Grammatical cases, basic verbal construction, and voice in Maasai: Towards a better analysis of the concepts

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Introductory remarks

This paper attempts a logical analysis of the concepts of grammatical case and grammatical voice as applied to the facts of Maasai, an Eastern Nilotic[1] language of East Africa. As is well known, case and voice are intimately connected: case is used to mark different Surface-Syntactic [= SSynt-] roles of Nominal Phrases [=NP], while the voice of the main verb determines which NP plays which SSynt-role. This justifies my considering these two inflectional categories together. Moreover, a study of voice entails a study of the basic verbal construction of the language, i. e. what is called the Predicative Construction. That is, I have to discuss the relationship between the SSynt-Subject/the SSynt-Object, on the one hand, and case-marking, on the other.

The structure of the paper is straightforward: it has three sections, each dedicated to one of my three targets:

- Case in Maasai;
- Basic verbal construction in Maasai;
- Voice in Maasai.

Moreover, there is an Appendix, in which I sketch a proposal for a calculus of possible grammatical voices.

Since I am by no means a specialist in Nilotic, all my data on Maasai came from published sources, mainly from Tucker – Mpaayei 1955. In a few cases I use data from other sources; this is always explicitly indicated.

I am not presenting any new facts about Maasai nor do I offer any new explanations of some known facts. My main thrust is metalinguistic: using the facts of Maasai to improve our understanding of such concepts as "nominative" vs. "accusative", "ergative construction", and "passive". What I am trying to do has a rather typological flavor: I would like to

make the terms current in Nilotic studies commensurate with what is known and used elsewhere. Thus I will analyze logically the terms "nominative", "passive", and a few others as well as the concepts underlying them.

1. Case in Maasai

1.1. The primary data

Standard descriptions of a number of Nilotic languages, most notably of Maasai (Tucker – Mpaayei 1955), but also, for instance, of Kalenjin and Teso (Bennett 1974), state that in these languages the noun has two grammatical cases, traditionally called the nominative and the accusative and formally distinguished by different tonal schemes (cf. Tucker – Bryan 1966: 467–649).

Let me first sketch a picture of the Maasai case system – which is more or less applicable to other related languages such as Turkana (Dimmendaal 1983a: 259–268) – as it emerges in the classic work Tucker – Mpaayei 1955.

With respect to their use, the Maasai cases are characterized in Tucker – Mpaayei 1955: 176 and Payne et al. 1994: 7 as follows.

The accusative marks the noun fulfilling one of the following nine Surface-Syntactic roles:

1) noun said in isolation (e. g., used to name something);
2) Direct Object [= DO] of a transitive verb;
3) Grammatical Subject [= GS] of a passive verb, denoting, as is to be expected with the passives, the patient;
4) predicative nominal with the verb "to be" (as in "to be *the chief*");
5) form of address without a vocative particle (= "bare" address);
6) Possessor within a possessive NP after the possessive particle;
7) complement of the associative-conjunctive particle *o* 'and' (syntactically similar to the Eng. *plus* [*he*]);
8) prepositionless Indirect and Oblique Objects; and
9) "subjects that occur before the verb" [I think that these are, rather, fronted topics].

The Accusative also marks
10) the predicatively used adjective or numeral (as in 'He [is] sick' or 'They [are] five', where 'sick' and 'five' are in the Accusative).

The nominative marks the noun fulfilling one of the following four Surface-Syntactic roles:

1) Grammatical Subject of any verb not in the passive (i.e., the Grammatical Subjects of both transitive and intransitive verbs) or that of an adjective or numeral used predicatively;
2) Agentive Complement [= AgCo] of a passive verb;
3) complement of the multi-purpose preposition *te*;
4) complement of a vocative particle.

An illustration of some syntactic uses of both cases is given in (1). NB: The symbol ′ represents the high tone, ` the low one, and ˆ the falling (high−how) tone; the mid, or flat, tone is not indicated; *ɛ*, *ɪ*, *ɔ*, *ʊ* stand for open /e/, /i/, /o/, /u/.[2]

(1) Maasai *ɔltʊŋánì* 'person' [ACC: noun form said in isolation]
Note that in the vocabulary appended to Tucker − Mpaayei 1955 all the nouns are quoted in the accusative; it is the citation form.

a. Accusative forms

1) *Á* +*dɔ́l* +∅ *ɔltʊŋánì* [DO]
1SG see ACT
'I see [a/the] person'

2) *É* +*ípót*+*í* *ɔltʊŋánì* [GS of a passive verb]
3SG call PASS
'Is-called [a/the] person'

3) *Á* +*rá* *ɔltʊŋánì* [predicative nominal]
1SG be
'I-am [a] person'

4) *Tʊŋáni!* [address]
'Person!'

b. Nominative forms

1) *É*+*ípot*+∅ *ɔltʊ́ŋáni* [GS] *ayíôk*
call
'Calls person boys' = 'The person calls the boys'

2) *É*+*ípót*+*í* *ilayíôk* *ɔltʊ́ŋáni* [AgCo]
'Are-called boys by-person' = 'The boys are called by the person'

3) *te* *tóŋání* [with a preposition]
'at/with [the]person'

4) *Ló* *tóŋání!* [with the vocative particle]
[*Ló tóŋání!* ⇒ *Ló tɯŋani!*]
'O person!'

I haven't specified here the rules for the omission of the gender prefix, in this case, *ɔl-* (see Hollis 1970 [1905]: 12–14, Tucker – Mpaayei 1955: 46–47, Heine – Claudi 1986: 28–39); neither do I discuss the rules of tonal assimilation that can turn the high tones of a wordform to mid tones after a preceding high tone, as in *Ló tɯŋani!* Moreover, in all the Maasai examples used in this paper all nominal wordforms are represented as they are before the tonal assimilation has taken place, so that the surface form shown is often incorrect as far as tones are concerned.

With respect to their form, Maasai cases are distinguished tonally:[3]

(2) Tucker – Mpaayei 1955: 175-176 (the nouns are shown without the gender prefix)

	accusative	nominative
'person'	*tɯŋánì*	*tóŋáni*
'child'	*kɛ́ráí*	*kɛrái*
'horse'	*bártá*	*bartá*
'fire'	*kímá*	*kímâ*
'[a] Maasai'	*Máásaní*	*Maásani*
'chest'	*goó*	*góò*
'village'	káŋ	kâŋ

A general tendency observed in the production of the nominative is the lowering of the tones of the accusative form. According to Tucker – Mpaayei 1955: 177–199, in nouns of tonal classes I and II the nominative is obtained from the accusative by lowering all or some syllables of the stem. In nouns of tonal class III, however, some or all syllables of the stem are raised – that is what we see, for instance, in 'person' in (2), but again, the nominative is still obtained from the accusative, and not vice versa.

The same method of obtaining the nominative from the accusative (generally, by lowering of tones) is also reported in related languages; see, for example, the state of affairs in Teso (Bennett 1974: 20):

(3)

Teso	Accusative	lowering ⇒	Nominative
'river'	*écílét*		*écilet*
'rivers'	*icilétʲá*		*iciléta*
'man'	*étúŋánán*		*étʲúŋnan*
'these houses'	*ítogóílu*		*ítogoilu*

A similar situation exists in Turkana; see Dimmendaal 1983a: 261–264 for a detailed description of the tonal apophony (also lowering) by which the nominative is formed from the accusative.

1.2. The statement of the problem

I have four objections to the use of case terminology hitherto found in the description of Nilotic languages.

1. It seems problematic to label as "Accusative" the form of the noun in isolation, used to name an object or a fact – in other words, the lexicographic (or citation) form, which is obviously the basic form of the noun. (Note that Tucker – Mpaayei 1955: 175 begin the discussion of the grammatical cases in Maasai with the Accusative; the accusative form is the one quoted as basic in their dictionary.)
2. It seems no less problematic to label as "Accusative" the form of the noun considered to be the Grammatical Subject of a passive verb (Keenan 1976: 326–328) or the form of "bare" address.
3. It seems equally problematic to label as "Nominative" the form of the noun governed by a preposition or a particle.
4. It also seems problematic to label as "Accusative" the morphologically basic, i.e., "unmarked", form of the noun, while its morphologically complex, or "marked", form is labeled as "Nominative".[4]

Using the terms "accusative" and "nominative" in the indicated way disrupts the generally accepted doctrine of Grammatical Case and runs counter to many universalist theories of syntax. It creates difficulties, among other things, for the description of the Maasai passive, since – contrary to other known passives – it is said to take its Grammatical Subject in the accusative![5] Keenan (1976) exploits this idea to support his theory of "partial subjecthood", saying that the direct object of a transitive verb in Maasai becomes, with the passive form of the verb, the derived subject that takes on the characteristic position of a basic subject but not its case-marking. This point is convincingly attacked by Perlmutter and Postal (1984: 159), but, again, their reasoning is anchored in calling the basic form of the noun the "accusative", so that the confusion remains.

I find this terminological usage detrimental to linguistic typology and even more so to all attempts to develop a universal linguistic theory and a corresponding linguistic metalanguage – a formalized coherent system of concepts for the whole of linguistics.

