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0. INTRODUCTION

I here propose to demonstrate the range of typological diversity of formal means employed in languages to maintain reference in sentence and in discourse. Treatments of reference-maintenance have generally noted only one of the following two types of coding devices: *a)* those used for mentioning referents as such, e.g. anaphoric NPs (Givón 1983a:17ff.); *b)* those used for disambiguation of reference, e.g. noun classification (Foley and Van Valin 1984:Ch. 7). My first purpose is to suggest a general perspective on both, as well as other reference-maintenance devices. Furthermore, I attempt to outline a typology of reference-maintenance means.

I adopt here the production viewpoint, that is, how the speaker maintains reference while mentioning a referent and precluding possible ambiguities.

1. CONCEPTUAL FRAMEWORK

1.1. *Formal and functional typology of anaphors.* Central to maintenance of reference in sentences and discourse is what may be called repeated nomination of referents. A referent is said to be referred to, or mentioned, or nominated repeatedly if up to the moment of nomination this referent is already in the current memory of the speaker and in that of the addressee, regardless of its source in current memory or whether it was nominated earlier in the text. There is a typologically stable repertoire of formal means for repeated nomination. This repertoire includes anaphoric elements and lexically full NPs, at times with articles or demonstratives or other types of modifiers. In the further discussion I limit myself primarily to anaphoric reference.[2] Anaphoric elements, or anaphors, are formal means that are inherently designed for repeated nomination.

Three formal types of anaphors are found in languages. One type is constituted by zero anaphors, as in Chinese (Li and Thompson 1979), Japanese (Hinds 1983), or Ute (Givón 1983c). Non-zero anaphors are subdivided into morphologically free and bound anaphoric pronouns. Free anaphoric pronouns, as in English, are lexical and appear in a sentence as separate NPs. Bound anaphoric pronouns are found principally in polysynthetic languages and appear as morphemes attached to an inflected verb.

Among more specific problems is the correlation between bound pronouns and agreement markers (Mithun 1986a:50ff., Bresnan and Mchombo 1986, A.A. Kibrik 1988b: Ch. 2).

Turning now to a functional typology of anaphora, the perspective of discourse production requires speakers to select one of the formal means of repeated nomination existing in a given language. (The corresponding stage of production was termed "choice of referential device" in Marslen-Wilson, Levy, and Tyler 1982, "grammatical coding of topic continuity" in Givón 1983a, and "syntax of reference" in Tomlin 1987.) What are the necessary and sufficient conditions for the use of an anaphor in a specific instance of repeated nomination by the speaker? A fundamental distinction is found between two kinds of reasons for using an anaphor, that is, sentence-level and discourse-level ones, each requiring a specific functional type of anaphors. Anaphors studied in the generative and logical frameworks (Wasow 1979, Chomsky 1982, Padučeva 1985:Ch. 7) can be called syntactic. They may be described as introduced in accordance with syntactic rules. Typically they are obligatory, controlled by their textual antecedents, and occurring within the same sentence as their antecedents.

Recent publications have identified anaphoric occurrences of a different functional type that have become prominent in linguistic studies, those that can be called focal anaphors (Dijk and Kintsch 1983:Ch. 5). Focal anaphors cannot be described on the basis of syntactic rules. They are controlled not by their textual antecedents, but by the speaker's current focus of attention, or the referent in the focus of attention. In psycholinguistic, AI, and cognitive works, all occurrences of anaphors are frequently assumed to be focal. Although they prevail statistically in the majority of discourse genres over syntactic occurrences, the latter also exist and cannot be described by the same type of rules. The distinction between syntactic vs. focal anaphora should be borne in mind during our further discussion, although it will be critical only in parts of it. For a more detailed explication of the notions of focal and syntactic anaphora, see A.A. Kibrik 1987a:79ff., 1987b:55-56, and 1988a:146-47.

1.2. Referential conflict (RC). Anaphoric nomination of a referent may occur for two types of reasons: either because the referent is currently close to the speaker's focus of attention, or because the given NP slot in the sentence is syntactically controlled by another, that is, an antecedent slot. Presence of one of these conditions is necessary for the speaker to select an anaphor. But it is not sufficient: the speaker must also assure the success of the given nomination, i.e., the correct recovery of the referent by the addressee. Otherwise a situation traditionally spoken of as ambiguity of reference would take place. In the production framework, such a situation can be called "referential conflict" (RC). RC occurs when the addressee may assign a wrong (i.e., different from the one meant by the speaker) referent to the nomination. The speaker of a communicatively well-informed discourse should foresee and preclude all instances of

RC. In a study based on Russian data (A.A. Kibrik 1987c:131-35, also 1987b:56-57) I have tried to formulate two intra-clausal factors permitting removal of the risk of RC: engagement (that is, full NP nomination) of the competing referent in the same clause, and conformity to the intra-clausal context (that is, semantic compatibility of only the referent in question with the context of the embracing clause).[3,4]

Intra-clausal factors can be formulated in a generalized form, but their application in any specific instance is highly context-dependent, as is clear from their definitions. Intra-clausal factors, though important and surely not restricted to Russian alone, are not the central concern in this paper. Of primary concern are the conventional or lexico-grammatical means used to remove RC in human languages. When we examine the meaning of English he, we see that it is not exhausted by purely anaphoric function. There is a restriction on possible referents, represented by grammatical features "human", "masculine", "singular" and having nothing in common with the anaphoric signal per se ("Attend to the current focus of attention/syntactic controller"). Obviously, many instances of RC between, say, a male referent intended by the speaker and an intervening female referent, are removed only thanks to this non-anaphoric component of meaning; it is not so in the languages without gender distinctions between human referents. The range and the calculus of all thinkable and/or typologically attested conventional means of RC elimination is the issue of the next section.

2. A TYPOLOGY OF SUBSIDIARY REFERENCE-MAINTENANCE MEANS

2.1. Earlier results. As was argued above, anaphora is the primary means of maintenance of reference. I regard lexico-grammatical resources used to eliminate RCs as subsidiary means to fill the same rôle. Added to anaphoric elements proper, subsidiary means provide the speaker with possibilities of maintaining reference successfully.

Heath 1975 has observed that noun class distinctions and switch-reference are co-functional and complementary in the grammars of languages. He has illustrated this idea in Heath 1983 by the example of Nunggubuyu (Arnhem Land, Australia), where the noun class system plays the major role in "referential tracking", but no rules of switch-reference type exist. A similar point was made by Givón (1983b), who noted that switch-reference shares its "functional domain" — expression of "topic continuity" — with such formal means as unstressed/stressed pronouns, honorific distinctions, and so on. A typology of "reference-tracking" systems was proposed by Foley and Van Valin (1984:Ch. 7). These authors have distinguished four such systems: gender, switch-reference, switch-function, and inference. This typology was further elaborated in Van Valin 1986. Foley and Van Valin's typology, though insightful and generalizing a large amount of diverse data, calls for several comments. First, it looks very strange that the obviation, or "fourth-person", system (attested in Algonquian languages) is described under the rubric of "gender systems", or even "lexical systems". As Van Valin puts it himself, in a fourth-person system "nouns are

assigned to a category on the basis of their discourse status and not because of any inherent features" (Van Valin 1986:106). As I will try to show below, the difference between those two types of systems is fundamental.

My second observation concerns the inclusion of voice oppositions ("switch-function" system) in the list of reference-maintenance means. But the discussion of this issue is delayed until §2.6 where more pertinent information will be made available.

My third is about so-called "inference-systems". Van Valin (1986:108-09) has characterized this type of system as pragmatic in contrast to lexical and grammatical systems. A pragmatic system is found in Mandarin Chinese, where the only cues for understanding referentially ambiguous zero anaphors are inferences based on "linguistic and sociolinguistic knowledge". The type of system designated by Van Valin as an "inference system" corresponds to the intra-clausal factors discussed above. They are not confined to Chinese, but are extensively exploited in every language (VanValin 1986:113). As already stated, they differ considerably from conventional means of RC removal, and hence can hardly be viewed as a member of the paradigm of lexico-grammatical RC removal means. It is doubtful whether they can be sufficient for this purpose in a language.

