indexical – such as 'the agent of the utterance' *qua* meaning of 'I', 'the day of the utterance' *qua* meaning of 'today' – does not feature as a constituent of the proposition expressed.

If indexical expressions are characterized as singular terms contributing their referents into what is said (i.e., the proposition expressed), adjectives such as 'local', 'distant', 'actual' – not to mention count nouns like '(a) foreigner', '(an) enemy', '(an) outsider', '(a) colleague' – would not fall into the same category, for they do not contribute a referent to the proposition expressed. Yet they are, plausibly, context-sensitive expressions. 'Local', 'foreign', and 'native' in 'A local bar is promoting foreign wine' and 'A native speaker should correct your essay' do not contribute a specific individual or individuals to the proposition expressed. Hence, they are not singular terms. It should be evident that context-sensitivity does not merely concern singular terms. It is worth distinguishing between indexicals *qua* singular terms, contributing their referents to the proposition expressed, and *contextuals* *qua* expressions which, though context-sensitive, are not singular terms. Adjectives such as 'tall', 'big', 'small', 'old', etc., also are context-sensitive, insofar as one is only tall/small/big.old... relative to a comparison class. Jon may be too short to play tennis and yet too tall to be a jockey, while Jane may be too old to join the army and too young to take early retirement. But see Cappelen and Lepore (2004) and Borg (2004) for the view that words such as 'tall', 'foreigner', 'old', and the like are not genuinely context sensitive.

Proper names, like indexicals, also contribute individuals into the proposition expressed. As such they are singular terms, too; yet they are not indexicals (but see Recanati, 1993 for a different view). Nouns such as 'Monday', 'February', and the like also seem to contribute specific individuals in the proposition

expressed. They are best viewed in the same light as count nouns, i.e., as nouns such as 'lemon', 'frog', and 'table' (see Corazza, 2004). As such, they can be used to build singular terms. This happens when they are coupled with an indexical expression such as 'this', 'next', 'last' and they contribute to complex demonstratives of the form 'next week', 'last Saturday', 'next Christmas'. This peculiarity parallels the way count nouns can participate in building complex demonstratives such as 'these lemons', 'that table', 'this pen'. (King, however, defends the view that complex demonstratives are quantified terms).

One of the major features of indexicals differentiating them from other referential expressions (e.g., proper names: 'Plato', 'Paris'; mass terms: 'silver', 'water', terms for species: 'frog', 'raspberry', and so on) is that they are usually used to make reference *in praesentia*. That is, use of an indexical exploits the presence of the referent. Usually in a communicative episode involving an indexical, the referent is in the perceptual field of the speaker and contextual clues are used to raise the referent to salience (see Smith, 1989; Sidelle, 1991; and Predelli, 1998 for a discussion of indexicals used to refer to objects not present, e.g., answering machines, post-it notes, etc.)

When indexicals are not used to make reference *in praesentia* they exploit a previously fixed reference. 'That boy' in 'That boy we encountered yesterday was in trouble with the police' does not refer to someone present. In cases like this, the indexical makes reference *in absentia*. One can thus distinguish between the context of utterance and the context of reference fixing. In our example, the speaker and the hearer appeal to a past context to fix the reference. The gap between the two contexts would be bridged by memory. Another way to handle examples like this would be to argue that, in such cases, the indexical expression works like an anaphoric pronoun linked to a tacit initiator. In the sentence 'In 1834 Jane visited her parents, now two old, sick people,' 'now' does not refer to the time of the utterance. It refers to 1834. It does so because it is anaphorically linked to '1834', and, as such, it inherits its reference from it. A similar story could be told about 'that boy': it inherits its reference from a tacit initiator, i.e., an unpronounced NP which is nonetheless presupposed in the discourse situation. To stress this interpretation, consider the following exchange: Jane: 'It is raining'; Jon: 'Then I won't be there before tomorrow.' In saying 'It is raining,' Jane tacitly refers to the location she is in, say London. With 'there', Jon refers to the very same location and we can claim that he does so because 'there' works in an anaphoric way, inheriting its value from the tacit reference made by Jane.

Furthermore, indexicals differ from other referential expressions insofar as (in their paradigmatic use, at least) they cannot be deferential. While one often relies on the so-called division of linguistic labor when using non-indexical expressions (e.g., proper names or mass terms), one cannot depend on the same phenomenon when using an indexical. One can, for instance, competently use 'Feynman' or 'elm' even if one does not know who Feynman is and even if one is unable to tell an elm from a pine. Indeed, a blind person can utter 'that vase' when she has been told that there is a vase in front of her. In these uses the reference is fixed by someone else (it is deferentially fixed). However, these are far from being the paradigmatic uses of an indexical such as 'that/this'. In their paradigmatic uses, they refer to something the user is perceptually aware of. This difference between indexicals and other terms parallels the fact that when using proper names, mass terms, and the like, context is in play before the name is used. As Perry suggests, we often use context to disambiguate a mark or noise (e.g., 'bank', or 'Socrates' used either as a tag for the philosopher or for the Brazilian football player). These are pre-semantic uses of context. With indexicals, though, context is used semantically. It remains relevant after the language, words, and meaning all are known; the meaning directs us to certain aspects of context. This distinction reflects the fact that proper names, mass terms, etc., unlike indexicals, contribute to building context-free (eternal) sentences, that is, sentences that are true or false independently of the context in which they are used.

To sum up, philosophers have made several key claims about indexicals. They are tools whose function is to exploit context, and their hallmarks include not having a fixed referent, not being easily deployed *in absentia* of the thing referred to, not being used deferentially, and having context play (not just a pre-semantic role, i.e., determining which word has been used, but also) a semantic role. Philosophers have found that indexicals come in at least three varieties: pure indexicals ('I', 'now'), demonstratives ('this', 'she'), and contextuals ('foreign', 'local'). Key differences between the first and second variety are that, in contrast to pure indexicals, demonstratives are more perception-based, they may be vacuous, they can be combined with sortals, and directing intentions play a quite central role in their use. In addition to attracting the attention of philosophers, indexicals have also captured the interest of those working within the boundaries of cognitive science for several reasons (see, for instance, Pylyshyn, 2003 on how indexicality is relevant to the study of vision): they play crucial roles when dealing with such puzzling notions as the

nature of the self (see for instance the importance of 'I' in Descartes' cogito argument), the nature of perception, the nature of time, psychological pathologies, social interaction, and psychological development (see Corazza, 2004).

*See also:* Pragmatic Determinants of What Is Said; Semantic Value.

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## Indexicality: Theory

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### Indexicality in Peirce's Categories and Sign Typology

'Indexicality' is a feature of the 'index,' one of three types of signs identified by Charles S. Peirce, the other two being the 'icon' and 'symbol.'

According to Peirce, a sign is something that stands for something else, in some respect. It creates in the mind of the interpreter an equivalent sign, or perhaps a more developed sign, that is, an interpretant (2.228 – As is common in Peircean scholarship,

quotes and citations will be identified by volume and paragraph number from Peirce [1931–1958]). That the sign stands for something in some respect means that it does not refer to the object in its entirety (dynamic object), but only to a part of it (immediate object). Furthermore, a sign subsists for Peirce according to the category of 'thirdness,' that is, it presupposes a triadic relation between itself, the object, and the interpretant thought, which is itself a sign. And given that it mediates between the interpretant sign and the object, the sign always plays the role of third party.

The icon is characterized by a relation of similarity between the sign and its object.