

**Typology and Historical Linguistics**  
**Affixed Person-Marking Paradigms**

**By**  
**Katalin Radics**

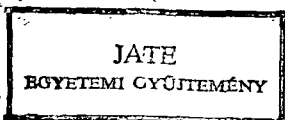
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# **TPOLOGY AND HISTORICAL LINGUISTICS**

**AFFIXED PERSON-MARKING PARADIGMS**

**SZEGED**

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## CHAPTER I. INTRODUCTION

### 1. THEORETICAL FRAMEWORK AND METHODOLOGY

The research presented in this study, according to its theoretical assumptions and methods, belongs to the discipline called *s t r u c t u r a l t y p o l o g y*. "Structural" has been applied to distinguish this approach from typological investigations that preceded or followed, but ignored the development of the notion of structure in linguistics.

Any science, discipline, school, or trend is characterizable by its *s u b j e c t m a t t e r*, by its *a i m s*, and by the *m e t h o d s* that it uses to reach those aims.

The *s u b j e c t m a t t e r* of typology in the broadest sense (i.e. including its earlier and more recent forms) is the *t o t a l i t y* of *h u m a n l a n g u a g e s*, its *a i m* being to *r e v e a l* their *i d e n t i t i e s* and *d i f f e r e n c e s*; briefly, the *c o m p a r i s o n* of *h u m a n l a n g u a g e s*.

This slightly over-ambitious definition is necessary because both the 19th century typological schools have formulated their hypotheses for the whole mass of data that it

involves, even though they have never been in a position to investigate all accessible and non-accessible human languages. (The unusual degree of practical difficulty, of course, may have an important role in how actual generalizations are obtained and evaluated.) Structural typology imposes a further restriction on this general definition of the subject: it i n v e s t i g a t e s the system (or rather subsystems) of human languages as s t r u c t u r e s. Such a restriction is obviously not specific to structural typology; no other school has investigated linguistic data in their unanalyzed heterogeneity; certain points for comparison have always been singled out. The choice of these points has of course, never been solely determined by "the nature of language", for the nature of language would allow for infinitely many different points for comparison: it is always some historically variable "philosophy of language" that underlies the attachment of prime importance to certain properties, and thus determines the points for comparison. In the same vein, the structural approach in typology derives from a specific set of general assumptions, namely, that it is a singularly important property of languages that they form more or less closely interrelated structures.

Once a specific "philosophy of language" is accepted, the subject matter that it defines will also determine the immediate aims of typological investigations. When the presence, absence, or degree of representation of some properties is investigated, it is natural to aim at classifying languages on that basis. To give one obvious example: when languages are compared with respect to the empirically observable property that roots change their form and associate with relational elements within words to different degrees and thus function differently in "reflecting reality", then the aim of typological investigation will be to describe these processes and to classify languages accordingly.

The notion of structure does not make classification inconceivable. It is possible to single out a structural property of linguistic subsystems that has alternative versions in human languages, and to observe which of the alternatives are displayed in which languages. If we find, for instance, that subjects and objects in transitive and intransitive sentences follow two characteristic alternative patterns with respect to the identity of morphological marking, we may set up the nominative and ergative classes, and assign each language to one of these. Empirical research may lead us to recognize a

variety of ways in which some semantic content, say, that of restrictive relative clauses, is structured; we then may classify languages according to the type of structuring that they choose. There is, however, an important point to be made about these cases: although the notions "nominative" versus "ergative" and "restrictive relative" derive from structural linguistics, the comparison performed on their basis does not necessarily result in a comparison of languages as structures.

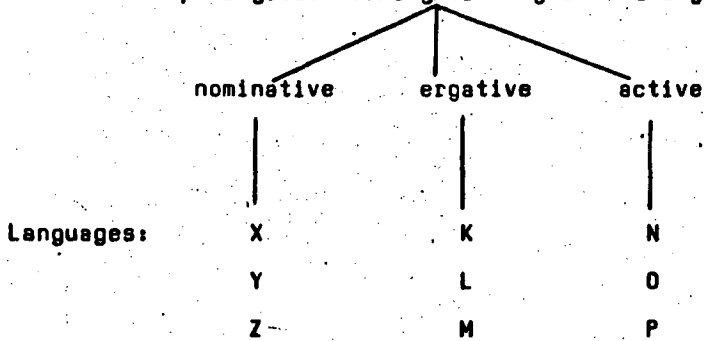
Classificatory typology does not necessarily lead to conceiving of human languages as structures even if it relies on notions that emerged in structuralist schools: it is highly probable that the linguistic notions used in various classifications will never constitute one single system that could function as a meta-theory of linguistic structure. It is quite likely, for instance, that the conceptual systems will differ in what verbs they consider as transitive, what kinds of morphological marking they count as restrictive clauses, and so on.

Conceptual incompatibility, however, is only one reason why classificatory typology does not lead to a comparison of languages as structures. The other reason may appear to be a technical matter of description, but in actual fact it is not. Because classificational procedures contain hierarchically arrangeable notional networks that are based

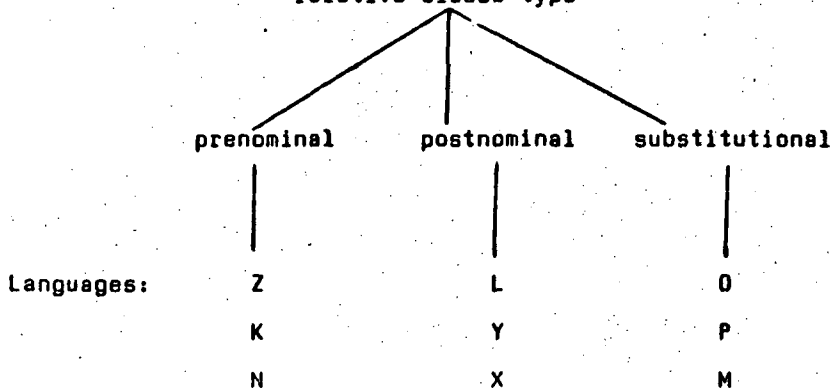


on empirical research into linguistic categories, grammatical procedures etc., and they assign the different languages to the ends of the networks created in this way, there is no possibility of

morphological marking of subject and object



relative clause type



relating the classifications to each other (it is not at all clear whether there is some non-superficial connection in languages between the morphological marking of subject and object and the relative clause type).

The point in the structural view is exactly that it helps to discover which categories, rules and subsystems are related to certain other categories, rules and subsystems, to see which structures presuppose each other, and to observe, ultimately, the correlative system of mutually determined entities and universal or independent properties: a system which we also find intuitively while comparing languages. The above classificational procedure can never yield this correlative system: the technique of classificational procedure provides no way of arranging the properties of language according to mutual interdependency relations.

Notional incompatibility affects structural typology in yet another way: if we are to compare language systems as structures, then research must be continued along two different lines. We will have to work out a universal framework of linguistic notions that could guarantee that the different investigations will lead to results that can be summarized within one overall system. On the other hand, we will obviously have to actually

compare the languages on the basis of this reliable notional framework. Both requirements raise a lot of problems which will be discussed in some detail later on:

Let us now return to the aim of typological investigations. Until the early sixties the view that typology classifies languages was held to be a commonplace. From the beginning of the sixties, however, the correlations of structural properties also began to be identified in typological studies: research was now carried out into the properties that go together in languages, and into the probability of these simultaneous occurrences. Correlations of properties cannot be described in classificatory schemes; for that purpose there are more appropriate forms which, on the basis of their external forms and their content, could be termed scientific rules governing human languages. In typology, these scientific rules are the linguistic universals. (From a logical point of view, the term refers to the fact that statements of this type contain a universal quantifier: it is true for every X that if X is a language, then ... .) From the sixties, classification was replaced by the search for such universal rules. In many fields this change in aim greatly

decreased the notional incompatibility implicit in classification procedures, because the probability of notional incompatibility is smaller when the existence or lack of more properties is simultaneously explored rather than independently considered. In addition, it was a very significant achievement that it became possible to work across the boundaries of structural properties in a way natural for typological statements: it now became possible to draw conclusions from the existence of one structural property as to the existence of others. This kind of procedure is of great significance: what the generalizations offered by classification can actually show is the existence of a property for a certain set of facts, in such a way that they merely establish whether a new fact hitherto not investigated belongs to these pre-established sets. Generalizations that also state correlations offer an extra possibility: knowledge of one basic feature makes the existence of another feature or other properties predictable. If we know, for example, that the first position of non-emphatic sentences is filled by a verbal predicate which is followed by the subject and the object, then we can predict that the order of the possessive construction will be possessee + possessor; also, that the attribute will follow the qualified word; that the modifying



elements expressing negation, modality, or interrogation will precede the verb in the verb phrase; morphemes expressing nominal cases will follow a similar order (i.e. they will be prepositional); that the relative clause will follow the head in the main clause, etc. The explanatory power of typology that aims at establishing correlations is thus incomparably greater than that of pure classificatory. While classificatory typology only arranges the different languages under different headings for properties, correlational typology arranges these features according to some hierarchical order, and predicts the existence of certain characteristics for the relevant languages. Strictly speaking, classificational typology yields exactly as much as has been the input, while with correlational typology, just because of the special arrangement of the material, output exceeds input.

Besides increasing the explanatory power of typology, the switch from classification to the search for rules brought about an essential change in the overall linguistic approach. The universals by their very nature offer the possibility of establishing the general and logically necessary relations of language, depending on the particular area. If it is true that the grammar of all languages forms looser or tighter structures (and we have no reason to doubt this),

then what the relations identified by the universals of grammatical construction will express are just the necessary and general relations of the particular grammatical structures at diverse levels. This means that a typological research which aims at the discovery of universals is by its very nature structural, since it accounts for the most general internal connections of the grammatical system. It approaches the systems of linguistic elements and rules in such a way that it not only reveals this network of relations but it also accounts for the universality of the tested phenomena; it reveals the conditions for the appearance of these phenomena, and gives an insight into the probability with which they are inter-related to others. The description of the individual languages and the regularities revealed by universals research are related in roughly the following way: particular grammars (at least most of the known variants) do not distinguish between regularities according to the degree of their generality or necessity, while universal grammar does not contain particular or accidental relations. It should be mentioned in all fairness that some recent theories (e.g. generative grammar) have actually identified

as their aim the distinction between accidental relations and categories and relations considered to be more general and essential (and they have to a certain degree acted upon this realization); so far, however, the general and necessary regularities that they have postulated can rarely, if at all, be brought into correspondence with the regularities discovered by the study of universals.

It is relatively easy to show something of the subject matter and the aim of typological research (see J. H. Greenberg 1973 and Dezs6 1972, 1978 for a detailed treatment). It is a more difficult task to outline its method in a similarly sketchy manner. The reason is not only the fact that much less has been written on the method of typology than on procedures of historical-comparative linguistics (mainly within phonology) or the frequently expounded hods of distribution techniques. The major problem is that in linguistics generally no exact criteria exist as to what is to be considered a question of methodology and what is rather the realm of theory or approach. These issues, I have found, are also blurred in Greenberg's study, *The Typological Method* (1973). L. Dezs6 suggests that in typology, research does not follow one well-defined method but occasionally it exhibits a great deal of variety in its procedures; it would be desirable to work out a set of

methodological procedures for typology.

In the following, I will attempt to outline some issues of methodological procedures for an important type of typological research: a type of comparative work that is based on extensive empirical research but seems to be of some explanatory value as well. In discussing the problem, I will partly rely on works by J. H. Greenberg and L. Dezső, and partly on my own observations.

It is advisable to divide the process of empirical typological research into two intricately connected but theoretically clearly separable periods: (1) the empirical data processing period; (2) the explanatory period. (This distinction does not refer to that between induction and deduction.) The division, of course, is of a theoretical nature, since no scientist who aims at some theoretical result will ever address an issue without having some idea or hypothesis about the nature and possible explanation of his data, even though the anticipated explanation can radically change during the actual process of work before the result reaches its final form.

The aim of the empirical processing of data is to reveal invariance, and this involves several procedures. First, the quantity and quality of data to be looked at have to be chosen. It is not obvious in the case of typology what the nature of these data should be. This

will be discussed in some detail later; suffice it to say here that Uspensky already distinguished two kinds of typological investigation, one focusing on text ("parole"), the other on language systems ("langue"). Whichever is pursued at a given period is determined by the nature of the given problem: classical morphological typology and its quantitative variant obviously require the study of texts, while modern structural typology studies language structures and their subsystems. (In the latter case the researcher generally employs grammars or questionnaires as corpuses.) Discussing this phase of typological research, Greenberg (1973, 160) distinguishes *i n t u i t i v e*, *e m p i r - i c a l*, and *a n a l y t i c a l* procedures, on the basis of intersecting aspects. He considers typologization as *i n t u i t i v e* when it is based on knowing a language rather than on systematic analysis; research relying on systematic investigation is *e m p i r i c a l*; when the procedure starts by listing all the possible variations of a given structure that are logically conceivable and then goes on to bring the data into correspondence with this scheme, the approach is *a n a l y t i c*. Such procedures can in fact be distinguished, though in all likelihood in frameworks more satisfactory than Greenberg's.

Questions concerning methodology are also inherent in the raising of a testable typological problem and the establishment of invariance: the problem has to be formulated in a "language" that uses scientific notions, notation, and terminology. It was also Uspensky who stressed that this scientific apparatus must be suitable for the investigation of similar or identical phenomena in the numerous languages to be examined. The existence of these notions and terms means that already this empirical phase relies on some minimum theory within whose notional framework the given problem and the invariance found after the processing of the empirical data, can be identified. Because of the emerging difficulties right at this stage, the empirical processing of data has to be interrupted by theoretical reflections. Really instructive examples of this phase can be found in recent Soviet and American structural typological research: the notion of subject as it appears in today's linguistic procedures and theories, for example, does not suit typological research, since its inaccuracy makes it impossible to identify the subject of the sentence in some languages which differ greatly from the well-known Indo-European ones. Thus, using several procedures, a notion of subject was created which is typologically satisfactory.

Several other linguistic categories have similarly been given typology-based interpretations (cf. the relative clause in Keenan-Comrie 1977, Downing 1978; the auxiliary verb in Steele 1978, etc.).

Because of the varying adequacy of frameworks and systems, statements in grammatical descriptions used as corpuses must be handled carefully during the processing of data. We can hardly use, for instance, the classification of Hungarian verbs into active, causative, reflexive and passive in any typological research, because this division is not based on satisfactory definitions and it attributes an alien Indo-European pattern to a language whose verbal system is built upon radically non-Indo-European principles (cf. Károly 1967, Abaffy 1978). Because of these difficulties it is often more useful to use questionnaires with carefully selected data, and work with native informants. Drawing up a questionnaire, however, is a very thorny task, which presupposes a well-definable hypothesis about the nature of the invariance to be found, about the possible explanations as well as about the most general features of the relevant language.

In typological studies invariances have been represented in two ways: by classification schemes and universal laws. Universals are far more satisfactory from the theoretical point of view, and these can enable us to

see as structures the invariant characteristics of the languages compared.

The empirical processing of data is followed by explanation, a more important and more challenging phase of research. Like classificational typology, modern structural typology has also never contented itself with mere fact-finding, and has not stopped short of asking the whys after the discovery of universals.

The types of explanation offered are very diverse indeed from a theoretical aspect. Subsumptive statements in classification procedures are the most unambitious: these mean that a given invariance is subsumed under a more general thesis. (Examples include, for instance, the statement that in principal word order types the subject precedes the object because it generally belongs to the thematic part of the sentence, and this in turn universally precedes the non-thematic part.) Frequently, causal explanations can also be arrived at: these identify the events and factors that cause the invariance that is to be explained. There is a very important causal element in the explanation of the origin of nasal vowels result from the interaction of an oral vowel and a nasal consonant. Teleological explanations in recent typology are also very



interesting: these posit specially human teleological motives of speech as the causes of invariance. (This type of explanation works especially well for certain processes in historical linguistics; such elements also appear in several explanations in sociolinguistics and psycholinguistics, cf. Bever-langendoen 1972, Kuno 1974, Vennemann 1974.) Genetic explanations, the results of comparative philology, are not a new invention; they played a role in almost every version of morphological classifications in the 19th century (cf. Havas'1977). With the spread of 20th-century structural schools, history moved to the background as an explanatory principle, to arise only some years after structural typology had become a paradigm. Its modern versions, however, are not the same as those detectable in 19th-century linguistic philosophy which dealt with the genesis of human language; instead, they appear in theoretical treatments of language change or, more precisely, the process of type change. As soon, however, as the genetic explanation fell into disuse, several versions of structural explanations spawned, which related the nature of the phenomena under discussion to the fact that they resulted from the internal construction and functioning of a particular structure.

What can be the reason behind the fact that the ramifications of 20th-century typology use such varied and

essentially immature procedures and research methods? What explains the decline after the really exacting investigations which opened up a whole new "linguistic cosmogony"? Why did 20th-century typology content itself with the typologization of language subsystems, frequently giving up the efforts at finding a comprehensive philosophical interpretation of the results, and being satisfied with the causal and structural explanations of minute detail? F. Havas (Havas 1977, 5-51) also sees as a decline the increase of detail at the expense of the demand for comprehensive, philosophical (the "universological" trend) in language typology. I am inclined to interpret this process in an entirely different way, and consider that the appearance of structuralist typology and the research into universals was a necessary, and favourable, though just a temporary phase in the history of language comparison.

The countless number of linguistic notions that were produced by the ever more detailed elaborations of structure concepts in different 20th-century linguistic schools as well as by the emergence of the notion "language structure", enormously extended our knowledge about the internal construction of languages both qualitatively and quantitatively. This is true even if no single version of structuralism can be looked upon as a comprehensive theory of language or as a linguistic description that could be

satisfactory in every respect. But even those schools of linguistics that can be considered to surpass structuralism proper cannot be said to have overcome the difficulties arising from the complexity of language. Nevertheless, all of them have, to varying levels and degrees, contributed to a more detailed picture of the phenomena which require investigation in every field of linguistics, including typological comparison. Havas seems to be right when he suggests that the linguists of the 19th century focused their attention on the morphology of word forms not because they knew nothing else about language but because this was what they thought was the basic aspect that determined the entire nature of languages.

And it is also true that 20th-century linguists have also given up this ambitious objective; but I hasten to add: in this form. The reason, however, is not that they despaired of a comprehensive and explanatory description of human language but that they realized that the task was incomparably more complicated than was supposed to be; they did not think that one single essential aspect could be picked out to characterize the various languages. Besides, it is becoming more and more obvious (at least to most experts of typology) that no

single modern theory of categories, notions, relations, procedures etc. that are necessary for the description of language, one that could serve as an appropriate framework for all the problems in the typological comparison of languages. (These theories, of course, may be entirely or partly sufficient for other purposes, or for the solution of minor typological problems.) This was why, within this sub-discipline, a process began at a lower (empirical) level, aiming to work aspects, procedures and generalizations that could be expected to be raised to a theoretical level either because they would be compatible with some theory of language description or because during the elaboration of details of language comparison, they could be changed in order to acquire a theoretical nature, thereby becoming adequate theories. L. Dezső also shares this opinion: he suggests that "typology is essentially characterized by partial theories or empirical generalizations that do not reach even the level of these partial theories. At the same time, however, we feel that typology is far more than this: there is something in the making, on the one hand, from the mass of more or less elaborated and later connected universal implications and complex types and, on the other hand, from existing theoretical statements concerning linguistics; statements which are not yet summarized but are becoming to form an

ever more coherent pattern. This something is more than a mere set because it can be made uniform at a higher level and thus may come to serve as a theoretical basis of typology. It is more than an unordered mass of partial theories and statements, but less than a coherent, formalized grammatical theory." (Dezső 1978, 35)

If this is so, then the phenomenon in the history of linguistics that F. Havas calls "universological turn" does not aim at founding typology in the sense that its objective is to list the features common to all languages in order to facilitate typology (cf. Havas 1977, 49-50). Rather, it is a return to empirical investigation, now drawing on a richer notional system. Right in its initial forms, however, with the realized objective (cf. Greenberg 1963) of identifying the possible structures and types of language through theoretical notions, aiming at higher theoretical levels and more explanatory power. The universals - in a form to be described later - are empirical generalizations of language comparison for the purposes of typology: they allow for abstractions and partial explanations that can open up new vistas in the study of language. The universal generalizations have been elaborated so successfully that they can describe not only several phenomena that are similar in all languages of the world, but they can also

chart other phenomena which exist only in particular language groups (types). These universal implications seem to be the ones that are more significant both from the theoretical and practical aspect.

The idea of universal grammar had, of course, emerged before in the history of linguistics. The "Grammaire Générale et Raisonnée", published in 1660, already aimed to explain the common features of languages, though it lacked the typological and historical aspect; it speculatively deduced the grammatical phenomena of languages to the categories and procedures of human reason, which were considered universal. Although modern typology does not reject the possibility of some connection between language and thought that could be fixed in a philosophical framework (cf. Kaznelson 1974), it usually considers its task the search for the general and the peculiar in language, by trying to discover the universal and typology-related rules for the internal organization of language structure by means of language comparison. This programme - as Zs. Telegdi has pointed out - has a lot in common with W. von Humboldt's views (Telegdi 1970).

## 2. PRELIMINARIES

### 2.1. THE DEVELOPMENT OF STRUCTURAL TYPOLOGY

Structural typology became possible in the early 20th century, when some schools of linguistics that were developing under the influence of de Saussure's views worked out a number of fundamental notions to describe language structure. The schools of structuralism, however, used different theoretical assumptions, which yielded different concepts of structure in typological respect too. The Prague school, glossematics, and the Paris functionalism considered that the organizing principles of language structure were universal. The descriptivists, on the other hand, only posited the existence of some kind of structure, and they regarded the linguist's procedures as universally valid. In consequence, when research into the universal features of language became the real scientific problem, the notions that they had elaborated proved applicable to different degrees and only with certain qualifications. Furthermore, the schools and subjects of research also differed in the degree to which they succeeded in working out a notional framework for particular linguistic subsystems, a scheme that would be universally valid. From this point of view it

is the phonology of the Prague school that can be considered as the most fruitful and durable framework, which may have been due to the relatively easily determinable and delimitable area of phonology as well as to the advanced state of phonetic research. This was the field that first produced results where the typological connections drawn up theoretically could be extended to other, mainly psycholinguistic spheres (Trubetzkoy 1939, Jakobson 1941). In fields more complex and less elaborated than phonology, it was more difficult to work out notional systems that could be applied in typology too. The allegedly universal abstract algebra of glossematics which was meant to describe the expression and content plane of language was not specific enough and it failed, except for some minor fields, to adequately capture many linguistic details. This is probably why it fell into disfavour as the "language" of typological research. The fate of the first item on the agenda of the Sixth International Congress of Linguists in Paris clearly shows that the framework used in the 1940s for the analysis of grammatical systems was still rather inadequate (Actes 1949). In their lectures the participants were to have answered the following questions: "Are there categories that are common to all languages?" "To what degree is it possible to carry out a structural classification of languages on the basis of these



categories?" "What improvement should result from diachrony that could be put to use in the synchronic investigation of language?"

The answers showed an astonishingly meagre result. Hjelmslev, who lengthily discussed the level of morphology, approached the notion of "universal category" in such general terms that he could not offer an adequate definition. Many received the questions with total incomprehension and denied the possibility of both the universal categories and of the relation between synchrony and diachrony. The most important contribution was a short joint statement by the members of the Prague school, which denied the relevance of classification (because languages were too complicated to be classified), and which suggested the possibility of a typological characterization of languages. This time, however, the incomprehension was Hjelmslev's.

All this might appear strange because by that time there existed successful typological investigations into linguistic subsystems. Sapir's complete work was available, and in Europe the problem of case systems had been successfully tackled (Hjelmslev 1935, 1937; Jakobson 1936; Kurilowicz 1949), and there was also typological research being carried out in Prague. In syntax, however, there were

no theoretical notions which would enable the successful description of the many different languages. The extraordinarily important ideas of functional sentence perspective, of the Prague school for example, were too intuitive in their original form, and they would hardly have been applicable for a systematic and objective description of greatly differing languages. From among the structuralist schools it was descriptive linguistics which, because of its principles and procedures, produced the least number of notions appropriate for comparing languages, so in American linguistics typology was kept going by antropological linguistics based on Boas' traditions. This was the basis from which the greatest typological achievement of the 20th century, the work of E. Sapir, developed. From 1955 to 1960 the rules concerning language universals and types were widely investigated but only at certain levels of language. Moreover, investigations dealing with the old problems of 19th-century typology and the new research were developing side by side, especially those new trends that had an affinity with the rising structuralist school. In the work of Sapir they coexisted in such a way that one single linguist united 19th-century problems and issues arising from the new schools.