1.3. The proposal: changing names

As far as I can judge, the difficulty here arose, in the first place, because the founders of African linguistics chose to apply case names according to the case's main syntactic function. So, following the syntactic pattern of Latin, the case whose main function is to mark the Grammatical Subject was called the nominative, while that which marks the Direct Object automatically got the name of the accusative. However, such a practice cannot be condoned for at least two reasons. First the syntactic patterns of one language should not be mechanically transposed to another. Second, and even more importantly, by linking too rigidly the case and the Surface-Syntactic role we blur the extremely important distinction between them, thus blocking, among other things, the possibility of saying readily that, in a language L, a given syntactic role can be marked by several different cases, while a given case can mark several different syntactic roles.

My solution is simple and drastic. It derives from the following definition of nominative case:

Nominative Case

> In a language L that has grammatical cases, the case used to NAME objects or situations, i.e. to mark a noun in isolation, must be called the *nominative*, whichever role it plays in the syntax of L and whichever is its formal exponent (Mel'čuk 1986: 71).

In other words, I propose to restore to the nominative its etymological meaning: "the case of nomination".

If this proposal is accepted, then Maasai (like all related languages) has two cases: the "nominative" (the former "accusative") and the "oblique" (or else "ergative" or "subjective"; the former "nominative").[6] The resulting two-case system is typologically highly plausible: it is similar, for instance, to that of Kabardian/Circassian, Kurdish or Old French. With this new terminology, all the statements concerning the use of cases in Maasai cease to be exotic and become quite plausible.

The nominative in the "new" sense marks the noun fulfilling one of the following eight Surface-Syntactic roles:

1) the basic (lexicographic) form of the noun, in particular, said in isolation;
2) Direct Object of a transitive verb (as it typically happens in numerous languages with the ergative or active construction);
3) Predicative nominal with the verb *ará* 'to be';
4) "bare" form of address (without a vocative particle);

5) Possessor, i. e., the complement of the possessive particle in a possessive NP;
6) Complement of the associative-conjunctive particle *o* 'and' (= 'plus');
7) prepositionless Indirect and Oblique Objects;
8) fronted topic.
The nominative also marks
9) the predicatively used adjective or numeral.[7]

The set of Surface-Syntactic roles of the nominative in Maasai does not include the element denoting the patient of a passive form (which it should, so to speak, inherit from the "former" accusative, item 3, p. 2). The reason is that I believe that this sentence element is the Direct Object, not the Grammatical Subject, of the passive form and thus corresponds to item 2 in the revised list above: this will be explained more fully in section 3.

The oblique marks:

1) Grammatical Subject of any verb (including 'to be') and of any predicative adjective or numeral;
2) Agentive Complement of a passive verb;
3) complement of a preposition;
4) complement of a vocative particle.

My nominative is also the formally basic, "unmarked" form, which has to be stored in the lexicon; the oblique is obtained from it by a tonal apophony, i. e., by replacing the tonal scheme of the nominative by another tonal scheme. As is well known, the nominative tends to be formally unmarked – to have a zero exponent (a zero suffix or a zero apophony). This means that if language L has one unmarked case it will be – more often than not – the nominative. That is exactly what we see in Maasai and other Nilotic languages, provided of course that the change of case names is accepted. Note that in Kalenjin, which has case suffixes (in certain noun classes), the picture is even clearer: only what I propose to call *oblique* can be expressed by a non-zero suffix; and what I call *nominative* always is formally unmarked (Tucker – Bryan 1966: 468). Thus, if the case names for Nilotic languages are left as they are now, we will have to deal with a situation which is highly improbably from a typological point of view: a formally marked nominative in opposition to a formally unmarked accusative.

The first steps towards the proposed change of case designations have already been taken. 15 years ago, Dixon (1979: 77), explicitly mentioning the Cushitic language family, insisted that "the name 'extended ergative' (rather than 'marked nominative') could be used when we encounter a

marked case employed for A[gent] and for all instances of S[ubject] function". Later Dimmendaal (1983a: 260ff.) and then Heine and Claudi (1986: 39) renamed the traditional Nilotic accusative "absolute", while retaining the designation of the nominative. (Already in Tucker – Bryan 1966 the accusative is often called "absolute", e.g., on p. 468; but their general usage is confused and unclear.) Then Sasse 1984 explicitly proposed renaming the accusative and the nominative in East Cushitic languages (Gidole, Saho, Konso, etc.), calling them "absolute case" and "subject case" instead; his arguments for this partially anticipate my own. On the whole, however, as far as I can judge from a quick survey of main Africanist periodicals, the practice of using the term "accusative" for the citation form and the term "nominative" for the marked form of the noun as applied to Nilotic and related or typologically similar languages (such as Cushitic) is still dominant (see, e.g., Payne et al. 1994). It is my goal here to show that the time is ripe for changing this bad habit.[8]

NB: From now on, the Maasai case names will be used in this paper only as proposed – that is, henceforth, NOM = my nominative, and OBL = my oblique.

2. The basic verbal construction in Maasai

If the case names are changed as suggested above, the only exoticism (if this is really an exoticism) that remains in the description of Maasai is the following:

> The basic verbal construction of Maasai is an ergative construction, since the Grammatical Subject of any verb, including the verb 'to be', and of any predicative adjective/noun, is never in the nominative: it is in the oblique case.

Of course, the truth of this statement hinges upon the definition of ergative construction we adopt. I uphold the definition of Ergative Construction as proposed in Mel'čuk 1978 and then developed in Mel'čuk 1988: 182, 251, 258–259ff. and Mel'čuk 1992:

> An Ergative Construction is a predicative construction "Grammatical Subject + Grammatical Predicate" such that its Grammatical Subject can potentially express the Causer (in the language in question) and is marked by a case other than the nominative.

Consider the following Maasai sentences (the Grammatical Subject is given in roman; tonal assimilations are not shown):

(4) a.

Á	*+rík*	*+Ø*	nanó	*Sirónkà*
1SG.Subj-3.Obj	cause.nausea	ACT	I-OBL	S.-NOM
'I nauseate Sironka.'				
Áa	*+rîk*	*+Ø*	Síròŋkà	*nánó*
3SG.Subj-1SG.Obj	cause.nausea	ACT	S.-OBL	I-NOM
'Sironka nauseates me.'				
Áá	*+rík*	*+Ø*	nanó	*iyié*
1SG-Subj.2SG.Obj	cause.nausea	ACT	I-OBL	thou-NOM
'I nauseates thee.'				
Kí	*+rík*	*+Ø*	íyie	*nánó*
2SG.Subj-1SG.Obj	cause.nausea	ACT	thou-OBL	I-NOM
'Thou nauseatest me.'				
É	*+rík*	*+Ø*	ɔlkítèŋ	*Sirónkà*
3SG.Subj-3SG.Obj	cause.nausea	ACT	ox-SG.OBL	S-NOM
'The ox nauseates Sironka.'				
É	*+rík*	*+Ø*	Síròŋkà	*ɔlkítéŋ*
3SG.Subj-3SG.Obj	cause.nausea	ACT	S.-OBL	ox-SG.NOM
'Sironka neaseates the ox.'				

b.

Á	*+dɔ́l*	*+Ø*	nanó	*Sirónkà*
1SG.Subj-3.Obj	see	ACT	I-OBL	S.-*Nom*
'I see Sironka.'				
Áa	*+dɔ́l*	*+Ø*	Síròŋkà	*nánó*
3SG.Subj-1SG.Obj	see	ACT	S.-OBL	I-NOM
'Sironka sees me.'				
Áá	*+dɔ́l*	*+Ø*	nanó	*iyié*
1SG.Subj-2SG.Obj	see	ACT	I-OBL	thou-NOM
'I see thee.'				
Kí	*+dɔ́l*	*+Ø*	íyie	*nánó*
2SG.Subj-1SG.Obj	see	ACT	thou-OBL	I-NOM
'Thou seest me.'				
É	*+dɔ́l*	*+Ø*	ɔlkítèŋ	*Sirónkà*
3SG.Subj-3SG.Obj	see	ACT	ox-SG.OBL	S.-NOM
'The ox sees Sironka.'				
É	*+dɔ́l*	*+Ø*	Síròŋkà	*ɔlkítéŋ*
3SG.Subj-3SG.Obj	see	ACT	S.-OBL	ox-SG.NOM
'Sironka sees the ox.'				

I consider the Grammatical Subject of a Maasai clause the same NP that is traditionally said to be the Grammatical Subject by everyone (I cannot discuss here the factors taken into account when deciding the subjecthood of Maasai NPs). The Grammatical Subject follows the verb immediately and, in case of an intransitive, determines its number-person agreement. In a transitive verb, the Direct Object also participates in agreement, as is obvious from (4a)–(4b): in 'I see Sironka' vs. 'I see thee' the verb has different forms, as in 'Sironka sees me' vs. 'Sironka sees the ox'.[9] Person-number agreement is manifested in megamorph, or portmanteau, prefixes. Note that although in sentences (4b) the Grammatical Subject does not express the Causer, in (4a) it does: this predicative construction is used in Maasai for ALL verbs.