Ultimately, the general drawback of Foley and Van Valin's typology is that it is arbitrarily constructed. The set of features distinguishing and unifying the discovered reference-tracking systems is not wholly explicated, and, what is more important, these features are discussed only after the list of systems is postulated. Thus the authors' claim that the range of reference-tracking or -maintenance systems is exhausted remains completely unconvincing. In fact, some reference-maintenance systems are not listed by Foley and Van Valin; the discovery of further systems may be predicted in a typology constructed as a calculus. Studying RC removal systems, Foley and Van Valin also fail to account for those linguistic means that serve for the maintenance of reference as such, that is, repeated nomination of referents.

An attempt to examine both primary (nomination of referents) and subsidiary (RC removal) means of expressing "coreference" was made in Polinskaja 1986, where, however, these two types of phenomena were not contrasted properly.

2.2. Dimensions of the typology of subsidiary means for maintaining reference. The removal of RC is always a choice of a specific referent to the exclusion of all other interfering referents. Therefore the conventional means of RC removal must classify referents/corresponding NPs in a certain way. There are two principal distinct types of classification: stable and current. Stable classifications are those that rest upon the inherent, constant, non-discourse properties of referents/NPs. Stable classifications are subdivided into absolute (taxonomies) and relative (hierarchies) ones. Current classifications are based on the variable, discourse-related properties of referents/NPs. Along with this functional distinction there is also an important formal

dimension: the type or constituent whereon a classification is marked. It is necessary to distinguish at least four types of constituents: NPs (i.e., free pronouns), pronominal/agreement markers on the verb, verb root/verbal categories, and special particle-like constituents. The typology of the conventional classifications serving for RC removal is presented in Table 1.

In the boxes of Table 1 I indicate selectively genetic or areal groupings that include languages exemplifying every combination of features.

2.3. Stable absolute classifications. Classifications of the A (stable absolute) column are found in the languages of all continents. The best known of them are noun class systems (A1,2). Noun class distinctions can be marked on a variety of constituents, but what is relevant in connection with the function of RC removal is that they coalesce with anaphoric pronouns, free (box A1) or bound (box A2), whether in a fused or agglutinative form. (R.M. Dixon 1986:109 has observed that zero anaphora does not co-occur with noun classes in languages.)

——A1. Noun class marking on pronouns will be discussed at length in §3 below. Now consider an example from Pulaar (Atlantic, Senegal):

(1)

Wonnoo	ɗo	ko	kooba$_i$	Ø$_i$	ina	yaha	tay	ender
[There] was	here	(Particle)	[an] antelope$_i$	he$_i$	(Copula)	walked	only	within

ladde	<...>	Puccu$_j$	ina	dura,	ba$_i$	wii	ngu$_j$...
[the] forest	<...>	[The] horse$_j$	(Copula)	grazed,	he$_i$	said	[to] him$_j$...

(Gaden 1913:232)

(In the examples the functions of the elements of the original foreign text that are not required in the translations are indicated in parentheses. Elements that are absent in the original text but are necessary for the intelligibility of the translations are indicated in square brackets. In the glosses, the colon links the translations of the superficially inseparable morphemes.)

Substantially similar systems are used e.g. in Russian, in Archi (Nakh-Daghestanian; A.E. Kibrik 1977b:274ff.), in Lyélé (Gur, Burkina Faso; Showalter 1986:206) Godie (Kru, Ivory Coast; Marchese 1986:218ff.), Konzime (Bantu, Cameroon; Beavon 1986:168ff.), Dyirbal (Pama-Nyungan, Queensland; R.M. Dixon 1972:51; in Dyirbal, anaphoric NPs marking class distinctions are treated not as pronouns but as case-marked free noun class markers).

——A2. Noun classification marked on bound pronouns operates, for example, in Abkhaz (Abkhaz-Adyghe, South-Western Caucasus), where three classes (masculine, feminine, and non-human) are distinguished in the singular:[5]

Type of classifi-cation / Type of constituent	Stable			Current
	Absolute	Relative		
		activity hierarchy	honorific hierarchy	
	(A)	(B)	(C)	(D)
Free Pronoun (1)	IE, Nakh-Daghe-stanian, Niger-Congo, Pama-Nyungan	Turkic	Tai, Austro-Asiatic	Slavic, Nakh-Daghe-stanian, Basque, West African, Jê
Pronominal/ Agreement markers on the verb (2)	Abkhaz-Adyghe, Benue-Congo, non-Pama-Nyungan, Papuan, Iroquoian, Arawakan	Apachean		Papuan, Algonquian, Eskimo-Aleut
Verb Root/ Verbal Categories (3)	Na-Dene		Japanese	Altaic, Austronesian, Papuan, Australian, Muskogean, Pomoan, Yuman, Uto-Aztecan, Quechuan, Benue-Congo
				Algonquian, Nootkan
Special Constituent (4)	South-East Asian			Macro-Jê, Gur
				Mura

Table 1

(2)

i - l - z - i - j₀ - Ø - it'

3.nonhuman/Factitive-3/addressee-*to*-3.m/Actor-*write*-Aorist-Indicative

He wrote it to her

(3)

Amra   akəta   də-Ø-n-tala,
*Amra_i   village   3.masculineorfeminine/Factitive_j-3.Nonhuman/Addressee-Temporalaffix-*enter**

aʒə   i-maxč   Ø-i-čəʒ-nə
*one person_j   3.m/Possessor-*camel*_k   3.Nonhuman/Factitive_k-3.m/Actor_j-*lose*-Gerund*

də-qa-n,   d-š-e-jmdo-z
3.m/Factitive_j-*be*-Past:Indicative   3.masculineorfeminine/Factitive_j-*as*-3.Nonhuman/Addressee_k-*seek*:
                                                                              Durative-Past

d-lə-k₀še-Ø-jt'

3.masculineorfeminine/Factitive_j-3.f/Addressee-*meet*-Aorist-Indicative

When Amra_i entered the village, there was one_j who had
lost his camel_k and as he was looking for it_k, he_j met her_i

Similar systems are reported by Heath (1983:132ff.) for Nunggubuyu (non-Pama-Nyungan, Arnhem Land), and by Foley and Van Valin (1984:326ff.) for Yimas (Lower-Sepik, New Guinea).

——A3. Less known are the stable absolute classifications built into the lexical semantics of verbs. Athabaskan languages have so-called "classificatory verb stems" (e.g. Davidson, Elford, and Hoijer 1963). For example, in Navajo there are whole series of verbs semantically identical except for the classification of the Factitive [5]. Hoijer (1945) has shown that there are at least twelve verb stems meaning 'to handle X' and differing only in the class membership of X. Cf.:

(4a)

Chizh   ná-Ø-zh-n-jaa'   *ghé'iitso   bi-ghan-di*
wood   back-3/Object-4/Actor-Perfect-handle a mass of separable objects   giant   3/Possessor-
                                                                                        home-to

She (4) brought the wood (3) back to the giant's home

(4b)

T'áá   'áko   dah-ní-Ø-zh-dii-'á

just   *then*   Derivational-prefix-*back*-3/Object-4/Actor-Inceptive:Perfect-*handle a roundish object*

Right then she (4) began to carry it (3)   (Sapir and Hoijer 1942:18)

These excerpts are from a tale about a girl who was gathering wood for Giant. The referent "the girl" is coded by 4th person (a kind of 3rd person, see below) bound pronouns. It is an Actor [5] both in *(4a)* and *(4b)*. In *(4a)* *chizh* 'the (armful of) wood' is the verb's Object [5], and the semantically suitable stem *jaa'* is chosen. *(4b)* is separated from *(4a)* by half a dozen lines, where handling wood is mentioned three more times and it is narrated that Horned Toad has given the girl his magic hat. Right then she began to carry it to the Giant's place. Undoubtedly there are conditions for an RC here: carrying the wood is no less expected at this point than carrying the hat. But the RC is removed due to the classificatory semantics of the chosen verbal stem: '*á* means 'to handle a roundish object' — the hat and not the wood.