That linguistic typology had not yet been established as a scientific paradigm obviously does not reduce the

significance of the research carried out in this period. Nor does it mean that the work of typologists active between the 20s and the 60s did not influence linguistic thought: Sapir had a great impact on research into American Indian languages and on Greenberg's work in quantitative typology; Soviet linguists were mainly influenced by the views of Skalicka. It was only at the end of the 50s, however, that, in the wake of the works of these authors (and scholars like Vendryes, Trubetzkoy, Benveniste, Mathesius and Kurilowicz) a group of questions could be raised, which have been at the core of systematic research ever since. The period when structural typology, had become a paradigm can be placed at the end of the 50s, early 60s.

J. H. Greenberg published his "The Nature and Uses of Linguistic Typologies" in 1957, while R. Jakobson delivered his significant lecture in 1959, at the linguistic congress in Oslo (Typological Studies and Their Contribution to Historical Comparative Linguistics); V. V. Ivanov published his study on the same subject in 1958 in "Voprosy Jazykoznanija" (Tipologija i Sravnitelno - istoriceskoje jazykoznanije, Typology and Historical

Comparative Linguistics). The next few years saw the publication of two other volumes, which contained more than a programme: they offered a summary of the new scientific paradigm. We are referring to Boris Uspensky's *Principy strukturnoj tipologii* (Principles of Structural Typology) published in Russian in 1962, and J. H. Greenberg's volume of studies, *Universals of Language*, published in 1963. Because, however, the kind of typology that was based on structural principles both qualitatively and quantitatively had considerable traditions in the Soviet Union (especially in the work of Polivanov and Mescaninov) the emergence of the paradigm could easily be dated actually earlier than the 60s. Due to the practical requirements of language planning, there was a linguistic problem to be solved in the Soviet Union that could be considered as typological and whose natural development was held up to a great degree by the spread of Marrism in linguistics. Afterwards, interest in typological issues was revived only in the late 50s, early 60s. This peculiar Soviet background, however, made it possible for typology to create one of the most fruitful schools in this country.

## 2.2. THE PRINCIPLES OF STRUCTURAL TYPOLOGY

AS SEEN BY B. USPENSKY

Uspensky's work is one of the most significant early achievements of structural typology. The first of the two chapters of his book mentioned above is still a valid theoretical summary of the subject, aims and methods of structural typology, while the second part is only of historical interest today. It is a structural re-wording of classical morphology-based typology. Here I outline the major statements of the first part only, since the recent development of typology suggests that morphological typology, both in its classical and structuralist form, offers only secondary insights into language structure. This is also borne out by the fact that shortly after the publication of this work, Uspensky added to it generalizations in the form of universals (Uspensky 1965).

According to Uspensky, the increase in the significance of typology is definitely connected with the fact that modern linguistics tried to work out accurate methods and avoid loose terminology. Exact terminology and methods, and precise, unambiguous notions provide better means for the comparative description of human languages. Typology in this sense can be considered structural if it uses uniform

general assumptions in the description of languages, and when the notions that it applies adequately reflect the structure of any language. Such a framework can give an impetus to the systematic exploration of different languages.

As early as in this work, Uspensky stressed the significance of the "correlational approach" in typological research: "one of the fundamental tasks of typology is to create a general theory of language, to identify such features and correlations as are valid for every language, in short, to set up linguistic universals" (l.c. 12). The description of specific features characteristic of a certain group for languages is only possible on the basis of the universals; only isomorphic and allomorphic features together, in their systematic relations, can form a theory which reveals the structure of the world's languages in their real relationships.

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Uspensky arrived at the above statement a priori, and his views have received convincing support from empirical research carried out since the time. Typological investigations have shown that classification is secondary if the main objective of typological research is a general theory of human language, that is, the setting up of a

system of linguistic universals.

Uspensky relied on significant forerunners in his investigation into how the results of typology could be applied in other branches, especially in historical linguistics. He considered that "diachronic typology" is justified: its task is to show which changes are possible under which structural conditions, and which can be excluded. These ideas were continued especially in the theoretical work of Greenberg and the diachronic work in typology, which saw an important rise in the seventies. On the basis of Trubetzkoy's, Vendryes' and Jakobson's work, Uspensky also realizes the significance of typological generalizations in the reconstruction of protolanguages: typology can thus predict the existence of simultaneous structural features and can exclude the possibility of co-existence for certain others.

Uspensky outlines the methodological possibilities of typology in alternative sketches. He suggests that the quantitative version of classical morphological typology worked out by Greenberg is based on the comparative analysis of texts, while other theoretically possible approaches take linguistic systems rather than texts as their basis. (After the publication of Uspensky's book empirical typology opted mainly for the

latter possibility.) In the text vs. linguistic system opposition Uspensky sees the manifestation of the langue vs. parole opposition in typological studies. Different methods are possible according to whether investigation concerns the totality of human languages, a group of languages, or one single language and also, whether languages in their complexity or only their sub-systems are compared. In discussing the latter distinction, he touches on an issue which is also significant from the point of view of this study: that the positing of a morphological level independent of syntax does not always prove to be justified for the purposes of typology. This is a reasonable doubt: if we not only consider the degree of the cohesion of morphemes in speech as a criterion but also their role in sentence construction (the content, parallel with the form), then we find that in one language certain syntactic structures, while in others morphological structures (realized within a single word) serve the same function. It is obvious, then, that a framework which relies on syntactic relations and considers morphological (or morpho-syntactic) structures as their specific realizations, is more suitable and adequate. This is why typological research into the



systems of cases, verb forms or (as in this study) person-marking paradigms qualifies as syntactic rather than morphological. As to methods, Uspensky thinks that it is possible, on the one hand, to characterize languages typologically in terms of their own features and on the other, to describe languages in relation to certain types, by referring to abstract ideal types. He then develops this distinction when he interprets the notion of *étalon-language* as a standard typological model, stating that typological research has always had a sometimes unconscious concern for the working out of similar abstract models. This idea, however, has gained extraordinary significance since the publication of Greenberg's study on word order, and reference to the notion of *étalon-language* also became necessary in the typological models of language change (Lehmann 1973, Vennemann 1974, Hsieh 1978). Finally, Uspensky distinguishes *verbal* (based on yes--no decisions) and *quantitative* typological investigations, pointing out that in the typology of texts it is necessary to apply the quantitative (probability) approach, while in typology comparing language structures it is not; here, mathematical logic and set theory come into play.

Although in Uspensky's work actual methodological features are intermingled with theses concerning the choice of subject and point of view, it is still significant, mainly because in many respects it anticipates, and theoretically summarizes, the results to be achieved later in Soviet and American empirical research.

### 2.3. LINGUISTIC UNIVERSALS - THE SUBJECT MATTER OF THE DOBBS FERRY CONFERENCE

While Uspensky was at work on his book, a conference was held in the United States on the same theme, which later proved to be just as significant as the ideas of the Soviet linguist. Dobbs Ferry directly tackled linguistic universals from different aspects: talks were given by people in different branches of linguistics as well as by psychologists and anthropologists. A lecture was also delivered by Roman Jakobson, whose contribution drew attention to the importance of the subject matter for all branches of scholarship concerned with language.

It is an easy though risky task to choose from Uspensky's book those studies whose theme later proved to

be highly significant. Easy, because during subsequent typological research it became obvious that Greenberg's study on word order had founded the school which later provided the basis for every significant empirical research in typology. Besides Greenberg's work, the studies which form the basic references are "M e m o r a n d u m . . .", a study by several authors outlining the formal features of universals, and Ferguson's work on historical linguistics and typology. To single out, however, these studies for special attention unfairly pushes into the background the excellent works of semanticists, anthropologists and psychologists who took part in the conference. The latter group of scholars contributed not only to the fact that within the general theory of language the problem of universals is related to sociological and psychological issues (this is explicit already in the volume), but also to the idea that later it should be quite natural both for sociolinguistic and psycholinguistic questions to be raised in the typological field. Among the semanticists, it is the study of U. Weinreich that is the most brilliant and insightful work in the volume. This is indeed an early masterpiece of universals research, although unfairly and regrettably forgotten today. "Memorandum Concerning Language Universals", a study by J. H. Greenberg, Ch. E. Osgood and J. J. Jenkins, places the problem of universals within the

theory of language and outlines their types according to logical structure and content, finally setting out the most important tasks and aims of research.

\* In the authors' view, universals are the most general rules of linguistics (to which I would add here that they are the most general empirical rules) and, since language is one of the most important manifestations of human behaviour and culture, they provide points of intersection of primary importance for research into both the human psyche and human culture.

At first these statements may seem trivial, but this is far from the truth. In their generality, they refer to the requirement that within a theory of language the most general rules of language structure ought to fit the theory fragment describing the social and idiosyncratic aspect of language in a natural way; on the other hand, these claims give an implicit warning that the achievements of research into universals can be made directly compatible only with theories that do not contradict, in their most general hypotheses, the basic tenet that language is a social and psychic reality. There has in fact been an attempt (Lightfoot 1979b) at suggesting that the results of the research into universals are invalid, in the name of a theory which sees language as a phenomenon of individual psychology and accordingly, considers language change as

some sort of mean of the rhapsodically emerging sets of individual grammars.

The authors divide the types of the logical forms of universals into two groups according to whether they actually state the existence or just the probability of a certain phenomenon. Among the existential universals, for instance, they distinguished non-restricted universals (e.g. every language has vowels), universal implications (e.g. if a language has dual number, then it also has plural), and restricted equivalences (e.g. if a language has a lateral click, then it also has a dental click). Classified as rules of probability are the statistical universals (e.g. there will be at least one nasal consonant in every language), the statistical correlations (e.g. if a language distinguishes grammatical gender in the second person, then the third person pronouns are also likely to be distinguished according to gender), and the universal frequency features (e.g. that the efficiency of the phonological systems of languages in terms of distinctive characteristics is about fifty per cent). These formal types of universals are based on the rather restricted material available at the time, nevertheless they seem to be valid. It is essentially this

framework that Boris Uspensky used in 1965 to summarize the universals revealed up to then.

In the Memorandum, the revelations concerning the classification of universals according to content were less successful than their classification according to form. The universal rules are essentially classified according to components of grammar: universals on the phonological, grammatical, semantic, and symbolic levels. This is not too novel in itself; moreover, the first three levels are considered to be something that investigates language form without content, which is undoubtedly a mistake. Jakobson, however, expressed his opposing conviction in the same volume that it would be a serious fallacy to leave out semantic considerations from typology. We must agree with Greenberg, who warns that it would be impossible to identify the grammatical phenomena in languages with different structures without applying semantic criteria.

If in this introduction I were to outline the most important stages in the development of modern structural typology, especially the details relevant for the empirical research of this study, then I would have to quote Greenberg's approach mentioned above; his forty-five universals drawn from the study of thirty languages and his commentaries determined the further development of the

research into universals. They also provide the basic framework for this study. Nevertheless, here I pass over a presentation of Greenberg's concrete results, rather dealing with some of the most important methodological and theoretical aspects of this study.

Greenberg was the first to conceive of a systematic view of universals on which the complex notion of language type (or rather word order type) could be based. The term "word order type", however, is not exact, because in his study Greenberg uses the term "basic order types". Nevertheless, we can continue to use the term as long as we know that what is being referred to is not the traditional word order of sentences but the configuration of the order of carefully selected grammatical categories. Greenberg suggests three criteria for defining the basic order type: the existence of prepositions vs. postpositions; the relative position of subject, verbal predicate and object; and the place of the qualifying attribute in relation to the noun (the qualified word). He also proposes the order within the possessive construction as a criterion, but then rejects this on the ground that its correlation with the issue of preposition vs. postposition is too obvious. At the time his caution was justified, but later this criterion (among other things) was also included among the determining factors of word order

type. This is obvious since its separate inclusion is not a logical inconsistency. On the basis of these criteria Greenberg determined the basic word order types on the material of thirty languages. For the relative order of subject, verb/predicate and object, he distinguished three types (VSO, SVO and SOV); what is more important, from a statistical investigation of the different configurations of the other two criteria above, he concluded that two "polar types" exist (VSO and SOV), and the correlation of the SVO type with prepositions and with the noun + adjective order is the strongest of all combinations. (The notion of "polar" or "extreme" type seems to be drawn from cultural anthropology, cf. Greenberg 1973, 175.) In his terminology another special notion occurs: that of the "ridig subtype".

The notions basic order type, polar type, and ridig subtype are worth a closer examination. In Greenberg's study they are idealizations formed by a special arrangement of the content of empirically deduced universals: they are scientific notions arrived at by means of abstraction, which not only serve for classification but also allow for predication. Their usefulness is shown by the fact that the author discusses the universals expounded in later sections of the study on the basis of their relation to these notions. The basic order types are provided with statistical



indexes: Greenberg considers SVO as statistically dominant, followed by SOV, with VSO being the rarest. (Greenberg's estimations turned out to be correct in research involving a much greater sample; several studies have shown that the sporadic VOS type is secondary compared to VSO.) The notion "polar type" refers to the fact that in VSO and SOV languages the uniform realization of order relations selected as a criterion is more frequent than with the SVO type. This idea has been very influential in the research into universals and, following Greenberg, has been developed by Lehmann (1973), who considered that it was only necessary to postulate two polar types (VO and OV), with SVO being a variant of the VO languages. Later on, Bartsch and Vennemann attempted to explain, in terms of model theory, both the "structural principle" worked out by Lehmann and what may be called the striving for structural consistency. Meanwhile, some linguists and psychologists were searching for an explanation of why it is possible for SVO to be such a widespread pattern despite the phenomena of a mixed nature that SVO displays in grammatical processes (Kuno 1974, Osgood-Tanz 1977, Cowan 1979). The most recent typological studies, on the other hand, see the SVO type not as a transitional pattern but as one which shows its own characteristic features (Givón 1977, Lehmann 1978). These questions will be taken up at a later stage; here I only

wished to illustrate the sudden emergence of word order and polar type in Greenberg's pioneering work.

Greenberg applies the notion "rigid subtype" to a group of SOV languages in which the characteristic SOV features are realized in a relatively clear way. This idea was continued in the notion of consistency; in Lehmann's case not only for the (S)OV but also for VO languages, and it played a great role in Vennemann's model of change of language type.

It should be noted that the above types, in a very operative, though not final, form - are the configurations of characteristic groups of features, which means that they correspond to Uspensky's *étalon-language*: they are the abstractions of ideal types.

In the remaining section of his study Greenberg relates a great number of syntactic and morphological phenomena to the basic order types. Throughout his work he puts into practice the principle that linguistic levels embody the structural unity to be shown by typology not independently, but in their close interrelation. This principle later became a basic idea in the theoretical work of Soviet typologists (Klimov 1977, Yartseva 1977).

The inevitable limitations of this introduction do not permit an outline of the remaining studies at the Dobbs Ferry conference; two ideas which were raised by several

authors and are sometimes based on empirical results are nevertheless worth mentioning here. One is the possibility of semantics-based typology/especially in the studies of U. Weinreich and R. Jakobson), the other the idea that typology can be extended into historical linguistics (in the works of Ch. Ferguson, H. Hoenigswald, W. Cowgill and others). In the further history of typology the former idea was developed in two directions: first, research carried out by Soviet typologists starting out from a semantic framework; second, in E. Keenan's typology established on a logico-semantic basis. The further development of diachronic typology and its empirical results will be discussed in the chapters following below.

#### 2.4. EMPIRICAL RESEARCHES

Theoretical reflections were followed by empirical research in the Soviet Union, the United States and, to a lesser extent, in Europe. It is an important qualification, however, that only those researches are to be considered typological which aimed at generalization on

the basis of a broad spectrum of linguistic evidence and the empirical investigation of many languages. In some summaries of the history of typology (cf. Ferguson 1978), researches aiming at the elaboration of a universal system of linguistic categories without being combined with a systematic comparative investigation of languages with different structures, are also labelled as typological researches. It is true, as has already been mentioned, that typological research inevitably draws upon such category systems; still, the inclusion of the elaboration of grammatical notional systems in typology would result in the error of considering as typology a significant part of linguistic research (the whole of generative grammar and logical semantics, for example), which would distort the entire image of linguistics. (It later turned out that certain concepts of the theory of grammar which were assumed to be universal and were based on relatively restricted empirical evidence (e.g. the S -NP VP rule in generative grammar) could not be applied in the description of certain language types (cf. for example Schwartz 1973, 1975)). The requirement of universality, in my view, appeared in theoretical research because with typological research because with typological research having established itself as a paradigm, the typological



aspect also began to be asserted in other fields of research. The interrelation of these aspects is very useful because it makes possible the creation of a more and more uniform, if still not unified, notional system in linguistics, but it cannot result in the mixing of well-differentiated disciplines.

In the Soviet Union the empirical character of typological research grew stronger partly inspired by the research carried out in the previous periods and partly through the inclusion of new aspects. Both for its subject matter and methods, the work of Mescaninov and Maytinskaya can be considered as the continuation of previous research; at the same time, especially in the work of a Leningrad group of typologists, a linguistic school rose to prominence which basically dealt with syntactic problems and which, besides empirical research, strove to elaborate a syntactic-semantic theory that (because of its universal nature) could be applied to analyze phenomena in any language, a theory which observed the principle that linguistic levels are not strictly differentiated but express semantic relations in a tight relationship. Studies investigating causative constructions, diathesis, and genus verbi appeared as a result of the work of this group; as L. Dezső and M. Füredi have pointed out (Dezső 1972; Füredi 1978), the way in which this group approaches the problems of

syntax is very similar to certain versions of dependency grammar, especially those elaborated by Ch. J. Fillmore in the United States and by I. Melčuk and A. K. Zolkovsky in the Soviet Union. Similarities can also be found between the ideas of the Leningrad group and Keenan's logico-semantically based typological concept. The word typology of Rozdestvensky (1969), on the other hand, is more related to Greenberg's approach. Under the leadership of Greenberg, a project was started at Stanford University which aspired to amass a rich collection of data on the grammars of the world's languages in the Dobbs Ferry spirit, and to conduct empirical research in different areas. The outcome of the research was published in the *Working Papers on Language Universals* series, and later the best works came out in book form in four volumes (Greenberg 1978). Meanwhile, other American linguists who were not members of the Stanford group also joined the field of typological research: Keenan, who originally dealt with logic and semantics; Lehmann, who had studied Indo-European languages; Givón, who had investigated the languages of Africa; the sinologists Li and Thompson, and several anthropological linguists who investigated American Indian languages in the tradition laid down by Boas. These researches (including the Stanford group) did not become a uniform project rooted in a common theoretical base like

those in the Soviet Union, and thematically they were extremely divergent. Their shared characteristic could perhaps be the influence of Greenberg's word order typology and his other works, plus the fact that in their theoretical work they heavily relied on some version of generative grammar or logical semantics. This does not mean, however, that they consider these theoretical frameworks as adequate models for a description of universal grammar; instead, they apply their procedures and notions to make the explication of typological regularities more accurate. Keenan was the only one who developed a typological theory the inherent part of which was one improved version of predicate logic.

Among European researches, besides the name of Skalicka, who enriched his earlier investigations, the work of Dezső László should be mentioned, who developed Greenberg's word order typology; he published significant studies on theoretical issues and he was the first to apply the results of typology within contrastive linguistics and the theory of language teaching. Within some years a large amount of typological research had begun in the German Democratic Republic, the German Federal Republic, France, and also in Italy.

## 2.5. EMPIRICAL RESEARCHES IN THE FIELD OF AFFIXED PERSON-MARKING PARADIGMS

From the typological works which are indirectly connected with the subject of the present study K. E. Maytinskaya's paper on pronoun systems (Maytinskaya 1969) must be mentioned. Maytinskaya investigates, among other things, the system of personal pronouns, drawing on an extensive empirical corpus. Though the types of affixed person-marking to be investigated in this study contain more specific questions arising from the nature of affixation, at a general level they can be discussed together with the independent personal pronouns. (Maytinskaya suggests that, in a wider sense, the possessive pronouns and the so-called unidirectional pronouns also belong to this group, cf. l.c. 140). A linguist on the Stanford project also published a description of a similar subject (Ingram 1971). Judging by his bibliography, he was unaware of Maytinskaya's work, and though his paper was helped by the possession of a more up-to-date notional apparatus, in the end it is less insightful than the work of the Soviet author, its results being more superficial.



The central theme of the present study, the problem of affixed person-marking paradigms, is also raised in several studies. Edith Moravcsik has investigated (1971, 1978) the most general characteristics of agreement, using data from seventy-five languages. She outlines the connection between agreement and co-reference relations; she quantitatively and qualitatively characterizes the features and categories (case, definiteness, gender, number, person, negation etc.) involved in agreement, and relates these categories to the potential categories of pronouns. She provides an empirical analysis of the different types of agreement both within and outside the noun phrase, and finally attempts a theoretical description of the process of agreement in the framework of one version of generative grammar. Since Moravcsik's study examines only the phenomenon of agreement, in certain respects it focuses on more general and yet at the same time more specific questions than the present investigation. More general, because it deals with every category and sentence element to which her definition of agreement applies (and not only the verbal and possessive person-marking paradigms); more specific because she also discusses details of both the inner content of categories involved in agreement (person, definiteness, gender, case etc.) and of the status that these categories have in language structure. However, she does not deal with the ways in which the

concorded sentence elements mutually presuppose one another, which is the subject of the present study. Furthermore, the present study begs the question of whether in a given sentence or grammatical theory affixed person-marking can be considered as agreement or not. Thus Moravcsik's work, despite certain common points and the closely related subjects, is only indirectly connected with the questions of affixed person-marking paradigms to be investigated here.

Another study by Moravcsik which concerns the agreement of verb and object (Moravcsik 1974) can be seen as directly related to some results of the present work in so far as it both investigates the different subtypes of subject and object agreement that mutually presuppose one another, and works out a hierarchy for accessibility to agreement. Those parts of the study which deal with these questions are especially relevant to the problems to be discussed here, because Moravcsik often presents accessibility to agreement in an implicational form and relates agreement to the order of sentence elements (especially that of the verb and the pronominal object). From other points of view, however, there are significant differences between the subjects and aims worked out by Moravcsik and the ones worked out here: (1) Moravcsik bases her study on languages which display agreement of verb and object, whereas I have selected languages according to whether or not they use

person-marking in the possessee element of possessive constructions. In the light of the implicational relations of the present study the latter group of languages is much smaller so it should be clarified whether there are significant differences between the two partially overlapping sets with respect to affixed person-marking and agreement (2) after offering empirical generalizations arising from the investigation of the languages involved, Moravcsik provides a theoretical (synchronic, structural) explanation along with an explanation of meta-theoretical questions. I have found it more effective to take historical relations into account to explain the empirical findings for the questions raised (which differ from those of Moravcsik); my explanation is thus largely of a genetic nature. After the missing links have been found, it will be possible to integrate these two kinds of explanations within the framework of one theory, on a higher level.

Most directly related to the subject matter of the present study are two studies by Talmy Givón (Givón 1971 and 1975). However, since the questions discussed there are closely related to the historical aspects of typology and since the present study can in part be considered as a criticism of Givón's theses, it will be more useful to discuss these two studies in Chapter II.

A recently published volume of studies contains, in addition to a diachronic typological discussion of other subjects, three papers on the historical questions of cliticization and verbal morphology (Li 1977).

W. L. Chafe (Chafe 1977) investigates the subjective person-marking paradigms of the Iroquois language family by means of internal reconstruction and the historical-comparative method. He also considers his results to be typologically relevant on a more general level. In this respect his most important statement is that within the person-marking system, which can be described in terms of more exact categories, important rearrangements can occur over a longer period of time: morphemes which originally served merely for marking number can take over the marking of person, one of the genders, or some other category, and via these functional rearrangements extraordinarily complex and seemingly diverse synchronic person-marking systems may appear within a language family. It must be added, of course, that such results were obtained many years ago in the comparative investigation of other language families, such as Finno-Ugric or Indo-European. However, as an obvious novelty, Chafe also succeeded in representing these category rearrangements within the framework of structural linguistics. Out of all the statements in my work, Chafe's paper seems to tally with the one that traces back the

present unusually rich person-marking systems of the Iroquois languages to a system which had no 3rd person person-marking morpheme.

M. R. Haas, an important representative of the first generation of the Boas school, looks at the origins of the subjective person-markers of the Muskogean language family (Haas 1977). According to historical comparative theory, these subjective person-markers were derived from the cliticized forms of inflected auxiliaries. This idea provides another example of Givón's hypothesis that in certain languages person agreement morphemes are put to that side of the verb which is opposite to the subject because they originate from inflected auxiliaries and not from pronouns. In respect of the paradigm systems of the present study, this explanation can be excluded because it fails to explain the development of affixed person-marking in possessive constructions: here, auxiliaries cannot occur, and in most of the languages that I have looked at the phonetic shape of possessive person-marking paradigms is identical with that of some verbal paradigm, and this forced me to formulate a common hypothesis for the development of the two types of person-marking.

The third study to be found in the volume is the work of Steele (Steele 1977), who investigates the subjective person-markers of the Uto-Aztec language family. The author

arrives at the conclusion that, with regard to this language family, the hypothesis of affixed person-marking being a vestige of the syntax of an earlier period must be considered as a simplification. Since Steele's paper deals with questions and languages which I shall discuss in Chapter II, I shall return to the study in detail there.

