

Kaplan's sloppy thinker and the Demonstrative Origin of Indexicals

by GUIDO BORGHI & CARLO PENCO

Università di Genova
guido.borghi@unige.it penco@unige.it

«I wonder what thoughts are busy in your heart
during all hours you sit in yonder room
with the fine people fitting before you...»

Charlotte Brontë, *Jane Eire*, 1847

Abstract

In this paper we give some suggestions from etymology on the contrast between Kaplan's direct reference theory and a neo-Fregean view on indexicals. After a short summary of the philosophical debate on indexicals (§1), we use some remarks about the hidden presence of a demonstrative root in all indexicals to derive some provisional doubts concerning Kaplan's criticism of what he calls "sloppy thinker" (§2). To support those doubts, we will summarize some etymological data on the derivation of the so-called "pure indexicals" from an original demonstrative root (§3). The aim of the paper is to consider etymological data as providing evidence for alternative theories of language and fostering new directions in linguistic and philosophical research on specific topics.

Keywords: demonstratives . indexicals - etymology - Gottlob Frege - Karl Bühler - David Kaplan

1. *Indexicals in the philosophy of language*

Since Kaplan [1979; 1989], Lewis [1980], Evans [1981], philosophers begun to analyse indexicals as a semantic category characterized by context dependence¹. Philosophers' indexicals include different syntactic categories (personal pronouns, locative and temporal adverbs,

¹ A previous version of this paper has been presented by Carlo Penco at the ECAP Conference in Munich 2017. We thank participants for their remarks and criticism. We would also like to thank Genoveva Marti and Tim Crane for comments on a previous version of the talk, Filippo Domaneschi for remarks on the use of data for testing theories, and Massimiliano Vignolo for comments on a previous version of the paper.

simple and complex demonstratives...) and are characterized in Perry [1997] by two parameters: the property of being automatic (or not, that is requiring a specific referring intention), and the property of depending only on narrow context (or not, that is requiring a wide context including other features like background assumptions). Philosophers' *narrow context* is a set of parameters representing what linguists, since Bühler [1934] and Fillmore [1997], call «deictic centre»: speaker, location, time (and possible world) of the utterance. According to Kaplan's direct reference view, narrow context alone determines the content of «pure indexicals»: "I", "here" and "now" are considered *pure indexicals* insofar, given a (narrow) context, their character or linguistic meaning is a function that automatically gives, as semantic content, speaker, time or place of the context of utterance.

Some recent literature (Kripke [2008], Kühne [2010], Textor [2015], but also Nunberg [2004], De Gaynesford [2006], Elbourne [2008], King [2011], Penco [2013], Recanati [2013], Predelli [2013: ch.11], Kijania-Placek [2015]) has also discussed alternative possibilities of treating indexicals, partly following different interpretations of Frege's 1918 remarks on indexicals. Frege's view on indexicals was discussed and rejected by Kaplan [1989] who considers Frege's ideas similar to the idea of a sloppy thinker, who always connects an indexical with a demonstrative (e.g. "I" standing for "*this* speaker). Indeed, some of Frege's remarks suggest a very strict connection between all indexicals and a demonstrative aspect, which is denied by Kaplan's theory in the case of "automatic" or "pure" indexicals². Kaplan's point can be summarized saying that the sloppy thinker believes that from a privileged perspective we may derive a (privileged) perspectival content. According to Kaplan pure indexicals are rigid designators, referring always to the same individual in all possible circumstances; he claims that if we accept to interpret indexicals as strictly connected with a demonstrative, then they would refer to whatever would be the individual pointed at in counterfactual circumstances (if I identify "he" with "that person",

² Kaplan [1989: 51]) accepts the Fregean theory of demonstrations, which can explain the informativeness of sentences like "that [pointing to Venus in the morning sky] is identical with that [pointing to Venus in the evening sky]". This can be explained saying that the two occurrences of "that" have the same character but different demonstrations attached. However, Kaplan takes the Lewisian stance according to which demonstrations cannot be part of the syntax because they have no fixed formal structure, and rejects Frege's theory of demonstratives.

the expression “that person” would refer to different persons in different circumstances). In what follows I am content to cast a doubt on Kaplan’s interpretation of the (Fregean) sloppy thinker and to leave open a possibility for interpreting Frege’s view without the shortcomings envisaged by Kaplan. At the same time, I want to point out some similarities between Frege’s view and the view of his contemporaries, like Brugmann and Delbruck, who much influenced the subsequent research on indexicals in linguistics.

Kaplan [1989] criticises Frege as if he were a “sloppy thinker” who interprets indexicals in a sloppy way as they were always connected with a demonstratives. But what exactly Kaplan is criticising with the tag of “sloppy thinker”? Kaplan’s sloppy thinker erroneously regards pure indexicals as synonymous of complex demonstratives:

[t]he sloppy thinker has adopted a demonstrative theory of indexicals: ‘I’ is synonymous with ‘this person’ [along with an appropriate subjective demonstration], ‘now’ with ‘this time’, ‘here’ with ‘this place’ [each associated with some demonstration], etc.

Kaplan has two main arguments against this view: (i) from the point of view of the sloppy thinker, the logical behaviour of pure indexicals would require a direct acquaintance of the object concerned. To argue against this attitude Kaplan makes an example of a kidnapped heiress, closed in a trunk of a car, who says “it is calm here now” without knowing to what “here” and “now” refer to. (ii) For the sloppy thinker the referent of an indexical in counterfactual situations, would be the individual that would have been demonstrated; if on the contrary indexicals are directly referential devices, the individuals referred to in counterfactual situations are the actual demonstrata. The semantic content of indexicals is then given by individuals automatically triggered by the character in context, and therefore the propositions expressed by sentences with an indexicals (as “I am tired”) are singular propositions (composed by an individual and a property, for instance <Carlo Penco, being tired>), and they cannot be treated as general propositions composed by a generalized quantifier of the form “[this x speaker x] tired x ”, as it would be with the sloppy thinker.