This RC elimination device, though salient in Navajo (see A.A. Kibrik 1988b: Ch. 2) cannot prevail in the language since it classifies referents in the Factitive position which is not the most typical position for coding focal referents (Givón 1976:160).

Verb-marked classifications, either incorporated into verb stems, as in Navajo, or expressed by verbal affixes, are attested in some other North American languages (Krauss 1968, R.M. Dixon 1982:224-5), and in Papuan languages (Foley 1986: 90ff.)

——A4. Downing (1986) has described a system of anaphoric use of Japanese numeral classifiers. This is a type of classification marked on the auxiliary constituents.

(5)

Tyoo-wa	*itabei-ni*	*syasen-o*	*egaite,*	*rinka-no*
butterfly-Topic	*wooden fence*-Locative	*oblique line*-Accusative	*traced*	*neighboring house*-Genitive

matu-no	*mae-e*	*deta.*	*San-wa-ga*		*tate-ni*	*narande...*
pine-Genitive	*front-to*	*went out*	*three*-Winged Animal-Nominative		*vertically*	*lined up*

Tracing an oblique line against the wooden fence, the butterflies came out in front of the pine tree in the neighbor's yard. The three of them lined up vertically... (Downing 1986:370)

In this example the classifier morpheme -*wa*, chosen according to class membership of butterflies, precludes the possible RC between "the butterflies" and, say, "the pine-trees". Similar anaphoric occurrences of classifiers are reported for Burmese (Tibeto-Burman), Thai (Tai) (R.M. Dixon 1982:212, 216), Vietnamese (Austroasiatic; Sokolovskaja 1984), and for Jacaltec (Mayan; Craig 1986) (for the latter

the classifiers may be treated perhaps as determiners/anaphoric pronouns representing the A1 box of Table 1).

2.4. Stable relative classifications

2.4.1. Activity, or animacy, or agentivity hierarchies have been frequently discussed in the recent typological literature (e.g. Comrie 1981:Ch. 9). Activity hierarchies can be exploited for the purpose of RC removal (column B of Table 1).

——B1. The Tuva language (Turkic, South Siberia) has two major types of anaphors: zero anaphor, and classless third person pronoun *ol* (singular). The choice between them involves several factors, one of which may be relative activity of two referents.

(6a)

bir-eves	*Kara-kıs-Ø$_i$*	*duŋma-zı-n$_j$*	*čemger-ip*
if	*Kara-kıs*-Nominative	*brother*-3/Possessor-Accusative	*feed*-Gerund

kag-za,	*Ø$_i$*	*inek-Ø*	*saar-Ø*
Auxiliary-Conditional:3/Subject	*cow*-Accusative	*milk*:Future-3/Subject	

If Kara-kys feeds her brother, she will milk the cow

(6b)

bir-eves	*Šagar-xan-Ø$_i$*	*ača-m-nı$_j$*	*šap-sa*
if	*bee*-Nominative	*father*-1.Sg/Possessor-Accusative	*sting*-Conditional:3/Subject

ol$_i$	*ølvp*	*etteer-Ø*
3.Sg:Nominative	*die*-Gerund	Auxiliary:Future-3/Subject

If the bee stings my father, it will die

When the referents entering a possible RC are equal in activity rank (as in *6a*), or the Actor outranks the Object, the maintenance of the Actor as the topic of the rightmost clause is typically expressed by zero. When the Object outranks the Actor in activity (as in *6b*) in the analogous contexts there is a tendency to use a pronoun. Thus the activity hierarchy contributes to coding maintenance of reference in complex constructions.

A system of displaying the impact of low *vs.* high animacy on the choice of anaphoric pronouns is described for Ritharngu (Non-Pama-Nyungan, Arnhem Land) by Heath (1976:173). But as in many instances where the term "hierarchy" is used, this is in fact an absolute (noun class) rather than a relative classification.

——B2. The first language shown to possess an activity hierarchy was Navajo (K. Hale 1973; for a similar hierarchy in Mixe of Mixe-Zoquean family, Mexico, see Foley and Van Valin 1985:288-90). Together with semantic role opposition and topicality degrees, this hierarchy affects the choice of a bound third person Object pronoun (yi- or bi-). The phenomenon is so well known (Frishberg 1972, Creamer 1974, Shayne 1982) that I do not discuss clause-internal properties of yi- vs. bi- alternation at length. As I have argued in A.A. Kibrik 1988b (Ch. 2), yi- is the marker of a prototypical correlation between role, topical, and activity distinctions (Actor is topic, Actor → Object in activity) or of a slight deviation from the prototype, whereas bi- marks a significant, especially a maximum, deviation. The activity hierarchy expressed in the yi- vs. bi- option acts across clause and sentence boundaries as well.

(7)

hastiin	ł₁'	bi-Ø-z-tał-ęę	yi-Ø-yiis-xį
man₁	horse₂	3/Object₁-3/Actor₂-Perfect-kick-Relativizer	3/Object₂-3/Actor₁-Perfect-kill

The man that the horse kicked killed it   (adapted from Platero 1974, ex. 154)

What is interesting is the function of yi- in the main (final) verb. There is an RC between two referents "the man" and "the horse": either can kill the other. The addressees of such an utterance know that one of the available referents outranks the other in activity. yi- signals that the more active referent is the Actor, hence, the man killed the horse. Because the Navajo activity hierarchy compares the ranks of two arguments of the verb, it classifies them, and accordingly is able to remove RCs, in this way contributing to reference-maintenance in discourse.

I do not have valid information on any system that would represent the B3 and B4 boxes of Table 1. Perhaps in Ojibwe (Algonquian) an activity hierarchy marked by verb morphology acts in ditransitive verbs, comparing patient and "dative" referents (Schwartz and Dunnigan 1986:295).

2.4.2. Honorific, or respect, or deference, or social weight hierarchies are like activity hierarchies in being relative, but they generally compare referents entering RC not directly but mediately through their relation to the speaker and sometimes to the addressee. Honorific systems are an areal trait of the Far East, South-East Asia, and the adjacent Pacific area.

——C1. One of the most complex systems of honorific distinctions marked on anaphoric NPs exists in Lao (Tai, Goxman 1983). Here, we shall examine an example from Vietnamese (Austroasiatic).

The most neutral Vietnamese third person pronoun nó typically applies to referents not higher in the social hierarchy than children (also to animals, etc.). Yet the real classification underlying the use of nó is not stable but relative: it can refer to persons not older/no more respected than the speaker.

(8)

Bố₁	tôi	nói	chuyên	với	em₂		tôi.	Khi	tôi	về
father	m y	speak	things	with	younger sibling		m y	when	I	return home

tôi	nhờ	nó₂	/bố₁	tôi	đi	chợ
I	request	s/he	/father	m y	go	market

My father₁ talked to my (younger) brother₂. When I returned,
I asked him/him₂ to go to the market

As my informant has pointed out, nó could in no way refer to the speaker's father. The father could be referred to by ông ấy₁ 'old-man that'. It is the standard anaphoric reference to older people, but in respect to the father it would sound as if the speaker does not love his father. Nó₁ in *(8)* is neutral, but somewhat too familiar. In more elegant speech the full nomination of the brother would be repeated. Comparing referents to the speaker along the lines of honorific hierarchy (and as a consequence comparing referents to one another) is inescapable in Vietnamese when choosing an anaphoric device. If we replaced "my father" and "my brother" by "the director" and "the typist", anaphoric nomination strategies would remain much the same.

Honorific distinctions influencing third person pronoun usage were exploited in Russian of the past and up till the beginning of the present century. Plural pronouns could refer only to persons higher in the social hierarchy than the speaker.