Sentences (4a)–(4b) remind one of the prototypical ergative construction as found in Chukchee, Koryak, Hindi, Nepali, Kurdish, Georgian, etc. An objection, however, might be raised in connection with the fact that in Maasai the oblique case marks the Grammatical Subject not only with transitive verbs, as in these languages, but also with intransitive verbs and even with predicatively used adjectives and numerals:

c. *N* *+é* *+dóú* n
CONT[10] 3PL.Subj. descend FEM
+kíshu *óo* *Kéekonyókie te Kínopóp*
cow-PL.OBL POSS to
'And then the cows of Kekonyokie came down to Kinopop.'

d. *É* *+púó* ɪltʊŋaná
3PL.Subj. go-PL[11] person-PL.OBL
'The people go.'

e. *Biyót* ɪltʊŋaná
healthy-PL.NOM person-PL.OBL
'The people are healthy.'

f. *Á* *+rá* nanó *sápòk*
1SG be I-OBL big-SG.NOM
'I am big.'

g. *Ná* *+bo* nanó
FEM one I-OBL
lit. 'Am-one[FEM] I' = 'I [a woman] am alone.'

Some linguists would probably be reluctant to call the predicative construction presented in (4c)–(4g) "ergative"; they might prefer to call it "active" or something else. My definition of ergative construction does, however, take the construction in these examples to be ergative; yet at

this juncture, I by no means insist that the name of "ergative construction" be applied to Maasai finite verbal clauses: the acceptance/rejection of this name depends on whether or not my definition of the ergative construction is, in its turn, accepted, which is not important in this paper. However, it is quite clear that the basic verbal construction of Maasai is essentially different from the nominative construction of Romance, Slavic, Germanic, Fenno-Ugric, Turkic, or Semitic languages, in which the Grammatical Subject always is – putting aside a few exceptional and questionable cases – in the basic lexicographic (= citation) form, legitimately called the nominative. The Maasai construction is not nominative, and, *faute de mieux*, I will call it ergative in the rest of the paper. Languages in which the Grammatical Subject is always in a case different from the nominative (i.e. from the case of nomination) are quite well known and are not so rare. Let me quote three. First, such is Megrel (from the Zan branch of the Kartvelic family), where the ergative case in *-k* (different from the nominative in *-i*) marks the Grammatical Subject with all verbs: e.g., *K'oč+k kumortu* 'The-man came' and *K'oč+k gaagibu c'.qar+i* 'The-man heated the-water'. Second, consider Wappo (California), in which the ergative case in *-i* (opposed to the zero suffix nominative) marks all Grammatical Subjects, even those with passive forms and adjectival verbs: *Chic+i ṭ'oklhe* 'The-bear got-caught'; *Chic+i tuč'ākhi* 'The-bear is-big'. And third, take Japanese, with its subjective case in *-ga* (the nominative having a zero suffix) used for all Grammatical Subjects. Now, by far the most interesting thing in this respect is that many such languages are found in Eastern Africa, not only among Paranilotic languages, but also among Berber-Lybic, Cushitic, and Nilo-Saharan languages. Here is a telling example from Berber (Bader – Kenstowicz 1987). In this language the Grammatical Subject, when in a neutral position (immediately following the verbal predicate), is marked by the oblique case with all verbs, and the Direct Object (if there is one), by the nominative (= citation form):

(5) a. *Ičča* weqžun *amšiš*
eat-AOR dog-SG.OBL cat-SG.NOM
'The *dog* ate the cat.'
Ičča wemšiš *aqžun*
eat-AOR cat-SG.OBL dog-SG.NOM
'The *cat* ate the dog.'

b. *Yenza* wemšiš /weqžun
be.on.sale-PRES cat-SG.OBL dog-SG.OBL

'The *cat*/The *dog* is being sold.'

A more traditional name for the Berber cases is "free state" [= NOM] and "construct state" [= OBL]; but actually these forms are quite normal cases. (Sasse 1984: 120–122 draws a very convincing parallel between Berber and Cushitic case distribution and marking. Cf. also Aikhenvald 1986 for some data and further references concerning the non-nominative character of the syntactic system in Afroasiatic languages with special attention to Berber.)

Moving to Cushitic, let us consider, for instance, Oromo (= Galla):

(6) Muk +ní *gog* +*e*
wood OBL dry PAST.3SG.MASC
'The *wood* dried up.'
vs.
Terfaa +n *muka* +∅ *gog* +*s* +*e*
OBL wood NOM dry CAUS PAST.3SG.MASC
'*Terfaa* dried up the wood.'

The Grammatical Subject is always marked here with the oblique case, while the Direct Object is in the nominative: the same situation as in Maasai, Teso, Turkana, etc., on the one hand, and in Kabyle Berber, on the other.

A similar phenomenon is found in Somali: the Grammatical Subject phrase has a special marker (attached to the rightmost element of the phrase) while the Direct Objekt and other complements are in the citation (= basic) form. It is enough to leaf through Tucker – Bryan 1966 for the descriptions of a few Cushitic languages – Beja (p. 108), Dasenech (p. 205), Burji and Darasa (p. 253) as well as some Nilo-Saharan ones – e. g., Mursi (p. 546), etc., or to examine Bender 1976 to see the familiar pattern: the basic (absolute, i. e., unmarked) form of the noun (called, as a rule, the accusative!) is used in isolation and for all the objects and complements, while the Grammatical Subject (either uniformly or only in the inverted position in the presence of a Direct Object, as in Mursi) has special marks (and is traditionally called the nominative):

(7) a. Darasa
Dulla ['stick': citation form] *iyyedage*
'[He] brought [the] stick.'
vs.
Dull +*i enk'eme*
'[The] stick is-broken.'

b. Mursi
Itim hiri ['man': citation form]
lit. 'Kindles the man.'
vs.
Mor ['calf': citation form] *lam hiri+o*
lit. '[For the] calf looks [the] man.'
vs.
Hiri lam mor
lit. 'The-man looks [for the] calf.'

It stands to reason that the names of both cases should be changed as proposed above; it is also clear that the ergative construction of the type described – all the Grammatical Subjects in the oblique, and all the Direct Objects in the nominative – is really typical of many languages of North-East Africa. In this respect, one could probably talk of a Sprachbund (this idea has been advanced before: see, e. g., Bennett 1974 and Bender 1976: 195, ftn. 4). I would like to emphasize that no less an authority than B. Andrzejewski (1984) insists on the similarity of the way that cases are used and marked in Cushitic (Somali, Oromo) and Paranilotic (Maasai, Kalenjin).[12] Sasse (1984) goes even further and hypothesizes the same type of syntactic case usages not only in Proto-Cushitic, but in Proto-Semitic as well.

Therefore, the idea that the basic verbal construction of Maasai is ergative should not be perceived as something overwhelmingly monstruous. Indeed, a known Chadic specialist – Z. Frajzyngier (1984a) – has already proposed that in Proto-Chadic, "the unmarked noun phrase which occurred with a transitive verb was the semantic Patient, and not the semantic Agent as in present Indo-European languages and many present Chadic languages" (p. 141). Consequently, the basic transitive construction of Proto-Chadic was essentially different from the "normal" nominative construction: it is an example of that I call the ergative construction. Moreover, in Frajzyngier 1984b one finds further facts that argue for the ergative construction in Proto-Chadic. True, the language investigated – Mandara – shows ergative features quite different from what we see in Paranilotic, etc.: namely, Mandara has a special type of agreement of the transitive verb with its Direct Object (reduplication of the stem for the plurality of the Direct Object). Yet Frajzyngier's analysis in both papers clearly shows that the presence of the ergative construction in Chadic languages is not at all amazing.[13]

3. Voice in Maasai

The last problem that requires clarification is that of voice in Maasai. This language possesses a special verb form marked with a suffix *-ki* (having the allomorphs *-kɪ*, *-i*, and *-ɪ*, whose distribution is more or less phonemically conditioned); it is traditionally called the "passive" (for a concise overview, see Heine – Claudi 1986: 74–84). As clearly stated by Tucker and Mpaayei themselves (1955: 79), in Maasai, "from the point of view of verb conjugation, the Passive could be regarded as a specialized form of the *3rd person active*, in that it takes a contained object. (Compare French *On vous appelle* for: 'You are called.')" The remark is correct and quite relevant, but one can reproach these authors for the absence of necessary explanations, since the form in question is, after all, not active – at least not in their own presentation (but see below).

The key to the understanding of the nature of the *ki*-form in Maasai lies in establishing its Grammatical Subject. J. Greenberg, in his elegant analysis (1959), has shown, beyond the shadow of a doubt, that the Grammatical Subject of a passive form in Maasai is in fact a zero dummy lexeme of the 3rd person plural (meaning 'people'), and not the NP in the nominative (= traditional "accusative"). His cogent arguments can be summarized in the following two points:

1) Agreement of the main verb. In Maasai, the main verb always agrees in number and person with the Grammatical Subject (the transitive verb, as pointed out above, agrees as well with its Direct Object);[14] the passive person-number prefixes for a given person are the same as the active-transitive person-number prefixes for a Direct Object of that person combined with a 3rd person Grammatical Subject:

(8)

passive	
'I am nauseated'	áa + *rɪk* + *í*
'Thou art nauseated'	kí + *rík* + *í*
'He is nauseated'	ɛ́ + *rɪk* + *í*
'We are nauseated'	ɛ́ + *rɪk* + *í*
'You [pl] are nauseated'	ɛ́ + *rɪk* + *í*
'They are nauseated'	ɛ́ + *rɪk* + *í*
active – with the 3rd person GS	
'He/They nauseate(s) me'	áa + *rík*
'He/They nauseate(s) thee'	kí + *rík*
'He/They nauseate(s) him'	ɛ́ + *rík*

'He/They nauseate(s) us'	ɛ́ + *rík*
'He/They nauseate(s) you [pl]'	ɛ́ + *rík*
'He/They nauseate(s) them'	ɛ́ + *rík*

The choice of the agreeing prefix indicates that the "invisible" Grammatical Subject of the passive form is of the 3rd person.

