INFERENTIAL AND COUNTER-INFERENTIAL GRAMMATICAL MARKERS IN SWAHILI DIALOGUE

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1. Introduction

Naturally occurring dialogue is by far the most frequent manifestation of human speech and therefore has a legitimate claim to being regarded as a prime object of study in the sciences of language. Looking at the factors which determine the structure of natural dialogue, one cannot escape the conclusion that not only what is being said but also what is being inferred from what is said contributes towards determining the sequence and content of moves as well as the choice of grammatical features which are crucial for dialogue cohesion and for the interpretation of utterances in dialogue: "Constellations of surface features of message form are the means by which speakers signal and listeners interpret what the activity is, how semantic content is to be understood and how each sentence relates to what precedes or follows. These features are referred to as contextualization cues [..] Roughly speaking, a contextualization cue is any feature of linguistic form that contributes to the signalling of contextual presupposition." (Gumperz 1982:131)

We may, of course, choose to ignore the linguistic dimension of the "unsaid" and stick to what is represented on the surface. It could be argued that we are on the safe side methodologically in avoiding the slippery grounds of speculation about implied meaning and subjective interpretation. There are, however, a number of problems with this sort of positivistic stance. One such problem, and not the least, is that many overt properties of sentences occurring in natural dialogue cannot be accounted for without reference to their relation to such non-referential categories as presupposition, expectancy, inference, and implicature.

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1 Quoted in Verschueren et al (1995:337)
2. The notion of inference

Inferences - in the narrower and predominant use of the term - are not included in the semantic representation of the utterance but are derived from it. Nevertheless, inferences share certain fundamental semantic and pragmatic properties with overtly represented propositions: being themselves propositional in nature, they take truth values, and they are subject to negotiation between dialogue partners. On the other hand, inferences are rather unlike overt statements as to the conditions under which they are cancellable. This latter fact presumably accounts, in part at least, for the specific kind of grammatical marking to which inferential operations on discourse units give rise.

In a broader logico-semantic sense, the notion of "inference" may also subsume explicitly verbalised propositions which are derived by reasoning from some stated or unstated premise. As we shall see, inferential and counter-inferential markers are used in Swahili in those cases where inferences become subject to negotiation and therefore need to be made explicit. In the following discussion of these cases, the context will make it clear where the term "inference" is being used in the narrower sense - which is close to that of conversational implicature -, and where it is being used in the latter, more explicit sense.

Inferential processes may be analysed into three phases: (1) the emergence of a verbal or non-verbal trigger (the source of the inference) as part of ongoing discourse activity, (2) the mediating phase (the single verbal utterance or the verbal exchange carrying the inferential operation), and (3) the target (the inferential proposition which the speaker intends to be accepted by the addressee).

Inferential processes are an essential part of what is going on in verbal exchange between dialogue partners. Due, among other things, to the inherent underdetermination of lexical

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2 This corresponds to Bußmann's (1990) definition of "Inferenz" which subsumes all types of propositional meanings communicated by an utterance but not included in its semantic representation.

3 Levinson (1983:128-134) treats inference as (partially) synonymous with implicature. In fact, it is difficult to see how it could be systematically distinguished from the notion of conversational implicature as used in the Gricean tradition.

4 Radical versions of pragmatic theories have tended to call into question the legitimacy of "literal meaning" and consequently of the dichotomy between what is said and what is being inferred. From this perspective, any meaning is "inferential." Thus, even a plain statement may be considered to be based on some sort of inference (e.g., from an observed fact), and in turn requires the hearer to derive its meaning by an inferential operation (see Levinson 1983, ch. 5.5, on this question; see also Sperber & Wilson 1995, 176ff.). While it must be admitted that the distinction is not easy to establish on theoretical grounds, it is one which most obviously is made by the speakers themselves and is highly relevant to successful everyday communication. Perhaps the most frequently asked metadiscursive question, "What did he/she mean when he/she said p?", presupposes the pragmatic reality of the distinction between overtly stated discourse and inferences drawn from it, and its relevance for understanding natural discourse.

5 This corresponds to Bußmann's (1990) definition of "Inferential" - any utterance which is characterized as being derived from some stated or unstated premise.

6 Delahunty (1995:347) similarly proposes a three-part dialogue-analytical framework for describing inferential processes: "many of these sequences may be analysed as composed of three parts. The first part consists of a context which prompts a denial from the speaker, the second (which may be a negative inferential) rejects a proposition as either not true or not locally relevant; and the third (positive inferential) introduces a proposition which contrasts with the second in being presented by the speaker as true or relevant, or provides the narrator's reasons for rejecting the proposition in the second part. In all cases the interpretation of the inferential requires reference to the local context."
meaning, any discourse constituent is open to a broad array of interpretations and - from the perspective of the speaker's communicative intentions - of potential misinterpretations. It is true that the range of interpretations open for consideration in a given stretch of speech is constrained by metacommunicative principles of which the most important is the postulate of cohesion, i.e. the requirement that any valid hypothesis concerning the meaning of a stretch of discourse or a segment of dialogue should be interpretable as a contribution to some statable global meaning of the discourse or verbal interaction as a whole. However, it would be wrong to think of the specific content of an inference as following automatically from the application of such general principles, nor as being something entirely left to the hearer. Natural discourse provides ample evidence to the effect that the speaker not only intends the hearer to select certain possible interpretations rather than others but actively monitors the inferential processes leading to the intended interpretation. Management of inferences as a "parallel activity" of discourse production may be expected to be reflected, under certain conditions, in formal properties of the discourse itself.7