(9)

Graždanin	Šarikov₁	kamnjami	švyrjal	<...>	v	xozjaina₂	kvartiry	<...>
Citizen	Sharikov₂	threw₁	stones	<...>	at	[the] owner	of [the] apartment	<...>

Kuxarku	Šarikov₁	ixnjuju₂	obnjal. . .	
cook₁	Sharikov₂	his₃	embraced₄ . . .	(From Bulgakov, "Sobacje serdce")

Citizen Shakirov threw stones at the owner of the apartment.
Sharikov embraced his cook

The possessive pronoun ixnjuju (3.Pl/Possessor:f:Accusative) "agrees" with a possessor in the plural and thus refers to the owner and not Sharikov. (Note that the true RC would take place if instead of Šarikov the singular pronoun on would be employed here; it would certainly be a well-formed utterance.)

In Gagauz (Turkic, Moldavia; Pokrovskaja 1964:128-9) there are special third person pronouns (originally loan nouns) referring to older, respected people and foreigners. Sometimes honorific systems do not look like hierarchies but rather like noun classes — cf. Gimira (Omotic, Ethiopia; Breeze 1986:51).

——C3. Honorific distinctions built in the verb root semantics operate in Japanese. Van Valin (1986:108, relying on Hinds 1978) reports that in Japanese *Øirassyaimasita* 'x went' zero anaphor most likely refers to a "third person" referent, not simply to any one, but to one not close to the speaker. In RC between, say, the speaker's wife and some other person, the zero anaphor would become interpretable through the semantics of the verb.

I am not aware of languages which exemplify C2 and C4 boxes of the **Table 1**, but it is fairly likely that they exist. For example, honorific hierarchy marking on pronominal affixes is probable since there are polysynthetic languages in Indonesia — an area of languages typically exploiting complex honorific distinctions.

2.5. Current classifications. The second major type of referent classification, alongside the stable, is current classification, based on context-dependent, variable properties of referents/NPs (column D on **Table 1**). These properties can vary from syntactic (subject *vs.* non-subject) through semantic and pragmatic (actor *vs.* non-actor, topic *vs.* non-topic) to discourse-level (the degree of proximity to the focus of attention at a given moment). All the properties listed above are similar in the sense that they are not inherent to the referents/NPs but assigned to them in every instance. This type of classification includes, among others, systems of switch reference, obviation, and logophoricity.

——D1. The Russian free pronouns constitute a current classification. Alongside the unmarked third person pronominal lexeme *ON* (comprising gender-number variants *on, ona, ono, oni*) there is a marked substantive anaphoric lexeme (originally, even synchronically, a demonstrative) *TOT* (variants *tot, ta, to, te*). The main function of *TOT* is to remove RCs between referents differing in their current statuses, from syntactic to discourse-level. Numerous syntactic occurrences of *TOT* can be explained in terms of contrast between subject and non-subject NPs in the previous clause: co-referentiality with subject is expressed with *ON*, co-referentiality with non-subject is preferably expressed with *TOT*:

(10)

Korol'ᵢ	*velel*	*ministruⱼ*	*javit'sja*	*vo*	*dvorec,*	*kak*	*tol'ko*
[The] king	*ordered*	*[the] minister*	*[to] report*	*to*	*[the] palace*	*as*	*soon as*

onᵢ /totⱼ (?onⱼ)	*vernetsja*	*v*	*stolicu*
he /he	*returns*	*to*	*[the] capital*

Less frequent focal occurrences are controlled by an activated referent, which is not, however, the closest to the focus of attention (in the following, the episode's protagonist, that is, the focus of attention, is Uncle Sandro):

(11)

Opjat'	*na*	*doroge*	*pojavilsja*	*milicioner,*	*Djadja*	*Sandroⱼ*	*neskol'ko*
Again	*on*	*[the] road*	*appeared*	*[a] militiaman.*	*Uncle*	*Sandro*	*somewhat*

podobralsja	*v*	*oźidanii,*	*kogda*	*totᵢ*	*poravnjaetsja*	*s*	*nami*
braced himself	*in*	*expectation*	*when*	*he*	*came up*	*with*	*us.*

(From Fazil' Iskander, "Sandro iz Čegema")

The intimate connection of anaphoric substantive *TOT* with the function of RC removal is reflected in the fact that occurrences of *TOT* become much less favored if an RC is removed for such reasons as if in *(10)* the subject of the first clause were feminine, e.g. *koroleva* 'queen'. (For more details aee A.A. Kibrik 1987c:§§4,5, 1988b: §7 of Ch. 1).

Russian *TOT* is not restricted to syntactic usages. But there are languages that exploit a more constrained and more peculiar type of free pronoun marking a current classification. These are so-called logophoric pronouns (the term was coined by Hagege 1974). "Classic" logophoric pronouns convey co-reference between the subject of indirect speech clauses and the subject of the (principal) verb of speaking. Logophoric pronouns are an areal trait of West and, as it turns out, Central Africa. They are found in a variety of Niger-Congo languages —Ewe (Kwa, Togo; Clements 1975), Duru (Eastern Adamawa, Cameroon; Bonhoff 1986:112-19), Mundani (Grassfields Bantu, Cameroon; Parker 1986:151-56), and many others (see Wiesemann 1986a:443-51). Logophoric pronouns have been recently identified in Afroasiatic languages and described —Gimira (Omotic, Ethiopia; Breeze 1986:58-59) and Angas (Western Chadic; Burquest 1986:91-93).

The classic pattern of logophoric pronouns extends in at least two dimensions. Frequently logophoric pronouns are used in purpose, cause, and desiderative clauses (Bonhoff 1986:112-19). In Angas different forms of logophoric pronouns express co-reference of any argument of the dependent clause to the subject or the object of the main clause (i.e., speaker or addressee of the reported speech; Burquest 1986:91-93).

The logophoric (terminologically "reflexive") pronouns are attested also in Archi (Nakh-Daghestanian; A.E. Kibrik 1977a:316-7):

(12)

to-w-muᵢ	*ja-t*	*ari-Ø*	*źuᵢ/*	*to-w-muⱼ*
that-m-Ergative	*this*-Nonhuman	*work*-Nominative	Reflexive:Ergative/	*that*-m-Ergative

o-Ø-w-q-er
do-Nonhuman/Factitive-Terminative-Potential-*say that*

Heᵢ says that heᵢ/heⱼ will do the work

The logophoric system is in a sense opposite to the Russian *ON* vs. *TOT* contrast: in Russian the identity to the most salient referent is signalled by the unmarked form (plain third person pronoun) while in logophoric systems it is signalled by the marked form (logophoric), as contrasted to the plain third person pronouns. In West Africa, however, there are pronominal oppositions similar to the one of Russian, as in Attié (Kwa, Ivory Coast; Heine and Claudi 1986:40).[6]

In West Africa there are pronominal oppositions marking not only intra-sentential current distinctions but also discourse characteristics of referents. Such a system is attested in Bamana (Mande, Mali; Bergel'son 1988) where the usage of one of the two major anaphoric pronouns ranges from intra-sentential anaphora to marking the focus of attention in a paragraph or entire discourse. In Sereer (Atlantic, Senegal, see §3.5) two pronouns mark co-reference with the subject vs. non-subject of the preceding clause.

Other types of current classifications marked on free pronouns exist in Mundani (in addition to logophoric pronouns; Parker 1986:157-59), Basque (Saltarelli 1988:97), Huallaga (Quechuan, Peru; Weber 1986:343ff.), Kaingáng (Jê, Brazil; Wiesemann 1986b:376).