There are possible answers I leave the reader to develop, and I will only give two short remarks. Concerning (i) much depends on what we mean by “acquaintance”; in fact, I may have no clues of the surround-

ing space and time, but it is reasonable to think that saying “now” or “here” I am acquainted with a particular moment of time and place, although I may have no specific information about (like 007 saying to Pussy Galore in a famous movie, *Goldfinger*: “I am happy to be here; by the way: where is here?”). We need no specific descriptive content for using a demonstrative (*this*) and an expression of the needed category (*person, place, time*). Aren’t we often in this kind of situation? Shouldn’t we say that we have a basic, although limited, acquaintance with place and time in the same way we have acquaintance with ourselves although we might not remember *who* we are? (think of a momentary loss of memory)³. Concerning (ii) we may accept the claim that indexicals are indicative without being compelled to accept that indexical utterances express singular propositions (Nunberg [1993]). But we may also take the general content of the sloppy thinker – dependent on the demonstrative – as necessarily equivalent to a singular proposition that is contingent, in analogy with referential uses of definite descriptions (Vignolo [2001]).

What lies behind the alternative reading ridiculed by Kaplan? Frege dedicated much space in reminding the reader that natural languages are much different from formal languages because of the particular connection indexicals words have with the context of utterance; sentences containing expressions like “that man” or “I”, “here” or “today” cannot express a complete thought, unless we know certain external conditions like the speaker’s deictic gestures:

The mere wording, as it can be preserved in writings, is not the complete expression of the thought; the knowledge of certain conditions accompanying the utterance, which are used as means of expressing the thought, is needed for us to grasp the thought correctly. Pointing the finger, hand gestures, glances may belong here too (Frege 1918: 64).

We might see that, contrary to Kaplan’s theory, Frege’s view hints at a treatment of all indexicals as something *necessarily* linked, in analogy with demonstratives, to some non-linguistic features, where we may also hypothesize the connection with different modes of presentation given by different kinds of demonstrations. Frege’s attitude is reminiscent

³ Speaking of the necessity of acquaintance to understand and use indexicals, Kripke [2011: 301] insists that «[e]ach of us can fix the reference of the word “I” by means of acquaintance with oneself, self-acquaintance».

of remarks on demonstratives widely discussed by Brugmann [1904] and Bühler [1934], claiming a strict link between indexicals, demonstratives and gestures, especially from the point of view of etymology.

We cannot make appeal to etymological data as an argument deciding in favour of a theoretical claim in the philosophy of language. However, also for philosophers, there is something to learn from the proper study of the origin of words. Etymological data may give hints about the plausibility of some theoretical trends and foster new research on alternative paradigms left behind by contemporary standard theories⁴. Partly relying on Bühler's suggestions, but also on new research (among which Dunkel [2014]) we will recall some data that are compatible with an origin of our basic indexicals from demonstrative expressions, especially in Latin and in Greek, but also suggesting a similar origin at least in most Indo-European languages. The lexicon of most contemporary languages still keeps some traces of the demonstrative origin of indexicals and may give some indirect support to the Fregean view on indexicals in natural languages as essentially linked to a demonstrative aspect.

There is also a striking similarity between Frege and ancient linguists like Brugman and Bühler on the role of demonstrations. In the paragraph "Indispensibility of deictic clues" Bühler [1934] discusses Brugmann's claim that it is impossible to decide with historical research whether demonstratives were necessarily connected with pointing gestures and concludes:

If [...] something more than only the finger gesture is understood by gesture, then from a psychological perspective much more can be decided than only the controversy on how it might have been in the beginning. It can be shown how it still is today and that it could never have been different. Other optical or acoustic cues can be used instead of the finger gesture, and all of them can be replaced by indirect situational evidence or conventional interpretational clues (Bühler [1934: 112]).

⁴ It is now common to use psychological data to test the plausibility of a theory; however, while psychological data concern the actual use of language, etymological data concern the past; therefore, they cannot directly impinge on our theories of language use. However, they may suggest aspects of lexicon that are hidden because of language development and, relying on linguistic data from past languages, etymological data may be considered analogous to cross-linguistic data (an interesting example for our problems is the use of cross-linguistic data by Johnson & Lepore (2002: 24), who claim that bare demonstratives and complex demonstratives belong to the same semantic category.

This reference to the unavoidable presence of a non-linguistic component in the interpretation and use of demonstratives is coherent with the Fregean suggestion quoted above, which can be summarised saying that some expressions do not express a complete sense without the surrounding circumstances and gestures disambiguating the intention of the speaker⁵. Therefore, Frege seems perfectly at home in Bühler's *two-fields theory*, for which «the several modes of perceptual pointing and presenting are just as much a part of the essence of natural language as abstraction and the conceptual grasp of the world are, and they are equally close to the essence of language» (Bühler [1934: v]). Although much forgotten by analytic philosophers more strictly interested to the logical treatment of model theoretic semantics⁶, the work of Brugmann and Bühler, with its stress on the role of demonstratives and gestures, may be a starting point of a new vision of the relation between pure indexicals and demonstratives, which is not far from the Fregean viewpoint.

2. *Etymological facts on demonstratives and philosophical suggestions*

Which is the relation between philosophers' indexicals and the etymological analysis of demonstrative as an original linguistic stratum? Can we keep the definition of indexicals as simply linked to perspective and context dependence or there is some more specific aspect that builds them as a linguistic or semantic category? As we will see in § 3, etymological studies suggest that all indexicals are linked to a demonstrative root, maybe including some kinds of explicit demonstrations; this link has been partly lost in the development of language, but we can find traces of it in the history of the lexical items expressing indexicals. To put these results in a wider frame we should take into consideration three fundamental aspects of demonstratives:

⁵ Besides his 1918 remarks, Frege discusses complex demonstratives like “that man”, saying that “it is the whole consisting of the concept-word together with the demonstrative pronoun and accompanying circumstances which has to be understood as a proper name”. (Frege 1914, 213; see also Küne 1999, 2010) Complex demonstratives are particularly interesting given that they imply both a conceptual and a demonstrative aspect, therefore representing the point of connection of the two main components of our language capacity, according to Bühler's two-fields theory.