### 3. FURTHER DEVELOPMENT OF GREENBERG'S TYPES

#### 3.1. THE NOTION OF CONSISTENT TYPE

A study which purports to outline the entire recent development of structural typology should omit neither an analytic treatment of universal semantico-syntactic categories and relations as worked out in Leningrad nor a reference to studies on ergativity or the problem of the markedness vs. unmarkedness opposition, also a concern of typology. Now, however, it would seem more useful to seek out points which enable us to approach the basic subject of the present study: the connections between typology and historical linguistics. As a background to this, the notion of consistent type must be mentioned.

Lehmann's elaboration of the previously mentioned typological concept was approached from the viewpoint of historical-comparative linguistics or, more precisely, from the Indo-European protolanguage. After several preliminary studies, he published a paper in "Language" (Lehmann 1973), which immediately connects this issue with the theme of language change.

Greenberg, in his work previously referred to, worked out his word order types by simply connecting the

statistically correlating order relations; then, without giving any motive for doing so, he chose the SOV relative order, which he considered as basic. Lehmann relies on Greenberg's typology but proceeds in another way and, in doing so, sets up another classification of types. He works out a structural (positional) principle according to which the verbal predicate is the central part of the sentence and the sentence element which has the closest relation to the verb in sentences with a transitive verb is the object. In a linear structure these two sentence elements follow either an OV or VO order. The other relations within sentences can be arranged alongside these two basic order relations; unlike Greenberg, who distinguishes three order types (SOV, SVO, VSO), Lehmann postulates the existence of two basic types.

It is a fundamental principle for structural relations in the case of both basic types that the other modifiers of the sentence elements with a verbal or nominal head are placed so that they do not break the linear closeness of the basic V — O relation; consequently, in the OV type the verbal modifiers are on the right of V, while the modifiers of the object (and thus of any other construction with a nominal head) are placed on the left of O:



nominal modifiers + OV + verbal modifiers

In the VO type it is conversely:

verbal modifiers + VO + nominal modifiers

Lehmann uses empirical examples to show that the elements that he considers verbal modifiers follow a well-definable internal order in languages of relatively clear type: the element nearest to the verb is either the marker of causativity or the marker of modality (or potentiality). This is followed by the negation element, and finally the particle of interrogation.

Modification in the noun includes the following: the relative clause, the attribute and the possessor; Lehmann's study, however, does not deal with their internal order.

The languages in which the positional principle referred to dominates are termed "consistently OV" and "consistently VO" languages. Lehmann even connects the positional principle and the consistent types with morphological and phonological properties: agglutination is the characteristic feature of OV languages, while periphrastic constructions and inflection are VO characteristics. He draws attention to the yet inexplicable

phenomenon that OV languages tend to be dominated by open syllables, that they often have vowel harmony, and are characterized by pitch accent and a mora-counting nature; in VO languages the phenomenon of vowel mutation and stress accent occur frequently.

Lehmann also points out that the structural relations discussed in his study only cover one type of syntactic process ("order" in Bloomfield's terminology), and it would be necessary to investigate other syntactic processes as well (selection, modification and modulation). In completing these tasks, the introductory and final sections of his volume on typology published in 1978 took very significant steps forward (Lehmann 1978).

### 3.2. ATTEMPTS AT THE FURTHER IMPROVEMENT OF WORD ORDER TYPES

Both Greenberg's and Lehmann's (1973) word order typology proved to be operative in the investigation of certain problems, although it turned out right at the time of publication that a theoretical improvement was necessary. There were two ways to achieve this. The first and most

obvious possibility was to involve further criteria in the notion of complex word order type, and to search for further correlations in a wider range of languages. The second, and not obvious, idea had already emerged in Greenberg's study of 1963 and earlier in the syntactic concept of the Prague school: it is far from certain that the order of sentence elements can be satisfactorily described for every language in terms of the well-known syntactic categories (subject, predicate, object). L. Dezső, who, on the basis of researches carried out with Gy. Szépe (Dezső-Szépe 1967), was probably the first to put forward the thesis that word order typology could be more satisfactory if it was integrated within the more general framework of topic-comment theory.

Research began in both directions, yielding significant results, which even now still continue to appear.

Every researcher who has used the correlational concept has added something to the increasing number of criteria, but the results have not been successfully integrated as yet. This is partly because the diathesis research of the Leningrad school and the American research, which directly continues word order typology, are being carried on relatively independent of each other. What interrelation there is between them can be noticed most strongly in Northern and Central Europe, but here the researchers have

to rely on a much narrower basis. The joining of new correlations between criteria is yet to follow, although significant partial results can already be found in the above-mentioned volume edited by Lehmann (1978), whose introduction made an effort at a synthesis on the syntactic level. This synthesis, as indicated by the subtitle (Studies in the Phenomenology of Language), merely maps those characteristics of the "surface structures" of languages which correlate with the possible word order types. It is an obvious merit of the said introduction that it has created a synthesis of Greenberg's and Lehmann's (1973) typology, which resulted in a well-identifiable set of features that characterize SVO languages; additionally, the VOS type was taken into account as well.

An empirical argument can be set against the bipolar typological concept (VO vs. OV): while OV languages are fairly similar (they exhibit the features of Greenberg's SOV type and its transitional variations), the VO languages display very significant differences; there is an enormous difference between English and the Malay-Polynesian languages, which show the VOS-VSO arrangement. They differ not only in the position of subject and in the topic-comment distribution but in other respects as well. Lehmann rightly defines the

dominance of auxiliaries as the most striking SOV feature because in VSO and VOS languages, though not impossible, periphrastic constructions are quite rare; instead, sentence-initial prefixes or particles are used for expressing modality, negation, interrogation, causativity or the passive. In the SVO type auxiliary-like elements predominate which form analytic constructions with the main verb. The presence of auxiliaries and the position of the subject already provide enough reason to treat the SVO as a different type.

The typologization based on traditional syntactic categories pushes the topic-comment patterning into the background and thus it does not contain informative statements about languages with a more or less free word order. This concept can only treat free word order by stating which variations are possible and which of these can be considered as the basic variant. The question of what the word order depends on, however, is not even raised.

Those who have been doing research in the other direction have tried to deal with this latter problem. Within this research a thesis is coming strongly to the fore saying that functional sentence perspective, has at least the same significance as the traditional syntactic categories

in both the development of word order and in the process of word order type change in languages. L. Dezső urges the elaboration of a more general topic-comment theory that would dominate word order descriptions, and he has made it obvious in several studies that this theory must be tightly connected with questions of aspect as well as with problems of sentence stress. I. Vennemann suggested that a separate term should be used for the type of language which is between the SOV and SVO types: TVX that is, topic + verb + re. t. I also use this term in my study, though I do not consider it to be exact and well-defined: these symbols only reflect the development of word order in certain languages. Perhaps a more satisfactory way to denote this would be, for example, to resort to either the notion of comment (rheme) or focus. From another angle, in their original form they merely symbolize the transitional state between SOV and SVO; it seems certain that, on one hand, even this transition displays very different word order and constructional variations, while on the other hand it is very likely that the categories of functional sentence perspective could also be applied in the description of other well-known word order types.

Li and Thompson (1976) have created a very interesting, though somewhat polarized, theory: within their concept a

group of languages, which they term "subject-prominent", form their word order in terms of the basic syntactic categories, while another group of languages handle word order according to the categories of topic--focus, without considering which sentence elements occur in these slots (these are the so-called "topic-prominent" languages). The theory is polarized, because I completely agree with L. Dezső's view, according to which these two aspects should be handled within the framework of one comprehensive theory; this would make it possible to map the possibilities of functional sentence perspective variation (even if they occur only as secondary structural versions) in the subject-prominent languages. Examination could also reveal to what extent and how the nature of sentence elements influences the topic-focus pattern in the topic-prominent languages. Despite one attempt to combine these aspects (K. É. Kiss's syntax of the Hungarian language, 1978), the basic problem of the two kinds of word order principle has not yet been solved.

### 3.3. ATTEMPTS AT MODEL-THEORETIC SEMANTIC AND PSYCHOLOGICAL EXPLANATION OF TYPES

The versions of Greenberg's word order types modified by Lehmann aroused great interest among linguists working in most diverse fields. The influence of Lehmann's work must have largely been due to his success in applying typology to the solution of several problems of historical linguistics. T. Vennemann and S. Kuno have, however, stated (in my opinion correctly) that Lehmann only set up and applied his types but did not explain them; he made no attempt to justify the existence and development of the OV vs. VO pattern on any kind of linguistic, psychological or other basis. Yet it is an empirical fact according to many experts that for some mysterious reason languages tend to attain, and maintain, typological consistence. Vennemann and the semanticist R. Bartsch elaborated the thesis of "natural serialization" with a view to such an explanation (Bartsch-Vennemann 1972).

In Lehmann's typology the items in columns A and B in the table below follow a systematic AB or BA order in sentences :



A	B
Object	Verb
Adverbial	Verb
Main verb	Auxiliary
Main verb	Modal
Noun modifier (adjective, relative clause, adverbial, possessive construction)	Noun
"Standard" element in comparative constructions	Comparative adjective
Noun phrase	Adposition (preposition or postposition)

In OV languages the order is: A + B

In VO languages the order is: B + A

According to Bartsch and Vennemann it is possible to work out a theory as the syntactic component of model-theoretic semantics in which the sentence elements in column A systematically play the part of the "function", while those in column B, the part of the "argument". (For "function" - "argument", they use "operator" and "operand".) Their claim is that natural serialization means that

ideally, in a certain language all operator expressions either follow or precede the operand expressions. The significance of the claim is that semantic mapping between the function and its argument is carried out in a uniform direction: the homogeneity of order relations can, to a certain extent, be seen as a manifestation of economy of effort.

Since natural serialization with regard to affixed person-markers will be discussed in Chapter II, it now seems reasonable to discuss the question of why I consider this thesis to be valid. The question may arise whether a direct psychological interpretation of this model-theoretic semantics is not some sort of psychologism in a particular aspect. I believe that in its present form it is, I shall therefore try to explain why I have decided to employ the thesis of natural serialization despite this fact.

One characteristic of the main trend in linguistic psychologism is that it attributes actual psychic reality to abstractions emerging in linguistic theory. The elements and procedures of model-theoretic semantics are just cases in point. However, these psychologically "revived" elements and procedures are directly linked to the sentence surface structure, that is, to the structure of utterances. And because the surface structure, in turn, is obviously related to psychic processes (even if these cannot be explained

satisfactorily at the moment), we can state that the way we interpret as units the elements and constructions that are syntactically related, obviously has some psychic basis or is based on some real mechanism. Examples of the present expressional forms in linguistics of the semantic structuring of these constructions are the symbols used in model-theoretic semantics. Although, of course, it would be nonsense to claim that the notation (brackets, signs and symbols etc.) used to describe semantic processes have exact equivalents in the human psyche, we may well suppose that there can be some partial similarity or analogy between these processes of production and comprehension, and this type of semantic description. It is with this reservation that I have accepted the thesis of natural serialization. Natural serialization, however, is only one of those operative rules which influence the typological character of languages and their changes. Since this was also obvious to Vennemann, in his theory he took several factors into consideration in his account of language type.

Lehmann and his followers relied on a uniform manifestation of typological correlations when they described the VO and OV languages as the basic variants; for their hypothesis, they searched for model-theoretic and psychological explanations accordingly. Osgood and Tanz (1977), on the other hand, set out from the statistical distribution of

word order types and thus saw the SVO as the dominant type, because a very extensive sample suggested that this type was the most frequent one (55 percent of the languages tested). Also, it appears that the majority of the world's population speak SVO languages. This finding, then, makes the SVO type fundamental, and the authors' claim is that in other languages different sentence construction patterns have evolved due to the temporary influence of some undetermined factor(s). Osgood and others set out from a hypothesis which would have to be proved first: namely, that "cognizing" and "sentencing" are two different processes. The first, in their view, is to a certain degree independent of language, while the second is a psychological process related to language. Relying on this distinction, they suggest that "cognizing" takes place in SVO terms (both for categories and ordering), while "sentencing" follows the rules that result from the pattern of the given language. Although they do offer some non-trivial empirical evidence, I suspect that because of the uncertainty of the underlying distinction and owing to difficulties of "cognizing independently of language" (if indeed the independence of this level can be taken for granted), this line of research does not promise really much.

The thesis of natural serialization essentially draws upon Martinet's principle of economy, and makes it a

principle in the explanation by one level towards psychic processes that are relatively independent of language. "Professional" psycholinguistics has since also produced some results that can be employed in the explanation of typological issues. It was S. Kuno (1974) who first tried to find a link between psycholinguistics and typology. His statements were established on two well-known psycholinguistic theses: on the perceptual difficulties involved in "center-embedding" and conjunction juxtaposition, both of which go back to Yngve's hypotheses. Kuno showed that relative clauses are pre-nominal in SOV languages and post-nominal in the VSO type, because the opposite would regularly lead to "center-embedding"; also, that sentence-final conjunctions are very frequent in SVO languages, while sentence-initial conjunctions in VSO languages, because in the converse situation multiple complex sentences would always contain juxtaposed conjunctions. It is this latter principle that makes postpositions more frequent in SOV while prepositions in VSO languages; however, the situation is more complex in SVO languages: embedding in subject position differs from that in other syntactic positions. In SVO languages, consequently, syntactic rules appear which apply only to subject position: the processes termed "extraposition" and "subject raising" (in the terminology of generative grammar)

develop to avoid perceptually difficult or awkward constructions.

The discussion so far has dealt with those psycholinguistic researches whose aim was to find support for the characteristics of language types. There have, however, been researchers who have looked at the psychological bases of relations more general than types. The most significant work in this field was that which sought to determine the psychological basis of Greenberg's first universal. The basis of this typological regularity can now be considered as psychologically verified: it has been proved that in human speech production and perception, the subject--object (or topic--comment) order is much more natural than *vica versa*. It has also been noticed that in VOS languages, where the basic order is the opposite of the "natural" one, we see some sort of "converse world" also in other manifestations of psychological naturalness in grammatical processes: Cowan (1979) cites studies, for example, which observe that Tagalog children understand and learn passive constructions earlier than active ones. Because, however, research in this field has just started, we cannot and must not draw general conclusions from what are only partial results.

#### 4. TYPOLOGY AND DIACHRONY

##### 4.1. THE POSSIBILITIES OF DYNAMIC (HISTORICAL) TYPOLOGY

Right from the beginning, structural typology has been tightly connected with the diachronic investigation of language. Many of the pioneer researchers in structural typology dealt with questions of how the results produced by typology could be employed in historical linguistics.

Jakobson in his famous review (1958), and Uspensky's book, however, all looked upon typology as an applied science which can only contribute to the historical-comparative investigation of languages by being able to state whether certain structural features ever existed simultaneously; also, in a given situation it can locate, with varying degrees of probability, certain features that cannot be verified by historical-comparative methods.

This use of typology as an auxiliary science of historical-comparative investigations has indeed proved to be a fruitful enterprise. However, though Jakobson, Ivanov and Uspensky commented on a promising area for further application, there was one question they did not raise: whether typology

was a synchronic or a diachronic discipline.

There are typologists who often define typology as a discipline of linguistics which ignores the historical aspect; in other words, they consider typology as a kind of language comparison that disregards the genetic relations between languages. It was in this spirit that in his famous terminological dictionary Marouzeau provided the following definition: "L'étude typologique des langues est celle qui définit leur caractères en faisant abstraction de l'histoire" (in Greenberg 1973). Correspondingly, in other treatments typology was qualified as a descriptive discipline. In his study on the relationship between synchrony and diachrony, L. Benkő (1967) offers an interpretation according to which synchrony should have a role in typological investigations: the typological study of language comparison is seen as a comparison of those dialects, languages and language families of the world that can be grouped within a single period of time. L. Dezső in his study published in the same volume (Dezső 1967) distinguishes descriptive and historical typological investigations. The first of these deals with the most general regularities in synchrony, while the latter tackles those linguistic changes that can be considered as general or typical.



The above interpretations, it seems to me, are correct. We can in fact have an interpretation of typology whereby the most general synchronic and diachronic rules can be formulated via identifying the most general features of a number of language systems that exist simultaneously; diachronic rules can be arrived at by summarizing the findings achieved by investigations into different but genetically related language families. In this sense, diachronic typology provides a list, for example, of the phonological changes that have occurred in different language families. It would state, for instance, that the disappearance of word-final vowels, or the change of intervocalic plosives into fricatives, is an especially general and frequent phenomenon in the history of both languages and language families. It would be a very difficult task, however, to show any connection between the diachronic rules generalized in this way.

This, of course, is not the only possible definition of typology. In order to arrive at another interpretation, let us now look at some assumptions which are also implied in the above approach.

#### 4.2. RESEARCH INTO UNIVERSALS: A SYNCHRONIC OR DIACHRONIC DISCIPLINE?

The interpretation of typology mentioned in the previous section relies on the assumption that the synchrony-diachrony dichotomy is fundamental; in other words, a linguistic discipline must fit into the one or the other. Parallel to this, it is supposed that synchrony always means the description of concrete and actual simultaneity, while diachrony is the investigation of concrete, particular historical development (i.e. it is a linguistic history of genetically related languages). Furthermore, it is also taken for granted that typology can produce truly general statements only by comparing these languages. Thus the representatives of this view provided the most general synchronic and diachronic rules via generalizations from concrete, empirical synchronic and diachronic research carried out independently.

I believe, however, that the synchrony --  
-- diachrony dichotomy does not  
have such a fundamental  
significance in linguistics. There also exist  
what could be termed pan-chronic rules; there is also a pan-  
-chronic aspect which can directly approach those linguistic

rules (the universals) that are independent of space and time, and which can then bring these general regularities down to earth both synchronically and diachronically. On the basis of this interpretation we can arrive from the question of what is possible at the question of what actually exists, by systematically connecting deductive and inductive procedures. In this scheme, typology aiming at research into universals is independent of the synchrony-diachrony dichotomy and it has to choose its subject, and form its rules, accordingly.

Paradoxically, the possibility of this approach was raised by Saussure, to whom linguistics owes the clear and sharp distinction between the two terms.

Saussure poses the question whether the pan-chronic approach is possible with respect to language (1967, 122) and whether language has rules like those of the natural sciences which are at all times and places valid. His answer is a non-qualified yes.

Although Saussure does not provide the outlines of what would be such a pan-chronic discipline (perhaps this would have been impossible on the basis of the work carried out by linguistics at that time), it is nevertheless worth mentioning. Analyzing his text we reach the conclusion that, on the one hand, by pan-chronic approach Saussure means those statements that are the most general, most

comprehensive regularities of what is referred to as general linguistics (e.g. "all languages change at all times"; "language elements form networks of relations" etc.). On the other hand, Saussure says that the "specific facts of language", the "elements that have value", the "concrete facts" cannot be approached from a pan-chronic aspect. In other words, those (groups of) elements in which a particular sound shape is linked with a particular meaning are excluded from the scope of the most general rules. Since in Saussure's concept concrete entities (signs) are opposed to abstract ones (categories and relations), perhaps we could confidently conclude that he could easily have imagined a pan-chronic approach to abstract entities.

Since then, Saussure's prediction has partly come true and partly been refuted. It has been proved that it is, in fact, possible to find a pan-chronic approach to abstract language phenomena and relations: the totality of phonological and syntactic typology can be seen in such a light. On the other hand, objections have been raised to Saussure's ideas concerning concrete language entities, for several psycholinguistic investigations have shown that the linguistic categories classifying the phenomena of the world are not arbitrarily arranged in lexical entries (lexicalized) in language, and, correspondingly, neither do

the diachronic changes develop in arbitrary directions. Colour terms and other lexical fields were investigated from this point of view (Heider 1972, Berlin and Kay 1975, Rosch 1974, Clark-Clark 1977, 515;558). It is worth mentioning something here in defence of Saussure. Since the organizing principles of the lexicon cannot be explained by an arrangement of the world that is analyzable in terms of natural science, but must be deducible to some unknown features of mental structure and to human behaviour, the findings of these psycholinguistic researches are so surprising and inexplicable even to the contemporary mind that it would clearly have been impossible to predict, in Saussure's time, the regularities recently discovered and the workings of linguistic categorization.

Now I would like to revert to the synchrony—diachrony dichotomy once more. Within what circumstances does it at all make sense speaking about these two notions? As has been already mentioned, L. Benkó (1967) finds nothing wrong in extending the concept of synchrony so that the languages, language families and dialects existing over a single period of time form a simultaneous synchronic segment. In this sense, however, it would be only the factor of time ("the clock") that lends a synchronic aspect to this concept. Instead, I suggest that it is worthwhile to use the term "synchrony" as long as some communicational link or

linguistic bond exists between the variants considered to be synchronic, and thus some systematic linguistic connection can be identified between the synchronic variants. We can thus speak of such links in multilingual communities or in larger areal units where several smaller multilingual groups live together. In an extreme case, we even find synchrony in a world-sized area (if, for example, the given problem were the investigation of international loanwords). If, however, language communities relatively independent of one another are involved, and if the linguistic phenomena in the focus of investigation do not presuppose any communicational link, then the aspect of sheer time is external to our problem: there is no linguistically relevant bond and this deprives synchrony of any specific linguistic basis. (This problem has something in common with the concept of time in relativity theory. There, the time factor only makes sense if we define the system of co-ordinates to which it refers. Within the theory of relativity, simultaneity (synchrony) can only be defined with respect to some shared referential point between different systems; there is no unified "world time" that could be postulated on the basis of "the clock" (cf. Einstein 1973, 18-35)).

According to the above concept, then, *t y p o l o g y* is not the study of linguistic synchrony, but neither is it that of diachrony

because it does not deal with linguistic variants occurring over time. Typology examines simultaneity and succession in a specific, abstract unity; like the natural sciences, it searches for general regularities which link the historical and the synchronic but are not equivalent to either. Ideally, typology chooses its subject matter, its method, and the form of the regularities that it sets up, according to the above principle.

The practice of typological research, indirectly reflects the irrelevance of the time factor: several typological studies (including the present one) could be mentioned in which the languages tested are taken from different periods. No trouble is caused even when centuries separate the periods in which the languages discussed are used.

The irrelevance of the time factor is manifest also in the form and content of typological rules (universals). Rules in typology are always independent of time. This is obviously true in the case of unrestricted universals, since these contain connections which exist in every (synchronic and diachronic) cut of every language (the "rule", for example, that every language contains vowels and consonants). The number of unrestricted rules, of course, is not too great,

whereas those regularities that map the correlations of one or more characteristics of language are greater in number and more significant. Although universal implications are formulated in present-tense statements, this present tense of the meta-language can be interpreted either synchronically or diachronically. In a typological comparison, for example, Ferguson (1963) demonstrated a regularity according to which the existence of nasal vowels in any language presupposes that of nasal consonants. This regularity, in this form, is a general statement without reference to time. Logically, the form of the statement is an implication. If the  $x$  variable is the set of languages, the  $f(x)$  function is the nasal vowel and  $g(x)$  is the set of languages containing nasal consonants, then the implication will be  $\forall x (f(x) \rightarrow g(x))$ . We can arrive at a synchronic interpretation through the logical interpretation of the implication: it is false only if its major premise is true but its minor premise is false. The universal implication, then, is in fact a type of typology that yields a possible language structure in three cases, while in one case it leads to an impossible structure:



	Nasal vowel	Nasal consonant
L <sub>1</sub>	+	+
L <sub>2</sub>	-	+
L <sub>3</sub>	-	-
*L <sub>4</sub>	+	-

These can rightly be called synchronic rules, although still on the level of potentiality and abstraction. They state that (1) there may be languages in which both nasal vowels and nasal consonants exist; (2) there may be languages with neither nasal vowels nor nasal consonants; (3) there may be languages in which nasal vowels are absent but nasal consonants do exist; (4) there cannot be a language in which nasal vowels exist but nasal consonants do not. The individual types can be demonstrated on various languages, and probability indexes can also be assigned to the possibilities: the languages in which nasal phonemes do not exist at all are very few in number (only some North American Indian languages are concerned here), while L<sub>1</sub> is somewhat more frequent, with L<sub>2</sub> being the most widespread variant.

In a diachronic interpretation of typological rules it should be realized that at the moment we can describe language changes only by formulating them in terms of the

differences between different synchronic language states. Correspondingly, we should allow any language change where possible language states exist at two successive point of time, but we would have to exclude the possibility of any change which involved  $\neq L_4$ . Theoretically, then, the possible and impossible changes are as follows:

Possible:	Impossible:
$L_1 \rightarrow L_2$	$L_1 \rightarrow \neq L_4$
$L_2 \rightarrow L_1$	$L_2 \rightarrow \neq L_4$
$L_2 \rightarrow L_3$	$L_3 \rightarrow \neq L_4$
$L_3 \rightarrow L_2$	$\neq L_4 \rightarrow L_1$
$L_1 \rightarrow L_3$	$\neq L_4 \rightarrow L_2$
$L_3 \rightarrow L_1$	$\neq L_4 \rightarrow L_3$

These can rightly be termed diachronic rules, though still on a potential and abstract level. The change types can be demonstrated on concrete historical evidence, and here again, probability indexes can also be assigned to the possible variants: it is obvious, for example, that  $L_2 \rightarrow L_1$  will have the greatest statistical probability, and the index of the others will be insignificant.