2) Plural stem verbs. In Maasai, an infinitive governed by a finite verb agrees in number with the Grammatical Subject of its governing verb, not with its own – explicit or presumed – subject (the grammeme imposed on the infinitive by the agreement with the Grammatical Subject of the main verb and the corresponding grammeme of the main verb are boxed):

(9) Maasai

Á	+*tárétò*	*ɔltʊŋánì*	*/ ɪltʊ́ŋáná*
1[SG].Subj-3.Obj	helped	person-SG.NOM	/ person-PL.NOM
a +*múk*	⟨*áà +*múk*⟩	*ɛnáishó*	
INF.[SG] brew	⟨INF.PL brew⟩	beer-NOM	

vs.

Kí	+*taretô*	*ɔltʊŋánì*	*/ ɪltʊ́ŋáná*
1[PL]Subj.-3.Obj	helped	person-SG.NOM	person-PL.NOM
áà +*múk*	⟨*a + *múk*⟩	*ɛnáishó*	
INF.[PL] brew	⟨INF.SG brew⟩	beer-NOM	

'I/We helped the person/the people brew beer.' (Tucker – Mpaayei (1955: 65).

As can easily be seen, the infinitive agrees in number with the Grammatical Subject of 'help' ('I' vs. 'we') rather than with the understood agent of 'brew' ('person' vs. 'people').

At the same time, a few Maasai verbs have two different stems, one used with the Grammatical Subject in the singular, and the other with the Grammatical Subject in plural, e. g., *ló* [singular GS] – *púò* [plural GS] 'to go'; *lotú* [sg] – *puonú* [pl] 'to come'; *tɔ́n* [sg] – tɔ́ní [pl] 'to sit'; *nyokié* [sg] – *nyokíoo* [pl] 'to be red', etc. Greenberg quotes (cf. Tucker – Mpaayei 1955: 88) three idiomatic constructions in which the passive of the two-stem verbs 'to go', 'to come' and 'to sit' is used and governs the infinitive; the first two are periphrastic future passives (something like *"They"-are-gone/come me to-beat* = 'I will be beaten'), and the third is another periphrastic passive with the meaning 'by someone who stayed for the purpose' (*"They"-are-sat me to beat* = 'They stayed to beat me'). In these constructions, "a twofold choice between singular and plural

must be made, first in employing the singular or plural stem of the auxiliary verb ..., and secondly, in regard to the form of the infinitive. In all instances the choice is unequivocally plural" (Greenberg 1959: 173). Thus, to say 'I will be followed' Maasai uses (10):

(10) Áa +púó + *í* áà + *sùj*
3PL.Subj-1SG.Obj go-[PL] PASS INF.[PL] follow
lit. '"They"-are-gone-me to-follow'

Sentence (10) has a zero dummy Grammatical Subject $\emptyset^{\text{people (3PL)}}$ – an indefinite-personal pronoun, roughly equivalent to Fr. *on*, Germ. *man*, but in the plural (i.e. 'they'). This pronoun can perhaps be better compared to the Russian zero lexeme $\emptyset^{\text{people (3PL)}}$ found, for example in *Zdes' ljubjat rabotat' i razvlekat'sja*, lit. 'Here like [3PL] to-work and amuse-themselves' = 'The people here like to work and have a good time', with the verb in the 3rd person plural and no explicit Grammatical Subject possible (on zero lexemes of this type, see Mel'čuk 1988: 303–337). Turkana (Dimmendaal 1983b: 27) has – in a quite similar, although not identical construction – "a phonetically empty (= zero) pronominal subject PRO_I which is semantically animate and plural".

Here are two more examples (from Heine–Claudi 1986: 80) to illustrate this phenomenon, namely, to show that, if an infinitive syntactically depends on a passive form, it has plural agreement: (11a); and if this passive form belongs to a two-stem verb, the plural stem is used: (11b).

(11) a. *É* + *jɪŋ* +*í* *nkají* áà + *rany*
3PL.Subj-3SG.Obj enter PASS house-SG.NOM INF.[PL] dance
lit. '["They"] are-entered house to-dance' = 'People enter the house to dance.'

b. *Áa* + puonunú +*í* áà +*ɪŋuraa*
3PL.Subj-1SG.Obj come-[PL] PASS INF.[PL] look
lit. '["They"] are-come-me to-see' = 'I will come to be looked at.'

As a result, what is often considered as the Grammatical Subject of the Maasai passive (= the NP that denotes the patient), is by no means its Grammatical Subject: this NP is the Direct Object of the verb (this treatment is explicitly proposed in Payne et al. 1994). This NP is invaria-

bly in the nominative, as are all Direct Objects in Maasai, pronouns as well as nouns; cf.:

(12) passive

'I am seen'	*áa*	+*dɔ́l*	+*í*	nánó
'Thou art seen'	*kí*	+*dɔ́l*	+*í*	iyíé
'He is seen'	*é*	+*dɔ́l*	+*í*	nɪnyɛ́
'We are seen'	*é*	+*dɔ́l*	+*í*	iyíóók
'You [pl] are seen'	*é*	+*dɔ́l*	+*í*	ɪntáí
'They are seen'	*é*	+*dɔ́l*	+*í*	nɪncɛ́

active – with the 3rd person GS

'He/They see(s) me'	*áa*	+ *dɔ́l*	nánó
'He/They see(s) thee'	*kí*	+ *dɔ́l*	iyíé
'He/They see(s) him'	*é*	+ *dɔ́l*	nɪnyɛ́
'He/They see(s) us'	*é*	+ *dɔ́l*	iyíóók
'He/They see(s) you [pl]'	*é*	+ *dɔ́l*	ɪntáí
'He/They see(s) them'	*é*	+ *dɔ́l*	nɪncɛ́

Yet the form under discussion cannot be simply called "impersonal active", as Dimmendaal (1983a: 72 and *passim*) appropriately calls the corresponding form in Turkana. The crucial difference is that while in Turkana as Agentive Complement (= 'by N') is impossible with this form, it remains possible with what Tucker and Mpaayei call "passive" in Maasai.

(13) *É* +*rík* +í *nkíshú*
3PL.Subj-3PL.Obj lead PASS cow-PL.NOM
áainéí lmórrân
my-PL.NOM (young)warriors-OBL
'My cows are/will be lead by (young) warriors.'
(Tucker – Mpaayei 1955: 81, § 94).

É +*ípót* +*í* ɛnkɛráí
3PL.Subj-3SG.Obj call PASS child-SG.-OBL
'He is called by the child.'
(Tucker – Mpaayei 1955: 176, (ii)).

É +*ɪrɔr* +*ɔkɔ* +*kí* *yíóók*
3PL.Subj-1Pl.Obj. speak APPL.PAST PASS we-NOM
ɪltʊŋaná
person-PL.OBL
'We were greeted by the people.'
[The appl(icative) form of *irɔ́* 'speak' means 'greet'.]
(Tucker – Mpaayei 1955: 132, § 172).

É +*ísís* +*í* ltʊŋaná
3PL.Subj-3SG.Obj praise PASS person-PL.OBL
'He is praised by the people.'
(Tucker – Mpaayei 1955: 176, (ii)).

It is true that in most examples of passives given in Tucker – Mpaayei 1955 the Agentive Complement is missing (it is contextually understood or simply irrelevant); so perhaps the passive without Agentive Complement is preferred in Maasai. Yet some unambiguous examples with the Agentive Complement in the oblique are present and the possibility of Agentive Complements explicitly stated by the authors (p. 176): "when acting as ... agent of a passive verb, ... the noun ..."). Therefore, the verbal form which I am discussing represents the demotion of the Grammatical Subject to an Agentive Complement, the real Grammatical Subject being replaced by a dummy – a zero lexeme of the 3rd person plural, meaning 'people'. The construction is very close to what is observed in French:

(14) *Il a été raconté beaucoup d'histoires horribles par les survivants*
lit. 'It has been told many awful stories by the survivors.'
Il a été voté par ce parlement des lois qui nous semblent iniques
lit. 'It has been voted by this parliament laws which seem iniquitous to us.'

The grammatical difference between the French construction in (14) and the Maasai construction in (12)–(13) is that in French, the dummy Grammatical Subject *il* is in the singular, while in Maasai, the dummy Grammatical Subject $\emptyset^{\text{people}}_{(3PL)}$ is in the plural (as if it were *Ils ont été racontés une histoire horrible par le survivant*). In addition, an important formal and semantic difference should be mentioned: the French *il* is not zero but semantically empty while the Maasai dummy, on the contrary, is zero but by no means empty (it means 'people', as indicated above).