⁶ With the notable exceptions of Mulligan 1997 and Dolcini 2016.

(i) *The autonomous origin of demonstratives and their link with gestures.* Since Brugmann [1904] many scholars (more recently Diessel [1999: 150-152]; Himmelmann [1997]; Diessel [2003; 2006]; Dunkel [2014: I, 27; II, 685-688]), suggest that demonstratives are an original linguistic stratum: there is no evidence that demonstratives developed from a non-deictic lexical source, which means that they cannot be traced back to other kinds of lexical items. Brugmann [1904: 7-8] even claimed that, although no historical research may prove that original demonstratives were always accompanied by gestures, it is psychologically plausible that it is so; in fact, it is easy to imagine the need of joint demonstratives and gestures in primitive societies, where indication of different locations in surrounding space were essential for hunting and other social activities. Some evidence on this direction is suggested by Ballester [2006: 23-24] who remarks that demonstratives often do not distinguish human and not human while interrogatives do; this difference seems to imply that demonstratives might have been used in hunting communities in strict connection with gestures. We still find today strict connections between demonstratives and precise gestures of different kinds (including gaze, movements of the lips and whistles) in many languages as, for instance, in Melanesian languages (Malherbe [1983: 263]).

With these last remarks, I don't want to support the revival of gestural protolanguage theories (e.g. Corballis [2002], Arbib [2005]; Armstrong-Wilcox [2007]), according to which gestures preceded speech⁷. Rizzolatti-Arbib [1998], trying to interpret the working of mirror neurons, only suggested that gestures contain the seed of syntax, and experiments in psychology tried to interpret gestures as a "living fossil" of some earlier communicative stage (Goldin Meadow [2003]). Arbib [2005] discussed the hypothesis of a progressive and gradual shift from a gestural language to speech, from direct connection to the surrounding environment to more arbitrary use of signs. However, even assuming some ground in these hypotheses (but see Fitch [2010: 461 ff.] for a criticism), these studies at most reveal the importance of gestures for structuring thought. Tomasello claims that pointing gestures, specifical-

⁷ Armstrong and Wilcox [2007] suggest a mental experiment reminiscent of Condillac's: let us imagine a group of children without previous exposure to language; how will language develop? Probably beginning with gestures and from those to pairing of gestures and sounds.

ly the so-called “declarative gestures” where humans point at an object while making a request or a report, are what distinguishes humans from chimpanzees, which use mostly “imperative” gestures⁸. Following the specificity of human gestures, we are here interested not in the origin of gestures as a tool for developing thinking, but in the *direct* connection between gestures *and* language, that is, the use of gestures *in* language and *with* language. We are interested in what McNeill *et al.* [2005] call the *co-speech gestures*, a study of which was widely developed after the classic McNeill [1992].

Psychology helps: according to a well-consolidated view, a central moment in child development is the pairing of vocalization and pointing gestures, or declarative movements, where the vocal aspect concerns the action and the pointing concerns the object on which the action has to be made (like giving or taking)⁹. We cannot isolate pointing with fingers, despite being so relevant for child development, as the only relevant gestures coupled with language; many studies concern different ways of demonstrating with different bodily movements, like lip pointing (see Wilkins [2003]) or gaze or torso orientation (Kita [2003a]). Researches on joint attention and deictic gaze have shown that these kinds of demonstrations characterize humans also in respect of apes (see Kita [2003]; Shepherd [2010]; Moore - Dunham [2014]) and are strictly connected with language use.

Among linguists Diessel [2006] follows this line of interest and claims that the role of demonstratives in coordinating joint attention suggests to redefine the category of demonstratives: their characteristic

⁸ Results of ethology seem coherent with linguistic data: according to Tomasello [1999], demonstrations seem to be a fundamental stratum of human language, linked to what is called “declarative pointing”. While apes learn to use “imperative pointing”, they do not seem to master declarative pointing (see also Tomasello - Call [2007]; contra see Moore [2016], with a more benevolent view on the use of ostensive pointing in great apes). Piovinelli *et al.* [2003] show that pointing gestures among chimpanzees do not combine with direction of gaze or gaze alternation, whereas this is typical of children between 9 and 12 months.

⁹ E.g. see Brouchon *et al.* [1986]. We will not deal here with the languages of signs, which have their own peculiar problems. It is, however, worth noting that in languages of signs interesting distinctions among indexicals are made with different kinds of pairings of pointing gestures and gaze. For instance, to distinguish first, second and third personal pronouns, the first pronoun points to the signer’s chest; the second pronoun points in the same direction as the gaze; the third personal pronoun points in a different direction to the gaze (Meurant [2008]).

feature should be defined as the property of fostering joint attention. Using the case of Turkish, where some demonstratives do not have a contrastive indication of distance (like “here” vs. “there”, of “this” vs. “that”) Diessel suggests that, even when deprived of the aspect of distance, demonstratives may still keep a fundamental dual property: the property of both deixis and joint attention. Therefore, he claims that, assuming this restricted definition of demonstratives, we may accept the idea that demonstratives are universals across languages.

(ii) A second aspect, well known among linguists, is the extent to which the demonstrative stratum of language has a direct influence on other linguistic expressions, first of all philosophers’ indexicals. Among philosophers’ indexicals we have pronouns and it is widely shared among linguists that demonstratives are the ground for the development of pronouns and other kinds of lexical items. This claim dates back at least to Brugmann - Delbruck [1911: 311] who assert:

It may be that all demonstratives were once deictic particles, that it indeclinable words. If the object was named at the same time, they took their place in front or behind its designation. Such particles can still often be found in attributive combination with nouns in the historical periods of Indo-European languages, for example New High German *der mensch da* (the person there), *da der mensch* (there, the person), *du da* (*you there*). Many reasons can be adduced in favour of this origin of the declinable pronouns.