3. Matching inferences and the inferential gap condition

Ideally, speakers may be assumed to plan their contribution to dialogue in such a way as to trigger in their audience those inferences which will match their communicative intentions. This would seem to follow from basic axioms of a Gricean view of conversation such as the cooperative principle or the maxim of quantity. For instance, the first part of the latter maxim is (Grice 1975:45; cf. Levinson 1983:104): "Make your contribution as informative as is required (for the current purpose of the exchange)". It portrays an ideal speaker who, in phrasing his contribution, assumes having anticipated all the variables determining the hearer's interpretation of the utterance, and who is fully confident that this interpretation will indeed match his intentions in accordance with "the current purpose of exchange". This basic confidence in the effectiveness of one's own speech (as amazing as it is, given the well known hazards accompanying verbal exchange between humans) is undoubtedly a premise which prevails in the exercise of everyday dialogue interaction. The case where the generation of matching inferences is thus taken for granted may be considered as the "default case" of inferential discourse activity. Under this assumption, inferential processes - whether objectively successful in terms of speaker intentions or not - will not normally be noticed by the participants, and therefore will not give rise to any sort of special marking.

It seems that the Gricean theory of conversation, notwithstanding the provision which it makes for the effects resulting from calculated violations of the maxims, is only capable of dealing with the default case. However: (i) hearer inferences do not always match the speaker's

7 An interesting trace of this monitoring activity is afterthought (also known as antitopic or right-detachment) which serves to secure unambiguous identification of referents (Lambrecht 1994:202f.) Afterthought in this sense (which I believe is only one of various possible discourse functions of right-dislocation in Swahili, cf. Bearth 1995a) typically occurs as a result of speaker-internal auto-feedback rather than as a reaction to overt verbal or non-verbal feedback by the hearer. Inferential marking, by contrast, may occur as a result of both internal auto-feedback, or external feedback.
intentions - in spite of the latter's efforts to anticipate them, (ii) participants somehow are constantly aware of the possibility of inferential mismatch, and (iii) this awareness, reflected in their internalised conversational competence, obliges them to mutually assess each others' processing of each others' contributions, and if necessary, to re-negotiate the results of the inferential processes triggered by them. We cannot therefore be satisfied with an idealistic theory of conversation that limits itself to accounting for the default case while ignoring the less immediately obvious but nevertheless by no means infrequent cases where the need for re-negotiation of inferential targets arises. Inasmuch as strategies of mutual assessment and of re-negotiation of inferences are part of routine conversational behaviour, they may be expected to be conventionalised and, to some extent at least, grammaticalised. More precisely, it is to be expected that the linguistic apparatus serving the purposes of natural dialogue interaction will comprise

(a) counter-inferential strategies for cancelling or weakening inferences which speakers assume the hearer has made or is likely to make but which do not match those inferences which they would want the hearer to draw from some preceding utterance or extraneous event;

(b) inference-supporting strategies for conveying or strengthening inferences which speakers estimate should be made but which in their view the hearer has failed to make or is likely to fail to make.

As a corollary to what has been said above about the absence of special marking procedures in the default case, we would further expect the occurrence of explicit grammatical marking of inferential processes to correlate with a negative marking hierarchy based on the perception by the speaker of a discrepancy between himself and the audience in respect to the latter's perception of the inferential properties of some communicatively relevant event. By contrast with the matching inference assumption underlying the default case, I propose to call this general premise, which I assume to be the rationale behind the surface manifestations of inferential marking strategies in natural dialogue, the inferential gap condition.

Inferential gaps may have different origins. A fundamental distinction which will turn out to be crucial for understanding the way inferential operations are expressed in Swahili is that between "first instance" inferential gaps, originating in the apparent failure of the addressee to recognise the source of an inference drawn by the speaker, and "second instance" inferential

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8 The trigger of an inference may be a non-verbal action relevant to a communicative situation or giving rise to a verbal exchange. See ex (1) below.

9 The occurrence of an inferential gap may for instance imply that some speech act is retrospectively perceived as having not been informative enough. This has nothing to do with the calculated violation of Gricean maxims which, in his theory, gives rise to various kinds of implicature. While the notion of inferential gap does not contradict but rather confirms a fundamentally Gricean view of conversation it points nevertheless to the need for extending such a view, in order for it to become more adequate to describe naturally occurring dialogue, from individual acts to the accumulated effects of successive moves in dialogue sequences. The role of inference in the establishment of sequential coherence has been recognized in principle but no coherent linguistically-based methodology seems to be available for describing it. (See e.g. Scaifelein-Armbruster (1994:499); but see also Moeschler & Reboul (1994) for some useful criteria.) The proposals sketched in this section are destined to provide some guidelines to this effect which will then be applied to the analysis of relevant Swahili data in the following sections.
gaps resulting from a perceived divergence between speaker and audience regarding the derivational process leading from the source to the target. Under the premise of "second instance" inferential operations, inferential marking strategies presuppose some already manifest (or possibly anticipated) inferential process which they are destined to interfere with and to modify; inferential strategies of this kind may appropriately be described as "meta-inferential." We shall turn to "second instance" operations first in sections 5 and 6 below, and then consider "first instance" operations in section 7.