———D2. Among the current classifications marked on pronominal affixes, by far the best known is the Algonquian proximate vs. obviative distinction (see Wolfart 1973:16ff., I. Goddard 1979b, Schwartz and Dunnigan 1986:291ff. inter alia). This system operates both on intra-sentential and discourse-wide levels. The functioning of Central Yup'ik (Eskimo-Aleut, Alaska; Woodbury 1983) "reflexive" (third) vs. (plain) third person bound pronouns is alike but their opposition is relevant only in dependent clauses and is controlled by the subject vs. non-subject distinction among the possible antecedents in the main clause, and not, for example, by the focality of referents:

(13)

peg'arcani   *-gguq*

when:3.Sg/Actor$_i$:*released*:3Reflexive.Sg/Factitive$_j$:Consequential   *it is said*

qanpacugtuq

3.Sg/Factitive$_j$:*cried out*:Indicative

When he$_i$ released him$_j$, he$_j$ cried out   (Woodbury 1983:296)

Algonquian languages are like Russian or Bamana (see above) in that they mark a wide range of current distinctions between referents with the same pronominal oppositions. The Central Yup'ik reflexive bound pronoun is similar to the logophoric pronouns, as it marks only intra-sentential co-reference.

In some Papuan languages, e.g. Kobon (Kalam; see Comrie 1983:20,29), there are bound pronouns marking switch-reference-type distinctions.

———D3. Current classifications expressed in verb categories are represented especially by well-known switch-reference systems. Switch-reference is common in Australian (Austin 1981), Austronesian, Papuan, and American languages (see Haiman and Munro, eds. 1983, Foley and Van Valin 1984:339-54); and also in Benue-Congo African languages— Noni and Mundani (Bantu; Wiesemann 1982, Parker 1986:156ff.), Gokana (Cross-River, Nigeria; Comrie 1983:21ff.); and in Altaic languages of South and East Siberia— Yakut (Turkic; Efremov 1979), Burjat (Mongolian; Skribnik 1980), Evenki (Manchu-Tungus; Gorelova 1980), see also Čeremisina 1977:19-21, Nichols 1979— as examples from Tuva may illustrate (Turkic; Bergel'son and A.A. Kibrik 1987:22):

(14a)

Kara-kıs-Ø$_i$ *duŋma-zı-n$_j$*   *čemger-ip*   *kaaš,*   *Ø$_i$*

K.-Nominative   *brother*-3-Accusative   *feed*-Gerund   Auxiliary:Same subject

inek-ti   *saar-Ø*

cow-Accusative   *milk*:Future-3/Subject

After Kara-kys feeds her brother, she will milk the cow

(14b)

Kara-kıs$_i$ duŋmazın$_j$ čemgerip   *kaarga,*   *ol$_j$*   *inekti saar*

                               Auxiliary:Different subject   3.Sg:Nominative   ...

After Kara-kys feeds her brother, he will milk the cow

In A.A. Kibrik 1988b (Ch. 3) I have shown how switch-reference operates in Tuva discourse and interacts with other formal devices in providing the maintenance of reference both within biclausal constructions, such as in *(14)*, and in long chains of clauses.

In this type of classification, together with switch-reference, we must place direct vs. inverse marking, such as found in Algonquian languages; it is distinct from the proximate vs. obviative marking discussed above. As is recognized, direct markers in Algonquian signal that the Actor outranks the Object according to the following hierarchy: speech act participants → proximate → obviative (→ further obviative). A similar system is found in Nootka (Wakashan; Whistler 1985), but with an important difference: there is no proximate and obviative marking; relative statuses of referents,

their degree of focality or themehood (Whistler 1985:244-6), are established implicitly. The following sentences are excerpted from a text whose protagonist, and most focal referent at this point, is the folk hero Kwatyat (i); the second referent mentioned is a wolf (j):

(15)

?a?a·tu-*?at*-we?in<...>	wa·-?aλ-we?in <...>	(a·quk ᵂi-*?at*-we?in
ask-Inverse-Quotative:3/Actor	*say-now*-Quotative:3/Actor	*believe*-Inverse-Quotative:3/Actor

He_j asked him_i <...> He_i said to him_j <...> He_j believed him_i   (Whistler 1985:251)

In the second clause where the focal referent is an Actor, there is zero (direct) marking on the verb. In the first and the third clauses the focal referent is an Object, and the verb receives the inverse morpheme.

For a discussion of the typology of direct *vs.* inverse systems see Whistler 1985:255-6.

_____D4. In some languages switch reference is marked on separate auxiliary words, and not on verbs. Carlson (1987) reports that in Sùpyìré (Gur, Mali) there are two conjunctions one of which signals "thematic continuity", the other "discontinuity". Retention *vs.* shift of subject in adjacent clauses is one of the varieties of this more general phenomenon. A similar system is described for Maxakalí (Macro-Jê, Brazil; Popovich 1986). In Kayapo (Jê, Brazil), according to Wiesemann 1986b:377, two conjunctions serve directly for marking the same *vs.* different subjects. The following example involves subject shift:

(16)

ba	kuga	nhȳm		ku-krē
I	*baked*	3:Differentsubject		1or3/Subject-*eat*

I baked it and he ate it

Pirahá (Mura, Brazil; Everett 1986:306) includes a particle that attaches to the pronoun designed to refer to the focus of attention in the discourse. It is thus reminiscent of the Bamana system of pronominal reference (see above):

(17)

hi	xagía		gáxaisai...
3	Principalparticipant		*say*:Nominalizer

He (the one we are talking about) said:...

The examples and their treatment above support the conclusions represented in Table 1.

2.6. Additional problems. Several problems arise in connection with the suggested typology. First, it is obvious that row 3 of Table 1 is heterogeneous because it involves marking both on verb root and verbal categories; the situation is exemplified by the two corresponding types of classificatory verbs (see above). Perhaps, however, it would be more appropriate to subdivide this row into two.

Second, row 4 is a kind of wastebasket since the auxiliary constituents described are of quite different sorts, e.g. classifiers and conjunctions. More complete data might permit us to split this row into several homogeneous ones.

Third, presumably referent/NP classifications can be expressed not only by segmental morphological material, but also by other formal means, such as the linear order of constituents or prosody. This conclusion is supported by Hyman and Duranti's observation (1982:234) that in some Bantu languages the relative order of pronominal affixes may contribute to their reference identification, and Givón's claim that stressed in contrast to unstressed pronouns frequently mark topic discontinuity (1983a:17-18). However, there may be no formal means at all, though processing strategies may disclose the classes (see below, §3.4). A more complete typology should embrace these linguistic means.

Fourth, mixed types of referent classifications exist that should be placed in two boxes of Table 1 simultaneously. One such system is Navajo third *vs.* "fourth" person opposition. Saville-Troike and McCreedy (1979:12) argue that fourth person pronouns simply code the main hero of a narrative. If true, it would be a Bamana-like distinction marked on the bound pronouns. But the real situation is much more complex. First, in some instances the choice of a third or fourth person pronoun is inconsistent even in neighboring clauses, and the picture looks chaotic. But these are exactly the instances that occur in the absence of referential conflict. If an RC takes place, chaos is no longer present. If in a thematic fragment of discourse describing the interaction of at least two characters, one— a single referent— is assigned fourth person, it will be sustained up to the end of this fragment, no matter whether at a given point this referent is the focus of attention or not. Thus third *vs.* fourth person systems exhibit properties of stable absolute classifications: the fourth person adheres to a referent just as noun class membership does. But what about the stage of person assignment? The major rule is as follows: after two (or more) characters have been introduced, one of them, an important but not necessarily the principal one, receives fourth person coding in the clause P_k if he was non-Actor in the clause P_{k-1} and has become Actor in P_k. At this stage third *vs.* fourth person distinction behaves like a current classification. Here is the beginning of a tale "The Giant and the Girl" (Sapir and Hoijer 1942:18):

(18)

'aík'idą́ą́'	ghé'iitso	jiní	"<...> Chizh	ła'	náhiláàh"
long ago	*giant*_i	*they say*	*wood*	*some*	3/Object:2.Sg/Actor_i:Imperfect:*gather*

yi-ł-Ø-ní   *jiní*   *'ał'ééd-léi'.*   *Ji-cha-go*

3/Object*j-with*-3/Actor*i*-Imperfect:*say*   *they say*   *girl-one*j   4/Actor*j-weep*-Subordinator

chizh   *ńjiilááh*   *jiní*

wood   3/Object:4/Actor*j*:Imperfect:*gather*   *they say*

Long ago there lived a giant, they say. "<...> Gather some wood!" he said
to her, they say, to a girl. Weeping, she was gathering wood, they say.