Bühler [1934] is not happy of just saying that pronouns are derived from deictic words, as Brugmann claims, but, with his two-field theory, suggests a sharper separation between *naming words* and *deictic words*, with personal pronouns belonging to deictic words (and here philosophers get a point when they classify pronouns inside the semantic category of indexicals). The common idea behind the works of Brugmann and Bühler is that the basic ostensive-demonstrative linguistic stratum is the ground of the development of other linguistic categories. There are also contrary views that claim that demonstratives, being grammatical markers, derive from content words (e.g. Heine - Kuteva [2007: ch.2]); but there is no particular clear evidence of this last claim as Diessel [1999; 2006; and especially 2012] among many others shows. It is easy to see clear examples of the derivation of pronouns from demonstratives in many Indo-European languages: think of the Latin demonstratives “*ille*” or “*illa*” and the third person in Spanish (“*él*”,

“ella”) in French (“il”, “elle”) and in many other languages (Ballester [2006: 19]; see also Jordàn [1993]; Campbell [2000: 1583s, 1704]; see also Traugott [1992] and Diessel [2006: 478]). Generally speaking, besides pronouns and articles, also temporal adverbs, definite and indefinite articles, connectives, and different markers can be shown as derived from demonstrative elements (Diessel [1999: 155])¹⁰. We shall suggest that demonstratives, being a fundamental linguistic stratum, whose roots are not derived from other words, might also be at the origin of those “pure” indexicals that Kaplan’s theory tends to detach from their particular demonstrative and gestural aspect.

(iii) A third feature that concerns us is the shrinking of demonstratives in contemporary languages, while, on the other hand, the lexicon of content words enlarges. Once a tripartite lexical organization of the kind we still find in Dante, Cervantes and Shakespeare was very common: *Questo/Codesto/Quello*, *Esto/Eso/Aquello* or *This/Yonder/That* (and, as Anderson-Keenan [1985] remarks, this tripartition works in other languages like the Japanese *Kono*, *Sono*, *Ano*). Traces of this tripartite distinction are still present in many languages, their literature and sometimes their actual use. The tripartite distinction seems to be a replacement for different ostensive gestures, coherent with the positions of persons in space, to show what is near to both speaker and hearer (*this*, *kono*), far from both (*that*, *ano*) or near to the hearer and far from the speaker (*yonder*, *sono*). The binary distinctions like *this/that* seem to derive by cutting the intermediate demonstrative; but we may hypothesise a more ancient and more coherent structure with four demonstratives (that is still present, for instance, in Northern Sami): close to speaker (proximal), close to hearer (mesioproximal), not so far from both (mesiodistal); far from both speaker and hearer (distal). As it is well known, many languages have even more than four demonstratives, including demonstratives that express both distance and direction, with the extreme case of Dyrbal language with eleven demonstratives connected with specification of geographical surrounding regions; and in some languages the referential uses of demonstratives require a neces-

¹⁰ For instance, as Diessel [1999] claims, the English definite article “the” developed from a demonstrative root in Old English. On the derivation of articles from demonstratives see also Leiss [2000: 231]. Diessel [2006: 477] makes the schema “deictic > anaphoric > definite”.

sary accompanying explicit pointing gesture¹¹.

The shrinking of the numbers of bare demonstratives happens together with a general widening of the lexicon, coherently with the idea that demonstratives form a fixed subset of grammatical markers that can shrink and a mobile set of content words that can always enlarge (see e.g. Diessel [2006]). The original complexity of demonstratives is now lost, but we recover it with mixing them together with content words, as we do with “this up here” or “that down there”. But in what is lost we may find traces of the *strict* connection between linguistic expressions and gestures, and we are driven to better understand the structure of pure indexicals, as originating in our ability to coordinate gestures and positions in a common space. A reasonable interpretation of these data would be to claim that indexicals are *de facto* hidden complex demonstratives, a mixture of demonstrations and conceptual aspects, where demonstrations are not only pointing gestures but also other kinds of attention guiding movements.

Given these three general aspects of the central role of demonstratives and demonstrations discussed in historical linguistics, we are driven to rethink the rethoric figure of the sloppy thinker with which Kaplan attempted to dismantle Frege’s theory of indexicals. A look into etymological data may help us to see whether the sloppy thinker explicitly expresses some obliterated features in the development of language.

3. *Demonstrative origins of the indexicals*

The main content of this section consists in analysing how much “pure indexicals” (*I*, *Here*, and *Now*, with a further example concerning *Today*) are strictly connected to the demonstrative stratum of language, so to reveal traces of their possible origins from demonstrative roots.

(i) *The “pure” indexical “I”* – It is commonly accepted that third person pronouns have a demonstrative origin (Bath [2005], Diessel

¹¹ See Diessel [2014: 8-9] quoting Dixon [1972]. See also Hellwig [2003: 263]; Senft [2004: 62]. Melanesian languages compose demonstratives with a set of very precise gestures, and also whistles; distance and directions are expressed with the help of eye movements (Malherbe [1983: 263]).

[2006: 478]; for English “he” and “it” Traugott [1992]). But what about the first personal pronoun? In what we may reconstruct as the most ancient phase of prehistoric Proto-Indo-European, personal pronouns were already stabilized. Whether there is a connection with a demonstrative can only be a suggestion or a hypothesis; *egō*, the Latin term for “I”, comes from Proto-Indo-European **h₁eĝ-(h_x)oh_x* or **h₁eĝ-(h_x)ō(h_x)* (de Vaan [2008: 187]), Greek *egón* derives from **h₁eĝ-(h_x)óh_x-m* or **h₁eĝ-(h_x)ó(h_x)m* (Beekes - van Beek [2010: I 373]; on Proto-Germanic see Dunkel [2014: I, 109-110]). The conclusion is that Proto-Indo-European **h₁eĝ* suffices to give the information of the first personal pronoun, and we may only make the hypothesis that the initial part (**h₁eĝ*) of all these forms contains, or derives from, the demonstrative **h₁e-*, while their final part could be an heir of the demonstrative **h₁o-*.¹² This line of thought had been suggested also by Bühler relying on the fact that the origin of the Latin “hic” contains two constituents, probably **hē-ke* (or **ho-ke* or **ha-ke*) in Proto-Italic; Bühler also considers a hypothesis suggested by Brugmann according to which

two transitions are constructed from the deictic word **ĝho*, which was obviously still undifferentiated, one of which leads to the Greek words *ἐγώ*, *ἐγών*, and Latin *ego*, the other to the **ho-* in *hic*. (Bühler 1934: 109)