4. Inferential operators in Swahili

We are now ready to approach the main issue of this paper: how are inferential operations expressed in Swahili dialogue? And what type of strategies are represented by the various inferential markers? Perhaps closer to the preoccupation of the more practically inclined Swahilist, this paper purports to demonstrate that Swahili grammar is incomplete without taking into account inferential categories.

Strategies for signalling various kinds of inference (and counter-inference) are quite numerous in Swahili as probably in most languages, and I have no intention to even list them exhaustively. Instead I will limit myself to a restricted subset of inferential operators which by their recurrence and relative detachment from specific lexical contents and specific situations may be counted as elements specialised in the grammatical representation of inferential activity. I consider these to constitute so to speak the core paradigm of inferential markers in Swahili.

In accordance with the view that the appearance of inferential markers reflects the negative marking hierarchy determined by the relevance of inferential gaps, I shall begin by considering in section 5 the relatively clear-cut case of counter-inferential marking before turning in section 6 to the somewhat less obviously motivated case of positive inference marking.

5. Counter-inferential marking

The first example is taken from a passage of the play *Wakati Ukuta* in which Tatu's boyfriend Swai comes to her home to take her to the movies (Hussein 1971:14). He is met with a flat refusal from Tatu's mother who clings to traditional views in matters of courtship and

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10 Further relevant distinctions will have to be postulated in terms of the nature of the source, of the ascription of inferential operations to various real and construed participants in the communicative process, and in terms of particular discourse functions of the inferential operations. The variety of conditioning factors deriving from these distinctions accounts in a general way for the richness and diversity of the inventory of inferential operators in Swahili whose exploration in more detail will however have to be left to another occasion. See the following footnote for some hints in this respect.

11 Of particular interest to the representation of inferential operations are: conjunction-type operators such as *maana*, *yaani*, and *kwani*, but also *tena* (see 5.1 below). *Lakini* (often - but not in all of its uses - carries an effect of inference cancellation. For *yaani* see example (16) below.
In an attempt to prevent her from forcibly ejecting Swai from their home, Tatu grasps her by the arm. The mother interprets this desperate gesture as an act of violence directed against her [A-1]. The daughter protests [B-2] and provides an alternative explanation for her interference with the mother’s way of dealing with the situation [B-3].


Both [A-1] and [B-2] presuppose a preceding event which is present in the minds of the dialogue partners. This communicatively relevant event (E₀) is the daughter’s gesture in defence of her friend [A-1] is an inferential statement purporting to explain E₀, [B-2] expresses the rejection by the daughter of the validity of [A-1] as being incorrectly inferred from E₀. [B-2] is thus clearly counter-inferential.

Let us look at another scene from the same play (Hussein 1971:33) Swai, now Tatu’s husband, stunned by her refusal to accompany him to the dance, inquires:


While Tatu’s first response [B-2] is designed to reject her husband’s suggestion that her refusal is possibly due to a dislike of dancing, her second response [B-4] initiates a further exchange in which it will become clear that the real cause is the strained household budget.

Looking now at both examples together, two points may be noted:

1. They provide evidence for the existence of two different negative constructions in Swahili: Both in (1) and in (2), sentence [B-2] is introduced by the negative copula expression sio. This form differs from "ordinary" negation which in (1) would have taken the form sigombani nave ‘I do not fight against you’ I shall refer to the sio negation as external, and to the si- negation as internal.

2. In the case of (1), one might be tempted to consider the two negative forms sio nagombana and sigombani as stylistic variants of each other, since both serve to reject the truth of an identical proposition underlying some previous statement or assumption. Stylistic variation fails, however, to account for the occurrence of sio in (2), where external and internal negation co-occur. Sipendi taken by itself - translatable as ‘I don't like (dancing)’ - would have to be interpreted as Tatu’s admittance that her dislike of dancing, as her husband had suspected, is the true reason of her refusal to accompany him. What [B-2] - prefixed with sio - in fact does, is to reject precisely this suggestion. At the same time,

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12 One would expect siyo since reference is made to a previously established state of affairs which would usually trigger class 9 concord. Although siyo and sio are not identical in pronunciation, it appears that literary publishing is not generally too orthodox about distinguishing the two forms.
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however, one gets the impression that the dual negative operator does not necessarily carry the same range of implications as would a frankly positive statement such as napenda sana.\(^\text{13}\)

We conclude that the matrix predicate does not only - or perhaps not even necessarily\(^\text{14}\) - deny the factual truth of the embedded sentence (whether this sentence is affirmative or negative) What it does deny is that the embedded sentence is the appropriate interpretation of some preceding event or utterance relevant to the current situation One may formalise this as follows: if \(E_0\) is the event, \(I_i\) the class of possible interpretations of event \(E_0\), and \((i_i)^3\) - verbalised as \(p_a\) - the interpretation of event \(E_0\) by speaker \(A\), then speaker \(B\), by uttering \(siyo p\), excludes \((i_i)^3\) from the class of possible interpretations of event \(E_0\).