I have hitherto attempted to provide examples of how typological rules can be interpreted synchronically and

diachronically. I have tried to show what I mean by typology as a linguistic discipline without a time factor: what I mean by typology aiming at universals research being neither a diachronic nor a synchronic discipline. Typological investigations and their interpretations, however, do not generally develop in such a sterile background: fortunately, they can also be related to historical-comparative research. This was the reason why Greenberg (Dezső-Hajdú 1970, 1125), while raising different possibilities for the dynamization of typology, also emphasized this practical point of view: the trends that he determined differ in how heavily they rely on existing or current historical-comparative research. In what follows I shall outline these trends of investigation discussed by Greenberg.

(A) D y n a m i z a t i o n o f t y p o l o g i e s .

This historical interpretation is similar to the one that I have already outlined above: on this most general level, dynamization is not linked to historical-comparative methods, only when probability indexes are assigned to change types or when theoretical possibilities are mapped onto concrete historical processes. The most salient feature of this variant is that, in principle, it accounts for all the world.

( B ) D y n a m i z a t i o n o f  
s u b - t y p o l o g i e s .

In this approach only certain types are chosen from the possibilities given by the implicational rule: in the above typology, for example, the case where a language system with nasal vowels develops from a system with only nasal consonants. ( $L_1$  —  $L_2$ ). Languages and language families are picked out here, those where this change has in fact occurred, and the process of vowel nasalization is analyzed by the historical-comparative method. Greenberg suggests (and he is probably right) that it is very unlikely for historical processes to be found which are very similar to each other: here, it is clearly seen that within general regularities, the history of certain languages and language families is made up from the configurations of highly individual processes.

( C ) I n t r a g e n e t i c c o m p a r i s o n .

This line of research simply investigates a phenomenon in a language or language family by means of historical-comparative methods but it also takes into consideration the findings of typological research. Greenberg (1973) refers to the Slavonic case system, where the markedness-

-unmarkedness opposition and the available typological information about the zero morpheme play an important role.

( D ) I n t e r g e n e t i c c o m p a r i s o n .

This type of research is the typological comparison of the reconstructable historical development of different language families, its main characteristic and advantage being that, by means of comparison, it can assign plausibility indexes to the dynamics of different types, stating in this way which changes are more probable and more frequent, and which are rarer.

The present study contains all the elements of Greenberg's four trends. In the second chapter I shall apply methods (B) and (D), which, according to Greenberg, are in fact merely pragmatic variants. In Chapter III, I shall employ method (A) to a smaller degree and (C) to a larger one.

#### 4.3. CHANGE OF TYPE

I hope I have succeeded in explaining some of the central issues and methodological problems related to how typology has gradually been extended in the direction of historical linguistics. I have outlined the notions which are needed both in order to explain the typological characteristics of languages, and to show the possibilities of the historical application of current typological knowledge.

I should also have become apparent by now that both the research into universals and diachronic investigational methods are at an initial stage of development: a lot more knowledge is still needed in order for the structural possibilities and changes of language to be exactly formulated. In spite of this, as soon as the notion of language type was introduced, the idea emerged that not only the logical methods arising out of universals but also the complex notion of consistent type and word order can be employed for describing changes in language. What made the application of this method possible was the realization that related languages may represent different types and that any previous state of a language or language family as it is seen in attested documents, or its reconstructed

protolanguage, may be of a different type than the languages deriving from them. Researches greatly differ in their targets, method and arguments. I now attempt to outline some questions that can be raised within the framework of typological research.

What language types can derive from other language types? In other words, does type change show some clearly palpable tendency? What are the most frequent directions of type change? Can any such changes be located among the theoretically possible ones which, for some reason or other, cannot occur?

How and under what conditions do the processes of type change take place? What are the factors that must be understood if we are to predict the directions of type change? Are there changes that will accompany other changes with a great degree of probability?

Why do language types change? How can the factors that have some function in type change be outlined? What social (sociolinguistic), psychic (psycholinguistic) and linguistic (systematic) motivations do the changes have? Can more or less "natural" changes (arising from some internal necessity) be separated from accidental ones (caused by external circumstances)? Within what time periods do particular type changes take place? Can the differences in periods be linked to differences in the motives behind

particular changes?

Obviously, the above questions have been formulated more systematically here than in the studies in which (within the framework of some theoretical hypothesis or as parts of specific diachronic issues) they originally emerged. In current investigations it is in fact impossible to raise such a formidable array of questions because of theoretical and practical difficulties. We possess neither so many empirical data that could be formulated in the language of typology, nor such a coherent system of historical-theoretical bases, which could enable the detailed typological description of language change. Several investigations are under way in which some aspect of type change in a particular language or language family is being discussed, but the generalization of the phenomena in question still remains veiled. Theoretical hypotheses of type change are also being put forward, but here the empirical bases are still incomplete. It would be a most serious mistake to conclude that a typological approach to language history is an untimely endeavour. When questions like these emerge in a natural fashion, an answer to them must be attempted even if it is obvious that our present knowledge can yield only partial results, to be modified later on. Similarly, it would be a mistake to restrict research either to an empirically or a theoretically more



satisfactory type, because the two apparently complement and correct each other. At the moment it should rather be accepted that choice of method and the empirical versus theoretical bias of research largely depends on individual bents and interests, and especially on the nature of the given problem: as the case dictates, either method can be effective.

Investigations which tested the changes in the complex word order type in certain languages or language families and the history of some (mainly syntactic) phenomenon, have so far relied on extensive empirical research.

W. P. Lehmann, as has already been mentioned; outlined a bipolar (OV vs. VO) typological theory in order to explain, on the one hand, some of the typical syntactic problems of the Indo-European protolanguage and, on the other hand, to show the contrast between the recently developed VO type systems of the descendant Indo-European languages and the SOV type of the reconstructed protolanguage (Lehmann 1973, 1975). Some examples of Lehmann's conclusions: the author determined which construction was earlier and which was later; it was unnecessary to search for relative pronouns in the protolanguage, which does not, however, mean that there were no relative clauses or subordination in general (since such a view ignores the pre-nominal/participial nature of

relative subordination, which is a usual phenomenon in OV languages): Lehmann drew attention to certain problems of agglutination in Tokharian, showing, among other things, that it was unnecessary to search for an independent reflexive pronoun in Indo-European and that it might be more useful to posit the existence of reflexive verbal affixes. Lehmann drew attention to similar problems related to language contacts between certain Austro-Asian and other language families.

A similar SOV → SVO change can be posited as having occurred in the Niger-Congolese languages. Here, two researchers have dealt with historical investigations on a typological basis. H. Hyman (1975) linked type change to particular phenomena of functional sentence perspective (communicative dynamism), and he concluded that the new patterns spread throughout the area in question through sequences of language contacts. I. Givón (1975) related the same process of type change to the challenging phenomena of serial verbal groups, on the basis of convincing empirical material.

In several studies L. Oezsö (1972, 1978b) has dealt with type change in the Uralic and Altaic as well as Indo-European languages. He set out from the probably correct basic assumption that in a language undergoing type change, a word order type which is to determine the tendency

of subsequent change must be present as a variant. The mechanism of change, however, should be thoroughly examined for each language separately, since these mechanisms may differ to a great degree. Dezső closely connected the changes in transitive sentences to several other factors: the means of marking definiteness, verbal aspect, and the place of sentence stress. According to Dezső, these factors should and can be successfully discussed in their relatedness, within the framework of the functional sentence perspective approach. It is from the different constellations of these factors that valid conclusions can be drawn concerning the process of actual type change in a given language or language family.

The history of languages also offers examples of the opposite word order type change. Li and Thompson have published several studies (1974, 1975a, 1975b) on phenomena of SVO → SOV change between the archaic Chinese language and today's Mandarin dialect. Li and Thompson suggest that the word order change of the main constituents (subject, object and verb) was preceded by a stage in which the existence of many serial verb phrases was dominant, and these multi-verb groups displayed an SVOV order; then, the SOV order became established when the verb in mid-position had changed into a case-marking preposition. Parallel with this process, the pre-verb and post-verb position of the

object also served as a definiteness marker (L. Dezső also showed this on the example of other languages). At the same time, alongside with the change in the order of the main constituents, similar changes occurred in other areas of syntax (in locative constructions, relative clauses, and in manner adverbials).

Biblical and present-day Hebrew also exhibit a VSO → SVO type change. I. Givón (1977) involves pragmatic considerations in the study of sentence structure; on the basis of statistical analysis of biblical Hebrew he ascribed the SVO tendency to the fact that, compared to VSO, this type provides more favourable possibilities for the expression of the theme—rheme pattern and the related definiteness and aspectual variants. Besides concrete historical investigations, Givón offers an alternative to Lehmann's account of types. Though in certain respects, Givón argues, the OV vs. VO opposition seems to be effective, pragmatic reasons must have necessitated an SV vs. VS bipolarization, since this pattern is more consistent with the pragmatic aspects of communicative dynamism that affects all languages. This means that one especially important tendency in type changes in the SOV → VSO → → SVO chain. Although in his study Givón only provided empirical reasons to support the VSO → SVO phase, the SOV → VSO stage had to be stressed already at this point in

the present study since we too will have to count with this tendency or reasons to be explained in Chapter II.

The list of the directions of type changes could go on, but this perhaps suffices to show how different researchers have attempted to find empirical evidence for the processes of concrete syntactic change.

I would now like to mention another strategy of research aimed at outlining the tendencies of type change. In this strategy theoretical considerations predominate, and therefore it results in a picture that is more comprehensive and theoretically more coherent, although one with less empirical support. One of the most prominent representatives of this trend is T. Vennemann. The theory of "natural language change", on which I rely in this study, emerges from three of Vennemann's studies.

The thesis of natural serialization, elaborated by Vennemann and Bartsch, has already been referred to. This thesis serves as one of the motives behind language change in Vennemann's model. As another motive, the author mentions a phonetic change type: the permanent reduction at the end of words. Although the functional importance of word-final sounds may for a long time clash with the tendency to have more reduction word-finally than word-initially, many examples can be found of the abrasion of word endings in the history of every language. Vennemann also examined other

motives of change (especially ambiguity) in his discussion of the models of change. According to him, SOV, SVO and VSX are the basic variants (Vennemann 1974), and he argues that besides these (due to pragmatic considerations) every language needs a variant in which the object is the topic (theme) of the sentence, and where, consequently, the object precedes the subject.

Type	SOV	SVO	VSX
Unmarked			
word order	NP <sub>S</sub> NP <sub>O</sub> V	NP <sub>S</sub> V NP <sub>O</sub>	V NP <sub>S</sub> NP <sub>O</sub>
Marked			
word order			
(topic: object)	NP <sub>O</sub> NP <sub>S</sub> V	NP <sub>O</sub> NP <sub>S</sub> V	NP <sub>O</sub> V NP <sub>S</sub>

If syntactic functions are not considered, it can be well seen that there is some constructional difference between the marked and the unmarked word order variant in the SVO and SVX languages, while no difference can be found

in the SOV languages: there are two NP<sub>S</sub> here preceding the verb both in the unmarked and the marked variant.

Type	SOV	SVO	VSX
Unmarked			
word order	NP NP V	NP V NP	V NP NP
Marked			
word order	NP NP V	NP NP V	NP V NP

In the SOV languages some sort of marker is needed in order to distinguish the subject of sentence from the object. This is because structural order alone is insufficient, it being identical in both variants. In the order two types, the structural order is sufficient in itself.

According to Greenberg's forty-first universal (1963), SOV languages have a high probability of having morphological case systems. This morphological means (where it does exist) is able to distinguish the structurally identical word order variants. Besides consistent case

marking in nouns, there are other ways of distinguishing between syntactic functions. (See the second chapter of this study.) If, however, a case system disappears due to word-final reduction or some other reason, and there is no other means of distinguishing sentence elements within the given structure, then SOV languages change their type and begin to develop into SVO languages, where structural order clearly distinguishes unmarked and marked variants. This word order type in its pure form, however, is realized only in languages with a very fixed word order, since, in the SVO type one of the most important grammatical markers is the order of constituents. The change from SOV into SVO is nevertheless not a direct one: there is a transitional phase where the topic is followed by the verb, which in turn is followed by other sentence elements. This IVX phase itself may have several forms. Vennemann distinguishes two types, represented by French and English: in French the "most powerful" rule is that the sentence elements functioning as topic are to be sentence-initial (thus pronominal objects or indirect objects can also precede the verb). In English, by contrast, the position of the verb is fixed: it always takes the second position in the linear order of sentences. Vennemann (probably influenced by L. Hyman's criticism) added to this that the type change from SOV to IVX does not necessarily affect the main constituents first; most

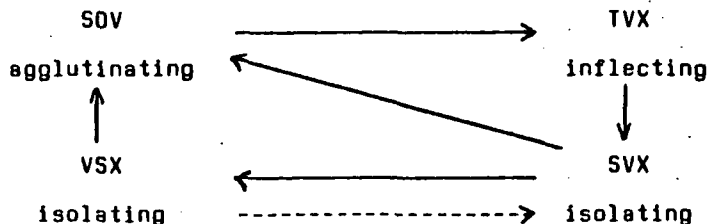


probably, it is manifest in the order of clauses (namely in right-hand clauses). We could add here (at least) one type to the two IVX types defined by Vennemann: this third type is observed in Hungarian, where the focus remains in pre-verb position, while the sentence elements with neither topic nor focus function follow the verb (cf. É. Kiss 1978, Dezső 1978b).

I have hitherto outlined some of Vennemann's arguments relating to the SOV  $\rightarrow$  SVO type change. This change of type is not a direct one, Vennemann suggests, but it has a transitional IVX phase, in different varieties. In another study (1973), he discusses the arguments which led him to postulate the SVO  $\rightarrow$  VSX type change: these arguments are much more abstract than those seen in the case of the previously mentioned change. Vennemann presumably began with the assumption that there are no "eternal" types, in other words, languages are always in the state of change with regard to their type, even if this is very slow. Since the characteristics of the VSX type are rather homogeneous (e.g. the exclusive use of prepositions; NA order in attributive constructions; Aux + V verb and auxiliary order; postnominal relative clauses etc.) and they are exactly the opposite of the SOV characteristics, it is logical to suppose that the SOV type cannot directly change into VSX. The SVO type, on the other hand (which has statistically

more VSX characteristics) can easily change into VSX. For the sake of completeness it must be admitted that this line of argument, though indeed logical, is too abstract; it refers to no concrete mechanism concerning the circumstances of the actual type change, so Vennemann's conception is open to criticism at this point. Neither should the source of VSX languages be restricted to the SVO type (as will be outlined in detail in Chapter II); it is quite possible that VSX languages may also develop from SOV languages, with a longer TVX phase in between (cf. Steele 1976).

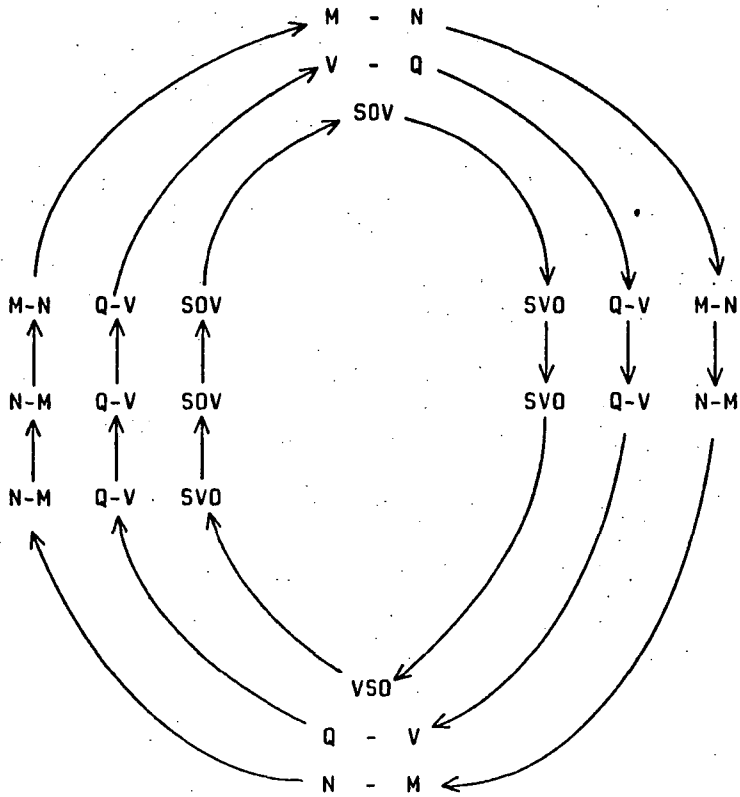
Finally, Vennemann explains the VSX  $\rightarrow$  SOV change by resorting to the position of person-marking affixes. I consider his argument to be rational, and have accepted it in spite of the fact that, in my opinion, it remains incomplete in this form even if we consider several examples (Amharic and Akkadian) that prove this change type. Summarizing the arguments outlined in different studies, Vennemann provides the following cycle that illustrates the possibilities of type changes in languages:



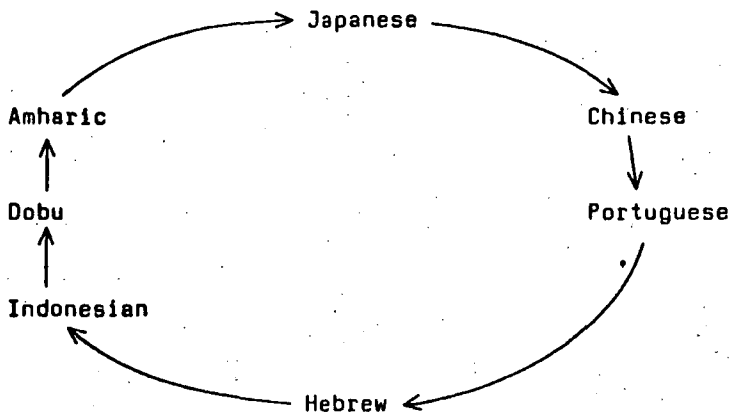
Vennemann's framework is very convincing in many of its details. It is also an attractive theory in that it outlines the theoretical possibilities of type change in a cyclic model. It contains a large number of unclear details, and needs modifying in various places; at a later stage I will still interpret certain historical issues of person-marking paradigms within the framework of this model, since this is the one that allows for the most transitional possibilities between language types. Furthermore, this model provides the greatest modificational scope for the explanation of the history of the phenomena that I have tested.

Sin I-Hsieh (1978) develops his cyclic type change theory with a similar comprehensive demand. His theory is supported by more empirical evidence than Vennemann's, but it shows less theoretical ingenuity. I-Hsieh interprets the change of types as a gradual change in the position of the verb: in the process of type change, the verb changes its sentence-final position into sentence-initial, or vice versa. Thus in this cycle  $SOV \rightarrow SVO \rightarrow VSO$  and  $VSO \rightarrow \rightarrow SVO \rightarrow SOV$  phases alternate. I-Hsieh connects the change in the order of the main constituent with the verbal modifier + verb order, and the nominal modifier + noun order, known from Lehmann's typology, and he postulates a harmonized and gradual change in these factors. This also shows that he

heavily relies on Lehmann's "structural (positional) principle". The cycle postulated by I-Hsieh is as follows (M = modifiers of nouns, Q = verbal modifiers):



The phases of the cycle are represented by the following languages:



Hsin I-Hsieh illustrated his SOV cycle hypothesis on grammatical problems of three major language families (Indo-European, Semitic, and Austronesian), and on historical data brought to light with the help of the comparative method. I consider this hypothesis to be insufficient for two reasons. In this cycle, the SVO type invariably appears as an intermediate stage between the two outside types (OV and VO). My findings indicate that the person-marking paradigms in question are not characteristic of the SVO type, and therefore while discussing type change I can consider only

those transitions that do not contain the SVO type. Another deficiency of the hypothesis is that it attaches functional only secondary importance to sentence and the theme-rheme patterning is a fundamental syntactic principle in the languages that I have tested. Despite this, I-Hsieh's work contains several details worth examining, in particular those which link the theoretical questions of type change to sociolinguistic and psycholinguistic problems.

#### 4.4. A MISSING DISCIPLINE:

##### THE GENERAL THEORY OF LANGUAGE CHANGE

What may have emerged from the sketchy picture of type changes in the previous sections is that a typological approach to diachrony necessitates knowledge of the reasons and mechanisms of changes even to a greater degree than do historical-comparative investigations. There is little doubt, however, that the ideas concerning the motives and mechanisms are as yet rather chaotic, with different explanatory principles appearing at random, combined only as dictated by the demands of the given theme. If any improvement is to be achieved in the investigation into individual examples of language change (which is very effective within its own limits and still contains a lot of unexploited possibilities), then we should pose the following three questions. What are the possible reasons for language changes? (Here, I do not only mean causal relations.) Which changes are possible or probable, and which are quite improbable? What is the actual process of the concrete changes like? A currently non-existent discipline, the general theory of language change, would have the task of answering these questions systematically.

Several researchers have voiced the need for such a discipline, the first to do so being linguists involved in the field in historical-comparative investigations (cf. Kiparsky 1973, Benkő 1975, Herman 1978 etc.). In some studies (Herman 1978), even a sketch of the "contents page" for the new discipline emerges, and a volume has also been published (Lightfoot 1979a) which, although it bears the hallmarks of the early works in many respects, contains well-detailed theses on the relation of the theory of language acquisition theory. Despite these developments, at present we do not know how this theory will evolve in the future.

It would perhaps still not be premature to formulate some statements about the nature of the general theory of language change.

What we can be certain of is that the new theory should be compatible, in the first place, with our knowledge about the social aspect of language and, within this, with the sociolinguistic regularities of variants and changes (problems discussed by Herman, 1978) and, in the second place, with several well-known phenomena of language contacts. It could be mentioned here in passing that Lightfoot's theory (1979a) seems to me mistaken due to its failure to satisfy just this criterion.



The explanation of language change should also be compatible with our knowledge concerning the p s y c h i c reality of language. The questions of change have hitherto been connected with problems of language acquisition and some questions of speech perception. It is probably on the basis of the above ideas that Martinet's thesis concerning the "economy of effort" can be re-formulated.

Finally, though perhaps this ought to have been mentioned first, the new theory should be compatible with the findings of h i s t o r i c a l - c o m p a r a t i v e l i n g u i s t i c s, a discipline which investigates actual changes, and also with the findings of several other linguistic areas that study l a n g u a g e s y s t e m s.

## CHAPTER II. THE TYPOLOGY AND HISTORY

### OF AFFIXED PERSON-MARKING PARADIGMS

#### 1. TRANSITIVITY AND POSSESSION - THE AIM OF THIS RESEARCH

In his study published in 1964, W. S. Allen offers a great deal of evidence to show that, in general, a certain parallelism can be discovered between constructions containing a transitive verb and those expressing possession. In particular, he showed that the subject of sentences with a (mainly perfective) transitive verb can be seen, both formally and semantically, as corresponding to the possessor in sentences expressing possession, or rather with the sentence element expressing the possessor in a possessive construction.

Here I set out from Allen's general statement and try to show that there are further functional, morphological, and syntactic parallels between transitive and possessive constructions. I shall outline a language type in which a parallelism exists not (or not primarily) between the subject of the transitive verb and the possessor in the sentence expressing possession, but rather between other components of the same relations: b e t w e e n t h e

affixed person-marking paradigm of the verb in transitive sentences and that of the possessee (= head) component in possessive constructions.

The verbal and possessive person-marking affixes can be described as instances of agreement if in the same syntactic structure another sentence element (subject, object, possessor) also refers to the same referent. Though the question of whether the relevant affixes can be qualified as examples of agreement or are mere person-markers is not entirely separated from the present problem, I shall deal with this particular topic only once and therefore apply the more neutral term "person-marking affix" or "person-marker" in my study.

The languages involved in the research were selected according to whether they mark the person of the possessor with affixes in the word for the possessee element. (The data of the chosen languages can be found in Appendix One.) This selection separated the tested languages from those in which person-marking is (almost) exclusively indicated by free morphemes, i.e. possessive pronouns.

Following the usual practice of typological research I first catalogued the correspondences between the word order

features of the languages in question and their person-marking patterns. Then, by comparing the two feature sets, I reached my conclusions about the historical processes through which affixed person-marking changes over time as compared to other change types in the given languages.

On the basis of certain correlations between typological features and person-marking, I have placed the history of the tested paradigms within the VSX → SOV → TVX period (3.1.). Then I set up more concrete change types, dating the rise of the paradigms to a period in which the position of person-marking affixes was consistent with the positions of complements expressed by lexical NP-s. Thus the suffixed markers originated from VSX, and the prefixed markers from SOV (3.3).