But this hypothesis, suggesting that words for *here* (*hier*) and *I* (*Ich*) may have originated from a common demonstrative root, is a very speculative guess on which Bühler elaborates theoretically, given that the utterance of “I” and “here” points to the speaker and its position in space. Bühler himself considers this hypothesis just as something suggestive and seems to take distance from it, only commenting that both *hic* and *ego* fulfil the task of positional deixis [1934: 109]. The more usual standard vision claims that from **ghe-/*gho-* there has been only a derivation of the Latin *he-/ho-*. But we need no further suggestive hypothesis to accept the general idea that even the first person pronouns may have a deictic origin; the previous details should constitute a solid base, enough to accept the suggestions given by Brugmann and Delbrück [1911: 306f] in the following claim:

¹² Two variants reconstructed from Old Indic *a-* that is a demonstrative with the meaning of “this”.

[...] the pronouns of the third person cannot be clearly separated from the demonstratives and frequently coincide with them conceptually. (...) But the pronouns *I* and *thou*, too, seem at least to a certain extent to have been originally demonstratives, inasmuch as Greek *ἐμοῦ* [ˈemoũ] (and the like) probably belongs etymologically together with Old Indian *áma-h* (this one here).

This remarks about the first personal pronoun as derived from “*this one here*” gives us further, although not conclusive, evidence that even in the case of “*I*”, the purest of the pure indexicals, there is a strict etymological connection with demonstratives, in analogy with the consolidated view of the demonstrative origin of third person pronouns.

(ii) *Demonstrative origin of “Here”* – Something more can be said of “here”, especially in its Greek forms. The Greek *ἐνθά*, *ἐνθάδε* “here” contains a directive *-de* (analogous to Proto-Indo-European **dō*, Proto-Germanic **dō* and Old English *tō*) but it is highly probable that it contains also the theme **h₁éno-* “that” of Greek *ἐνέ* “the day after tomorrow”, from Proto-Indo-European **h₁én-ah_a* with an implicit **h₁ah_amer-ah_a* “day”: **h₁én-ah_a*, *h₁ah_amer-ah_a* “that day” (Beekes - van Beek [2010: I, 425]).

The final part of the Greek for “here” is compared with the Greek *ἰθῦγενής* (“noble”) composed by *-genés* (Indo-European, **géh₁-os-* “birth” = **géh₁-és-* at the end of a word), while *ἰθῦ* contains the demonstrative stem **h₁i-* (in Proto-Indo-European **h₁i-s*, **h₁ei-ah_a*, **h₁i-d*, whence Latin *is*, *ea*, *id*). The difference between the two terms is given by *-t^ha* (with short /a/) in *ἐνθά* vs. *-t^hā-* (with long /a/) in *ἰθῦγενής*. The only way to make the two forms compatible is to reconstruct **d^h-h_a* for *-t^ha* and **d^h-ah_a* for *-t^hā-*. The etymology of *ἐνθά* should therefore be **h₁én-d^h-h_a*, a compound word where **h₁én-* is the demonstrative theme (“that/this”) and **d^h-h_a* the reference to space: “this space” (Beekes - van Beek [2010: I, 582]).

In general, the locative deictical root **-i-* is the common root of many locative expressions (Dunkel [2014: I, 126, 133ff]), that supports demonstrative expressions, as in Latin. Latin *hīc* in Old Latin is defined as *heice*, which is the locative case of *hic* (with short /i/), *haec*, *hoc* (the three forms of “this” for masculine, feminine and neutral). It is therefore directly connected with the basic form of demonstratives (Walde - Hofmann [1938: 1644-1645]; de Vaan [2008: 284]).

English *here* was in Old English *hēr*, from Proto-Germanic **hē₁r*,

from Proto-Indo-European **kēi-r*, formed on the same demonstrative stem **kēi-* “this” which we find in **kī-h₁ah_amero-m* (whence Greek *sēmeron*, as we will see presenting the etymology of “today”). On the English “here” see also Klein [1971²: 343] and Orel [2003: 172].

(iii) *Demonstrative origin of Now and Today* - Latin *nunc* (“now”) can be interpreted as *nun-ce*, derived from the Proto-Indo-European **nú* (with monosyllable lengthening), from **nu-*, a form of the root **neu-* “new” (e. g. in **neu-o-s*, whence both English *new* and Latin *nouos*, later written *novus*) and the radical **kē-*. This etymology supports also the Proto-Germanic **nu* from which English *now* derives, and – according to the two original Proto-Indo-European radicals – we may interpret *nunc* (or “now”) as “this (**kē-*) new (**nu-*) [time]” (cf. Walde - Hofmann [1938: II, 187-188]; Klein [1971²: 502]).

Latin *hōra* is a loan-word from Greek *hōrā* “season, year, right moment”, from Proto-Indo-European **h_xyóh₁-rah_a*, and it is probably connected with a demonstrative component (“this season, this right moment”), as in Italian *ora* (for “now”) (Beekes - van Beek [2010: II, 1682])

Today is *hodiē* in Latin and *sēmeron* in Ancient Greek (Attic *tēmeron*, Dorian *sāmeron*). The English term seems linked to a directive (Proto-Indo-European **do*, which means “towards”) (Klein [1971²: 769]). The Latin and Greek terms for “Today” are strictly linked to demonstratives (Frisk [1973²: II, 894])

Hodie means literally “this day” (*ho-diē*) and *sēmeron* derives from Proto-Indo-European **kī-h₁ah_amero-m* which means “this day” (from **kī-*, form of the demonstrative stem **kēi-* “this”, and **h₁ah_amer-ah_a*, continued by Greek *hēmērā* “day”¹³ (Olsen [1999: 176-177], Martirosyan [2010: 56]). On English *today*, where we may almost immediately see the demonstrative origin from “this day” or “toward this day”, see Lewis - Short [1879] and Klein [1971:769].