5.1 The inferential gap condition in counter-inferentially marked utterances

Surprisingly however, this description, while being true to the facts, is not sufficiently constrained. It would also fit cases where internal negation seems to be sufficient to invalidate an inference which is judged to be inappropriate by the speaker. An example taken from another scene of Wakati Ukuta will serve to make this clear. Some time after Tatu has left her parents, a certain Kristina comes to their house introducing herself as Tatu's friend. The father, desperate about his daughter's disappearance and hallucinated at the mere mention of her name, concludes that she herself must be near Then, after a moment, the following exchange takes place between him (A) and Kristina (B) (Hussein 1971:21):

   Why is-she-not-here?     I-have-not-said that she is outside

Since ordinary negation seems to be adequate in this case for refuting the inference derived by the father from the situation, one may be tempted to revert to the conclusion that after all, what has been claimed to be a special category of counter-inferential marking is simply some sort of a stylistic variant applicable to one particular use of ordinary negation. That this is not the case becomes clear if one looks at the continuation of the respective dialogues While in [3-2], the denial of the incorrect inference - following its verbalisation as a classical presupposition through the question in [3-1] - may perfectly well conclude the exchange, this is

\(^{13}\) An explanation in terms of scope correlations which might be suggested by a look at the syntactic structure of (1) and (2) similarly fails the test of empirical falsification. Under this hypothesis, \(si(y)o\), the matrix predication, would be used whenever the negator has scope over the whole embedded predication, whereas the verb-internal negation would serve to negate either the embedded predicate itself or a specific constituent dependent on it (here \(nawe\)). While such restricted scope negation is among its possible uses, \(sigombam \ nawe\) can be quite normally used e.g. in order to rule out the possibility of entering in conflict with someone, either in a given situation or as a matter of principle, independently of any contextual condition suggesting a scope restriction.

\(^{14}\) Delahunty (1995:347) says, with reference to the second of three parts of the complete inferential sequence: "... the second (which may be a negative inferential) rejects a proposition as either not true or not locally relevant." (emphasis mine). This would mean that [B-2] in example (2) above would admit an alternative reading to the effect that the speaker does indeed dislike dancing but denies this to be the reason for her refusal to accompany her husband to the dance I have not been able to ascertain this possibility in Swahili.
not the case of [1-2] nor of [2-2]. Counter-inferential statements characterised by external negation require a continuation: [1-2] is somehow incomplete without the sequel of [1-3], and [2-2] cannot appropriately close the exchange. *Tena?*, uttered by Swai in [2-3] following the rejection by Tatu of his initial attempt to understand her refusal, expresses a claim for further elaboration based on the perceived incompleteness of the exchange up to this point. Tatu's refusal - the trigger of the inferential process - is still there, requiring an explanation, and imposes a formal constraint on the sequence, justifying the interlocutor's claim of which *tena?* appears to be a conventionalised means of expression. By contrast, in (3), the inference made by the father is based on a wrong assumption about the purpose of Kristina's coming, and there is no need for the speaker to negotiate an inference based on a presumption which he does not share, and hence no sequential constraint obliging him to satisfy such a need by offering a substitute for the rejected hypothesis. Thus, we see that the refutation of a (pragmatic) presupposition as illustrated in (3), and the refutation of an inference as illustrated in (2-3) are by no means the same kind of operation and give rise to two different types of grammatical strategies, the former requiring internal, the latter external negation.

The crucial distinguishing factor between (1) and (2) on the one hand, and (3) on the other, is that in the former two cases but not in the latter, the inferential gap condition is fulfilled. For it is the mutual recognition of the existence of an inferential gap - i.e. the recognition of a need for explanation - which obliges the speaker to offer an alternative to the rejected inference as in [1-2], and which, as a corollary, gives the interlocutor the right to request an alternative explanation as in [2-3].

In conclusion, we find our original hypothesis confirmed that the occurrence of counter-inferential marking in Swahili is triggered by the inferential gap condition as its necessary and sufficient prerequisite. We further conclude that counter-inferential marking is linked to sequential constraints on dialogue structure which are not found in superficially similar cases of rejecting pragmatic presuppositions from which the crucial feature of a mutually recognisable inferential gap is absent.

6. Positive inferential marking

Examples (4) and (5) are taken from a scene of the play *Mama ee* where the younger sister, Tenge, after having become pregnant, was expelled from school. She returns home to the village, confesses her mistake to her mother and pleads for understanding and forgiveness. The mother, ignoring the plea, concludes (Mwachofi 1987:10-11):

(4) *Leo ndiyo babako atatuchinja sote* 'Now your father will slaughter all of us!'

Today it-is your-father he-will-slaughter-us all

Following further implorations by her daughter she persists:


[1] Now it-is you-will-be-gossiped-about my-child, [2] you will no longer dare to show
yourself in public, [3] it-is you-will-know the-world it-has-no forgiveness

The purpose of the mother's statements is to bring to the attention of the daughter the sad consequences of her mistake which apparently she still refuses to face squarely. The effect of forcefully bringing home a point is being enhanced by the repetition of ndiyo in [5-1] and [5-3].

Generally speaking, the effect which ndiyo has on the proposition which it modifies is the reverse of that described above for si(y)o. While counter-inferential si(y)o p specifically rejects p as a possible inference from E₀, ndiyo p specifically asserts p as being the correct inference to be drawn from E₀, against the background of contrary assumptions expressed by or imputed to the audience.