I subsequently endeavoured to prove that the rise of person-marking paradigms can be treated independently of processes of topicalization, provided that a satisfactory explanation of the origin of 3rd person (zero and non-zero) affixes can be found (3.3.). I shall set up conditions for the rise of person-marking paradigm types on the basis of those languages in a critical stage vis-a-vis the history of affixes<sup>1</sup> (3.4.). I shall then illustrate the rise of three (pronominal, adaptational and prepositional) person-marking

paradigm patters in different languages. Analysis of the paradigms leads to the conclusion that the 3rd person marker may differ from the 1st and 2nd person affixes both in its origin and its order (4.1.).

Later I shall introduce and interpret the phonetic similarities of verbal and possessive paradigms: on this basis, I shall compare the distribution of verbal paradigms to the ergative and nominative patterns in the case system of nouns (4.2.).

Finally (5) I shall attempt to give reasons why the affixed person-marking tested here is more conservative than the typological change of word order in languages.

## 2. TYPOLOGICAL PRELIMINARIES

### 2.1. CORRELATIONS BETWEEN THE CHARACTERISTICS OF PERSON-MARKING PARADIGMS

Before discussing the conclusions resulting from the empirical survey of the tested grammatical phenomena, I ought to touch upon the choice of the languages for the purposes of the present research.

The study is based on 20 languages, the data being extracted from statements and illustrative sentences in different grammatical descriptions. Although Appendix Two and the text as a whole outline only some grammatical phenomena and their appearance in each language, during the survey a relatively comprehensive picture had to be built up about the morphology and syntax of these languages; i.e. the whole morphology and syntax sections of the grammars had to be reviewed. This was necessary not only because in many cases the relevant parts were included outside the chapter on the given narrower subject, but also because typology-based research into the history of language employs complex notions of type, and determines regularities simultaneously drawing upon very different grammatical phenomena.

In this type of study it is only natural for mistakes

to occur in the interpretation of some grammatical phenomena though I have at all times tried to rely on the most authoritative sources: I have tried to choose grammatical descriptions whose accuracy is guaranteed by the name of the author or by the reaction of others to his work.

The number of languages chosen in itself cannot be judged as sufficient or insufficient; in typology today there are no clear principles about the size of the corpus to be analyzed (Bell 1978). Greenberg's classic study was based on thirty, albeit carefully selected, languages, while other typological studies have been carried out on material from as many as 400 languages (Hyman 1977) and as few as three or four. Perfection could only result from investigating the totality of languages in respect of a given phenomenon (e.g. word order typology should be based on the set of possible human languages, while the typology of affixed person-marking paradigms should cover all languages in which person-marking is synthetically realized); it is impossible, however, to take such a mass of empirical material into account, not only due to the difficulties of data storing but also because, for the moment, a significant number of languages have not been (and perhaps will never be) discovered and described. Linguistic typology does not differ from other empirical sciences in this respect: total induction is neither

required nor possible in the case of any other natural or social science. Most experts today admit that the quantity of the empirical material must be determined by the nature of the investigation. Since structural typology is not restricted either from the genetic or the regional point of view, the chosen sample can, and indeed should, include as many language families and geographical regions as possible (Bell 1978, 145-150). In this respect, the circle of the languages featuring in this study is far from being optimal. A minor drawback is that some distantly related languages are also involved (we can actually find such languages among the thirty languages in Greenberg's study on word order). The choice is perhaps justifiable especially in the case of the American Indian languages, since the genetic relationship among them was discovered not by the time-honoured historical-comparative studies but by the investigations based on structural features and glotto-chronological calculations worked out by E. Sapir (and following him, C. Voegelin and others). It is because of these differences that in determining the relationships between American Indian languages, in some studies the term "phylum" is used for differentiation, instead of "language family" (cf. Newmann 1954). To this we may add that some of



the six North-American "phyla" suggested by Sapir have since been proved to include languages genetically unrelated.

I do not think that the inclusion of a few related languages is a mistake. What is unfortunate is that quite a few language families and geographical regions have been left out. Notable omissions are Oceania, New Guinea and Australia, but out of all the varied languages of South America and Black Africa I have only presented one or two (Kechua, Kanuri). The reasons for this are simply practical: there are languages about which only a few descriptions have been made (especially the Indian languages of South America, in addition to those of a significant part of Black Africa and New Guinea). To the best of my knowledge, a great many descriptions have recently been completed on other areas (the South Sea Islands, Australia), but practically none of these works has been available to me as yet.

The comprehensive descriptions of some linguistic areas inform us that affixed person-marking is a very frequent structural feature in the relevant languages; these descriptions, however, do not cover all the topics considered in this survey. This is especially so because even if there do exist shared phenomena within a large linguistic area, the individual languages can be extremely different. These descriptions obviously offer even less in

the way of details and rules in the sphere of person-marking paradigm. It is certain, for instance, that in South America (cf. Noble 1965), Black Africa (cf. Greenberg 1966) and Australia (cf. Wurm 1972) many languages have synthetic person-marking, so it would be necessary to extend the investigations to these languages as well.

In Appendix Two I have given data concerning twenty languages. There are four lists for defining word order type (the order of the major sentence elements; the order within possessive constructions; the type of relative clause; the place of case marking), while three other lists show the characteristics of the person-marking affixes (the place of the person-marking affix in the verb; the sentence element whose person is marked in the verb). First I shall sum up the correlations concerning the characteristics of the paradigms.

The first correlation is that in each language in the sample the person-marking in the possessive construction attended to verbal person-marking.

2.1.1. If in a language the possessive person-marking paradigm is of the affixed type, then the verbal person-

- marking paradigm is also affixed. The converse of this is not true: affixed verbal person - marking in the possessive construction (eg. Estonian, French, German).

The second empirical generalization is still intuitively clear:

2.1.2. In languages with affixed possessive person-marking, verbal person - marking affixes are positionally of the same nature (prefix, infix, suffix) as those in possessive constructions.

This universal does not contain the restriction that within one language person-marking affixes should conform to the same order. This would be impossible because in the different languages, prefixes and suffixes (or also infixes) occur together. However, the universal is also true for these mixed cases because in the languages involved

(Assiniboiné, Blackfoot, Jacaltec) morphemes expressing the same grammatical categories (number, person, gender) occur in the same position both in the possessive and the verbal paradigms (or, at least, in a significant part of the verbal paradigms). The following pair of examples from Assiniboiné illustrates the positionally mixed type (Levin 24.33):

ni - póge - pi

2nd person - nose - plural

'your nose'

ni - ttá - pi

2nd person - die - plural

'you die'

The next observation belongs to the intuitively unpredictable theses. In person-marking paradigms, 18 out of 20 cases are such that the verb agrees with its object in addition to subject-verb agreement.

2.1.3. In languages with affixed possessive person-marking it is very likely that there is more than one paradigm to mark the person in the complements

of the verb: it is highly probable that the person of the object and the subject will be equally marked.

In most of the cases it was conspicuous that congruence or at least a considerable similarity existed between the phonetic form of the possessive paradigm and that of one or more verbal paradigms.

2.1.4. In languages with affixed possessive person-marking, the phonetic form of the possessive paradigm is identical or similar to the phonetic form of one or perhaps more verbal paradigms.

To some extent, the observations so far can be subjected to historical interpretation. The first universal suggests that whenever person-marking paradigms rise and disappear historically (and have not existed since the beginning of time, which is not very likely), then the

### 5.1.3. ACCUMULATION OF FUNCTIONS: THE ROMER RULE IN LANGUAGE

The pioneers of research into American Indian languages - Sapir, Bloomfield, Whorf and others - have already drawn attention to the fact that person-marking affixes perform a variety of functions in the abundantly agglutinating languages that they investigated. In several languages, besides the original function of person-marking these morphemes perform such fundamental tasks as the distinction of subject and object; distinguishing degrees of object definiteness; marking referential identity or difference between sentence elements; marking the syntactic relations of subordinate clauses (Jacaltec, Navajo); marking subordination itself (Amharic, Ubih), etc. The person-marking affixes perform a variety of functions in the abundantly agglutinating languages that they investigated. In several languages, besides the original function of person-marking these morphemes perform such fundamental tasks as the distinction of subject and object; distinguishing degrees of object definiteness; marking referential identity or difference between sentence elements; marking the syntactic relations of subordinate clauses (Jacaltec, Navajo); marking subordination itself

decreasing numbers: the extinction of the language family is dated to the end of the 19th century. From Wurm's reliable description we learn that the reconstruction of these languages in the fifties begun on the basis of word lists and texts which are of extremely doubtful value, since their European authors were unfamiliar with the principles of linguistic description. It was on the basis of these fragments that two scholars outlined (partly contradicting each other) the reconstructable features of the Tasmanian language family. It is one of these characteristics that the most fundamental universal in the present study contradicts: that the Tasmanian languages had a possessive affix paradigm but no verbal person-marking affix paradigm (Wurm, *ibid.*). The corpus that served as the basis of the reconstruction is, for me at least, almost inaccessible (it can be found in the library of Sidney University), and in any case the revision would require the competence of a special field of research. The doubtful accuracy of the manuscripts makes it possible to pass over this counter-example here, which today can neither be verified nor refuted.

## 2.2. WORD ORDER TYPES OF LANGUAGES

As is known, affixed person-marking does not belong to those linguistic characteristics whose presence makes possible the identification of linguistic types (Lehmann 1973). Thus there is no direct and regular connection linking the order of sentence elements, the existence of person-marking bound morphemes, and the linear structural place of morphemes with other grammatical functions (eg. interrogative particles, negative particles, modality-markers, case-markers etc.).

Yet in a negative sense it appears that there is some connection between word order type and the existence of person-marking affixes as tested in this study: from among the twenty languages there is no consistently SVO language which compulsorily marked the person of the possessor by an affix in the possessee. This morphosyntactic phenomenon is therefore likely to be inconsistent with the simultaneous occurrence of the following features:



SVO, NG, Nadj, Postnominal relative clause  
Prepositions expressing cases  
Periphrastic interrogation, negation, (verbal)  
modality

The fact alone that there is no SVO language among the tested ones is not enough to state the inconsistency. A counter-proof also had to be found. On the basis of both Greenberg's (1963, 109) and Ullian's (1969, 58-59) surveys I chose some languages which fulfil the majority of the above conditions (mainly: SVO, NG, NAdj, prepositions); then I consulted the relevant grammars in order to ascertain whether languages of this type really express the person of the possessor not by affixed person-marking, but by an independent possessive pronoun. (The tested languages have to exhibit SVO features not only in terms of the order of sentence elements, but also with regard to other characteristics, since languages exist in which the order of the sentence elements has reached the SVO stage but which are of an SVO nature in terms of other features. These languages, eg. Finnish, may contain affixed possessive person-markers.)

Appendix Three contains the result of the survey. The data from the ten definitely SVO languages suggest that the inconsistency is a statistical fact. The two SVO languages

which do contain affixed possessive person-marking again show the uncertainty factor, which can emerge at any moment in universal research, one which arises from the non-deterministic nature of linguistic regularity: in the investigation of almost every phenomenon we also find examples contradicting the connection that is stated to be regular.

Something should be mentioned about the affixes of the two languages that have been referred to above. As the Appendix also notes, in the Gbe ya language not every person has its own affix variant; only the 1st and 3rd person singular and only the 2nd person plural are marked with affixes. (This is also the same in the case of the verbal paradigms.) Thus in the remaining persons free possessives and subject morphemes are used. The bound morpheme is also a variant only: if the bound morpheme need not (or rather, must not) be used. Nothing is said by the grammars about whether the bound morpheme is omitted obligatorily or optionally.) This is an extremely significant difference as compared to other tested languages containing affixed person-markers, because these invariably have obligatory marking of the person of the possessor and that of the subject (also) by a bound morpheme. Therefore perhaps it is not an exaggeration to say that the system of

affixed person-marking is in the process of disappearing in the Gbeya language.

The situation is somewhat similar in Malay, in so far as the person-marking affix does not appear in either the possessee or the verb when an independent pronoun is used. Thus in this respect, Malay too differs from the languages that I tested. The Malay affixed paradigms, however, are complete: unlike in Gbeya, each person has its affixed variant in Malay, with another rule restricting the appearance of the affixed person-markers to a minimum. If from the situation it is obvious which person is involved, no grammatical element expressing the category of person is used at all. However strange this may seem, in an illustrative text (Lewis 1956, 99), bargaining in a bazaar takes place in such a way that the person of the speakers is not marked in a single grammatical element: mere stems appear between nominal complements and adverbs. Perhaps it is again not an exaggeration to draw the conclusion that the system of affixed person-markers in this language is on its way towards becoming obsolete.

In Appendix Three I have outlined a third possibility in addition to affixes and independent pronouns: clitics. This conclusion was necessary because of Greek, in which

unstressed pronouns are definitely qualified by the authors of the grammar as clitics. They are clitic-like because they are unstressed and occasionally change their phonetic form. From the detailed description it is evident that other free morphemes can also interpose themselves between the possessee or the verb and the morphemes that qualify as clitics, thus syntactically these have to be qualified as independent sentence elements.

In spite of the fact that the two languages mentioned above contain affixes, further on I consider that the system of affixed person-marking which I have looked at here is not a characteristic of the consistently SVO languages.

The order types of the languages in which the affixation pattern in question occurred are as follows:

SOV	11 languages
TVX	5 languages
VSX	4 languages

The term S O V type I have applied to those languages in which the verbal predicate occupies the last position in a simple sentence with a transitive verb, or where the order of the possessive construction is GN, with case marking (if existing at all) appearing in the form of a

suffix in the head of noun phrases. Considering this latter characteristic, the only language that shows some irregularity is Amharic, in which some case markers appear in the form of nominal prefixes. It can be clearly seen, however, that the new, increasingly spreading case marking type in Amharic is post-positional: the object case-marker is a suffix, and the language abounds in "pronominal adverb-like" postpositional elements which can be added to nouns even if they have a case-marking prefix, eg. with the meaning "in" (Robert Hetzron, personal communication.) Of the criteria that determine word order type, the types of relative clause showed a much more varied pattern as compared to the languages mentioned earlier on: in the SOV languages post-nominal and right-extraposed clauses occurred frequently. This seems to strengthen the assumption (in the introductory chapter) that change of type in SOV languages probably starts with a change in the order of clauses. A language may show quite a number of SOV features in the construction of simple sentences even when the (relative) clauses are about to conform to the pattern of a new typological period.

The term I V X type I have applied to languages in which the word order of simple sentences is relatively free (with no rule governing which position the verb must take, sentence-initial, second or sentence-final). The data

from the grammars suggest that in these languages the order of sentence elements is determined by communicative factors. Other data, especially the GN order of the possessive construction, more or less suggest that these languages represent a rearranged version of an original SOV type. Here, however, the following restrictions will have to be mentioned:

The morphological and syntactic characteristics of Hungarian, Sierra Miwok and Takelma more or less unambiguously show that TVX type is of SOV origin. I am uncertain whether the TVX type of Blackfoot and Siuslaw is of SOV origin; here, SOV origin is only supported by the GN order (and some other features which were not mentioned as criteria).

In the VSX languages sentence-initial position of the verb is not such a strict rule as sentence-final position in consistently SOV languages. Yet the grammars state the general rule of sentence-initial position of the verb for all four VSX languages (Agta, Aztec, Bella Coola, Jacaltec). In each of these the NG order of the possessive construction as well as the postnominal relative clause is consistent with the type. Case marking, however, is not uniform: Aztec has suffixed case-markers inconsistent with its type, while the Jacaltec grammar makes no mention of case marking at all. It

is interesting that it is just these two latter languages which have prefixed person-marking. Partly relying on historical-comparative evidence, it was in the case of these languages where I had to assume that the present VSX type originates from a preceding SOV type (see later for details). To summarize what has been said about types: statistically the type of affixed person-marking tested in this study primarily characterizes SOV languages. This characteristic tallies with their basically agglutinative nature (Lehmann 1973, Vennemann 1974). The paradigms, however, are not limited to this type. They appear in three typological systems: SOV, TVX and VSX. In the following I shall endeavour to give a historical explanation for this pattern.

### 3. DIACHRONIC INTERPRETATION OF TYPOLOGICAL DATA

#### 3.1. PRONOMINAL ORIGIN OF PERSON-MARKING AFFIXES

##### 3.1.1. GRAMMATICAL FEATURES OF PRONOUNS

Historical-comparative investigation into several languages has proved that person-marking affixes are of pronominal origin. This thesis generally applies even if in one person within a paradigm non-pronominal origin also occurs; these exceptions do not affect the validity of the general thesis. From many points of view, the function of person-marking affixes also shows similarities to that of pronouns. Thus the pronominal origin can also be supported in a functional respect. If, therefore, we also want to originate person-marking affixes from pronouns in a typological framework, it is worth acquiring a more general picture of the characteristics of independent pronouns.

Concerning their syntactic status, personal and possessive pronouns are inherently "definite" noun phrases. This is also shown by their distribution: except in some constructions, they do not pattern with sentence elements



(adjectives, possessives, restrictive relative clauses)  
which are generally determiners of the head in NPs:

*the hard-working you	(attribute + pronoun)
*your he	(possessive + pronoun)
*the he who was here	(pronoun + restrictive relative clause)

Pronouns then fill those positions in sentences which are usually filled by (+ definite) noun phrases..

However, most languages behave differently with regard to stressed and unstressed pronouns. Most languages show stress differences not only suprasegmentally (intonation, stress), they also employ different allomorphs according to whether the sentence element substituted by a pronoun is stressed or unstressed. Stress differences, in turn, show differences in functional sentence perspective.

U n s t r e s s e d       s u b j e c t i v e       a n d  
o b j e c t i v e       p r o n o u n s       g e n e r a l l y  
perform the function of the unstressed topic. Thus it can be  
expected that t h e y   w i l l   o c c u r   i n   p o s i -  
t i o n s   w h e r e   t h e   c o r r e s p o n d i n g  
( + )   d e f i n i t e   s e n t e n c e   e l e m e n t s  
(subjects, objects) i n   t h e   r o l e   o f   t o p i c  
i n       n o n - e m p h a t i c       s e n t e n c e s

normally occur: before the verb in SOV languages, after the verb in VSX languages, and in the SVO type, subjective pronouns before the verb, while objective pronouns after the verb. Most languages do fulfil this expectation: the unstressed pronouns in the consistently SOV Japanese are indeed found before the verb; in some VSX languages the unstressed pronouns generally follow the verb; in English, which is almost consistently SVO, the subjective and objective unstressed pronouns generally take the positions specified above. Some languages, however, fail to fulfil this expectation. This has already been noticed by Greenberg (1963, 91), who stated that pronouns are different from nouns in respect of order. His examples include the pronominal object, which generally precedes, and the nominal object, which follows the verb in French, Italian, Greek, Guarani and Swahili (all SVO languages). In the Berber language (VSO type), pronominal objects (or indirect objects only) precede the verb if it is in the future or is negated. In the Nubian language, the general order is SOV, but it also shows SVO variants (although in the case of pronominal objects this alternative word order never occurs). In those Welsh sentences where the pronominal subject is emphatic, the subject takes the first position; if the object is also pronominal, then it also

precedes the verb (while nominal objects follow the verb). Welsh is also an VSO language.

Besides this difference in word order, Greenberg does not draw any concrete conclusions from the examples. This was left for another linguist to do (Dik 1978, 189-194), and recently a typologist (Hsin I-Hsieh 1978, 26-29). He also proved his conclusions using several new empirical examples. I-Hsieh's thesis is that p r o n o u n s may occur further to the left than their nominal equivalents: they t a k e the left - m o s t p o s i t i o n p o s s i b l e in the given language (ibid. 26). This means that in the linear order of sentences, p r o n o u n s, in contrast to sentence elements of NP-nature, tend to occur on the left. This characteristic has to be borne in mind if we are to o r i g i n a t e person - m a r k i n g affixes from p r o n o u n s.

I have not been able to find empirical surveys concerning the position of possessive pronouns, but I feel certain in concluding that in this case too, i n d e p e n d e n t possessive pronouns either stand on the same side as other possessive NP elements or tend to the left (this implies that with the NG-order of possessive constructions the order of pronominal possessive

construction may be GN, but not vice versa).

Greenberg's and I-Hsieh's statements make no distinction between stressed and unstressed pronouns (Greenberg also provided examples concerning stressed pronouns in Welsh). From the viewpoint of the present research it is also necessary, however, to study the behaviour of independent stressed pronouns.

Languages use stressed personal pronouns if the pronominal sentence element has no unstressed topic role. Within this case there are several syntactic possibilities: the pronoun may be the focus element (rheme) of the sentence, or it does have a topic role but is stressed. A pronoun is used with a focus role if it is emphatically stressed:

Hungarian Őt láttam tegnap este. (It was him I saw last  
"him saw-I last night" night.)

Hungarian Engem vigyen el a moziba. (It is me that (s)he  
"me take-(s)he the movie-to" should take to the  
movie.)

These constructions are not very frequent anyway, but because of the emphasis involved no-one has thought of

deriving the development of person-marking affixes from these.

The case of stressed topic is different (É. Kiss and Szabolcsi's term, cf. Szabolcsi 1980); some linguists have attempted to derive person-marking affixes (agreement) from constructions containing such an element (Givón 1975). Before discussing that, let us see what a construction with a stressed topic exactly means.

Since topic position is involved, it is obvious that according to the universal tendency the stressed topic element of sentences is sentence-initial. In languages in which word order is by and large determined by communicational factors, the situation is not complicated: the stressed nature of the topic in the first position is expressed by some grammatical means (special intonation, accent, pause, special pronoun), and the rest of the sentence follows the topic in the succession specified by other word order rules in the language:

Hungarian Az ékszerészt — nem a védencem gyilkolta meg.  
'the jeweller(acc) not my client murdered'  
(As for the jeweller - it was not my client who  
killed him.)

Hungarian Őket<sub>T</sub> — nem fogják kivallatni.

'them they won't cross-examine'

(As for them — they will not be cross-examined.)

(Dashes indicate the suprasegmental elements that cannot be represented in writing; cf. His spirit they couldn't kill).

In those languages, however, where the order of the sentence elements is fixed (in the subject-prominent languages of Li and Thompson 1976), constructions involving stressed topic show a more complicated picture: •

The boy<sub>T</sub> he came back yesterday.

French Lui<sub>T</sub> il n'était pas là.

French Alice<sub>T</sub> je ne l'ai pas vu.

Thus the stressed topic is on the left, separated from the sentence by a pause; following this (because of the obligatory word order rule) the topicalized element is repeated in the form of an anaphoric (and unstressed) pronoun. A similar variant exists in Hungarian, mainly in colloquial spoken style:

Hungarian A könyvedet<sub>T</sub> azt nem láttam.

'your book(acc.), that I haven't seen'

(As for your book<sub>T</sub> I have not seen it.)

Hungarian A feladat, az nem lesz könnyebb.

'the task (Nom.), that is not going to be easier'

(As for the task, it is not going to be easier.)

Examples could also be taken from a VSO language. In Ivatan (which belongs to the Malay-Polynesian language group), sentences with a stressed topic follow exactly the above pattern. First I provide the neutral sentence, this is followed by the one with the stressed topic.

mapalang qako no tao

(Reid 1966, 131)

lead me Subj man

'I am being led by the man'

yaken, quam mapalang qako no tao

'me lead me Subj man

'As for me, I am being led by the man'

In addition to the above more or less regular construction involving stressed topic, another special one is mentioned in several studies: the "afterthought" topic. This differs from the stressed topic in that the topic element is in the right-most position of the sentence. This construction is used (mainly in the spoken language) when we want to topicalize a sentence element after uttering the

sentence, or when we feel the hearer may not understand exactly what we were speaking about. In spite of this accidentality, there are linguists (eg. Hyman 1975) who suggest that this constructional type sometimes serves as a starting point in language changes. Examples include:

French     Je ne l'ai pas vu, lui<sub>T</sub>.

Hungarian Nem voltam náluk tegnap, Kovácséknál<sub>T</sub>.

'I wasn't with them yesterday, with-the-Smiths'

He does not see the boats, John<sub>T</sub>.

We had to discuss the rules of pronoun use in detail in order to be able to determine the positions and grammatical constructions in which pronouns most have been used when their cliticization and then agglutination began. The stage before agglutination must be a possible language state from both typological and grammatical aspects this is the aspect that enables typology (which should go parallel with theoretical considerations) to enrich and correct the findings of historical-comparative investigations.

### 3.1.2. POSITION OF PERSON-MARKING AFFIXES

In order to formulate a hypothesis elaborating the



position of independent pronouns prior to agglutination, we have to survey the position of person-marking affixes in relation to the stem in the languages under discussion. Before agglutination occurred, independent pronouns must have followed the order shown by the affixes in today's languages.