Subsequently in the tale the girl is referred to by fourth person pronouns 19 times; there is no other nomination, including full NP (cf. example *(4)* above). Many other referents are coded by third person pronouns (for more details see A.A. Kibrik 1988b: 81-96).

This type of classification may be mixed per se (current at the stage of person assignment and stable at the stage of reference maintenance); it is not a shortcoming of the present typology. A more complete typology should account, however, for all types of mixtures. In principle, the suggested typology of subsidiary reference-maintenance devices is open for further supplementation and sub-classification, except for the primary stable *vs.* current distinction that seems exhaustive.

Finally, it should be noted that for the sake of simplicity I have only sporadically mentioned the parameter concerning the applicability of referent classifications to instances of syntactic or focal anaphora. Some classifications, e.g. Central Yup'ik plain *vs.* reflexive pronouns, are oriented towards reference-maintenance within the sentence, that is, syntactic anaphora; others (e.g. Navajo third *vs.* fourth person) towards discourse-wide, that is, focal anaphora; still others (e.g. Russian *ON vs. TOT* opposition) are indifferent to this distinction, that is, they apply in both situations. Probably this parameter should be considered consistently in the discussion of every box of Table 1.

2.7. Voice and subsidiary reference-maintenance means. Foley and Van Valin (1984:Ch. 7) and Van Valin (1986) have listed voice oppositions ("switch-function") as equal to "reference-tracking" systems. Their conclusion is, however, unjustified: voice oppositions have basically different functions from noun classes, switch-reference, and other subsidiary reference-maintenance devices discussed above.

The primary, that is, clause-internal function of voice is to promote some referents (for passive, patients) and to demote some other (for passive, agents), two relatively independent processes (Givón 1981:168). Here lies the profound difference between passive (as well as anti-passive) and stable or current classifications frequently confused with it— relative activity marking, as in Navajo, and inverse marking, as in Nootka.[7]

Passive and anti-passive concerned with the maintenance of reference function make the patient and the agent referents respectively the pragmatic pivot (Foley and Van Valin 1984:354-55) or the topic (Givón 1981:168) of the clause. As Foley and Van Valin accurately state, voice serves to maintain a referent in a series of clauses. Hence, unlike RC removal devices, voice is employed as a reference-maintenance device only when a single and one and the same referent is preserved as the principal participant through a series of clauses, as demonstrated by the examples of Foley and Van Valin themselves (1984:354-60). Voice simply signals whether the given referent is Actor or Object/Factitive in the clause.

Furthermore, voice is required only in languages with grammaticalized "pragmatic pivots" (subjects), such as English or Dyirbal, where any (finite) verb contains information about which of its arguments is the most pragmatically salient, and therefore the favored controller of cross-clause co-reference. If a language lacks pragmatic pivots, e.g. Mandarin Chinese (Li and Thompson 1979), the maintenance of a single referent is free, and is accomplished by only primary reference-maintenance devices (anaphors). Thus, in contrast with means for removing RC that presumably exist in every language, voice is an accessory of only those languages that prohibit free maintenance of a single referent (with respect to roles). Voice and RC removal means are not co-functional but are totally independent of each other.[8] With these reservations voice can be viewed as peripheral reference-maintenance means.

Foley and Van Valin compare "switch-function" to switch-reference. But they fail to mention the major difference: switch-reference is inherently oriented towards the function of maintaining reference, while voice is not. In real discourse many occurrences of voice forms, e.g. passive, have nothing to do with the maintenance of reference; they signal that the patient referent, whether or not it is maintained elsewhere, is for some pragmatic reason salient in that clause. This function can also be performed by other formal means. For example, in Russian an impersonal-agent OV construction is frequently used instead of passive, e.g. *Mal'čika poxvalili* 'The boy was praised', lit. *boy*: Accusative *praised*: 3.Pl/Subject. Impersonalization and word order variation are true co-functional devices for passive.

3. A COMPARISON OF REFERENCE-MAINTENANCE SYSTEMS IN TWO SENEGALESE LANGUAGES[9]

In this section I examine more thoroughly reference-maintenance systems of two genetically and typologically close languages in terms of the typology suggested above.

3.1. Pulaar and Sereer. Pulaar and Sereer are two Senegalese languages of the Atlantic family. Pulaar is the Futa-Toro dialect of the Fula/Fulani/Peul/Fulfulde language (Arnott 1970; Sylla 1982; Koval and Zubko 1987). Seerer is rather close to Pulaar genetically but differs significantly from it in structure (see Faye 1982, 1985). Both are multi-noun-class languages.

Pulaar has 21 classes, four of them plural. Each class is characterized by a noun class marker. Class markers are intensively used in Pulaar morphology and syntax, e.g. as suffixes to nouns, and as postposed definite articles. Every class marker determines a set of anaphoric pronouns.

Class marker	Example nouns	Plain pronouns Subject | Object | Oblique			Extended pronouns
O (human class)	debbo 'woman'	o	lmo	makko	oon
NGE	nagge 'cow'	nge		magge	ngeen
NDI	ngaari 'ox'	ndi		mayri	ndiin

An anaphoric pronoun of one class agrees in class with its referent/antecedent. There are also syntactic anaphoric pronouns (subject Ø, object ɗum, oblique muudʼum ~ mum) that are not formally marked for class.

Sereer has 15 classes but does not use anaphoric class pronouns. These are replaced by a pair of pronouns coding current distinctions between referents/NPs.

3.2. Anaphoric class pronouns in Pulaar. The following sentences exemplify the functioning of class pronouns in a Pulaar sentence:

(20a)

Nde	debbo$_i$	ɓiri	nagge$_j$	nde,		o$_i$/nge$_j$	yehi	galle
After	[the] woman	milked	[the] cow	(Temporal particle)		she/it	went	home

(20b)

Nde	debbo$_i$	riiwi	nagge$_j$	to	galle	nde,		doktoor
When	[the] woman	brought	[the] cow	(to)	home	(Temporal particle)		[the] doctor

safri	mo$_i$/nge$_j$
cured	her/it

Two antecedents differing in their class membership control different anaphoric pronouns, thus precluding an RC.

We have already examined an instance of class pronoun usage in discourse (see §3.1). The following excerpt may illustrate the capacity of the Pulaar class system.

(21)

"A	yi'i	ngaaram	mawnd$_i$	ndi$_i$?"	- "Eey!"	"So	a	wari
"[Did] you	see	my ox	big	(the)?"	"Yes!"	- "When	you	kill

ndi$_i$,	ceekaa	reedu	ndu,	niiwa$_j$		yalta,	so	niiwa	mba$_j$
it,	you open	the$_2$	belly$_1$,	[an] elephant		will go out,	when	the$_2$	elephant$_1$

yalti,		mbaraa	mba$_j$,	ceekaa	reedu	ndu,	mbaroodi$_k$	yalta,
has gone out,		you kill	it,	you open	the$_2$	belly$_1$,	[a] lion	will go out,

so	mbaroodi	ndi$_k$	yalti,	mbaraa	ndi$_k$,	ceekaa	reedu	ndu,
when	the$_2$	lion$_1$	has gone out,	you kill	it,	you open	the$_2$	belly$_1$,

cewngu$_l$	yalta,	so	cewngu$_l$	yalti,	mbaraa	ngu$_l$,	ceekaa
[a] leopard	will go out,	when	[the] leopard	has gone out,	you kill	it,	you open

reedu	ndu,	fowru$_m$	yalta,	so	fowru$_m$	yalti,	mbaraa	ndu$_m$,
the$_2$	belly$_1$,	[a] hyena	will go out,	when	[the] hyena	has gone out,	you kill	it,

ceekaa	reedu	ndu,	boy$_n$	yalta,	so	boy$_n$	yalti,
you open	the$_2$	belly$_1$,	[a] jackal	will go out,	when	[the] jackal	has gone out,

mbaraa	mo$_n$,	ceekaa	reedu	ndu,	jawngal$_p$	yalta,	so
you kill	it,	you open	the$_2$	belly$_1$,	[a] guinea-fowl	will go out,	when

jawngalngal$_p$	yalti,	mbaraa	ngal$_p$"
the$_2$ guinea-fowl$_1$	has gone out,	you kill	it"

(Meyer 1979:97)

The next two examples exhibit high economy of the noun class principle of anaphoric reference and RC removal. In (22) the last occurrence of mo (human class) is an instance of distant, but still resolvable anaphora. In (23) a quick switch to another class is made, after the referent changes properties.