6.1 The derivational history of the inferential markers

From a syntactic viewpoint, ndiyo in (4) and [5-1] may be analysed in the same way as the copular ndi-construction which expresses contrastive identification or, more generally, focuses on the relation of identity between two elements (Bearth 1995:221ff). Thus, when Tatu asks her mother for permission to go to the movies in the evening, the mother replies (Hussein 1971:10):

(6) Basi si bado? Leo ndiyo kwanza Ijumaa, "Lady Show" Jumapili.

Well-now, already? Today is only Friday; "Lady Show" is on Sunday!

In contrast to the sentential ndi-focus construction where the element preceding ndi- is usually the focus, while the relativised clause following it is the out-of-focus or presupposed part, copular ndi- very often has the identificational predicate following it in its scope. Thus in (6), the focus is Ijumaa, the day for which permission is being asked; Ijumaa stands in contrast to Jumapili, the day for which permission is supposed to be granted.

As can be seen in a series of similar constructions occurring in a scene of Mama ee, where Itenge's elder sister proclaims her freedom from her tyrannical husband (Mwachofi 1987:51), the slot of the identificational predicate which is filled by a nominal phrase in [7-1] and [7-3], may alternatively be occupied by a verbal clause, as is the case in [7-2]:


Today it-is the-end of slavery. Today (it-is) I-have-become free, it-is the-end of submission for-me.

Both from a syntactic and from a semantic viewpoint, the nominal phrase and the clause are functionally equivalent. It seems possible, and indeed likely, that inferential ndio, as we observe it in (4) and (5) above, is derived from the constituent focus marker ndi- via its copular use and the rightwards focus projection associated with it. Inferential si(y)o, the negative counterpart of ndio illustrated in (1) and (2) above, can similarly be traced back to copular si(y)o followed
by a sentential identificational predicate. In the derivational history of the inferential markers, functional redundancy is a necessary (although not in itself a sufficient) step in the constitution of an autonomous paradigm: the shift from an identificational to an inferential function becomes possible when the marker becomes syntactically and (in the case of ndio) semantically redundant, i.e. when its omission does not affect the propositional meaning or the syntactic completeness of the utterance.

The pragmatic link between contrastive identification and the inferential effect may be exemplified by comparing (6) to (4) and (5). In each case, ndio takes scope over alternative values one of which is asserted while the other is being excluded. In (6), the issue at stake is the choice of the appropriate value for the day to go to the movies. In (4) and (5), ndio takes scope over the sentence as a whole, strengthening its value as the appropriate conclusion to be drawn from a preceding event, excluding thereby the optimistic assumptions manifested in the interlocutor's discourse as a valid inference to be drawn from the same event. Both cases may be described as instances of countervalue.

6.2 The inferential gap condition in utterances marked for positive inference

In the following exchange, which is taken from a sample of Islamic courtroom procedures discussed by Hanak (1996:35), sentence [8-5], which is clearly inferential, is initiated by ndiyo, with no adverbial occurring initially:


In [8-5], the judge draws an inference from the information provided by the plaintiff whom he questions about her relationship with her husband and his relatives. But as her ready consent in [8-6] confirms, the content of this inference is not perceived as invalidating some contrary assumption held by herself; hence there is no obvious countervalue effect. The reason for the markedness here would seem to be that this conclusion, in the estimate of the speaker, is not likely to be drawn by the plaintiff on her own. The example serves to underline the fact that the essential condition for the recourse to inferential marking is not contrastiveness (or countervalue) but the perception of an inferential gap.

In the particular setting of courtroom interaction, such an inferential gap is not to be
counted as a "failure" on the part of the interlocutor but is part of the accepted procedure of cross-examination whose purpose it is to establish truth through elicitation of factual statements from parties and witnesses. The person being interrogated is expected to supply answers to questions, but is not supposed to draw inferences on her own, this being the exclusive privilege of the judge. The specific frame of courtroom interaction further requires that the interrogator is not content with making inferences explicit but seeks to elicit formal assent from the persons concerned; this explains why in this case the inference itself takes the form of a question addressed to the plaintiff.18

Let us now look at an example taken from an interview conducted in Zanzibar town in July 1989 and made available through the Helsinki corpus (Dahe2 1989):

(9) Unaona, ndiyo ninatumia hiyo ambayo nimefundishwa na Profesa Maganga.

You see, it is I-am-using that which I-have-been-taught by Professor Maganga.

The speaker, an old man, describing some of the differences between standard Swahili and his native dialect, points out that not all of the latter's sounds can be represented by using the letters of the standard alphabet; at least in one instance a phonetic transcription (as he calls it) is being required. He thus shows himself knowledgeable in a domain of learning other than his own field of specialization (which is poetry). In a very general way, (9), just like the foregoing examples (4-8), is a comment on the preceding sequence, but unlike (4-8), it is not its interpretation. Rather its function is to give the speaker's claim to be in the possession of specialized knowledge the necessary amount of credibility by indicating the source of this knowledge (9) relates to the preceding discourse via its explanatory function; the direction of the inferential effect is consequently inverted.