In the tested languages the word order type and position of affixes are as follows:

Position of person-marking affixes:

	Prefix	Suffix
SOV	4	7
TVX	-	4
VSX	2	2

SOV, prefixed: Assiniboine, Diegueno, Navajo, Ubih

SOV, suffixed: Amharic, Buriat, Eskimo, Kanuri, Quechua,  
Nenets, Tatar

TVX, suffixed: Hungarian, Sierra Miwok, Siuslaw, Takelma

VSX, prefixed: Aztec, Jacaltec

VSX, suffixed: Agra, Bella Coola.<sup>2</sup>

(I consider the Assiniboine language as prefixed SOV because, although number is marked by suffixes, prefixes

mark the category of person. In Blackfoot, mixed-position affixes are person-markers.)

In connection with the position of pronouns we have stated that it is either the same as that of nominal complements or tends to be left-most. Thus in an SOV language this rule would make it impossible for unstressed personal pronouns to be placed on the right of the verb. Yet the agglutinated person-markers are suffixes in seven of the tested SOV languages. Explaining this state poses certain difficulties, since firstly it involves positing a language phase preceding the stage of agglutination when only the pronominal elements "waiting to be agglutinated" followed the verb, since all tested SOV languages show a rather consistent tendency; this also meant that in clauses nothing could directly follow the sentence-final verb. Thus here we are faced with a contradiction which has to be resolved somehow.

In the case of IVX languages the explanation of the suffixed person-marking paradigms is easier, because the post-verb position can be filled. On the other hand, it is worthy of note that the subject-marking affixes, which have the greatest chance of becoming topics, are also in suffixed position. It is rather difficult to find an

adequate explanation of pronoun agglutination if the original pronoun was in topic position. Thus, in many respects, we again see inconsistency between word order type and the present position of person-marking bound morphemes. Moreover, three out of the tested four IVX languages obviously show a more primordial SOV stage, thus place of affixation and word order type is even less consistent in this earlier state (which is perhaps closer to the period of agglutination).

The position of pronouns most logically explains the affix pattern of VSX languages since in these, the position of pronouns, which is consistent with the nominal word order, motivates suffixed person-markers to a great degree; the tendency towards the left, on the other hand, serves as a good explanation of prefixed person-markers. To further elaborate, in the case of VSX languages (unless other considerations are raised) the word order rules for pronouns satisfactorily account for the position of person-marking affixes.

Since in SOV and IVX languages the present state cannot account for the position of affixes, other explanations have to be sought. Logically, two obvious possibilities exist: either the hypothesis (proved several times by historical-comparative methods) of person-marking bound morphemes being

of pronominal origin has to be rejected, or another one has to be put forward, namely that in the languages where the position of affixed morphemes is inconsistent with word order, these paradigms emerged not in the word-order period actually shown by the languages, but in another, when the order of sentence elements was consistent with the present pattern of person-marking. In either case, we have to reckon with grave objections. The latter hypothesis is especially vulnerable because, according to some typological conceptions, phonetic corruption in word-final position is an extremely powerful all-pervasive process (Vennemann 1975); thus the likelihood that word final person-markers remain unaffected in the course of type change is very small. Other counter-arguments may also emerge in connection with the suggested type changes (these will be discussed later). On the other hand, it would be illogical and counter-intuitive to reject the pronominal origin and nature of person-marking affixes, because to do so would be to ignore the concrete evidence provided by historical-comparative linguistics.

In spite of this, I shall attempt to give arguments in favour of both views. Relying on Givón's (1971) and Ingram's (1975) research I hold that affixes are "relics" from an earlier word order period; I shall try to account for why (the predominantly) suffixed person-marking changes more slowly than word order type itself; also, I shall raise the possibility that in certain languages one member in the paradigms (3rd person) is not of direct pronominal origin.

### 3.2. HOW THE INCONSISTENCIES IN THE POSITION OF AFFIXES CAN BE EXPLAINED: PROS AND CONS

It was I. Givón (1971) who first put forward the idea that in certain languages the morphological system of the person-marking paradigms could be the remains of the syntax of an earlier typological period. (The novelty of this theory is, of course, that it stresses the earlier typological period; historical-comparative

investigations, after all, had often derived morphological constructions from syntactic structures.) In this study Givón invites us for an "archeological walk" (implying that he discusses questions concerning extremely long periods of time), and he shows that morphological constructions may go back to syntactic structures in earlier typological periods. Among other areas, Givón investigates the prefixed subjective and objective person-markers of the Bantu languages, and the suffixed objective person-marking morphemes of Amharic. He derives the preverbal objective person-marking bound reflexes of the Bantu group from an earlier SOV state of these languages (which are now SVO), while in the case of Amharic, he considers the suffixed person-markers as the remains of an earlier VSO period, from which the SOV pattern of present-day Amharic probably developed under the influence of the Cushitic languages.

In this study Givón does not tackle the question of what syntactic structures the person-marking affixes come from. He discusses this problem later (Givón 1976), linking certain forms of the syntactic process of topicalization with morphological agreement. He states that although agreement is generally interpreted (both in the historical and descriptive sense) as a relation between the subject and the verb, or the object and the verb, yet both synchronically and historically agreement is a relation not

between these but between the topic and some pronoun in the sentence structure. Givón explores the relation between a pronoun in the sentence and the topic which is "fronted".

The man, he came.  
topic      pronoun

anaphoric relation  
↑

According to Givón's hypothesis, there are periods when this constructional type, with agreement in the new sense, becomes frequent due to some reason and, as a consequence, the topic loses its emphatic nature and is integrated into the structure of the sentence. This means that the speakers re-analyze the topicalized sentence as a neutral one, while the original anaphoric pronoun is cliticized, and finally agglutinates to the verbal stem:

Topicalization

The man, he came  
topic      pronoun

Re-analysis

The man, he-came.  
subject   clitic

By the end of this process the topic—pronoun agreement becomes subject—verb or object—verb agreement. Givón also

proves that pronominalization and agreement are not two distinct process, but historically one and the same; he also elaborates a hierarchy covering the various possibilities of how different sentence element acquire topic role.

To summarize the above: in Givón's opinion, the affixed agreement structures are the vestiges of topicalized constructions, agreement morphemes being the agglutinated variants of unstressed anaphoric pronouns. These constructions can survive the changes in word order type, and this explains their unexpected positions in certain languages.

Givón, however, does not find it necessary to assume that the reasons for these unexpected positions is always type change, and as an example he takes the Semitic perfect (Givón 1976, 183-184). Proto-Semitic could have been an SOV language, and the suffixed subjective agreement of its daughter languages probably emerged in this typological period. Topicalizational origin, such as the one outlined above, should have resulted in prefixes. Suffixes occur instead because in this language family the unstressed anaphoric pronoun probably stood not before the main verb, but before the auxiliary, and it was the p r o n o u n + + a u x i l i a r y complex that was suffixed to the stem of the verb.



Let us now see in what ways the typological and theoretical hypotheses outlined above are relevant for the languages tested in the present study. A number of problems have to be dealt with here: (1) the inconsistent, or unpredictable position of person-marking affixes; (2) the original syntactic function and position of the pronouns agglutinating into person-marking affixes; two previously mentioned universal statements should also be added: (3) the existence of possessive and verbal person-marking paradigms (and within these, the presence of the subjective and objective paradigm); finally (4) the phonetic similarity or identity between possessive and verbal paradigms.

Two hypotheses have been raised as explanations for the unexpected position of person-marking affixes: the version that derives the development of this construction from an earlier typological period, and the auxiliary version. Let us start with the first one.

Since here we set out from the position of affixes, we have to investigate two groups of languages separately: the one containing suffixes and that which contains prefixes. Among the types discussed (SOV, TVX, VSX), independent pronouns can regularly follow the verb in the VSX type and it is also in this type that the regular order of possessive

constructions is NG, which allows us to date the emergence of suffixed person-markers to the VSX period. On the other hand, we have also found SOV and TVX languages containing suffixed paradigms, and these can be considered as later variants of original VSX states. It can be hypothesised that in these languages the person-marking suffixes, for some reason or other, survived the type change. This trend involves the following languages:

Languages with suffixed person-markers:

<u>VSX</u>	→	<u>SOV</u>	→	<u>TVX</u>
Agta		Amharic		Hungarian
Bella Coola		Buriat		Sierra Miwok
		Eskimo		Siuslaw
		Kanuri		Takelman
		Quechua		
		Nenets		
		Tatar		

It should be emphasized, of course, that the arrows between the types do not mark any actual historical development between languages; they are simply a notational device for the (hypothetical) statement that in SOV and TVX languages the person-marking morphemes are the remains of an

earlier VSX period. TVX languages are placed after SOV languages because TVX languages still preserve, to a great degree, the characteristics of an earlier SOV type: this origin is also proved by the historical-comparative investigations of the Hungarian language. Finally, no SVO period appears in the trend because, as will have been obvious from the above statements, the person-marking pattern in question does not characterize this type; the system of person-marking paradigms presented here could not survive a consistently SVO period.

At first sight it might seem that the languages with prefixed paradigms need not be classified in historical order. SOV and VSX languages are found among the ones which display prefixation, and both types allow independent pronouns to be placed before the verb or the possessee, even if in VSX languages nominal complements generally follow the verb or the possessee. Thus we could assume that the person-markers in these two types originate from the present word order period, but historical-comparative investigations have refuted this (logically possible) solution. Steele (1976, 1977) supplied proof that the ancestor of the Aztec languages (Classical Aztec) was undoubtedly a TVX language with a SOV basis. He also showed that its prefixed person-marking paradigms are older than the VSX period seen today. On the

basis of this fact, then, we cannot exclude the possibility that in the present VSX languages involving prefixes the person-marking paradigms are the remains of an earlier SOV period (perhaps with than intermediate TVS period). The following languages represent this trend:

Languages with prefixed person-markers:

<u>SOV</u>	(—————>)	<u>TVX</u>	(—————>)	<u>VSX</u>
Assiniboine		Classical		Aztec
Diegueno		Aztec		Jacaltec
Navajo				
Ubih				

The arrows in brackets between the types indicate that the VSX languages with prefixed person-markers do not necessarily go back to the TVX or SOV states, since the tendency of independent pronouns being placed to the left can result in cliticized pronouns before the verb or the possessed also within this type. This is supported by Jacaltec, which has prefixes, proclitics and suffixes as person-markers<sup>3</sup>. (The history of the Aztec prefixes has other peculiarities, which I shall discuss later.)

Let us now suppose that for some reason the earlier typological period version is untenable as an explanation,

and let us try to employ the other possibility described by Givón, the auxiliary explanation. This can be resorted to when the position of affixes clashes with the usual pronoun order in the given type; Givón's example concerned the (SOV) Semitic languages, which have suffixed person-markers. Another restriction here is that this hypothesis can be employed only for the suffixed SOV and IVX languages (in respect of the languages that I have been investigating) since the position of auxiliaries (preverbal in VSX and postverbal in SOV) excludes Givón's explanation in the case of suffixed VSX and prefixed SOV languages. From the evidence provided by historical-comparative investigations, on the other hand, we cannot draw the conclusion that auxiliaries occur in the Aztec affixed person-markers.

However, the auxiliary explanation does not come up to our expectations even with regard to the SOV/IVX types. Although in the case of verbal paradigms we can posit the existence of auxiliaries, they cannot occur in possessive constructions, and we have to reconstruct the history of the paradigm systems of the tested languages to enable cliticization — agglutination to apply both

t o        v e r b a l        a n d        p o s s e s s i v e  
c o n s t r u c t i o n s .

Alternatively, it may be the case that only the verbal person-markers have developed from a p r o n o u n + a u x i l i a r y complex, and later this construction analogically spread to possessive constructions. (The first implicational universal does not exclude the possibility that verbal paradigms develop first, followed by possessive paradigms.)

In connection with this hypothesis we have to reckon with the following counter-arguments: to the best of my knowledge, it has never occurred in historical-comparative investigations that person-marking affixes could historically involve auxiliaries either in the Uralic or Altaic languages. Moreover, no-one has suggested that in the Uralic languages, the emergence of verbal paradigms had preceded that of possessive person-marking paradigms. Thus in the case of at least four of the tested languages the auxiliary explanation has to be rejected.

From this point onwards, consequently, I shall dismiss the auxiliary explanation because of the above factor. In spite of this, we may at times have to assume that the ancestor of a paradigm (or paradigms) of a particular language is a p r o n o u n + a u x i l i a r y complex. If need be, the actual task of correction rests with

concrete historical-comparative investigations.

We have attempted to outline the possibilities offered in Givón's work. However, among the syntactic constructions involving pronouns we encountered yet another structure which could theoretically result in the development of suffixed person markers also in SOV languages. (As we have seen, this group seemed to be the most critical from the explanation viewpoint.) These are the constructions involving a f t e r t h o u g h t t o p i c .

Afterthought topics in all probability also exist in SOV languages. Hyman (1975) considers that the SOV→SVO type change in some Niger-Congolese languages may be motivated by the growing frequency of these afterthought constructions. Afterthought topics also occur in possessive constructions, as we can see in a very frequent French constructional type:

mon fils á moi

son livre á lui

Thus, this constructional device can also apply to possessive constructions (this is in contrast to the auxiliary construction). However, we have to reckon with two serious counter-arguments in the case of verbal constructions. On the one hand, pronominal afterthought

topics can only follow clauses containing a pronoun. If the clause has a lexical NP which is repeated as topic, then (at least in the languages more familiar to me) the pronominal afterthought topic cannot follow the sentence:

Hungarian (Én) nem tudok ilyesmiről, én. (= "I don't know  
about it, I.")

French Je ne sais pas, moi.

He has been there, himself.

(The English sentence is actually more than a construction involving afterthought topic.)

On the other hand, the following is impossible:

Hungarian \*János nem vesztette el a kalapját, ő.

(= John hasn't lost his hat, he")

French \*Jeanne n'a rien dit, elle.

\*I have found Mary in the garden, her.

Constructions involving lexical afterthought topic are relatively more frequent:

Hungarian Nem vesztette el a kalapját, János.

(= "He hasn't lost his hat, John.")



French      Elle n'a rien dit, Jeanne.

I have found her in the garden, Mary.

Thus, as I see it, the constructions involving afterthought topic only provide a historical explanation in those constructions that contain a lexical topic antecedent (Hyman also set out from this point in dealing with the Niger-Congolese languages). And another objection may be raised in connection with the tested languages. According to the relation laid down in 2.1.3., most of the tested languages have affixed paradigms marking the person of more than one complement of the verb (generally that of the subject and the object); and it is absolutely impossible for two pronominal afterthought topics (subjective and objective) to follow the sentence:

\*Jól ismerem, én ót. (= "I know him well, I him.")

\*Je le connais bien, moi lui.

\*I know him well, I him.

Thus it is indeed improbable that in the tested languages the verbal paradigms involving mostly subjective and objective person-marking suffixes have developed from these constructions.

We can state that the earlier

typological period version is the one that can be considered as the most probable explanation of the alternatives discussed in this section. The type changes implied by the constructions, however, must be examined in detail. Two trends to type change have been considered: VSX  $\rightarrow$  SOV  $\rightarrow$  TVX and SOV  $\rightarrow$  TVX  $\rightarrow$  VSX. There is not much to be said about the second period of the first trend (SOV  $\rightarrow$  TVX); the historical-comparative method can show this process in the Indo-European, Uralic, and probably in other language-families as well. Suffice it to say that Russian and Latin had become TVX languages from the SOV Proto-Indo-European; and the TVX Hungarian and other Finno-Ugric languages with a relatively free word order had developed from Proto-Uralic, once also SOV. On the other hand, we may run into difficulties in elaborating the first period of the first trend (VSX  $\rightarrow$  SOV). Historical-comparative investigations have hitherto found the VSX  $\rightarrow$   $\rightarrow$  SOV type change only in two languages: Akkadian and Amharic, and even here, a substratum may have been the motive behind type change. Another counter-argument could be that VSX and SOV show opposite characteristics in every respect; Lehmann's structural principle of position assigns opposite features to the two types in respect of each sentence element. How is a radical change possible that

transforms all syntactic relations into their exact opposite? Owing to lack of data I cannot answer this question reassuringly, but I shall attempt to defend my suggestion with the following arguments:

(1) Although brought about by a strong substratum effect, this change undoubtedly did take place in the Akkadian and Amharic languages. Thus the radical change in syntactic relations cannot be excluded as a possibility. Besides, the Amharic language contains exactly the paradigm pattern which I want to explain in my study. Moreover, the process of change has not yet finished in this language: the case markers are still partly prefixes, but alongside the appearance of a suffix, a postpositional nominal relation-marking type is becoming widespread, and it is interesting to note that this pattern is connected with the person-marking system under discussion in the present study; the function of postpositions is filled by "pronominal adverbs" involving possessive person-markers. I have also found such pronominal adverbs in other languages, and it is possible that this phenomenon is a typical characteristic of the languages that contain affixed person-markers.

(2) Starting out from theoretical arguments, I found that the only way of explaining the existence of suffixes of pronominal origin in consistently SOV languages is to postulate an earlier VSX period. The auxiliary explanation

would perhaps be theoretically appropriate, but concrete historical-comparative investigations of person-marking suffixes indicate the opposite. Moreover, the subjective, objective and post-verbal or post-possessee positions of possessive pronouns cannot be postulated even in non-consistent SOV languages, because of the left-hand tendency of pronouns in general.

(3) Postulating an earlier VSX period would be very doubtful if no VSX languages containing suffixed person-markers existed; I have, however, found two languages of this kind, with one of them, Aïta, being at the beginning of the cliticization-agglutination process: some of its person-markers are enclitics but have not yet been agglutinated to the word stems.

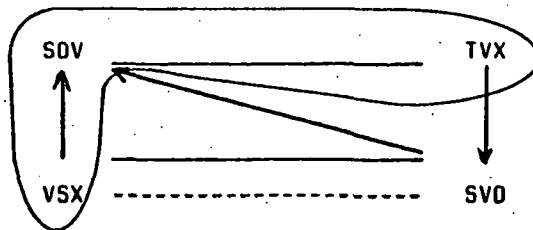
(4) Finally, we cannot exclude the possibility that the VSX → SOV change develops not directly but with an intermediate TVX period in which word order is relatively free. Within the VSX type we can find several languages in which the topicalized items are placed before the verb; a potential TVX period could perhaps be considered as a further development of this tendency. This hypothesis should, of course, be supported by historical-comparative investigations.

The difficulties in connection with the postulation of the order trend (SOV → TVX → VSX) are not so numerous.

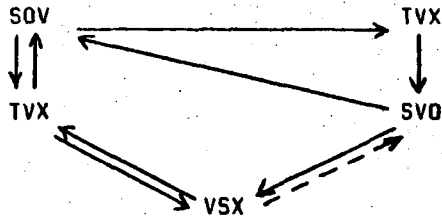
First, it was logically unnecessary to postulate this type change process: the pre-verbal and pre-possessee position of pronouns in SOV languages, and their left-hand tendency in VSX languages provided an appropriate explanation for the emergence of person-marking affixes. This time, the type change hypothesis had to be formulated exactly because of concrete historical-comparative investigations, namely, on account of the Aztec person-markers that were dated to a period preceding the VSX state. According to Steele's study (Steele 1977), however, the agglutination of person-marking affixes in the Uto-Aztec language family was of a more complex kind than in the cases discussed above. Steele points out that in an earlier IVX period there was rule which placed the cliticized person-markers into the second position in sentences, where they agglutinated to the very first constituent, no matter which sentence element was sentence-initial. Then the clitics, for some mysterious reason, "hopped into" preverbal position and agglutinated to the verb in the form of a prefix. We can conclude from this strange change type that the explanation which traces type changes back to the syntax of an earlier typological period is only a general scheme of the actual process; in individual languages

the development of person-marking affixes may occur in quite unique ways within this general pattern. Greenberg, too, (Greenberg 1973) may have referred to this when in outlining how typology could be extended towards language history he stated that as we accumulated more and more details about the history of certain languages and language families, we found more and more individual ways in which the universal rules are manifested.

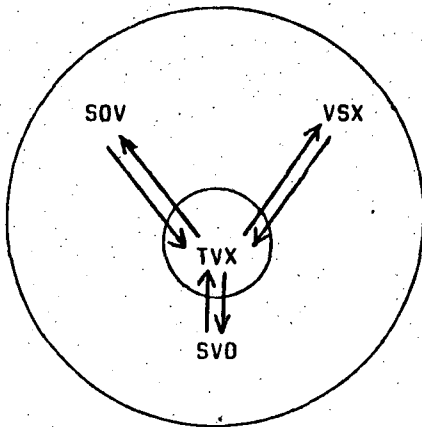
Further on, I shall deal with the question of how the type change trends are incompatible with I-Hsieh's (1978) SOV cycle, since according to his conception the VSO and SOV states are interrupted by SVO phases, and the person-marking sample discussed here is not characteristic of SVO (probably not being consistent with this type). Vennemann's (1974) conception, however, does contain a tendency which corresponds to the trend now being discussed:



If we complete this scheme with the other hypothesised historical trend, also inserting the TVX type, we then arrive at the following, rather complicated scheme:



The above figure can be reduced to a much simpler one. Although this results in directions that do not exist in the above scheme, and the new scheme also conceals others that do exist, it reveals a new, more general principle of type change:



Inner circle:

topic-prominent type

Outer circle:

subject-prominent type

The heuristic power of this scheme is that it presents type change, which so far has been based on word order, as a variation between two major language types that have not figured in the previous sketches. Thus, languages would alternately show subject-prominent and topic-prominent characteristics (Li - Thompson 1976), with different variants within the subject-prominent type, depending on how they pattern the subject, the object and the verb. The type in which the order of the constituents in the sentence would primarily be determined by the communicational aspects, plays the key role in the course of change. In this sense TVX is but the schematic abbreviation of several variants, since a TVX language can display extremely varied forms within the binary pattern of the topic-focus (theme-rheme) division, determined by the type from which it has developed, by its intonational structure, and by other subrules for word order (Dezs6 1978b).

If we are now to formulate the motive of type change represented in the figure, we can state that the process of type change arises from the clash of the two opposite tendencies that are at work taking turns, with restrictions imposed only by word order universals. On the one hand, languages strive to reach some permanent pattern in their syntactic characteristics (this metaphor is to be interpreted either in the sense of Lehmann's structural



principle, or in the sense of natural serialization). On the other hand, demands of communication tend to counteract this tendency towards a unified structure. In other words, in the case of subject-prominent languages, the process of speech requires syntactic structures which clash with the "inherent" functional perspective in the unstressed word order variant of the given word order type. If this is too frequently required, it can bring about a change in the established basic word order variant. In topic-prominent languages, on the other hand, it may become necessary to mark syntactic relations with a more and more fixed word order.

I have been able to make this digression towards conceptions of type change only by temporarily dispensing with the strict considerations of scientific research. For the moment, unfortunately, knowledge is sparse about the behaviour of TVX languages with free word order; also, we have hardly begun to find explanations for the reasons of type change and changes in language in general. The most useful course would be to agree (with a little modification) that the two trends can be integrated within Vennemann's conception which, although has been widely criticized, still provides a relatively coherent picture of type change.

### 3.3. WITHOUT TOPICALIZATION

I have not hitherto expressed my own opinion concerning the syntactic sources of affixed person-marking paradigms. I have outlined three possibilities: Givón's topicalization hypothesis; Givón's auxiliary explanation; and the third version, the constructions with afterthought topic. I have rejected the latter two as unlikely. Further on, I shall try to prove that even the topicalization hypothesis is unnecessary with regard to the languages that I investigated; independent unstressed personal pronouns (having unstressed topic function), or the syntactic constructions involving these pronouns, provide us with an explanation.

Unstressed pronouns with emphatic topic function probably show the same morphological behaviour in most languages: they form one single stress unit with the verb (or the possessor), while at morpheme boundaries various phonological interaction types can be observed.

French:	<u>Je demande...</u>	/ʒ <sup>a</sup> d <sup>a</sup> mā:d <sup>a</sup> /
	<u>Je crois...</u>	/ʃ kʁw'a/
	<u>Je t'en prie...</u>	/ʃ tã:m' pʁi:/
	<u>J'avais...</u>	/ʒ a' vɛ/
	<u>mon oncle...</u>	/mõn' õ:kɫ <sup>a</sup> /
English:	<u>I told you...</u>	/aɪ' təvldju/
	<u>I've got...</u>	/əv' gɒt/
	<u>You know...</u>	/jə' nəʊ/
	<u>Your picture</u>	/jə' pɪktʃə/

It is apparent that in the 1st and 2nd persons there is a tendency for unstressed possessive and personal pronouns to be cliticized and then agglutinated. In the 3rd person we run into difficulties in explaining why non-zero pronouns occur in verbal or possessive constructions even when the verbal complement (or the possessor) is a lexical noun phrase. In other words, the phonological behaviour of unstressed possessive and personal pronouns is a natural explanation in the case of affixed person-marking (which is the equivalent of pronominalization) but this explanation is inadequate in the case of agreement. This is probably why Givón (1976) traced back agreement (and,

implicitly, person-marking) to topicalization processes, since what he describes as the process "topic raising → -- re-analysis as neutral sentence" provides an adequate explanation for the existence of non-zero 3rd person affixes in sentences containing lexical noun phrases.