From the viewpoint of a general calculus of voices, proposed in Mel'čuk 1993 (see also the Appendix), the Maasai situation exemplifies the following modification of the basic diathesis of the verb:

X	Y
I	II

$\Rightarrow$

X	Y	—
III	II	I = Δ

The phrase which in the basic diathesis of the lexical unit L is its Deep-Syntactic Actant [= DSyntA] *1* (i. e. the Grammatical Subject) and corres-

ponds to its Sem(antic) A(ctant) X becomes in the derived diathesis of L its DSyntA *III* (i. e., its Agentive Complement; a dummy Δ (in Maasai, the zero pronoun $\emptyset^{\text{people}}_{\text{(3PL)}}$, which does not correspond to any SemA of L, becomes its DSyntA *I* = GS; the DSyntA *II* of L remains in place.

This voice can be called Impersonal Passive ("impersonal" means "having a dummy Grammatical Subject"; on the term "impersonal passive", see the Appendix, item 5, p. 22). Thus we come to roughly the same conclusion as Perlmutter and Postal (1984: 159–165), who argued (against Keenan 1976) that the Maasai passive is, in point of fact, an impersonal passive, that is, a passive without a real Grammatical Subject. The passives of this type are often called "non-promotional", since while their DSyntA *I* is demoted (to the DSyntA *III*), the DSyntA *II* is not promoted to the DSyntA *I*: it retains its syntactic role.

A very similar type of Impersonal Passive is found in Ukrainian:

(15) Ukrainian

a. *Mnoju bulo* splačen +o *cju sumu*
I-INSTR was-NEUT.SG paid this-ACC sum-ACC
lit. 'By-me ["it"] was paid this sum.'

b. *Cju operaciju bude* vykonan +o
this operation-SG.ACC will.be-3SG carried-out
vidomym xyrurgom
well-known surgeon-SG-INSTR
lit. '["It"] will-be carried-out this operation by-a-well-known surgeon.'

c. *Tam, de zemlju Dniprom*
there where earth-SG.-ACC Dnieper-INSTR
rozkolot +o [Plužnik]
split NEUT.SG
lit. 'There, where Earth ["it"] is-split by-Dnieper.'

The roman verbal form contains the Impersonal Passive suffix *-o*, added to the stem of a passive participle; the whole form is invariable (and different from the passive participle, say, of the neuter singular, which has the ending *-e*: *splačen+e*, etc.). We know that the dummy Grammatical Subject in Ukrainian is an empty zero pronoun of the 3rd person singular neuter because of the agreement of the auxiliary verb 'to be' in the past and in the future (the grammemes imposed by the agreement with this dummy subject are boxed).

Now, Heine and Claudi (1986: 80) report that many Maasai speakers do not admit the Agentive Complements with a passive form: "For the majority of Maa [= a dialect of Maasai – I. M.] speakers, the use of the passive suffix and agent coding are mutually exclusive"; some admit the Agentive Complement, but only after a break of intonation, as a cleft element; some admit it only under certain conditions. The same statement is found in Payne et al. 1994. I am in no position to discover the truth about the use of the Agentive Complement in Maasai and, moreover, it is quite possible that there is no single truth: the Maasai passive construction is in a transitional stage (Heine – Claudi 1986: 82), so that numerous hesitations and disagreements among speakers are the norm. To account for this, we need two different descriptions of the construction that interests us: with and without an Agentive Complement. For the passive form with a possible Agentive Complement, such a description has already been given: "Impersonal Passive". However, the same form without a possible Agentive Complement shows a different type of diathesis modification: there is no permutation of Deep-Syntactic actants, since the NP that has been the inherent DSyntA *1*, corresponding to X, is suppressed rather than demoted, and the inherent DSyntA *II* retains its role; the addition of a dummy (= the zero pronoun $\emptyset^{\text{people}}_{(3PL)}$) which becomes a new DSyntA *1* = Grammatical Subject does not change the nature of his modification. The corresponding modification of the basic diathesis can be represented as follows:

X	Y
I	II

$\Rightarrow$

X	Y	—
—	II	Δ = I

This is an Impersonal Subjectal Suppressive. Such a description treats the Maasai *-ki/-i* form which precludes the agentive NP as being structurally similar to the Spanish *se*-form of the following type:

(16) Sp. *Se construye tres puentes*, lit. 'Builds itself three bridges' = 'Three bridges are being built.'
[no real Grammatical Subject is possible nor an Agentive Complement, the dummy (= empty zero) Grammatical Subject is a 3 pers. pronoun in the singular].

According to Dimmendaal's description (1983a: 132–133, 1983b), this is what Turkana has ("Impersonal Active", in Dimmendaal's terminology).

As is to be expected, the Impersonal Subjectal Suppressive can be formed in Maasai from intransitive verbs as well. This fact, first established in Perlmutter – Postal 1984: 164, is illustrated in Payne et al. 1994: ɛ+*kwɛt+í mɛtábaykí* 'There-will-be-running tomorrow' (where no NP denoting the agent can be added), ɛ+*rany+í* 'There-is-singing', etc.

To sum up: Maasai verbal form in *-kí/-i* should be described in two mutually exclusive ways. In those speech varieties which in principle admit the Agentive Complement (in the oblique case), this form manifests the Impersonal Passive, while in those where the Agentive Complement is excluded, it is an Impersonal Subjectal Suppressive. This difference parallels very closely that between the Impersonal Passive and the Impersonal Subjectal Suppressive in French: *Il a été vendu par nos représentants 157 ordinateurs – il se vend partout des ordinateurs personnels* (see items 3 and 5 in the Appendix).

Interestingly, another development of a passive form from the active form with a dummy 3PL subject (= the impersonal 'they'), which parallels the Maasai case, is reported in Kimbundu (a Bantu language from Angola; Givón 1990: 606–607). Here, the typical Bantu 3PL-subject prefix *a-* of the active form has been reinterpreted as the passive marker; the object marker, which appears in the active form only when the Direct Object is fronted (for topicalization purposes), has become – in the passive – a subject marker. Cf.:

(17) a. *Aana a +mono Nzua*
children 3PL.Subj see John
'The children saw John.'
Aana a +mno meme
children 3PL.Subj see I
'The children saw me.'

b. *Nzua, aana a +mu +mono*
John children 3PL.Subj 3SG.Obj see
'John, the children saw him'.
Meme aana a +ngi +mono
I children 3PL.Subj 1SG.Obj see
'Me, the children saw me.'

c. *Nzua a +mu +mono (kwa meme/aana)*
John PASS 3SG.Subj see by I /children
'John was-seen by me/by the children.'
Meme a +ngi +mono (kwa Nzua/aana)
I PASS 1SG.Subj see by John/children
'I was-seen by John/by the children.'

As can be seen from these examples, in Kimbundu the final result of this development is different from that in Maasai: here, a full passive has emerged, with the Direct Object being promoted to the Grammatical Subject, and the Grammatical Subject being demoted to an Agent Complement.

Appendix

A calculus of grammatical voices

Let it be emphasized that all formulations that follow are of necessity very concise and no additional explanations can be supplied. This Appendix develops ideas put forth in Mel'čuk – Xolodovič 1970 and Mel'čuk 1974: 138–139; see also Mel'čuk 1988: 186, 1993a, and 1994: 135–155.

Diathesis

> The diathesis of a lexical unit L is the correspondence between its Semantic Actants and its Deep-Syntactic Actants.

Thus, the Russian verb *pričësyvat'* '[to] comb someone's hair' has the following (approximate) lexicographic definition:
X pričësyvaet Y-a, lit. 'X is-combing Y' = 'X causes Y's hair to become straight by causing a comb to move through Y's hair.'
The corresponding diathesis is

X	Y
I	II

Basic Diathesis

> The basic diathesis of a lexical unit L is the lexicographic diathesis of L, i. e., the diathesis which corresponds to the citation form of L and must be stored in L's lexical entry.

The diathesis quoted for *pričësyvat'* above is its basic diathesis.

Voice

> The category of voice is an inflectional category whose grammemes specify modifications of the basic diathesis of a lexical unit L that do not affect L's propositional meaning.

(For a definition of inflectional category, see Mel'čuk 1991: 88–89, and 1993 b: 261–281).

To develop a calculus of grammemes of voice, it is necessary to consider all possible diathesis modifications. I will begin by making more precise the concept of diathesis itself, namely by sharpening the terminology needed to describe the correspondence between Semantic and Deep-Syntactic actants of a lexical unit L.

The diathesis of L can be specified by a table having two rows: the top one is for the Semantic Actants [= SemAs] of L, and the bottom one, for its Deep-Syntactic Actants [= DSyntAs].

A cell of the SemA row can contain 1) a letter (X, Y, ...), which stands for a variable representing a SemA; 2) an indication of referential identity of two SemAs (X = Y); or 3) a blank "–": when the DSyntA under consideration does not correspond to any SemA of L (this is possible, within the limits I set myself, only if this DSyntA is a dummy, see immediately below).

A cell of the DSyntA row can contain 1) a Roman number, which stands for the DSynt-role of the corresponding phrase being DSyntA of L; 2) a blank – in case the DSyntA in question is suppressed (= the respective phrase cannot appear in the sentence); or 3) a dummy (denoted Δ), supplied with the number specifying its DSynt-role: a pronominal lexeme, semantically empty or having a vague meaning of 'people', very often realized as a zero, that can fulfill DSynt-role *I* or *II* (i. e., a fictitious Grammatical Subject or Direct Object).