This raises the question of how cases such as (9) should be integrated into our view of inferential marking. According to Delahunty (1995:349), explanation is one of the typical discourse functions of the inferential construction in English which, in this usage, can be paraphrased by the expression The explanation is that p. Other relational meanings associated with the English inferential construction observed in a major English corpus by Delahunty (1995:355) are reason, cause, conclusion, result, and reinterpretation. The common feature of all of these uses, according to Delahunty (1995:355), and the feature which constitutes them as a "single natural class", is that they "all represent aspects of interpretation [...] of the local context" (ibid.).

The problem with this definition of inferentials is that it may fit almost any utterance, since any non-initial contribution to a coherent discourse or dialogue contains - or is - an interpretation of its antecedent.19 I propose instead the notion of inferential gap as a more constrained but still sufficiently general local condition covering the various uses of the

18 I suspect that while positive inferences may be presented conatively in the form of questions, this is not possible with counter-inferences introduced by siyo

19 "Conversation as opposed to monologue, offers the analyst an invaluable analytical resource: as each turn is responded to by a second, we find displayed in that second an analysis of the first by the speaker." (Levinson 1983:321)
inferential construction The validity of the proposed inferential gap criterion in a case like (9) where there is no perceivable discrepancy between inferences drawn by parties involved in the conversation, hinges on an interactionally-based understanding of inferential discourse cohesion, i.e. on the assumption that inferability is a pre-condition to the validation by the hearer of any overt statement which is part of the discourse and which the hearer is not supposed to adhere to on the mere strength of its having been made by the speaker. A simplified version of this axiom could be: For any statement to be acceptable it must be inferable. While inferential reasoning is particularly crucial to argumentative discourse whose purported goal is the commitment of the audience to the truth of the claims made by the speaker, inferability - as a precondition to plausibility - is also a fundamental requirement of other discourse types, e.g. narrative or, as in the case of (9), expository.

We conclude that the common feature which (9) shares with the previous examples, is that it is motivated by an inferential gap perceived by the speaker: while in all other matters under discussion he is able speak unreservedly on his own authority, the question of dialect transcription is outside his recognised competence and thus creates a local context in which the need for compensating a gap of inferability arises; this need is being fulfilled by the inference-marked utterance.

6.3 Prosodic properties of the marked inferential construction

An identifying criterion for the recognition of inferential markers is their integration into a single intonational contour with the remaining part of the sentence in which they are contained. This appears to be the primary criterion allowing to distinguish them from the segmentally homophonous answering-particles, in particular ndiyo 'yes'. The latter, by contrast, are realised as independent intonation units, terminated by a more or less sharp final fall and usually followed by a pause.

Examples of the integration of inferential siyo are shown in the graphs on windows 3 and 4 of Fig. 1 and 2 which visualise the accentual and tonal contours of utterances [B-2] in (1) and (2). It is not without interest to note that the intensity contour (window 2, bottom right) does not co-vary with the tonal melody. The latter appears to be primarily responsible for the structural unity, while the former serves purposes of contrastive focus marking.

6.4 Structural ambiguity

I conclude this section with an example, gleaned from Wakati Ukuta, which raises some interesting questions as to its interpretation. Tatu's father, returning home, finds that his

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20 The data were recorded under non-sound-proof conditions on Sony Digital Audio Tape Recorder TCD-D7 and processed on PC-Window with the help of the CECIL Speech Analysis software version 2 lb (Hunt 1995). The graphs are extracts from re-enactments of dialogue sequences performed together by a female and a male speaker, respectively Mwanasha J Khamis and Salim A Rashid, both in their early thirties, and both of them speakers of Pemba dialect. Fig. 4 was recorded during a discussion about various passages of Wakati Ukuta with A M Mzee (about 50) from Mombasa.
daughter has gone, expelled from their home by her mother. He asks his wife about the reasons for her drastic action (Hussein 1971:15):

A [1] You are of the opinion that ... eh ... I have not yet understood. You ... ah. [2] You have chased away Tatu, [3] does this mean she should not come here again?
B [4] It's because / Yes, I don't want to put her in my eyes again. (= I don't want to see her again.) [5] I do not have a child as for me.

Ndiyo in [10-4] is amenable to two competing interpretations. It can be read as an inferential of the explanatory type (similar to (9) above), or as a straightforward affirmative answer to the question in [10-3]. Under the first assumption, [10-4] as a whole would be intended to provide the cue allowing the puzzled father to fill the inferential gap manifested through the disconnectedness of his speech throughout the sequence (10-[1-3]). In favour of this reading it could be argued that from a cultural viewpoint, the wife, being confronted with a very negative situation for which she is held responsible by her husband, would avoid the kind of directness embodied in a firm and somewhat provocative "Yes (she must never come home)", and resort instead to restating her negative feelings against her daughter, leaving it to her husband to draw the necessary conclusions. Ndiyo would then be another instance of the use of inferential markers for the purpose of cohesiveness. That (10) indeed represents this use of ndiyo could be confirmed if it could be ascertained that the absence of a comma after ndiyo is intended by the author.