It is my conviction, however, that in the languages containing the relevant paradigm types, we do not need topicalization of the development of person-marking paradigms. It seems to be sufficient to state that they appear because of the behaviour of unstressed personal and possessive pronouns, which was outlined above.

The reason why I rejected topicalization as an explanation is that in the majority of the tested languages, the 3rd person of either the subjective or the objective verbal person-marking paradigm is zero. What probably happened in these paradigms is that after cliticization the 1st and 2nd person pronoun agglutinated to the verb, while there was no such process in the 3rd person (partly because in the majority of sentences lexical NPs are 3rd person complements and partly because in some of these languages the 3rd person pronoun is itself zero). As soon as agglutination occurs, a verbal paradigm

emerges such that "nothing" is the 3rd person marker in the opposition, which is interpreted by present linguistic procedures as a zero morpheme. This zero morpheme, however, postulated on the basis of linguistic presuppositions, has nothing as its historical antecedent. Thus Givón is right when he states that languages that use zero anaphoric pronouns in topic-shift constructions will not develop subject—verb or object—verb agreement (Givón 1976, 151), since historically we have no reason to posit a zero element as a morpheme of agreement in the Hungarian sentence A vadász lő (= the hunter shoot +  $\emptyset$ , i.e. "the hunter shoots"). On the other hand it is certain that affixed person-marking paradigms can also emerge in languages in which the process of cliticization-agglutination does not take place in the 3rd person, only in other persons. In this connection we can pose the theoretical question of when and why it is adequate to postulate as zero the 3rd person affix and the marker of agreement in synchronic, diachronic, or pan-chronic descriptive frameworks. Further on, I shall employ the term "zero" irrespective of the answer to this question.

Givón examines the zero morpheme in the 3rd person, illustrating with the Bemba language how the process of topicalization works even when the 3rd person pronoun is

zero (l.c. 166-167). However, this statement contradicts another one that can be found at the beginning of his study: here he states that languages using zero anaphoric pronouns do not develop subject—verb or object—verb agreement. With respect to the language type now being discussed, his hypothesis is mistaken not only because of the above reason, but also because it does not apply to agreement in possessive constructions.

How are those numerous cases to be explained where the 3rd person of the verbal paradigm is a non-zero element? It is just these cases for which I have suggested that the direct historical antecedent of the non-zero affix is *n o t a p r o n o u n* but either a suffix with special functions that was adapted later, or a case marker which "stuck" in the sentence structure (see later).

So far, possessive paradigms have not yet been discussed. I have found 3rd person zero affixes in these paradigms only in the case of inherent possessee stems (in Assiniboiné). The reason for this is obvious: the non-inherent possessee stems could not be interpreted as elements of possessive constructions if some overt element (affix or lexical possessee) did not indicate this relation. On the other hand, an explanation to the question of why the non-zero marker of the 3rd person can also occur with a lexical possessor has to be found also in the case of possessive

constructions. Topicalization could not have been the antecedent of these constructions, since topicalized possessive constructions are rather rare (almost ungrammatical in some languages). Thus, in such a large number of languages the re-analysis of topicalized possessive constructions as neutral structures cannot lead to the development of possessive paradigms. For such a process to occur, we would have to postulate the frequent existence of topicalized constructions of the following type:

?? Márta, az ő könyve (Martha, her book)

? Peter, his book

In spite of this, we cannot exclude the possibility that possessive constructions can also emerge in such a way<sup>4</sup>. The Assiniboine and Agta constructions, however, which will be discussed later, indicate that the topicalization explanation can also be rejected in the case of possessive paradigms, since possessive person-marking affixes can be derived from simple unstressed possessive pronouns. The Assiniboine language provides proof that there exists a phase when, in the case of a lexical possessor, there is no 3rd person affix, this being found only in the case of pronominal possessor; it is

also quite probable, on the other hand (see later), that affixed marking may analogically spread over to constructions involving lexical possessors. The data of the Agta language, by contrast, suggest that the 3rd person possessive person-marker is not necessarily of pronominal origin.

### 3.4. TYPES OF AFFIXED PERSON-MARKING PARADIGMS

In this section I shall outline the conditions of the development of three paradigm types, using mainly languages which represent the early phases of development. For each type I shall assume that the paradigms are the results of the cliticization and agglutination of unstressed personal and possessive pronouns. Should this process be insufficient for the explanation of the 3rd person forms, I shall attempt to find other motives for their development.



### 3.4.1. THE PRONOMINAL PATTERN

Let us suppose that cliticization and subsequent agglutination to the verb or the possessee is the natural behaviour of personal and possessive pronouns. The 1st and 2nd person are always expressed by a pronoun, therefore in these persons affixation develops in subjective, objective and possessive positions alike. The complements of the 3rd person, on the other hand, are lexical NPs in most of the cases (thus no pronoun appears in the sentence) and, moreover, in some languages the unstressed 3rd person pronoun is itself a zero element. Furthermore, in verbal constructions the meaning or morphological construction of the verb clearly refers to the number and character of the potential participants. Thus in the case of the verbal paradigms the 1st and 2nd person may be marked with affixed person - markers of pronominal origin, while the 3rd person may be expressed by a zero element both in the case of lexical complements and anaphoric (unstressed) pronominalization. If the verb (by virtue of its semantic

and morphological features) clearly refers to the number and nature of the possible complements, the possibility cannot be excluded that the person-marker of both the subject and the object will be a zero element.

The 1st and 2nd person of the possessive paradigm can naturally develop from unstressed possessive pronouns. In the case of a lexical possessor, there is no pronoun in the construction, therefore no 3rd person affix can occur. On the other hand, in the case of a pronominal possessor, the affix cannot be zero, because a bare NP would not be interpreted as one with a possessor (unless in the language the inherent possessee nouns from a distinct category).

Schematically the ideal paradigm pattern of clear pronominal origin ought to be as follows<sup>5</sup>:

#### Verbal constructions

		Intransitive	Transitive	
		$Vx_1$	$Vx_2$	$Vx_3$
Person	1st	<u>A</u>	<u>C</u>	<u>E</u>
	2nd	<u>B</u>	<u>D</u>	<u>F</u>
	3rd	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>

### Possessive constructions

Pronominal possessor

Lexical possessor

Px

Person	1st	<u>G</u>	--
	2nd	<u>H</u>	--
	3rd	<u>I</u>	unmarked

In the schemes, A - I are the affixed derivatives of the corresponding personal and possessive pronouns, and zeros are postulated items without historical antecedents. Do we in fact know of such a language?

Yes: in the *A s s i n i b o i n e* language (as has already been mentioned in this chapter) there are affixed person-markers of a mixed type: prefixes can be considered as morphemes of the person category, while suffixes as those of the category of number. (Some infixes are also found in the language.) For the moment I am disregarding the morphemes of the number category. In the 3rd person singular the verbal person-marker of both the subject and the object is zero, while the other persons are expressed by overt morphemes both as subjects and objects:

wicásta   ne   púza   wazi   ǂ - ǂ - apá                      (Levin 31)  
 man                      Part cat                      he- it (Acc)-hit  
 "The man hit a cat"

uk   -   á   -   ni   -   pe   -   pi                      (Levin 34)  
 we - you (Acc) - wait - Pl.  
 (Pl.)  
 "we wait for you"

Among the pronominal possessive constructions, the 3rd person of the possessee (marking parts of the body or some relation) is zero, since inherent possession is involved, but the occasional possessee have overt person-markers also in the third person. The constructions that contain lexical possessor are unmarked and have GN word order:

ta       -       wícu                      (Levin 24)  
 Px3Sg   -       Woman

'his wife'

<u>Viola hiknáku</u>	<u>Tom cicá</u>	(Levin 60)
Viola husband	Tom son	
"Viola's husband"	"Tom's son"	

It is very significant that the SOV Assiniboiné contains prefixed person-markers; my hypothesis is that Assiniboiné is in the period of affixation development, when the position of affixes is consistent with the order of sentence elements.

In the tested sample, Assiniboiné is the only language which belongs to the clear pronominal type<sup>6</sup>, although some characteristics of the pronominal type occur in the other two paradigm types that will be discussed.

Indeed the possibility has to be allowed for that there may be a language whose affixes of pronominal origin mark the 3rd person in verbal paradigms in the case of anaphoric pronominalization, but (similarly to the above possessive constructions) in the case of lexical complements, the 3rd person is zero. However, I have not discovered any languages with such an affixation type.

### 3.4.2. THE ADAPTATIONAL PATTERN

I have found two languages in which most (though not all) paradigms can be explained by the above pronominal origin. There are, however, significant differences from the pronominal pattern in respect of two phenomena, on the basis of which these languages represent a new paradigm type. The differences are also motivated by the fact that both languages have suffixed person-markers and belong to the IVX type, thus indicating that their affixation principle must be very old and that it must have undergone much change during the course of time.

There are eleven kinds of verbal paradigm in Takelma, an isolating language of the Penutian language family (Sapir 1922). The 3rd person of the subjective and objective paradigms is marked by a zero element in seven out of the eleven cases. Thus these verbal paradigms are constructed in a similar fashion to those in Assiniboine, but the structure of possessive paradigms differs from their counterparts in Assiniboine because not only the constructions involving pronominal possessors (suffixes in the example below) but also those involving lexical possessors contain person-marking affixes:

<u>hap</u> <u>'-da</u>	<u>sgi'si</u>	<u>hap</u> <u>'-da</u>	(Sapir 1922, 292)
son - Px3Sg	Coyote	son - Px3Sg	
"his son"	"Coyote's son"		

This differences seems to be explicable in two ways. The more probable alternative is that possessive paradigms did not develop in the same way and at the same time as the verbal paradigms that involve a zero element in the 3rd person; rather, they emerged together with the paradigms involving overt 3rd person morphemes. The other alternative is that the possessive 3rd person affix is the result of analogical extension. The first hypothesis is supported by the fact that Sapir in his grammar relates the possessive paradigm to another one in which an overt 3rd person morpheme occurs (cf. Sapir 1922, 231). The second hypothesis is supported by the following consideration: in a language which has unmarked possessive constructions side by side with ones marked by person-markers, the marked pattern may easily spread over to the unmarked construction. There are many sentence types which facilitate this analogical spread: mainly those in which the possessor is a lexical element but there is no genitive relation between the lexical element and the possessee. Consider the following Hungarian sentences:

- (1) Mária a kosarát fölvette. (= Mary picked up her  
Mary the basket- picked basket.)  
(nom.) -her up
- (2) János a fiának szánta a házat. (= John intended the  
John the son- intended the house for his son.  
-his-for house (acc.))
- (3) Az öreg rájött, hogy a pipája otthon maradt.  
The old realized that the pipe-his at home had  
man (nom.) remained.  
(= The old man realized that he had left his pipe  
at home.)

The analogy is also assisted by the fact that in an SOV language the constructions which grammatically have no genitive relation but do stand in possessive relation, are always next to each other in the surface structure of sentences (even in those like in (3) above, which contain an embedded clause).

My assumption, then, is that in the Takelma language the non-zero person-markers have somehow become generalized also in those constructions containing a lexical possessor.

The other difference between Takelma and the type represented by the Assiniboine person-marking leads us to a person-marking system differing very significantly from the paradigm type of pronominal origin.



As has been mentioned, the person-marking suffix of the 3rd person subject and object is zero in most verbal paradigms of the Takelma language. Since subject and object are not distinguished by case markers, and because the order of NP-complements is strictly fixed, difficulties in interpretation occur whenever there is only one complement in a sentence with a transitive verb (Is it a subject or an object?) and also, whenever two NPs follow each other which are both likely candidates to be the subject or the object. In doubtful cases, the difficulty is resolved with the help of an interpretational principle and a (probably recently adapted) affix. By the interpretational principle the /+ human/ complement will be considered as subject, and the /- human/ participant as object. The affix (- kwa / - gwa ), on the other hand, overrides this principle, indicating that the sentence has a /+ human/ object (Sapir 1922, 158,1689):

tlibisi      tlayak-Ø-Ø  
ants            find- he-it (acc.)  
"He found the ants"

tlibisi      tlaya-Ø-kwa  
ants            find-he-him  
"The ants found him"

itlanahi-Ø-Ø

held-he-it (acc.)

"He held it"

itlanaha-Ø-gwa

held -he -him

"He held him"

mena yapla t!omo-Ø-kwa

bear man kill-it-him

"The bear killed the man"

The origin of the "occasional" person-marker (the morpheme - kwa / - gwa ), which prevents misinterpretation, is worth mentioning: this suffix is usually attached to transitive verbs when the object of this verb is the same as the subject (i.e. the construction is reflexive), or when the object is incorporated into the verb, being possessed by the subject (eg. a part of the body). To explain this further, I provide some French examples, similar in many respects to the Jakelma sentences (Sapir 148):

igaxaga'x-gwa-n.

scratch - Refl.-I

"I scrape myself"

French je me gratte

sin - it'gill's-gwa-Ø      French      il s'est gratté le nez  
nose-scratch-Refl.-he  
"He scratched his nose"

Takelma and French have the same morphemes, they are simply mirror images:

~~il s'est gratté le nez~~  
~~sin - it'gili's - gwa -~~

This reflexive morpheme (- kwa / - gwa ), related to the object and the possessive construction is what the verbal paradigm adapted for the cases when ambiguity has to be prevented.

On the basis of Takelma examples I have illustrated the emergence of a new paradigm type. The initial phase was similar to that in Assiniboiné: the subjective and objective paradigms had a zero morpheme in the 3rd person, while in the possessive paradigm (even with lexical possessors) the 3rd person was marked by an overt morpheme. It seems to me that a stage is developing here in which the zero 3rd person of the transitive verb paradigm alternates with a non-zero 3rd person morpheme. The new overt 3rd person morpheme is the result of adaptation, which in turn is motivated by the

elimination of ambiguity, I consider this type of person-marking and the circumstances of its development significant because it enables us to avoid using the hypothesis of topicalizational origin even when an overt morpheme occurs in the 3rd person of the paradigm. It should be stressed that in this type the overt morpheme of the 3rd person emerged later (by adaptation) than the already existing morpheme of the 1st and 2nd persons.

A similar situation is found in Sierra Miwok, which belongs to the Miwok branch of the Penutian language family, where the person-marking system of the various tenses and moods is very complicated. No less than three subjective and objective person-marking systems are used, depending on the character of the tenses and moods. The first paradigm system contains special multi-function morphemes according to the entirety of the possible combinations of the person of subject and object. Multi-function person-markers enable the distinguishing of the persons and their syntactic functions. In another set of tenses and moods, possessive person-marking affixes mark the subject, and another affix the object. It is easy to identify the syntactic functions of the participants, since the two sets of affixes are different, and the language has a case system. In the third set, both the person of the subject and that of the object is marked in the same

paradigm: in sentences with a transitive verb, two members of the same paradigm appear in the verb at the same time. This causes several interpretational difficulties. Sapir discusses only one of these, the outline of which is the following: when the subjective and the objective complements are not lexical NPs and when one of the complements is in the third person (its person-marking affix being zero both when it is the object and the subject) while the other complement is non-zero, the overt non-zero person-marking affix can mark both the object and the subject. Different dialects of the language overcome this problem of interpretation in various ways. Some use phonological distinctions, while one particular dialect employs the following method: if the subject is in the 3rd person, then a 3rd person possessive affix is added to the non-zero personal affix. Here too, ambiguity is eliminated both by an interpretational principle and an adapted affix with a special function. In the "natural" case the subject is that sentence element whose person is numerically closer to the person of the speaker; and (the grammar mentions only this case) if the 3rd person complement is the subject, then the adapted possessive person-marker signals the deviation from the natural. For example (Freeland 55):

?ivi?i-Ø-t

eat - it (Acc.) - I

"I eat it"

?ivi?-te?-si

eat - me - Px3Sg

"It eats me"

?ivi?i-Ø-tokni

eat - it (Acc.) - you (pl.)

"You eat it"

?ivi?-tokni?-si

eat - you (Acc. pl.)

- Px3Sg

"It eats you"

?ivi?i-Ø-m

eat - it (Acc.) - we

"We eat it"

?ivi?i-me?-si

eat - us - Px3Sg

"It eats us"

This Sierra Miwok example is interesting not only because it contains a process similar to that which we saw in Takelma but also because the adapted affix is exactly the 3rd person form of the possessive person-marking paradigm. At the beginning of this chapter we formulated a nearly universal empirical statement from the comparison of person-marking paradigms, according to which the phonetic shape of possessive paradigms is, to a great degree of probability, identical with, or similar to, that of some verbal paradigm. Later on I shall discuss this in detail, but will state here that the phonetic correspondence of at least the 3rd person

morphemes must have been promoted (as we observed in Sierra Miwok) by the fact that the 3rd person of the possessive paradigm was adapted in order to avoid ambiguity in verbal constructions.

We can observe the adaptation of the 3rd person overt morpheme in the course of its development in both Takelma and Sierra Miwok. Further on I shall discuss a language in which this adaptation probably took place a long time ago, and in the 3rd person (or, as it is termed in the description of American Indian languages, in the forms of the 3rd and 4th persons) there exist several overt morphemes that can be used to eliminate ambiguity.

The possessive person-marking prefixes of the Navajo language (which belongs to the Apache branch of the Athabascan language family) are phonetically identical to some in the set of objective person-marking prefixes of verbs (Sapir—Hoijer 1967, 71, 86-87):

1st person	<u>si-jaad</u>	"my foot"	<u>n-si-nliteeh</u>	"you put me down"
	∴	∴	∴	∴
2nd	<u>ni-jaad</u>	"your foot"	<u>n-ni-lteeh</u>	"he puts you down"
	∴	∴∴∴	∴	∴∴

3rd person

		<u>dis-Ø-teeh</u>	"I carry <u>him</u> "
<u>bi-jaad</u>	"its foot"	<u>bi-dilteeh</u>	"he carries <u>it</u> "
		<u>vi-dilteeh</u>	"he carries her"
<u>ha-jaad</u>	"his foot"	<u>ni-ho-nsteeh</u>	"I put <u>him</u> down"
<u>?á-jaad</u>	"someone's foot"	<u>?á-dilteeh</u>	"he carries someone"

So far this should not be surprising, since in most of the languages under discussion the phonetic shape of the possessive paradigm corresponds to that of one of the verbal paradigms. A more interesting question is which 3rd person morpheme is used, and when. The answer is quite simple in the case of the 3rd person of the possessive paradigm: bi- is used both with an animate and inanimate possessor if the reference is specific. The second form, ha-, is used only when the possessor is animate. With an animate possessor the prefix bi- is used when the possessor is an important prominent character who the speaker sympathizes with, and ha- is used when the possessor is only a "minor character" or is in a formal relation to the speaker. The prefix ?á is added to the possessee when the possessor has a non-specific referent (Sapir-Hoijer 69). The bi-, ho- and ?á- prefixes of the verbal paradigm are largely governed by the same rules, but besides these there exist two other prefixes: the zero prefix is employed if the subject is in the 1st or 2nd



person (though this is not obligatory), while yi- serves for the distinction of the basic sentence elements. If we now recall Takelma and Sierra Miwok, we see that here, too, the use of the zero allomorph is governed by an interpretational principle as in these two languages: in the "natural" case the subject is the person that is closer to the speaker in terms of grammatical number. On the other hand, the yi morpheme plays the role of the specific (and perhaps adapted) morpheme which eliminates ambiguity, and does so in the following way: when both the subject and the object are in the 3rd person, this causes difficulties of interpretation because (there being no case marking and the word order of the nominal complements not being strictly fixed - although they stand before the verb), it is difficult to tell which of the two 3rd person NPs is the subject and which is the object. Nor does the subjective prefix provide us with any information about this, since (although its position is fixed) its 3rd person form is zero. (In fact, this is a remnant of the pronominal pattern, because the subjective 3rd person is always zero and the objective 3rd person has a zero allomorph.) Interpretational difficulties also occur when only one 3rd person NP precedes the verb because it is impossible to tell whether it is the subject or the object. This problem is resolved by person-marking affixes in the following manner: the yi- prefix is

used when the complement immediately preceding the verb is the object, and bi- is used when it is not the object (Sapir—Holjer 86):

?askii yi-dilteeh

boy him-take

"He takes the boy"

?askii bi-dilteeh

boy him-take

"The boy takes him"

diné ?askii yi-dilteeh

man boy him-take

"The man takes the boy"

diné ?askii bi-dilteeh

man boy him-take

"The boy takes the man"

The 3rd person affixes essentially play the same role of eliminating ambiguity by marking the functions of the basic sentence elements in embedded clauses (in detail see Akmajian-Anderson 1970).

The great number and the extremely complicated system of rules governing the 3rd person morphemes in Navajo enables us to arrive at the further generalization that these morphemes exist not only for the distinction of subject and object (by adapting overt morphemes in the person-marking paradigm) but they can also have the function of distinguishing between types of object along the specific; nonspecific dimension; moreover, they (by means of the bi , ho- / ha- prefixes) take part in certain pragmatic distinctions.

Finally, I would like to discuss the possibility, offered by data from Hungarian (although the Navajo examples are more convincing), that the 3rd person overt morphemes appeared in the verbal paradigm by adaptation, in order to make the distinctions which we have also seen in the Navajo language.

In Hungarian, case markers are employed to distinguish between the fundamental sentence elements; if none of these is expressed by NPs, the unstressed pronominal subject and object are marked by person-marking morphemes. There is nothing in the main clauses that suggests that person-marking affixes could be morphemes which prevent ambiguity. In the subclauses, however, there is a case which can be interpreted in such a way. Relative clauses in Hungarian are constructed in two ways. The first, and

probably older, strategy is the prenominal device in which the participial clause precedes the noun head.<sup>7</sup> The other one, which is probably the result of an SOV -- TVX type change, is a postnominal device with a finite relative clause and a relative pronoun:

Prenominal:

Az ezüstösen csillogó Dunán egy uszály haladt el.

the silverly gleaming Danube-on a barge passed by

"A barge passed by on the silvery Danube"

Postnominal:

A Dunán, amely ezüstösen csillogott, egy uszály haladt el.

the Danube-on, which silverly gleamed, a barge passed by

"A barge passed by on the Danube, which gleamed silverly"

In the case of the more ancient, prenominal strategy, no interpretational difficulty occurs; the syntactic relation between what is called the present or the future participle on the one hand, and the noun in the main clause on the other, is a straightforward matter: this noun is the subject of the present participle, and the object of the future participle. This relation is obvious even in the case of the perfect participle of intransitive verbs: the noun in the main clause can only be its subject. On the other hand,

in the case of transitive verbs the noun can be both the subject and the object of this participle. Moreover, in certain (although undoubtedly ancient and no longer productive) constructions we find an unmarked object - one without a case marker - in the subclause; the NP complements do not help to tell apart the subject and the object. In such cases the perfect participle is provided with a 3rd person possessive person-marking suffix when the noun in the main clause is its object, and a zero suffix is added when the noun is its subject:

<u>világlátott ember</u>	=	<u>ember, aki világot látott</u>
<u>world-see+PastPart-man</u>	=	<u>man who world (Acc.) see+Past</u>
"a travelled man"		"a man <u>who</u> has travelled a lot"

<u>színehagyott kabát</u>	=	<u>kabát, amely elvesztette a színét</u>
<u>colour-its lose+PastPart</u>	=	<u>a coat that has lost its colour</u>
<u>coat</u>		
"a faded coat"		

<u>istenverte idő</u>	=	<u>idő, amelyet Isten megvert</u>
<u>God-beat+PastPart+3Sg weather</u>	=	<u>weather that God beat+past</u>
"god-damned weather"		(weather that God damned)

pék sütötte cipó = cipó, amelyet pék sütött  
baker bake+PastPart+3Sg loaf = loaf that baker bake+past  
 "a loaf which was baked by a baker"

If the thesis that embedded clauses are more conservative is correct, then the suffixes of the 3rd person reveal an ancient subject vs. object distinguishing function. The example can also be interpreted in such a way that the sentence boundaries are not crossed, which enables us extend this rule historically to the main clause as well: according to this, if the noun immediately preceding the verb was an object (i.e. if the sentence was SOV), the suffix was zero, while if a subject preceded the verb (OSV order), the deviant word order was marked by the adapted overt morpheme.

The adaptational type can be represented in the following scheme:

#### Verbal constructions

	Intransitive	Transitive <sub>1</sub>		Transitive <sub>2</sub>	
	Vx <sub>1</sub>	Vx <sub>2</sub>	Vx <sub>3</sub>	Vx <sub>2</sub>	Vx <sub>3</sub>
1st person	<u>A</u>	<u>C</u>	<u>E</u>	<u>C</u>	<u>E</u>
2nd person	<u>B</u>	<u>D</u>	<u>F</u>	<u>D</u>	<u>F</u>
3rd person	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>		<u>Z</u>

# Possessive construction

Pronominal possessor      Lexical possessor

Px

1st person	<u>G</u>	--
2nd person	<u>H</u>	--
3rd person	<u>I</u>	marked with <u>I</u>

(where A — I are the derivatives of the relevant personal and possessive pronouns; I is analogically added to the possessed word in constructions containing a lexical possessor; Z is the adapted variant of a previously existing suffix, employed to eliminate ambiguity. Generally, it cannot be decided whether Z refers to the subject or the object (cf. Akmajian—Anderson 1); it may also happen that Z = I .)