4. Conclusions

We have suggested that three general aspects are relevant in analys-

¹³ Olsen [1999: 176-177]; Martirosyan [2010: 56].

ing pure indexicals as necessarily connected with hidden demonstratives and demonstrations: (i) demonstratives constitute a basic autonomous stratum of language use and are essentially connected with gestures (pointing, gaze, position of the body) to foster joint attention; (ii) demonstratives are at the origin of many kinds of lexical entries like articles and pronouns; (iii) bare demonstratives tend to shrink, so that their role is made more and more implicit (e.g. in pronouns and adverbs) as the gestures that accompany them becomes less evident (from pointing gestures, to gaze and torso orientation).

The few remarks summarising some basic results of etymological studies concerning pure indexicals show that the development of Indo-European languages leaves traces of language users very similar to Kaplan's sloppy thinker. In fact, if pure indexicals, as it can be claimed, originated by a demonstrative root, we may hypothesize that they are a contraction of a demonstrative together with something else, like the sloppy thinker according to whom "I" means "this person", "here" means "this place" and "now" means "this present time", *as if* indexicals were originally complex demonstratives. Kaplan's sloppy thinker seems therefore to be a metaphor of a possible speaker of the ancient times, inventing something new through his ability of pairing demonstrative (expressed together with some primitive forms of demonstratives) and contentful lexical items (like "one here" or "present time" or "space"). Does this mean that speakers of ancient times derived, from their perspective, the consequence of a perspectival content? and therefore, they were theoretically wrong, and waiting for philosophical clarification? Or should we accept the possibility that "sloppy thinkers" are not as sloppy as they seem to be, and the origin of pure indexicals from a demonstrative root suggests a way of fixing a referent coherent with a more Fregean view?

Actually, we cannot give but speculations, and we may just hypothesise that the progressive hiding of the demonstrative element might have been a way to free language from the strict connection with explicit gestures. Yet, as some authors insisted, we need some non-linguistic element in the logical treatment of pure indexicals (Burge [1979], Kripke [2008], Küne [2010]). We may find in indexicals a strict connection with gestures or demonstrations if, following Bühler and Frege, we do not restrict our attention to explicit pointing gestures: some authors take the uttering itself of the word "I" as a kind of conventional demonstration, or attention guiding action, that must be taken into ac-

count for treating the first person pronoun in its referential use (Künne [1992], Nunberg [1993], Textor [2007])¹⁴. More generally, following Textor [2015], we should distinguish between *lexical rules* (Kaplan's character) and *reference rules*, the former expressing what we learn when we learn the linguistic meaning of indexicals, the latter expressing the procedures we need for correctly using and understanding indexicals.

At the end of this short excursus in etymology we may only give mere suggestions: the etymological inspection hints at the possibility that pure indexicals were originally complex demonstratives. This hypothesis does not directly provide a direct evidence for endorsing an anti-Kaplanian view but it constitutes an evidence for the plausibility of alternative views. The problem remains: what happened to such a demonstrative component? Did it conflate into the lexical meaning of the pure indexicals and disappeared via a process of conventionalization (Kaplanian view) or did it hide under the surface and it is still present in the deep logical–syntactic structure of pure indexicals as a hidden index? Only linguistic and philosophical arguments can directly address such an issue.

However, although we cannot *derive* theoretical conclusions from these etymological data, they may boost our effort to look towards recovering the implicit demonstrative aspect of the referential use of indexicals and giving a support to a too easily abandoned Fregean view of indexicals as intrinsically connected with an extra-linguistic component. These data seem coherent with views according to which pure indexicals in their referential use might be considered not “automatic”, as claimed by Kaplan, but requiring a supplement from demonstrations (pointing, gaze, posture of the body, the uttering itself) that necessarily accompany their implicit demonstrative component, devised to produce joint attention towards the object, be it a space, a time or a speaker.

¹⁴ Textor [2015: 832] puts forward an interesting example: waiting for a unknown person in an airport you may hear “I am ... I”, where the first token is uttered at the phone and the second uttered in front of you by the same person. Considering the uttering of “I” as a kind of demonstration, we would have here two different demonstrations with different cognitive roles. In this case the character of “I” is the same, but – to get the cognitive value of the assertion – we need to give due recognition to the two different demonstrations.

REFERENCES

- Anderson, S.R. – Keenan, E.L. [1985], *Deixis*, in T. Shopen (ed.), *Language, Typology, and Syntactic Description*, vol. 3, Cambridge, Cambridge University Press, pp. 259-308.
- Arbib, M.A. [2005], *From monkey-like action recognition to human language: An evolutionary framework for neurolinguistics*, «Behavioral and Brain Sciences» 28, pp. 105-167.
- Armstrong, D.F. - Wilcox, S.E. [2007], *The Gestural Origin of language*, Oxford, Oxford University Press
- Ballester, X. [2006], *In principio era il dimostrativo*, «Quaderni di semantica» 27, pp. 13-30.
- Beattie, G. [2003], *Visible Thought. The New Psychology of Body Language*, London, Routledge.
- Beekes, R.S.P. - van Beek L. [2010], *Etymological Dictionary of the Greek Inherited Lexicon*, Leiden, Brill.
- Brouchon, M. - Joannett, Y. - Samson, M. [1986], *From movement to gestures: 'Here' and 'There' as Determinants of Visually Guided Pointing*, in Nespolous *et al.* [1986], pp. 95-107.
- Brugmann, K. [1904], *Die Demonstrativepronomina der indogermanischen Sprachen, Eine Bedeutungsgeschichtliche Untersuchung*, in *Abhandlungen der philol. hist. Klasse der Königl. Sachs. Gesellschaft der Wissenschaften*, XXII, VI, Leipzig, G.B. Teubner.
- Brugmann, K. - Delbrück, B. [1911²], *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*. Vol. 2,2, Straßburg, Karl J. Trübner.
- Bühler, K. [1934], *Sprachtheorie*, Jena, Gustav Fischer Verlag; Engl. Tr. *Theory of Language: the representational function of Language*, Amsterdam, John Benjamins, 1984 (references are to the pages of the English edition)
- Burge, T. [1979], *Sinning Against Frege*, «Philosophical Review» 88, pp. 398-432.
- Butterworth, G. [2003], *Pointing Is the Royal Road to Language for Babies*, in Kita [2003], pp. 9-34.
- Corballis [2002], *From Hand to Mouth: The origins of language*, Princeton, NJ, Princeton University Press.
- Campbell, G.L. [2000], *Compendium of the World's Languages*, London, Routledge.
- De Vaan, M. [2008], *Etymological Dictionary of Latin and the other Italic Languages* (Leiden Indo-European Etymological Dictionary Series · Edited by Alexander Lubotsky · Volume 7), Leiden - Boston, Brill.
- Diessel, H. [1999], *Demonstratives. Form, Function, and Grammaticalisation*, Amsterdam, Benjamin.
- [2003], *The relationship between demonstratives and interrogatives*, «Studies in Language» 27, pp. 581-602.
- [2006], *Demonstratives, joint attention and the emergence of grammar*, «Cognitive linguistics» 17-4, pp. 463-489.
- [2012], *Bühler's two-field theory of pointing and naming and the deictic origins of grammatical morphemes*, in K. Davidse - T. Breban - L. Brems - T. Mortelmans (ed.), *Grammaticalization and Language Change: New reflections*, Am-