However, against this interpretation it must be said that two native speakers who, at two different occasions, were asked to read the sequence, clearly opt in favour of the second interpretation according to which ndiyo is here to be taken as an instance of the affirmative answering-particle. That this is their spontaneous interpretation of [10-4] can be read off the sonagrams in Fig. 3 and 4. In both cases, [10-4] carries two distinct intonation contours, as shown by the interrupted trace of the F0 contour in windows 3 and 4 (on the right side), the first extending over ndiyo, the second over the remaining part of the sentence. The two segments are separated by a clearly noticeable pause of about 2-3/10 sec. as shown by the drop of the intensity parameter to zero in window 3. This may be contrasted with Fig. 5 which shows the integrated contour of (5-3), where sentence-initial ndiyo unquestionably has inferential meaning. 21

As a further confirmation, both speakers, when asked to comment on the meaning of [10-4], insisted that it is to be read as a direct affirmative answer to the husband's question.

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21 The contrast is somewhat blurred by the tendency, noticeable in both tokens of [10-4], to separately articulate all the major syntactic constituents of the utterance. The resulting discontinuities in the second part of the utterance are however due to performance factors, i.e. in Fig. 3, to a hesitation, and in Fig. 4, to an effort made by the speaker to compensate for the analyst's apparent failure to fully understand the meaning of the utterance. That the rupture following ndiyo is not to be discounted on the ground of performance variation is however clear from its consistency and neatness, and was moreover claimed explicitly by A.M. Mzee in reviewing the example.
Nonetheless, the question as to which of the two interpretations is really intended remains open.

7. "First instance" inferential marking

The discussion of what may be seen as the core paradigm of inference markers in Swahili would be incomplete without considering a third type of inferential operator appearing in the same position as the two preceding ones, and being equally derived from the paradigm of copular expressions. Sentence-initial *si*, like *ndiyo*, is redundant in regard to the truth value and other propositional properties of the embedded sentence over which its scope extends, but it differs from both *ndiyo* and *siyo* in respect to the conditions under which it occurs. Whereas the latter two markers presuppose some sort of deductive reasoning, *si* marks an inference triggered by what the speaker considers to be immediate evidence available to himself and to the hearer. The first example is a remark of Mama Tatu, addressed to her daughter, at the sight of the latter's provokingly short dress (Hussein 1971:9):

(11) *Si unatembea uchi hivyo*  
    You-are-going naked like this

As Tenge's father - in a scene following the encounter with her mother described in (4) and (5) above - unleashes his fury against the daughter, fulfilling her mother's prediction (see (4) above), her brother, unaware at first of his sister's misdeed, attempts to interfere. The father simply points to the evidence (Mwachofi 1987:12):

(12) *Si limepachikwa mimba na George*  
    She-has-let-herself-make-pregnant by George

After having joined his father in beating her, he pauses and asks her (Mwachofi 1987:13):

(13) *Walilia nini? Si umepeata ulichotaka.*  

Failure to notice the evidence itself, and failure to draw the right conclusion from the evidence are not strictly separable as conditioning factors in the use of preposed *si* in these examples. In example (14), taken from the play *Buriani*, the evidence invoked by Eda to counter her brother-in-law's accusation of discriminating him when he came to visit his brother after having been released from prison, provides a classical example for the way in which *si* is being used under the inferential gap condition (Yahya/Mulwa 1983:32):

    A [1] I-want first-of-all that-you-welcome-me with respect and kindrress, my sister-in-law  

The common characteristic of these examples is that they encode an appeal to the hearer, not to modify incorrect inferential reasoning, but to perceive or to accept evidence accessible to him or her which will lead him/her to the right conclusion, and will, in the speaker's estimation,
orient the dialogue towards the desired state of matching inferences

The proposed description of inferential *si* corresponds roughly to the one proposed for Japanese *no desu*. In contrast with the English inferential construction, the Japanese equivalent *no desu* may occur, as Kuno (1973:233) notes "in the immediate environment in which the speaker has made some observation"\(^\text{22}\), where the observed fact serves as an argument or an explanation for some other fact. This is - apart from the politeness factor which seems to play a role in Japanese but not in Swahili - exactly the condition under which *si* *p* occurs.

In contrast with *siyo, si* *p* is not compatible with negated *p*: We find *siyo Neg-* *p* (cf. (2) above) but not *si Neg-* *p*. In this respect, the *si* *p* construction is analogous to interro-negative rhetorical questions, and one may be tempted to consider it simply as a variety of them. However, available data concerning intonational characteristics of *si* *p* - see Fig. 6 and 7 for acoustic correlates respectively of (11) and (12) - show no conclusive evidence of the strong rise-and-fall final contour typical of factual questions in Swahili. There seems to be a noticeable tendency to interrupt the intonation contour at the boundary between the initial copula-derived *si* and the embedded sentence following it\(^\text{23}\).

On the other hand, the *si* *p* construction must be distinguished from the negative tag question in terms of the respective functions of the two constructions in dialogue:

(15) *Wanitukana siyo?*  "You are insulting me, aren't you?" (Mwachofi 1987:3)

Utterances (11) and (15) - to take these two cases as a basis for comparison - may both be considered to be injunctions addressed to the interlocutor obliging him or her to ratify an evidence (from which - at least in an argumentative context - some conclusion will follow). But they differ from each other by the degree of imposition on the hearer. While *si* *p* imposes the truth of *p*, *p siyo* is, at least *pro forma*, a request addressed to the hearer to consent to the truth of *p*.