A diathesis can be modified by only the following three elementary operations:

– Permutation of DSyntAs with respect to the corresponding SemAs, for instance:

X	Y
I	II

⇒

X	Y
II	I

Permuting a DSyntA *i* means changing the DSynt-role of the corresponding phrase P, i. e., giving P a different DSynt-number *j*. Permutation

can be bilateral (when two DSyntAs exchange their roles) or unilateral (when only one DSyntA has its DSynt-role changed). For instance, let NP_1 express X and NP_2, Y; NP_1 is DSyntA *I*, and NP_2, DSyntA *II*. "To permute NP_1 and NP_2" means "to change their DSynt-roles": NP_1 becomes *II*, and NP_2, *I*; this is a bilateral permutation. If, however, the NP_1 becomes *III*, but NP_2 remains *II*, this a unilateral permutation.

– Suppression of DSyntAs, for instance:

X	Y
I	II

⇒

X	Y
I	—

Suppressing a DSyntA means forbidding the manifestation of the corresponding phrase in the sentence, such that the SemA involved cannot be expressed syntactically. (NB: the omission of an optional DSyntA in a particular sentence is not suppression!)

– (Referential) identification of two SemAs (with obligatory suppression of at least one DSyntA), for instance:

X	Y
I	II

⇒

X = Y
I

I will sketch here a limited calculus of possible voice grammemes – considering only the possible modifications of the prototypical basic diathesis: the diathesis with two SemAs and two DSyntAS, or a binary basic diathesis:

X	Y
I	II

For such a diathesis, it is possible to have one zero modification (nothing is done to the diathesis), one mutual permutation (*I/II*), three possible suppressions (suppression of *I*, of *II*, and of both *I*+*II*), and three possible identification-suppressions ('X = Y' ⇔ *I*, then 'X = Y' ⇔ *II*, and, finally, 'X = Y' ⇔ –). Suppressions can apply to both the basic and the permuted diatheses; thus we obtain eight combinations (the basic diathesis + three different suppressions in it, and the permuted diathesis + three different suppressions in it), of which two are identical (full suppressions in the basic and in the permuted diathesis cannot be distinguished); there-

fore, the final number of distinct possible modifications is seven. To this, the three identifications should be added, which gives us ten modifications (including the zero one) of a binary basic diathesis. Mathematically speaking, this is the complete set of possibilities.

However, not surprisingly, there is an important complication: in addition to its two "legitimate" DSyntAs, a two-actant lexical unit may have a dummy DSyntA Δ, as mentioned above. The introduction of the dummy as an additional DSyntA into the calculus changes the set of possible modifications of the basic diathesis. Among other things, the number of DSyntAs to be manipulated must be raised to three (since, e. g., if the dummy is *I*, the inherent DSyntAs may get the DSynt-roles *II* and *III*). As a result, the calculus potentially becomes quite unwieldy, yet the dummy has to be taken into account since it proves highly relevant to the voice systems of various languages (in particular, in Maasai). Therefore, I opt for a compromise:

1) The calculus outlined here will not try to cover all, but only two additional permutations of the inherent DSyntAs involving a dummy lexeme (see below, items 3 and 4); these cases represent theoretically interesting and well-attested types of voice.

2) Permutations introducing the DSyntA *III* without the introduction of the dummy are ignored; they belong, in point of fact, to a more general calculus of voice grammemes.

3) A derived diathesis in which the dummy does not entail a permutation of the inherent DSyntAs is treated as an "allo"-variant of the corresponding diathesis modification without the addition of Δ.

All in all, we thus obtain, within the limits specified above, 12 theoretically possible (complex) modifications of a binary basic diathesis. Each modification can constitute a voice grammeme, so that the calculus provides 12 theoretically possible voice grammemes for a two-argument verb.

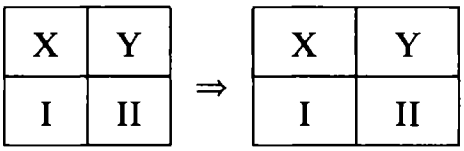
Let me name a specific grammeme of voice according to the type of modification of the basic diathesis it involves:

Active:	zero modification.
Passive:	permutation of DSyntAs involving the DSyntA *I*.
Permutative:	permutation of DSyntAs not involving the DSyntA *I*.[15]
Suppressive:	suppression of DSyntAs.
Reflexive:	identification of SemAs.

The addition of a dummy is denoted, in accordance with tradition, by the term "impersonal", which thus means simply "having a dummy Grammatical Subject".

As stated above, for a binary basic diathesis there exist, ideally, twelve voice grammemes; they are illustrated below: first with artificial English expressions built on the sample sentence *John is combing Mary's hair*, and second, with actual examples (where I can find them). The marker of the voice grammeme under consideration is in roman.

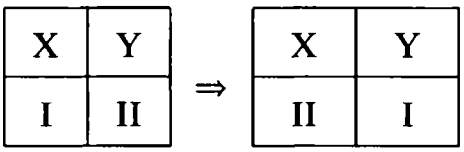
1. "(Full) active": zero modification of the basic diathesis[16] ('John is-combing Mary's hair')



(17) Lat. *Xenophōn agricultur+am laudaba+t+∅*
lit. 'Xenophon [NOM = *I*] agriculture [ACC = *II*] praised.'

(18) Nepali *Raj +le Ava +lay hirka +∅ +y +o*
lit. 'Raj [MASC, ERG = GS = *I*] Ava [FEM, DAT = DO = *II*] hit [3SG.MASC]'; the main verb agrees with the Grammatical Subject.

2. "(Full) passive": bilateral permutation of the DSyntAs *I* and *II*, which produces a diathesis converse with respect to the basic one ('Mary's hair is-being-combed by-John')



(19) Lat. *A Xenophōnt+e agricultur+a laudaba +t* +ur
lit. 'By X. [ABL = *II*] agriculture [NOM = *I*] was-praised.'

(20) Nepali *Raj+dwara Ava+lay hirka* +i *+y +in*
lit. 'By-R. [MASC, OBL = *II*] Ava [FEM,DAT = GS = *I*] was-hit [3SG.FEM]'; as in (19), the main verb agrees with the Grammatical Subject.[17]

3. "Impersonal passive": unilateral permutation [= pure demotion] of the DSyntA *I* to the DSyntA *III*, with the DSyntA *II* = Direct Object retaining its place, and the addition of the new DSyntA *I* = a dummy Grammatical Subject, which does not correspond to any SemA of L ('It-is-being-combed Mary's hair by John')

X	Y
I	II

⇒

X	Y	—
III	II	Δ = I

(21) Ukr. *Mnoju bulo splače* +no *cju sumu*
lit. 'By-me [INSTR = AgCo = *III*] was paid this sum [ACC = DO = *II*]' = 'I paid this sum [a zero dummy = *I*]'.

(22) Fr. *Il a* été *voté par ce parlement des lois qui* ...
lit. '"It" [Δ = *I*] has been voted by this parliament [AgCo = *III*] laws [DO = *II*] which ....'

(23) Germ. *Es* wurde *dem Patienten vom Arzt* ge*holf*en
lit. '"It" [Δ = *I*] became helped to-the patient [IndirO = *II*] by-the doctor [AgCo = *III*].'

This is the type of the passive that is manifested by the Maasai variety with the Agentive Complement: see (13).

4. "Objectal permutative": unilateral permutation [= pure demotion] of the DSyntA *II* – to DSyntA *III*, with the DSyntA *I* = Grammatical Subject retaining its place (the new DSyntA *II* = Direct Object is an empty and perhaps zero lexeme, or a dummy, which does not correspond to any SemA of L; 'John is-combing-the-hair it to Mary')

X	Y
I	II

⇒

X	Y	—
I	III	Δ = II

Logically speaking, this voice is possible in a language where the verb agrees with its Direct Object, so that the presence of a dummy Direct Object is reflected in the form of the verb, or where a non-zero dummy is used (of the type of Sp. *la*, which appears as a dummy Direct Object in some idioms: e. g., *diñárse*la *a* N, lit. 'to give itself *it* to N' = 'to swindle N', while *diñar* = 'to give' [coll.]). I do not know of a real example of this voice; an artificial example could look like this:

(24) Rus. (artificial) *Ivan pričësyvaet*+sja *èto* [an obligatory dummy in the accusative = Direct Object] *u Maši*, meaning 'John [= *I*] is-combing "it" [= *II*] to Mary's hair [= *III*]'.

5. "Subjectal suppressive": suppression of the DSyntA *I* (i. e., of what should become, on the Surface-Synt-level, the Grammatical Subject, with

the DSyntA *II* = Direct Object retaining its place ('There-is-combing Mary's hair')

X	Y
I	II

⇒

X	Y
—	II

(25) Estonian *Ehita* + ta +*kse silda* [no Grammatical Subject is possible nor an expression of the agent]
lit. 'Build a-bridge [PART = DO = *II*]' = 'They are building a bridge.'