- sterdam, John Benjamin
- [2014], *Demonstratives, frames of reference, and semantic universals of space*, «Language and Linguistics Compass» 8.3, pp. 116-132.
- Dixon, R.M.W. [1972], *The Dyirbal Language of North Queensland*, Cambridge Cambridge University Press.
- [2003], *Demonstratives. A cross-linguistic typology*, «Studies in Language» 27, pp. 61-122.
- Dolcini, N. [2016], *The Phantasmatic 'I'. On imagination-based uses of the first person pronoun across fiction and non-fiction*, «Rivista interazionale di filosofia e psicologia».
- Dunkel, G.E. [2014], *Lexicon der Indogermanischen Partikeln und Pronominalstämme*, Heidelberg, Universitätsverlag Winter.
- De Gaynesford, M. [2006], *I: The Meaning of the First Person Term*, Oxford, Oxford U.P.
- Elbourne, P. [2008], *Demonstrative as individual concepts*, «Linguistics and Philosophy» 31, 4, pp. 409-466.
- Evans, G. [1981], *Understanding Demonstratives*, in H. Parret - J. Bouveresse (ed.), *Meaning and Understanding*, Berlin, W. de Gruyter.
- Fillmore, C. [1997], *Lectures on Deixis*, Stanford, CSLI.
- Fitch, W.T. [2010], *The Evolution of Language*, Cambridge, Cambridge University Press.
- Frege, G. [1918], *Der Gedanke*, «Beiträge zur Philosophie des Deutschen Idealismus» 1, pp. 58-77
- Frisk H. [1973²], *Griechisches etymologisches Wörterbuch* Band I: A – Ko; Band II: Kp – Ω (Indogermanische Bibliothek, II Reihe), Heidelberg, Carl Winter-Universitätsverlag, [1954-1970 (zweite, unveränderte Auflage 1973) [XXX-938; 1154 S.].
- Gergely, G. - Jacob, P. [2012], *Reasoning about instrumental and communicative agency in Human infancy*, in F. Xu - T. Kushnir (ed.), *Rational constructivism in Cognitive Development*, Elsevier, Academic Press, pp. 59-94.
- Gerner, M. [2009], *Deictic Features of Demonstratives: A Typological Survey with Special Reference to the Miao Group*, «The Canadian Journal of Linguistics» 54.
- Goldin-Meadow, S. [2003], *Hearing Gesture: How Our Hands Help Us Think*, Cambridge, MA, Harvard University Press.
- Heine, B. - Kuteva, T. [2002], *World Lexicon of Grammaticalization*, Cambridge, Cambridge University Press.
- Hellwig, B. [2003+, *The Grammatical Coding of Postural Semantics in Goemai (a West Chadic Language of Nigeria)*, Nijmegen, Max Planck Series in Psycholinguistics.
- Himmelman, N. [1997], *Deiktikon, Artikel, Nominalphrase. Zur Emergenz syntaktischer Struktur*, Tübingen, Narr.
- Johnson, K. - Lepore, E. [2002], *Does Syntax reveal Semantics? A case Study of Complex Demonstratives*, «Language and Mind».
- Jordán Cólera, C. [1993], *Sobre el pronombre indoeuropeo de primera persona*, «Veleia» 10, pp. 199-209.