(22)

Ñande	kala,	mbaroodi$_i$	yaha,	Ø$_i$	wara	lella,	Ø$_i$	addana
Every	day	[the] lion	goes,		kills	[an] antelope		brings [it to]

mo$_j$	Ø$_j$	ñaama.	So	weeti,	ndi$_i$	yaha	kadi,	ndi$_i$	jagga
him [= the man]	[for]	he [could]	eat.	When	it dawns,	he	goes	again,	he	grabs

lella	walla	njawa,	ndi$_i$	hela	koiɗe	mum,	ndi$_i$
[an] antelope	or	[a] red antelope,	he	breaks	its$_2$	legs$_1$,	he

roondoo,	_ndi_$_i$	addana	_mo_$_j$		
loads [it on his head],	he	brings [it to]	him [= the man].		(Gaden 1913:174)

(23)

Ngu$_i$	heli	huddu,	_ngu_$_i$	yalti,	_ngu_$_i$	wonti
It [= the horse]	broke [down]	[the] stable,	it	went out,	it	again: became [a]

neddo.	_O_$_i$	hooti	galle	baam	_makko_$_i$	
man.	He	returned [to]	his$_3$	father's$_2$	house$_1$.	(Gaden 1913:152)

3.3. Syntactic and extended pronouns. A weakness of the Pulaar class system from the viewpoint of RC elimination is that all human referents belong to a single class O; hence numerous RCs are likely to remain unremovable unless the language has additional resources. In fact, a set of syntactic pronouns (see §3.1) appears in the same sentence with their antecedents, necessarily being of the O class (for the rules of syntactic pronominalization see A.A. Kibrik 1988b:Ch. 4).

(24a)

Nde	_debbo_$_i$	looti	_suka_$_j$	nde,		$\emptyset_i$ $(o_i/)$	yehi	galle
After	[the] woman	washed	[the] child	(Temporal-particle),		she	went	home

(24b)

Nde	baabiraado	o$_i$	addi	suka	o$_j$	nde,		yummiraado
When	the$_2$	father$_1$	brought	the$_2$	child$_1$	(Temporal-particle),		the$_2$

o	noddi	_dum_$_j$ _(mo_$_i$/)
mother$_1$	called	him

This is a mixed type of referent classification. It is stable in the sense that it applies only to O class NPs, but it is current because it divides all referents as having proper vs. improper antecedents.

Pulaar exploits one more referent classification contributing to RC removal. As was stated above, there are extended class pronouns. In the rightmost clause of (24a) such a pronoun could be used with reference oon$_i$. In (24b) it is also possible to use oon$_i$ nomination. Extended pronouns may sometimes be co-functional with the syntactic (24b), and sometimes convey different reference. In contexts like (24) extended pronouns refer to the last mentioned referent. Not confined to intra-sentential anaphora, an extended pronoun in discourse refers to the referent that has last entered the focus of attention, typically the one mentioned by a full NP.

(25)

Faatumata$_j$	so	$\emptyset_j$	fini	subaka,		$\emptyset_j$	fetta	_mo_$_i$	<...>	Haaktuu!
Faatumata,	when	she	awakes	in the morning,		she	will kick	him	<...>	Pah!

oon$_j$	kadi	haaktoo,	$\emptyset_j$	tutta	e	_makko_$_i$	
She [will]	again	expectorate,		spit	at	him	(Meyer 1979:177)

This system is mixed, too: extended pronouns simultaneously express the class membership and current properties of their referents. Extended pronouns most frequently operate to remove RC between human referents. The inherent connection of syntactic and extended pronouns with the function of RC removal is reflected in the fact that if RC is precluded for independent reasons, the distribution of syntactic pronouns becomes less rigorous, and extended pronouns are totally undesirable.

3.4. Consistency of anaphoric nomination. Example (25) demonstrates how three kinds of pronouns interact in discourse to maintain reference and remove possible RCs in Pulaar. There is at least one more conventional RC removal device that cannot be reduced to morphological means but must be represented as a discourse strategy. That is a principle of anaphoric nomination consistency (discovered by Arnott 1970:153). In accordance with it, once a referent is coded by a plain class pronoun, it should be referred to up to the end of that sentence only with plain class pronouns of the same class; these pronouns must not co-refer to full NP antecedents or other kinds of pronouns:

(26)

Sammba$_i$	ari.	Nde	Faatimata$_j$	hokki	_mo_$_i$	naamde	nde,
Sammba	came.	After	Faatimata	gave	him	[some] food	(Temporal-particle),

$\emptyset_j$-oon/o$_i$	yehi	galle
she/he	went	home

An analogous principle holds for syntactic pronouns, with the qualification that these syntactic pronouns would not co-refer to any plain class pronouns.

3.5. Reference-maintenance in Sereer. As mentioned above, Sereer does not employ class distinctions between anaphoric pronouns. Otherwise its distribution of noun class morphemes partly coincides with that of Pulaar; postposed definite articles — oxe, le in (27) below— involve noun class markers.

We are interested primarily in two Sereer third person subject pronouns: a (does not distinguish number) and ta (plural da); a can serve as a copy of a left-dislocated topicalized NP. Both pronouns can refer autonomously.

(27)

O-tew	oxe_i	a_i	6ir	naak	le_j	a_i/ta_j	xaad	no	siir	ola
The_2	woman_1	(she)	milked	the_2	cow_1	[and] she/it	went	to	the_2	cow-shed_1

Expressing intra-sentential anaphora, a signals co-reference to the subject of the preceding clause, and ta to the non-subject. The discourse pattern of a and ta usage is similar. If a single referent is in the focus of attention through several clauses, all of them begin with a. Such equal-subject chains are not totally unlike serial constructions of African languages; they may result in any number of clauses. If in discourse an interaction of two characters is narrated, that is, two referents are both in focus through a relatively long thread of clauses, both of them are accessible for any of the two pronouns at any clause. If in the previous clause the same referent was subject, a is chosen in subject position; otherwise ta is chosen, no matter whether the referent in question was mentioned in the previous clause:

(28)

A_i	cooxa	suk-fambe_j	ta_j	laq	o-bay	oke	<...>no	ndog
He [=Lion]	gave	[he-]Goat [a piece of fell],	he	hid	the_2	hand_1	<...> in	the_2

onGe,	a_j	soob	teen	soob	teen	boo	kiin	waagiran	jektir
calabash_1,	he	dipped	there	dipped	there	so that	anyone	couldn't	distinguish [it]

fo	suum,	ta_j	lay-n_j-ee:	"Oxene	koy	<...>	koo	d'uudkan
from	honey	[and] he	said-him (-that):	"That	(Particle)	<...>	you	swallow: it

rek!"	Ta_i	dal	fo	yap'at,	ta_j	naangan	no	ten_i
at once!"	He	began	(Preposition) [to]	open [his] mouth,	he	made	in	him

sabuux!	Ta_i	d'uudin<...>	a_i	lay:	<...>	Ta_j	lay-n_j-ee	boo
Ideophone!	He	swallowed: it	[and] he	said:	<...>	He	said-him-(that)	(Conjunction)

"o	6at'u	sax."	Ta_i	dakwo	naang	wereet!
"you	take more	[of the] same thing."	He	returned	[to] do	Ideophone! [=tore one more piece off the fell]

A_i	cood-in_j	ta_j	soob	no	tiganam	ke.
He	passed-him [it],	he	dipped	into	this_2	thing_1 [=the calabash with the liquid].