(26) Polish *Zbudowa* + no *most* [no Grammatical Subject is possible nor an expression of the agent]
lit. 'Built a-bridge' [ACC = DO = *II*]' = 'They have build a bridge.'[18]

An important variant of Subjectal Suppressive is Impersonal Subjectal Suppressive (i.e. having a dummy subject): suppression of the inherent DSyntA *I*, with the DSyntA *II* = Direct Object retaining its place, and addition of a new DSyntA *I* = a dummy Grammatical Subject, which does not correspond to any SemA of L (' "It" is-combing Mary's hair')

X	Y
I	II

⇒

X	Y	—
—	II	Δ = I

(27) Fr. *Il se vend des romans policiers ici*
lit. ' "It" [= *I* = Δ] sells itself whodunits [= *II*] here.'[19]

(28) Sp. *Se vende periódicos por aquí*
lit. 'Sells itself newspapers [= *II*] here [a zero dummy = *I*].'

(29) Hebrew *Je* +*ḫaleq ʔet ha* + *ʔareṣ*
lit. 'Is-distributed [3SG.MASC] the-land [FEM; = *II*; introduced by "accusative" marker *ʔet*]' [a zero dummy = *I*].
This is the voice that appears in the Maasai variety without the Agentive Complement.

Let me point out that the adjective "impersonal" as applied to voices is not very felicitous: as Frajzyngier (1982) convincingly shows, the so-called "impersonal forms" imply, at least in the languages I have considered so far, an indefinite human actor (e.g., Sp. **Se aúlla en el bosque*

'There is howling in the forest' vs. *Se habla en el bosque* 'There is talking in the forest'). In this sense, they are rather personal, so the term "impersonal" is misleading. It is, however, commonly used and I, for one, have been unable to think of anything better. Therefore, I will stick with "Impersonal Passive/Suppressive", hoping that with this proviso no confusion will arise. (For more on impersonal passives and suppressives, see Comrie 1977).

6. "Objectal suppressive": suppression of the DSyntA *II* (i.e., of what should become, on the Surface-Synt-level, the Direct Object; 'John is-combing-someone's-hair')

X	Y
I	II

⇒

X	Y
I	—

I do not know of a real example of the objectal suppressive; the best approximation could be the following Russian derivational formation (which is obviously not a voice):

(30) Rus. *Èta sobak +a kusaet* +sja
'This dog [NOM = *I*] bites' [no expression of the patient is possible].

7. "Full suppressive": suppression of both DSyntAs *I* and *II* ('There-is-combing-someone$_i$s-hair-by-someone$_j$')

X	Y
I	II

⇒

X	Y
—	—

I do not know of a real example of the full suppressive of this variety; however, the variant of full suppressive with a dummy subject – the Impersonal Full Suppressive – is well represented in German:

X	Y
I	II

⇒

X	Y	—
—	—	Δ = I

(31) Germ. *Es* wird *hier viel* gelesen
lit. '"It" becomes here much read' = 'Here people read a lot.'

8. "Agentless passive": permutation of DSyntAs, with suppression of the DSyntA *II* (= the one which should correspond to X and be, on the surface, the Ag(ent) Co(mplement); 'Mary's hair is-being-combed')[20]

X	Y
I	II

⇒

X	Y
—	I

(32) Arabic *Al-ǯisru jubnaʕu*
'The-bridge [NOM = *I*] is being-built' [the expression of the agent is impossible in traditional style].

(33) Wappo *Šawi nuh* +khe?
'The-bread [SUBJ(ective case) = *I*] got-stolen' [no expression of the agent].

9. "Subjectless passive": permutation of DSyntAs, with suppression of th DSyntA *I* (= the one which should correspond to Y and be, on the surface, the Grammatical Subject; "There-is-being-combed-the-hair by John')

X	Y
I	II

⇒

X	Y
II	—

(34) Rus. (artificial) *Ivanu pričësyvat'*sja
lit. 'To-John [DAT = IO = *II*] be-combed-someone's-hair', meaning 'John is combing someone's hair' [no expression of the patient].

(Actantless Passive:

X	Y
I	II

⇒

X	Y
—	—

coincides with Full Suppressive and is ignored in the calculus.)

10. "Objectless reflexive": identification of the SemAs, with suppression of the DSyntA *II* (so that the only possible DSyntA is *I* = GS; 'John is-combing-his-own hair')

X	Y
I	II

$\Rightarrow$

X = Y
I

(35) Fr. *Jean* se *peigne*
'John [NOM = *I*] is-combing-his-own-hair.'

11. "Subjectless reflexive": identification of the SemAs, with suppression of the DsyntA *I* (so that the only possible DSyntA is *II* = Object or Agent phrase; 'there-is-combing-John's-own-hair to/by John')

X	Y
I	II

$\Rightarrow$

X = Y
II

(36) Rus. (artificial) *Ivana* [ACC = DO = *II*] *pričësyvat'* +sja
lit. 'To-John be-combing-his-own hair', meaning 'John is combing his own hair.'

(37) Lithuanian *Jono* [GEN = AgCo = *II*] *su* +*si* +*šukuo* +t +*a*
lit. 'By-John have-been-combed-own-hair', meaning 'John has combed his own hair.'

12. "Actantless reflexive": identification of the SemAs, with suppression of both DSyntAs ('There-is-combing-one's own-hair')

X	Y
I	II

$\Rightarrow$

X = Y
—

(38) Polish *Uczesa* +no się
lit. 'It-has-been-combed-one's-own hair', with no possibility of adding any DSynt-actant.

(38) is very similar to (37), the relevant difference being that the Polish construction does not tolerate the expression of the agent.

These 12 grammemes constitute the maximal idealized system of voices for a binary basic diathesis. In natural language, some of them may be semiotically deficient and therefore rare or non-existent. Moreover, some of the indicated diathesis modifications can be expressed "agglutinatively", by separate grammemes and separate affixes, which could cooccur within one wordform; see, for instance, items 11 and 12, where the

suppressive is expressed by *-t/-no* and the reflexive, by *-si-/się*. Therefore, the category of voice should probably be split into three subcategories:

voice *1* = passives/permutatives;
voice *2* = suppressives;
voice *3* = reflexives.

Three-argument verbs add new possibilities as well. However, this is a topic that goes much beyond the scope of the discussion here.

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Abbreviations

A: Actant (Sem- or DSynt-)
ACC: Accusative case
ACT: active voice
AgCo: Agentive Complement
AOR: aorist
CONT: Continuative
D-: Deep (Syntactic actant)
DO: Direct Object
GS: Grammatical Subject
FEM: feminine gender
INSTR: instrumental case
L: lexical unit
MASC: masculine gender
NEUT: neutral gender
NOM: Nominative case
Obj: object (verbal marker of)
OBL: Oblique case
PART: Partitive case
PASS: passive voice
PERF: perfective
PL: plural
POSS: possessive particle (≈ 'that of...')
Sem-: semantic (actant)
SG: singular
Subj: subject (verbal marker of)
Synt-: syntactic

Notes

1. Nilotic languages are also known as Nilo-Chamitic or Paranilotic, see Tucker – Bryan 1966: 443; I need not delve into the problem of genetic classification of the languages considered here.
2. Quite probably, only the high and the low tones are phonologically relevant, while the mid and the falling ones are simply phonetic results of tonal interaction. However, I am using the date from Tucker – Mpaayei 1955 as they appear there, and I am not in a position to undertake tonological research into the Maasai system. Note that a recent paper (Payne et al. 1994) accepts Tucker and Mpaayei's tonal notation.
3. Strange as it may seem, this fact completely escaped the attention of Hollis, who says explicitly that "nouns in Masai are not susceptible of any inflexions to mark the cases ... The accusative case is the same as the nominative" (Hollis 1970: 14).
4. I by no means imply that the form of the accusative must necessarily be more complex than (= derived from) that of the nominative. In Classical and Slavic languages or Arabic, nouns (of many declension types) have equally complex forms of the nominative and the accusative: Lat. *lup* +us 'wolf, NOM' ~ *lup*+um 'wolf, ACC' or Ar. *bajt*+u 'house, NOM' ~ *bajt*+a 'house, ACC'. To put it differently, in these languages both cases are marked with non-zero suffixes. This can be true not only for the nominative and the accusative, but for the nominative and any other grammatical case. What I am saying is this: in my opinion, the nominative is the case of naming objects outside of any syntactic context (see immediately below); therefore, everything else being equal, the nominative very strongly tends to be formally simpler (= less derived) or, at least, not more complex than any other case in the system. This property seems to be statistically quite predominant – in fact, I, for one, do not know of any exception. That is, I have never heard of a naming case (= nominative in the sense defined below) that, in a given language, would always have a positive, non-zero mark, while there is, at the same time, another case which always has a zero mark. Interestingly, Sasse 1984, while discussing the grammatical cases in East Cushitic, speaks of deriving the oblique from the nominative (in his terms, the Subject case from the Absolute) by replacing the last vowel of the stem with a higher one ($a \Rightarrow i$, $a \Rightarrow u$), deleting the high tone of the stem (Somali *sán* 'nose, NOM' ~ *san* 'nose, OBL') or adding a suffix (*-ní* in Oromo, *-š* in Burji, *-i* in Somali, etc.).
5. However, a non-nominative Grammatical Subject of a passive form is known: see, e. g., the Nepali sentence in (20), where the Grammatical Subject of the passive form is in the dative, or the Wappo example in (33), with the Grammatical Subject of a passive form in the subjective case.
6. I to not insist on a specific name for this case. In the present paper I will call it "oblique", because in a system with just two cases this terminology seems

to me the most appropriate. In a system with more cases (e. g., in Turkana as presented by Dimmendaal, in or Wappo: see ftn. 8), I would prefer the term "subjective". Cf. the term "Subject Case", proposed in Sasse 1984: 111–112. Yet for Maasai, the term "oblique" (Lat. *obliquus*) is better, since the case in question also marks other syntactic roles than the Grammatical Subject – namely, the agent of the passive and the complement of a preposition. For a general theory of case and the corresponding definitions, see Mel'čuk 1986.