- Kaplan, D. [1979], *On the logic of Demonstratives*, in French - Uheling - Wettstein, *Contemporary Perspectives in the Philosophy of Language*, Minneapolis, University of Minnesota Press, pp. 401-412.
- [1989], *Demonstratives*, in J. Almog - J. Perry - H. Wettstein (ed.), *Themes from Kaplan*, Oxford, Oxford University Press.
- Kijania-Placek K. [2015], *Descriptive Indexicals, Propositional Attitudes and the double role of Context*, «Lecture Notes in Artificial Intelligence» 9405, pp. 287-301.
- King, J.C. [2001], *Complex Demonstratives: A Quantificational Account* (Vol. 2), MIT Press.
- Kita, S. (ed.) [2003], *Pointing: Where Language, Culture and Cognition Meet*, Lawrence Erlbaum Associates.
- [2003a], *Interplay of Gaze, Hand, Torso Orientation, and Language in Pointing*, in Kita [2003], pp. 307-328.
- Klein, E. [1971²], *A Comprehensive Etymological Dictionary of the English Language – Dealing with the origin of words and their sense development thus illustrating the history of civilization and culture*, Unabridged, one-volume edition, Amsterdam-Oxford-New York, Elsevier Scientific Publishing Company.
- Kripke, S. [2008], *Frege's Theory of Sense and Reference: Some Exegetical Notes*, «Theoria» 74, pp. 181-218.
- [2011], *The first Person*, in *Philosophical Troubles*, Oxford, Oxford University Press, pp. 292-321.
- Künne, W. [1992], *Hybrid Proper Names*, «Mind» 101, pp. 721–731.
- [2010], *Sense, reference and Hybridity. Reflections on Kripke's Recent Reading of Frege*, «Dialectica» 64, pp. 529-551.
- Lepore, E. - Ludwig, K. [2000], *The Semantics and Pragmatics of Complex Demonstratives*, «Mind» 109, pp. 99-240.
- Lewis, C.T. - Short, C. [1879], *A Latin Dictionary*, Oxford, Clarendon Press.
- Lewis, D. [1980], *Index, context, and content*, in S. Kanger - S. Öhman, (ed.) *Philosophy and Grammar*, Dordrecht, Reidel, pp. 79-100.
- Malherbe, M. [1983], *Les langages de l'humanité. Une encyclopédie des 3000 langues parlées dans le monde*, Paris, Seghers.
- Martirosyan, H. [2010], *Etymological Dictionary of the Armenian Inherited Lexicon* (Leiden Indo-European Etymological Dictionary Series, 8), Leiden, Brill
- McNeill, D. [1992], *Hand and Mind: What Gestures Reveal About Thought*, Chicago (IL), University of Chicago Press.
- McNeill, D. - Bertenthal, B. - Cole, J. - Gallagher, S. [2005], *gesture-first, but no gestures?*, «Behavioral and Brain Sciences» 28, pp. 138-139.
- Meurant, L. [2008], *The speaker's eye gaze. Creating deictic, anaphoric and pseudo-deictic spaces of reference*, in R.M. De Quadros (ed.), *Sign Languages: spinning and unraveling the past, present and future. TISLR9*, Petrópolis, Editora Arara Azul.
- Moore, R. [2016], *Meaning and ostension in great ape gestural communication*, «Animal Cognition» 19, pp. 223-231.
- Moore, C. - Dunham, P. [2014], *Joint attention: Its origins and role in development*, Psychology Press.

- Mulligan, K. [1997], *The Essence of Language: Wittgenstein's Builders and Bühler's Bricks*, «Revue de Métaphysique et de Morale» 2, pp. 193-216.
- Nespolous, J.-L. - Perron, P. - Lecours, A.R. (ed.) [1986], *The Biological Foundations of Gestures: Motor and Semiotic Aspects*, Hillsdale (NJ), Lawrence Erlbaum Associates.
- Nunberg, G. [1993], *Indexicality and Deixis*, «Linguistics and Philosophy» 16, pp. 1-43.
- [2004], *Descriptive indexicals and indexical descriptions*, in M. Reimer - A. Bezuidenhout (ed.), *Descriptions and Beyond*, Oxford, Clarendon Press, pp. 261-279.
- Olsen, B.A. [1999], *The Noun in Biblical Armenian. Origin and Word-Formation with special emphasis on the Indo-European heritage*, Trends in Linguistics. Studies and Monographs 119, Berlin - New York, Mouton de Gruyter.
- Penco, C. [2013], *Indexicals as demonstratives: on the debate between Kripke and Kühne*, «Grazer Philosophische Studien» 88.
- Perry, J. [1997], *Indexicals and Demonstratives*, In B. Hale – C. Wright, *A Companion to the Philosophy of Language*, Oxford, Blackwell, pp. 586-612.
- Recanati, F. [2013], *Reference through Mental files*, in F. Domaneschi - C. Penco (ed.), *What is Said and What is Not*, Stanford, CSLI, pp. 159-174.
- Rizzolatti, G. - Arbib, M.A. [1998], *Language within our grasp*, «Trends in Neuroscience» 21, pp. 188-194.
- Sauppé, A. - Mutlu, B. [2014], *How gestures and context shape referential communication*, in HRI 14, *Proceedings of the 2014 ACM/IEEE international conference on Human-robot interaction*, New York, NY, AMC, pp. 342-349.
- Savage-Rumbaugh, E.S. - Murphy, J. - Sevcik, R.A. - Brakke, K.E. - Williams, S.L. - Rumbaugh, D.M. [1993], *Language comprehension in ape and child*, «Monographs of the Society for Research in Child Development» 58, pp. 1-221.
- Senft, G. [2004], *Aspects of spatial deixis in Kilivila*, in G. Senft (ed.), *Deixis and Demonstratives in Oceanic Languages*, Canberra, Australian National University, pp. 59-80.
- Shepherd, S.V. [2003], *Following Gaze: Gaze-Following Behavior as a Window into Social Cognition*, in Kita [2003].
- Textor, M. [2007], *Frege's Theory of Hybrid Proper Names Developed and Defended*, «Mind» 116, pp. 947-981.
- [2015], *Frege's Theory of Hybrid Proper Names Extended*, «Mind» 124, pp. 823-847.
- Tibbets, E. - Dale, J. [2007], *Individual Recognition: it is good to be different*, *Trends Ecology and Evolution* 22, pp. 529-537.
- Tomasello, M. [1999], *The Cultural Origins of Human Cognition*, Cambridge, MA, Harvard University Press.
- Tomasello, M. - Call, J. [2007], *Ape gestures and the origins of language*, in J. Call - M. Tomasello (ed.), *The Gestural Communication of Apes and Monkeys*, London, Lawrence Erlbaum, pp. 221-239.
- Traugott, E.C. 1992, *Syntax*, in R.M. Hogg (ed.), *The Cambridge History of the English Language*, vol. 1, *The Beginnings to 1066*, Cambridge, Cambridge University Press, pp. 168-289.

- Vignolo, M. [2001], *Afferrare pensieri. Gli atteggiamenti proposizionali dopo Frege e Russell*, Roma, Carocci.
- Walde, A. - Hofmann, J.B. [1938³], *Lateinisches etymologisches Wörterbuch*. Heidelberg, Carl Winter-Universitätsverlag.
- Wilkins, D. [2003], *Why Pointing With the Index Finger Is Not a Universal (in Sociocultural and Semiotic Terms)*, in Kita [2003], pp. 171-216.