9. Conclusion

As Delahunty (1995:341f) points out, the type of construction which he proposes to call inferential (I have followed him in this respect), appears to be universal, yet has received so far surprisingly little attention from linguists. One reason for its underexploration may be its low textual frequency, as Delahunty himself notes on the basis of a perusal of a large English corpus. Our findings obtained on the basis of a much more limited and somewhat randomly selected sample from Swahili do not authorize an independent judgment regarding its overall frequency in this language, let alone in the world's languages in general. However, if our

\(^{22}\) Quoted from Delahunty (1995:51)

\(^{23}\) Contrary to an earlier hypothesis based on Fig. 6, intonational discontinuity does not seem to be tied to the glottal onset triggered by the sentence-initial vowel and functioning as a boundary marker at the transition between *si* and the following part of the sentence, but also occurs regularly before consonantal onset. Unfortunately, the intensity of *si* in Fig. 7 is too low to allow it to appear on the screen.
central hypothesis regarding the specific discourse environment which triggers its occurrence is correct, any judgment regarding its frequency and relevance will have to be made on account of the type of verbal interaction in which controversial negotiation of inferences typically occurs. In other words, its frequency and, more importantly, the attention which it will be given appear to be tied to a recognition of the primacy of a dialogue-analytical approach and methodology in the study of natural language.

Comparative evidence suggests that the grammatical representation of inferential operations via a copula-derived operator having in its scope the embedded inferential proposition is by no means unique to Swahili. However, our exploration of the Swahili facts has also made it clear that the autonomous paradigm of inferential operators derived from a possibly similar syntactico-semantic source may vary considerably from language to language. In regard to what I have tentatively identified as the core paradigm of inferential operators in Swahili, morpho-semantic and discourse-functional evidence points to a three-way contrast reflecting the distinction between negatively vs. positively oriented meta-inferential activity on the one hand and, within the class of inference-supporting strategies only, between operations directed at the source vs. operations directed at the target of the inferential processus on the other hand.

While starting out from a basically Gricean approach as point of departure for our study of the discourse functions of the inferential construction, we are at variance with Delahunty when he says (loc. cit.) that its "characteristics can be accounted for by Grice's cooperative principle (CP) and maxims of conversation". The key concept of "inferential gap" epitomises the type of extended conversational pragmatics needed in order to accommodate constraints on dialogal sequences mediated by inferential and meta-inferential operations. While the description of the inferential construction in terms of its syntactic, semantic and intonational properties remains a necessary prerequisite to understanding its specificity, the inferential gap condition has proved to be the key to a functional explanation taking into account the interplay of communicative roles reflected in the whole spectrum of its various uses.

The present study, being limited to establishing the copula-derived inferential paradigm, should not be taken as representing in any sense a complete view of inference processing and negotiation in Swahili. An example taken from the interview "Dahe2" will serve to give just a glimpse of the kind of further extrapolations of the core system which would have to be taken into account in a more fully representative view:


A [1] Well! fishermen, no, fishermen don't have songs - B [2] So you are saying, perhaps they are always sad at the time when (they are at work?)

The interviewer (B) had suggested that fishermen, just like farmers, have their songs which they sing during work. The old man (A) denies this B then manifests his unbelief by exposing what he estimates to be the impossible consequence of A's denial. The inference here is not the one which the speaker himself is supporting; rather he explicates an inference which he estimates the interlocutor should have made but failed to do so, given his on-record stance on
the subject matter under discussion. The markers used to characterize [B-2] - yaam in combination with the sequential marker -ka- may well be typical if not mandatory for representing this type of counter-argumentative use of inference.

The aim of this study has been to shed some light on a largely unexplored area of Swahili grammar. At the same time, it has been an attempt to contribute some working hypotheses and criteria for a better understanding of the role of inference in the construction of cohesion in discourse and dialogue. I hope to have indicated some directions for further fruitful exploration of this vast and fascinating field of research which, as I hope to have shown, is of considerable interest even beyond the immediate concerns of grammar and discourse analysis.

References


Dahe2 1989. = Interview with M. Gora, Zanzibar. Swahili Corpus [electronic database under the direction of A. Hurskainen, Helsinki.]


\[24\] Counter-inferential -ka- is further documented in Schicho (1995:150f.)


Appendix

The sonagrams (Fig. 1-7 below) contain four parts (windows):

- on the left upper half (window 1): oscillogram permitting to identify the segmental structure of the utterance;
- on the left lower half (window 2): intensity graph (measurements in dbel)
- on the right side: fundamental frequency graph ($F_o$) in flat (window 3) and smooth contour (window 4)

The *vertical cursor line* is positioned at the end of the inferential marker or particle *ndiyo/siyolo/si* so as to facilitate observation of the transitional features between it and the embedded sentence.
GRAMMATICAL MARKERS IN DIALOGUE

Fig. 1: Example (1/B2) Female speaker: M. Khamis

Fig. 2: Example (2/B2) Female speaker: M. Khamis
Ndiyo  sitaki kumtia machoni (tena)  Ndiyo  sitaki kumtia machoni (tena)

Fig. 3: Example (10/B4)  Female speaker: M. Khamis

Ndiyo  sitaki kumtia machon(i) tena  Ndiyo  sitaki kumtia machon(i) tena

Fig. 4: Example (10/B4)  Male speaker: A. M. Mzee
**Fig. 5:** Example (5/3). Female speaker: M. Khamis

**Fig. 6:** Example (11). Female speaker: M. Khamis
Fig. 7: Example (12) Male speaker. S A Rashid