7. Adjectives used as modifiers agree in case (and in number, but not in gender) with the noun modified.
8. Interestingly, the same infelicitous use of case terminology is found in the description of the Amerindian language Wappo (California) by Li et al. (1977). Wappo is typologically very similar to Maasai: the citation form of the noun is used as the Direct Object, while all the Grammatical Subjects are marked by the suffix *-i*. Li et al. call the citation form the accusative, and the case which marks the Grammatical Subject, the nominative. It goes without saying that I propose the same change of case names for Wappo: the citation form is in fact the nominative, and the case of the Grammatical Subject, the subjective (Wappo has other cases as well: genitive, dative, instrumental, etc.). As reported in Dixon 1979: 77, this usage and marking of grammatical cases is also typical of the Yuman family of California (e. g., Mojave).
9. A detailed discussion of the Maasai verb agreement with both the Grammatical Subject and the Direct Object, introducing the idea of "direct-inverse opposition", is presented in Payne et al. 1994, where subject–object agreement is explained in terms of a person–number hierarchy.
10. CONT = "continuative", a grammeme meaning 'and then...': see Allan 1990: 181; in Payne et al. 1994 this grammeme is called "sequential". For a discussion of a similar grammeme in Turkana, called "subsecutive", see Dimmendaal 1983a: 174.
11. The verb *ló* 'to go' is one of a few verbs in Maasai which have special "plural" stems (in this case, suppletive: *púó*) used when the Grammatical Subject is in the plural; cf. item 2) in section 3, p. 12.
12. It is worthwhile to reproduce here Andrzejewski's example from Somali:

(i) *Nín bàa shabeel qabtay*
man-NOM RHEM leopard-OBL caught [agrees with *shabeel*]
'A leopard caught a man.'
vs.
Nín bàa shabèel qabtáy
man-OBL RHEM leopard-NOM caught [agrees with *nín*]
'A man was what a leopard caught.'
[Case names are mine – I. M.]

As Andrzejewski points out, (i) is structurally identical with Maasai sentences in (4).

13. An interesting comparison (or maybe a parallel?) can be drawn between Maasai and Nias, a Malayo-Polynesian language spoken in Indonesia. (My data on Nias come from an unpublished paper by L. Brown 1994, and I use them with her kind permission; Brown also supplied additional information, which allowed me to formulate these remarks.)
Any Nias noun has two forms, distinguished by the mutation of the initial consonant or vowel, according to the following rules:

$$/C_{[-\text{voiced}]}/ \Rightarrow /C_{[+\text{voiced}]}/,\ /C_{[+\text{voiced}]}/ \Rightarrow /C_{[+\text{prenasalized trill}]}/,\ /V/ \Rightarrow \begin{cases} /nV/ \\ /gV/ \end{cases}$$

The unmutated form is used as the citation form of the noun and is, in my terminology, the nominative; I take the mutated form to be an oblique. Here are a few examples:

	NOM	OBL
'heart'	*tödö*	~ *dödö*
'cooking pot'	*kavali*	~ *gavali*
'pig'	*bavi*	~ *mbavi*
'house'	*ʔomo*	~ *nomo*
'snake'	*ʔulö*	~ *gulö*

In Nias, the nominative seems to mark the following syntactic roles (cf. the indications found in Pätsch 1964: 597–599):

1. the Grammatical Subject of the transitive verbs;
2. "bare" form of address;
3. a fronted topic;
4. a free form in answers;
5. a predicative nominal (as in: *He is* a friend *of mine*);
6. the complement of some prepositions/conjunctions (meaning 'like ...', 'plus ...', 'with');
7. the object complement of nominalized verbal forms (as in: house *sweeping* or house *sweeper*);
8. non-governed adverbials (= circumstantials, as in: *I am looking for someone* as my father, or *He hit a pig* with a spear);
9. apposition (as in: *Take your food*, crocodile's liver);
10. the non-first member of a coordinate structure, even if the first member is in the oblique (as in: *He killed a pig* [OBL] *and* a dog [NOM]).

The oblique marks:

1. the Grammatical Subject of intransitive verbs (including the Grammatical Subject of adjectives and of predicative nominals);
2. the Direct Object of transitive verbs;
3. the Possessor (as in: *in the house* of-Father, or *inhabitants* of-the-village);
4. the complement of most prepositions (with directional-locative senses).

Note that I accept without questioning Brown's (and Pätsch's) syntactic role assignment; in point of fact, it is necessary to supply special substantiation for such roles as Grammatical Subject *vs.* Direct Object, but I have neither sufficient information nor sufficient space to do so.

Taking major syntactic roles for granted, it appears that the distribution of case markings for syntactic roles in Nias is, as one can see, typologically quite plausible. However, with respect to Maasai, Nias offers, in a sense, a "mirror" image of case marking: Nias does not have an ergative construction (in all its transitive sentences the Grammatical Subject is in the nominative), but it has a pathetive construction (see Mel'čuk 1988: 259), although in intransitive sentences only. With respect to prototypical ergative languages, such as Georgian or Chukchee, Nias behaves similarly in that it treats equally the Grammatical Subject of the intransitives and the Direct Object of the transitives, yet it uses the opposite way of case marking: the nominative marks the transitive Grammatical Subject, where Georgian uses the ergative and Chukchee the instrumental, while the oblique marks the intransitive Grammatical Subject and the transitive Direct Object, where both Georgian and Chukchee use the nominative.

14. In order to help the reader to analyze the examples, I will give here the personal prefixes of the Maasai active verb (according to Tucker – Mpaayei 1955 and Payne et al. 1994), see Table 1.

Table 1.

Intransitive verb

subject		
sg	1	*á-*
	2	*í-*
	3	*é-*
pl	1	*kí-*
	2	*í-*
	3	*é-*

Transitive verb

subject		object					
		sg			pl		
		1	2	3	1	2	3
sg	1	—	*áá*	*á-*	—	*á-*	*á-*
	2	*kí-*	—	*í-*	*í-*	—	*í-*
	3	*áa-*	*kí-*	*é-*	*é-*	*é-*	*é-*
pl	1	—	*kí-*	*kí-*	—	*kí-*	*kí-*
	2	*kí-*	—	*í-*	*í-*	—	*í-*
	3	*áa-*	*kí-*	*é-*	*é-*	*é-*	*é-*

It can be seen from Table 1 that for 3rd person object and plural objects the prefix is ∅-. In spite of the homonymy of prefixes for the sg/pl in the 2nd and 3rd persons, the corresponding forms are distinguished by reduplications (with the 2nd person plural subject) and/or by the tone of the last syllable (with the 3rd person plural subject). Here are two examples (from Payne et al. 1994) [2 > 3 stands for '2nd person acting upon 3rd' and 3 > 1, for '3rd person acting upon 1st']:

(i) *í+sʊj* vs. *í +sújʊ́sʊ́jʊ*
2 > 3 2 > 3
'Thou washest him/her' 'You [pl] wash him/her'
[the plurality of the subject is indicated by a reduplication]

(ii) *Áa+y+nyal+á* vs. *Áa+y+nyal+â*
3 > 1 PERF 3 > 1 PERF
'He/She insulted me' 'They insulted me'
[the plurality of the subject is indicated by the falling tone on the last syllable]

15. A permutative is of course only possible either with a basic diathesis including three or more actants or in case where a dummy is introduced.
16. A zero modification of a basic diathesis makes sense only when opposed to a non-zero modification of the same diathesis. Therefore, an active is only possible with verbs that have a passive. This follows from the definition of an inflectional category, which cannot contain less than two grammemes (see, e.g., Mel'čuk 1991: 88–89).
17. The Nepali examples (borrowed from Givón 1990: 596) are especially interesting in that the first one represents an ergative construction in the active, and the second one, a pathetive construction in the passive; for more on the pathetive construction, see Mel'čuk 1988: 259.
18. The difference between the Polish construction in (26) and the Ukrainian one in (21) is, first, that in Ukrainian, an expression of the agent (as an Agentive Complement) is possible, while it is excluded in Polish, and second, in Ukrainian the verbal form in *-(n+)o* admits the copula expressing the tense (*Bulo* 'was'/*Bude* 'will-be' *zbudovano*), while in Polish this form does not accept a copula. Accordingly, in Ukrainian, but not in Polish, the copula shows agreement (3rd person singular not in the past/singular neuter in the past), which proves the existence of a zero dummy Grammatical Subject.
19. The relevant difference between (22) and (27) is that the first construction admits the Agentive Complement (*Il a été voté* par le parlement...) while the second does not (*Il se vend des journaux* *par des gamins de 10 ans).
20. Here, as well as below, the order of operations is irrelevant: permutation + suppression and suppression + permutation result in exactly the same derived diathesis.

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