Ta_i	nologilin,	a_i	nologilin...
He	gulped,	he	gulped...

(Diop-Fal n.d.:216-18)

Sereer's is a current classification system, outstanding in its economy and, at the same time, efficiency. Only two pronouns suffice for maintaining reference in exceedingly long stretches of discourse. The analysis of Sereer texts demonstrates that the a vs. ta distinction is practically the only regular device of RC removal in the language.

Sereer is an example of a language violating our expectations about the ties between the global and particular properties of languages. Sereer not only fails to exploit stable classification, which is very prominent in its nominal lexicon, but is extremely consistent in using a different, i.e., current, classification.

3.6. Comparative and historical assessment. Pulaar and Sereer reference-maintenance and RC removal systems are similar in that both mark referent classification on the independent anaphoric pronouns. But the types of classification marked are different.

The Pulaar system relies basically on stable noun classification. The stable classification is supplemented with two additional classifications displayed by syntactic and extended pronouns that are partly stable and partly current in their functioning.

Sereer has a single device of RC removal — the current division of referents expressed by pronouns. The potent noun class system has no impact on the use of anaphoric pronouns.

We may ask which reference-maintenance system is more archaic, which is derived. If in Proto-Senegalese the system was like the modern Pulaar, then Sereer must have lost one of the applications of noun classes and developed the current classifications on the basis of the partially current classifications of Pulaar type. If the proto-system was more like that of modern Sereer, Pulaar must have extended the noun class agreement to anaphoric pronouns and preserved the reflexes of a current system in the functioning of syntactic and extended pronouns. Both hypotheses seem plausible in principle. Yet in Niger-Congo languages, including Atlantic, there is a general tendency towards diachronic reduction of the functions of noun classification, and not the opposite (Greenberg 1978, esp. p. 56, Demuth, Faraclas, and Marchese 1986). Cf. two Bantu languages of Cameroon— Konzime (Beavon 1986:167ff.) with full-fledged class anaphoric pronouns, and Mundani (Parker 1986:138,152) with class pronouns severely restricted in their functions and replaced by plain vs. logophoric current opposition.

There is no reconstruction of Senegalese anaphoric pronouns. The existing reconstruction (Pozdnyakov 1988; in press) indicates that the proto-language usage of noun class markers attached to nouns is morphologically more directly reflected in the Sereer pattern. But that does not clarify the issue in which we are interested. Accordingly we have to limit ourselves to the comparative observations made above.

Regardless of whichever system is original, which innovative, we must conclude that the existence of a noun class system favors but does not entail its usage for the purposes of RC removal and maintenance of reference.

4. CONCLUSION AND PERSPECTIVES

There is strong typological evidence in favor of Heath's (1975) conclusion that various linguistic resources can be co-functional and complementary in respect to referent classifying and thus removing RCs and contributing to the maintenance of reference. We not only find that some languages use switch-reference and others use noun classes for reference-maintenance, but in addition, systems of referent classifications may co-exist within one language. They then complement each other, compete with one another, and presumably are distributed among various types of RC. We face just this situation in Navajo, see sections §2.3, §2.4, §2.6. Classificatory verbs, activity hierarchy, and third *vs.* fourth person opposition interact and satisfy the need for RC removal. Similarly, gender distinction, *ON vs. TOT* opposition, and partial switch-reference (gerundial constructions) meet the same requirements in Russian. In such languages no single conventional RC removal device dominates over another; all of them are restricted and infrequent in use.

By contrast, there are languages like Sereer that favor a single device of RC removal and use it very extensively.

If we assume that the need for RC removal for the benefit of reference-maintenance is a universal constant, then we may hold that in Sereer this constant is indivisibly served by a single type of classification, and in Navajo or Russian it is divided and allocated to several devices. This treatment looks correct to a significant degree; among further directions of research would be elaboration of a quantitative model of the allotment of the need for RC removal to different formal devices within languages.

But the assumption about a universal constant can be stated so straightforwardly only if in all languages the primary means of reference-maintenance— that is, anaphora— functions approximately the same way. This is not true. Although focal and syntactic strategies of anaphora are in principle universal, various languages display different dispositions in use of anaphors. Some languages are very economical in the choice of repeated nomination devices; they prefer anaphors and rarely use for this purpose full NPs (Sereer, Navajo, Chinese). Other languages are extremely redundant in repeated nomination. Thus, Archi (A.E. Kibrik 1977b:274ff.), though having noun classes and more than one current classification of referents, tends to repeat full NPs where anaphoric pronouns would be expected by analogy with other languages. Similarly, Vietnamese favors repeated full NPs although it has elaborate honorific oppositions. In further investigations of reference-maintenance means, then, the parameter of economy *vs.* redundancy should be considered. The need for RC removal

is not a genuine constant but rather is dependent on the value of the mentioned parameter in a language.

The final issue that I would like to touch upon is predictability of a given RC removal device in a given language. Surely, in Nunggubuyu (Heath 1983), with its global properties, noun classes should be preferred as a primary means of distinguishing referents; they are in fact the primary means. The same situation exists in Pulaar, and we might expect it to be the same in Sereer. Yet in Pulaar noun classes are a basic RC removal device, while in Sereer they are not. Therefore specific properties of a language, being by no means arbitrary, cannot be strictly predicted from the global properties of the language. They are not predictable, but, in terms of Lakoff (1986:28) are motivated by the general characteristics of a language.

Notes

[2] There is a terminological usage where, say, a full NP with a definite article is considered to be an anaphoric expression— that is, anaphora is understood roughly in the sense of repeated nomination as it is defined here. I prefer a narrower understanding of the term "anaphora".

[3] In fact, these factors are much trickier than they seem in the statement presented here. For example, the second factor should account for conformity not only to semantics of the clause but also to the inferred knowledge, see A.A. Kibrik 1987c:133-35.

[4] Alongside the factors determining the applicability of anaphoric nomination in principle (syntactic/focusing factors), and the intraclausal factors, the third group of factors is necessary— the factors of referent. For example, in English or Russian in otherwise identical circumstances human and inanimate referents are of different pronominalizability only due to their inherent features (see A.A. Kibrik 1987b:57).

[5] Actor, Object, and Factitive are hyper-roles unifying clusters of semantic roles and indifferent to such minor semantic distinctions as, e.g., agent vs. experiencer. When speaking of accusative patterns, I use the hyper-roles Actor (any argument of one-place verbs plus transitive agent) and Object (transitive patient). Speaking of ergative patterns, I contrast Actor (transitive agent only) and Factitive (any

argument of one-place verbs plus transitive patient). Apparently, one and the same NP can be viewed, say, as Object or as Factitive.

6 Reported to me by Ja. G. Testelec.

7 For argumentation in favor of these differences see A.A. Kibrik 1988b:Ch. 2, Whistler 1985:236ff..

8 Despite Van Valin's (1986:113) claim that switch-reference and voice oppositions cannot co-occur in a language, it does so in Tuva. Alongside a sentence of a form, say— When the father$_i$ beat a language, it does so in Tuva. Alongside a sentence of a form, say— When the father$_i$ beat (Different subject) the son$_j$ he$_j$ ran away— the following sentence is possible and even preferred:

(19) oglu$_j$ ača-zı-n-ga$_i$ ette-dir-geš,
     son:3/Possessor father-3/Possessor-Meaningless-suffix-Dative beat-Passive-Same subject

     Ø$_j$ dez-e   ber-gen-Ø
     Ø   run-Gerund Auxiliary-Past-3/Subject

     After the son was beaten by his father, he ran away

The English version of translation with gerund— Having been beaten by the father, the son ran away— is comparable in the sense that the gerundial clause includes marking of both same-subject and passive. Such facts are not surprising since, contrary to Van Valin's opinion, switch reference and voice are not co-functional and therefore may easily co-occur not only in a single language, but in a single verb.

9 Senegalese is an areal-genetic grouping including three relatively closely related languages of the Atlantic family — Pulaar, Sereer, and Wolof.