## 3.4.3. THE PREPOSITIONAL PATTERN

The first and second persons of the person-marking paradigms in A g t a (Healey 1960), a member of the Malayan-Polynesian language family, suggest the same unstressed pronominal origin as the corresponding persons of the pronominal or adaptational paradigms. However, I have again

found significant differences in the 3rd person.

Agta is a VSX language, and is a fairly consistent representative of this type. It has suffixed person-marking paradigms which mark both the subject in transitive verbs and indicate the possessor in the possessee. The unstressed subject pronouns of intransitive verbs are not affixed (their 3rd person is zero), and the pronominal objects of transitive verbs are affixed only if they are in the 1st person singular, and the sentence has an affixed pronominal subject<sup>8</sup> (Healey 23, 3-37). The markers of the subject of transitive verbs are phonetically identical to the suffixes marking the person of the possessor. Different (mainly free) morphemes mark the object of transitive verbs and the subject of intransitive verbs. Agta is thus an ergative language with regard to person-marking.

The basic sentence elements (subject and object) are marked by prepositions. Case marking is also ergative in terms of prepositions: one specific preposition marks the subject of transitive verbs, and another one both the object of transitive verbs and the subject of intransitive verbs.

The order of possessive constructions is NG; if the possessor is a lexical NP, it is marked by a preposition that is identical to that used for the subject of transitive verbs. (This observation corresponds to what Allen observes



about the parallellism between transitive and possessive construction.)

A very interesting fact now comes to light: the affix of the 3rd person subject of transitive verbs and the affix of the 3rd person possessor phonetically coincide with the preposition used with the subject of transitive verbs and the preposition used with the lexical possessor. Moreover, if the transitive subject and the possessor are expressed by a lexical NP, there is no affixed person-marking either in the verb or in the possessee - no agreement occurs in these constructions. For example:

pinaligat na abbing-en ya kabayuq-en

(Healey 34)

hit           Erg child-the Abs. horse-the

"The child hits the horse"

ingaray - na                   ya tobáko

(Healey 36)

bamboo-amongst-hang-he Abs. tobacco

"He hangs tobacco amongst bamboo"

fún na hila

(Healey 27)

root Gen tongue

"The root of the tongue"

bary - na

gadwa - na

(Healey 30)

body - Px3Sg

half - Px3Sg

"his body"

"its half"

As will be obvious from this phenomenon, my hypothesis is that the 3rd person singular verbal and possessive person-marking affix in this language was originally a case marking preposition. It is attached to the verb or the possessee if the verbal complement (here: the subject of the transitive verb) or the possessee is not expressed by a lexical NP. The case marking preposition is preserved because otherwise the construction would be ambiguous. Without it, the verbal construction would be interpreted as being intransitive or passive, and the possessive construction would disappear and be interpreted as a mere NP.

The preposition is probably affixed to the verb because (1) in itself it is unstressed, and normally it forms one stress unit with the noun that follows it, and (2) if it has

no superordinate element, it can only be attached to the preceding verb, since the morpheme that follows it is itself an unstressed preposition.

The theory of the preposition that is agglutinated into a person-marker is compatible with Vennemann's concept of diachronic type change (which concerns other phenomena), and it provides further arguments concerning the varieties of, and reasons behind, the structural processes involved in the VSX → SOV change.

The Agta language is now in a stage, when, as yet, only p r o n o m i n a l subjects of transitive verbs and (sporadically) objective and possessive complements occur in agglutinated forms. It is likely, however, that agglutination will spread over to cover all other pronouns. It can also be supposed that at a later stage prepositions will analogically move away from lexical NPs too, to become part of the stress units of verbs and the possessee. Thus it can be predicted that the first one of the Agta sentences and the possessive constructions (quoted above) will be formed in the following way:

pinaligat-na abbing-en va kabayuq-en  
fún-na hila



Topicalization, then, will not be the only motivating factor for the VSX → SOV change, but also the fact that in verbal and possessive constructions agglutination has emerged, which is inconsistent with the VSX serial type and the language will try and restore typological consistence by changing its word order.

Outlined below is the scheme showing the prepositional pattern that would result if the 1st and 2nd person unstressed pronouns agglutinated to the verb and the possessee in every syntactic position:

#### Verbal constructions

	Intransitive	Transitive <sub>1</sub> (lexical complements)		Transitive <sub>2</sub> (anaphoric pronominal- ization)	
	Vx <sub>1</sub>	Vx <sub>2</sub>	Vx <sub>3</sub>	Vx <sub>2</sub>	Vx <sub>3</sub>
1st person	<u>A</u>	<u>C</u>	<u>E</u>	<u>C</u>	<u>E</u>
2nd person	<u>B</u>	<u>D</u>	<u>F</u>	<u>D</u>	<u>F</u>
3rd person	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>	<u>Prep.</u>	<u>Ø</u>

# Possessive constructions

	Pronominal possessor	Lexical possessor
	Px	
1st person	<u>G</u>	--
2nd person	<u>H</u>	--
3rd person	<u>Prep</u>	marked by a preposition

(Where A -- H are the derivatives of the corresponding personal and possessive pronouns; the affixed Prep in Vx and Px is phonetically (and originally) identical to the preposition used for one of the verbal complements and for the genitive.)

The Agta language provides significant information about the development of affixed person-marking in those languages which show the VSX → SOV → TVX tendency. There are several signs, however, which suggest that the 3rd person of the paradigms goes back to case markers (postpositions or suffixes) also in languages showing an SOV → VSX tendency.

U b i h , which belongs to the North-Western branch of the Caucasian language family, is consistently SOV both in terms of word order and serial type, and the position of verbal and possessive person-markers is prefixed. All other

Caucasian languages have affixed paradigms, which indicates that the affixed person-marking principle is probably very old. In the early periods it probably happened that various free morphemes were attached to the verb or the possessee, as agreement.

The following phonetic correspondences suggest the case marker origin of 3rd person morphemes: the ergative case marker is  $-n(\bullet)$ , and this is also the case marker of the genitive and dative. Correspondingly, there is an n-allomorph among the verbal agreement markers for the 3rd person subject of transitive verbs (Dumézil 55):

<u>a-jilä-n</u>	<u>ʔə-jip'xä-n</u>	<u>zä-t'xəL-Ø</u>	<u>a-n-ʔ qa</u>
<u>the-brother-Erg</u>	<u>Px3Sg-sister-Dat</u>	<u>a-book-Abs.</u>	<u>that (Acc.)-</u>
			<u>-he-gave</u>

"The brother gave a book to his sister" (Dumézil 55)

The subjects of intransitive verbs and the objects of transitive verbs have zero case markers, and consequently it can happen that the verbal person-markers of these sentence elements are also zero in the 3rd person. However, the zero marker is employed only if the subject or object of intransitive verbs directly precedes the verb:

a-tit'    ɸ-k'ɛga

the-man   he-came

"the man came"

(Dumézil 55)

This clearly ergative pattern seems to have been contaminated with another set of person-marking affixes: the 3rd person possessive affix is not n - (as we would expect it to be) but ɣa- and its allomorphs, which in turn are similar to the ɣi-, ɣ- allomorphs of the verbal paradigm.

To sum up what has been put forward about the origin of affixed person-markers: according to my hypothesis, they have mainly developed from unstressed pronouns in the languages tested. In each case, we can hypothesize the existence of an initial stage where the 3rd person is marked by the lack of a pronoun either because the personal pronoun does not appear with lexical complements (which are very frequent in verbal constructions) or because the 3rd person pronoun itself is actually zero.

The affixes in the pronominal pattern can be originated from unstressed pronouns; if no pronoun can be postulated in the original construction, person-marking appears as zero (or as unmarkedness).

The adaptational pattern is a further developed variant of the pronominal model. Here, in

some transitive constructions an adapted overt affix appears in the 3rd person in order to avoid ambiguity. The tested languages also reveal that the overt 3rd person affix of possessive constructions appears in constructions with a lexical possessor as well.

The 1st and 2nd person affixes of the prepositional (or postpositional) pattern have developed from unstressed pronouns, while the 3rd person affixes from case markers, both in the verbal and possessive paradigms.



#### 4. FURTHER CONCLUSIONS

##### 4.1. 1ST AND 2ND PERSON VS. 3RD PERSON

The discussion has so far revealed that the affixes of person agreement have developed from three sources:

- 1st and 2nd person: unstressed pronouns (verbal and possessive paradigms)
- 3rd person: unstressed pronouns (possessive paradigms)  
                  adapted affix (verbal paradigms)  
                  case marker (verbal and possessive paradigms).

In the languages that I have presented, affixes of different origin behave in an uniform way with regard to position: the affixes of all three persons occur on the same side of the verb or the possessee - either in suffixed or in prefixed form. This uniform behaviour is not logically necessary, if only because of the different origin of the affixes. In some languages prefixation and suffixation are distributed in such a way that the 1st and 2nd person affixes occur on one side of the stem, while those of the 3rd person stand on the other. These examples, on the one hand, serve as an indirect argument supporting the claim that the person-markers of the

1st, 2nd and 3rd persons originate from different sources; on the other hand, they corroborate a thesis (which is an indirect implication of our hypothesis) that morphemes of different origin do not necessarily behave in a uniform way and their emergence cannot be dated to the same period.

In the U p p e r C h e h a l i s language (Salish language family), the 1st and 2nd person singular person-markers of the possessive paradigm are sometimes prefixes, while the 3rd person is suffixed (Ingram 168). The example of the A l g o n q u i n language family is even more convincing (Bloomfield 1946, 94-95; Frantz 1966, 52-54; Vorhies 1974, 53-73). In this language a peculiar pattern can be found, although one which perfectly fits our hypothesis. Some paradigms use prefixes, others suffixes, and a third type contains both. In the latter, mixed, types the marker of the 1st and 2nd person are on the same side of the stem, while that of the 3rd person (and the plural) on the other: the 1st and 2nd person are prefixed, while the 3rd person is either prefixed a n d suffixed, or only suffixed.

#### 4.2. SIMILARITIES BETWEEN VERBAL AND POSSESSIVE PERSON-MARKERS

So far I have only touched in passing on the reason behind the fact (raised in 2.1.4.) that the phonetic shape of the possessive paradigm is very likely to correspond, or be similar, to that of one or several verbal paradigms. First, while discussing the overt 3rd person affixes of the Sierra Miwok language, we saw that the coincidence of paradigms must have been helped by the fact that certain languages took over the affix to be adapted to the verbal paradigm from the 3rd person of the possessive paradigm. Then we saw that in Agte and Ubih the two prepositions (ergative and genitive) from which we derived the 3rd person affixes were identical. But why do all three forms in the possessive paradigm coincide with those in one of the verbal paradigms? The reason for this empirical fact cannot be sought within the scope of person-marking affixes.

At the beginning of Chapter II I referred to one of Allen's articles published in 1964, in which he claims (mainly on the basis of case endings) that there is a parallelism between transitive and possessive constructions. Although Allen elaborated his theory with respect to case markers, it is probably true in the case of both subjective

and objective pronouns that one set of them coincides with one set of possessive pronouns. Thus what may have happened is that some verbal pronouns became agglutinated, to coincide with those in the agglutinated possessive paradigm. Starting out from these correspondences I am now going to argue that the distribution of affixed verbal person-marking paradigms reflects the types of the formal distribution of nominal case systems.

Let us suppose for the time being that in simple sentences, i.e. those containing only a subject, and perhaps an object, three kinds of complement have to be distinguished both when the sentence elements are lexical NPs and when they are pronouns. These three complements are: (1) the subject and (2) object of sentence containing a transitive verb, and (3) the subject of sentences with an intransitive verb. They are marked here with the symbols  $S_{tr}$ ,  $O$  and  $S_i$ , respectively. If the person (or also the number, though for now I disregard this case) of these complements is marked in the verb, then in principle (if two paradigms exist) subjective and objective person-marking are distributed in three ways:

1st paradigm

S<sub>tr</sub>

0

S<sub>i</sub>

vs.

vs.

vs.

2nd paradigm

0, S<sub>i</sub>

S<sub>tr</sub>, S<sub>i</sub>

S<sub>tr</sub>, 0

We can also see in the table that the possessive paradigm can in principle be similar to six types of verbal paradigm:

1. Px = S<sub>tr</sub>
2. Px = 0
3. Px = S<sub>i</sub>
4. Px = 0, S<sub>i</sub>
5. Px = S<sub>tr</sub>, S<sub>i</sub>
6. Px = S<sub>tr</sub>, 0

Surprisingly, even in my limited corpus I have found examples for each type of correspondence:

- |  |                              |
|--|------------------------------|
| 1. Px = S <sub>tr</sub>                  | Agta, Jacaltec, Sierra Miwok |
| 2. Px = 0                                | Navajo                       |
| 3. Px = S <sub>i</sub>                   | Bella Coole, Takelma         |
| 4. Px = 0, S <sub>i</sub>                | Assiniboine                  |
| 5. Px = S <sub>tr</sub> , S <sub>i</sub> | Quechua                      |
| 6. Px = S <sub>tr</sub> , 0              | Nehets, Hungarian            |

It also happens that the possessive paradigm does not coincide with any of the verbal paradigms of the main clause (Buriat, Tatar, Kanuri); in some languages all the three complements ( $S_{tr}$ ,  $O$  and  $S_1$ ) are marked by morphemes similar to possessive affixes (Blackfoot, Eskimo).

The above scheme aims at outlining how the similarity between possessive and verbal person-marking affixes varies. It ignores, and to some extent distorts, however, the diversity within the paradigms. Some of these distortions should therefore be corrected. I have postulated person-marking paradigms, though in several languages (eg. Blackfoot, Sierra Miwok, Amharic, Kanuri, Takelma etc.) there are more than two, determined, among other things, by (a) the grammatical gender of the verbal complements; (b) the type of the affixed verb (and often that of the affixed predicative noun; (c) the tense and mood of the verb, etc. These circumstances effect the formulation of the above coincidences in such a way that, for example, the first one has to be interpreted as follows: 1. "There is an  $S_{tr}$  affixed verbal person-marking paradigm which is sufficiently similar or identical to the paradigm marking the person of the possessor."

This, for the moment, seems to be an adequate formulation for typological purposes; the exact development of paradigm

systems can, of course, be concretized for the individual languages.

The schematic formulation of the coincidences is insufficient for yet another reason: I often discovered similarities, involving some persons of the paradigms, over and above the possessive paradigm and those parts of the verbal person-marking paradigm which differ from the one existing in the correspondence. These partial correspondences also merit further study; despite this I consider my process justified, because when I grouped each tested language into one of the six classes, in each case I adopted the formulation laid down by the author of the relevant grammar.

Finally, in some of the languages more possessive person-marking paradigms exist, according to whether the possessee is a part of the body, a kinship term, or some other noun; also, according to whether it is an alienable or inalienable object. Identity or significant similarity in these cases was applicable to just one of the possessive paradigms, although these paradigms only slightly differed from each other.

The similarities between verbal and possessive person-marking paradigms focus attention on the fact that the distribution of verbal paradigms parallels the morphological

marking of obligatory NP-complements in sentences containing a transitive and an intransitive verb. This, of course, is not too surprising because, according to our hypothesis, a significant part of affixes derive from pronouns with subjective or objective function; while overt 3rd person morphemes have been adapted either to distinguish subject and object (thus they are related to case marking), or they actually originate from case markers. Thus the first ( $P_x = S_{tr}$ ) and the fourth ( $P_x = 0, S_1$ ) correspondences show the pattern of ergative, while the second ( $P_x = 0$ ) and the fifth ( $P_x = S_{tr}, S_1$ ) show the pattern of nominative case marking.

The system of correspondences, however, is too neat. That we have also found more than one example of  $P_x = S_1$  is suspicious because typological research has shown that in nominal case systems  $S_1$  is never contrasted to the other two by means of a separate case in languages with a twocase system (Anderson 1978). When we examine this question in detail, our suspicion proves correct, because both Bella Coola and Takelma have paradigms containing fused morphemes for marking the subject and the object of transitive verbs, and it is probable that in these fused morphemes those Takelma morphemes are historically transitive subjects



which also mark the intransitive subjects, while in Bella Coola this is certainly the case (Newman 1969b, 299). Thus, the  $P_x = S_i$  correspondence is really vacant, and Bella Coola and Takelma have to be grouped with Quechua, where transitive and intransitive subjects are marked by identical morphemes.

Because of the instance, which gives rise to our suspicion referred to above, the languages containing the correspondence  $P_x = S_{tr}$  have to be examined in more detail, because here we are faced with the complementary case: in nominal case systems no unified (non-zero) morpheme marks both the transitive subject and object in contrast to an intransitive subject. Here we also have to consider that  $S_{tr}$  and 0 do not come into agreement by two morpheme sets which are individually equivalent to  $P_x$ , but by a paradigm containing one single morpheme per member, a paradigm that has multi-functional morphemes (since one and the same morpheme marks both the transitive subject and object in one and the same verbal stem). This state, of course, may have to be altered if, upon closer analysis, we can posit the existence of a zero morpheme in the system.

Theoretically, we can arrive at two conclusions if we hold that the structures in the nominal case system are also valid in this case, and therefore this distribution of paradigms is only a specious one. We may either interpret

$Px = S_{tr}, O$  as  $Px = S_{tr}$ , or conclude that  $Px = S_{tr}, S_1$ . In other words, we may arrive at either an ergative or a nominative pattern.

We have assigned the distantly related *Nenets* and *Hungarian* to the correspondence  $Px = S_{tr}, O$ . One of the striking features of both languages is that transitive verbs generally mark only the 3rd person definite object, while the other persons are not marked as objects. Historical arguments prove that mainly those verbal person-markers that simultaneously refer to the transitive subject and the 3rd person object; from our viewpoint, however, it is worth examining this more-than-sporadic correspondence between possessive affixes and those marking an intransitive subject. Moreover, this can be noticed not only in the above two languages but also in other languages belonging to the Uralic family (Hajdú 1966, 141). Thus it can probably be inferred that, at an earlier period in the Uralic languages, both transitive and intransitive verbs carried verbal suffixes marking 1st and 2nd person subjects that were identical with the still earlier possessive person-markers in these persons. Historical investigations (Hajdú 1966, 140) show that in verbal paradigms a zero element referred to the 3rd person subject, while in possessive paradigms this function was performed by an overt morpheme. The system

of subjective and possessive person-markers, then, can be reconstructed like this:

$S_{tr}^1 : \underline{A}$	$S_1^1 : \underline{A}$	$Px1 : \underline{A}$
$S_{tr}^2 : \underline{B}$	$S_1^2 : \underline{B}$	$Px2 : \underline{B}$
$S_{tr}^3 : \underline{C}$	$S_1^3 : \underline{C}$	$Px3 : \underline{C}$

The origin of the Nenets and the Hungarian paradigms is closer to the nominative pattern, because (except for the 3rd person) the person-markers of both the transitive and the intransitive subject can be related to possessive person-markers. The paradigm pattern, historically, is  $Px = S_{tr}, S_1$ .

On the basis of the above statements, the correspondences of paradigms have to be modified:

Nominative pattern:

$Px = S_{tr}, S_1$  : Bella Coola, Quechua, Nenets, Hungarian,  
Takelma

$Px = 0$  : Navajo

Ergative pattern:

$P_x = S_{tr}$  : Agta, Jacalteco, Sierra Miwok

$P_x \approx 0, S_1$  : Assiniboine

Thus the distribution of the verbal person-marking paradigms (similar to or different from possessive person-markers) is in parallel with the most general distributional types of nominal case systems (i.e. ergative vs. nominative), or, when the direct analysis does not fulfil this expectation, it can be derived from such a system.

## 5. WHY AFFIXED PERSON-MARKING IS CONSERVATIVE

5.1. When I dated the development of paradigms in question to the VSX → SOV → TVX and SOV → TVX → VSX periods, I implicitly stated that the tested person-marking patterns survive for much longer than the word order types. This means that the person-marking principle under discussion is much slower to change than the word order type of languages. Some hypotheses (Vennemann' 19175) according to which the phonetic shape of word ends is in constant reduction<sup>9</sup> seem to contradict the above statements. How can it still be possible that the mainly suffixed person-markers resist this tendency?

As an answer to this question, I have found three reasons responsible for the survival of paradigms.

### 5.1.1. THE STRICT, CLOSED STRUCTURE OF PERSON-MARKING PARADIGMS

There are few paradigm types which show such a closed and internally organized pattern as person-marking, which is only natural since the three persons and (to a smaller degree, but with great statistical probability) the two numbers are universal categories.

It is vital for each language to distinguish the members of these paradigms permanently, since only very few cases can occur (impersonal constructions, ellipsis, and interjections) where it is not necessary to mark the grammatical person.

The dimensions of the internal structure of paradigms are the result of a very simple speech situation: I tell you something. Further category division arises mainly in the third person, and in the number category. Other subsystems with central significance that constitute grammatical structures mainly express more complicated constellations. For example, for the case system there are far more possibilities for the realization of different internal structures than for person-marking (cf. Komlóssy 1974, 1976). Therefore, the dimensions of the organization of person-marking categories and the smaller number of these

categories generally result in a more homogeneous and tighter structuring within the subsystem in question than in other subsystems.

The scope of person-marking paradigms can be identified with almost absolute certainty. This is only partly explained by the fact that the relevant categories are very few in number and are relatively universal. It is also important that while the edges of other subsystems are fuzzy (sometimes they indistinguishably merge into other subsystems), person-marking paradigms can be delimited and contrasted to other subsystems with a fair degree of clarity. It may be difficult to decide, in a discussion between linguistic schools, how many grammatical cases there are in a language (and what can be considered as mere relation-marking), or how to find the borderline between participant and circumstantial roles/functions; by contrast, there can practically be no doubt about whether a certain morpheme performs a person-marking function (it may, of course, have other functions)<sup>10</sup>. It is in this sense that I consider the structure of person-marking paradigms to be closed.

The survival of affixed person-marking paradigms is probably aided by the fact that in the discussed languages they occur both in verbal and in possessive constructions.

The chances of survival are increased by the fact that, in most cases, the possessive paradigm materially corresponds to (at least) a part of the verbal paradigms.

#### 5.1.2. GRAMMATICAL FEATURES OF PRONOUNS:

##### RESTRICTED PARTICIPATION IN SERIALIZATION

Person-marking affixes are almost clearly of pronominal nature considering both their origin and functions, and this is what lends the specific features to their behaviour. According to Bartsch and Vennemann's (1972) thesis of natural serialization, the order correlations tend towards homogeneity because semantic mapping (manifest in the order of sentence elements between the related elements - operator—operand, or determiner—determined, or modifier—modified, or déterminant—déterminé, in the terminology of other linguistic schools) has to proceed in the same direction in every kind of syntactic structure. This tendency can also be considered as a specific manifestation of Martinet's principle of least effort (Martinet 1963, 182).

Mapping operations, however, affect different sentence elements to different degrees. They promote the consistent



order of lexical NPs in two ways: in a significant number of instances Nps contain adjectives, possessive modifiers or relative clauses; also, lexical Nps are normally arguments of the predicate. Thus for natural serialization to be effective throughout the whole sentence, the lexical Nps should be placed so that semantic mapping takes place in a uniform direction in the case of each sentence element in relation to them. However, pronouns and person - marking affixes of pronominal origin and nature are affected by the process of mapping in one sense only: (without considering the rare exceptions) they are related neither to adjectives nor possessive modifiers or relative clauses. Pronominal elements take part in the process of mapping only in one respect, and so their participation in natural serialization is also restricted. Therefore, regarding changes in their order, pronouns and person-marking affixes are slower and more conservative than lexical NPs.

### 5.1.3. ACCUMULATION OF FUNCTIONS: THE ROMER RULE IN LANGUAGE

The pioneers of research into American Indian languages - Sapir, Bloomfield, Whorf and others - have already drawn attention to the fact that person-marking affixes perform a variety of functions in the abundantly agglutinating languages that they investigated. In several languages, besides the original function of person-marking these morphemes perform such fundamental tasks as the distinction of subject and object; distinguishing degrees of object definiteness; marking referential identity or difference between sentence elements; marking the syntactic relations of subordinate clauses (Jacaltec, Navajo); marking subordination itself (Amharic, Ubi), etc. The person-marking affixes perform a variety of functions in the abundantly agglutinating languages that they investigated. In several languages, besides the original function of person-marking these morphemes perform such fundamental tasks as the distinction of subject and object; distinguishing degrees of object definiteness; marking referential identity or difference between sentence elements; marking the syntactic relations of subordinate clauses (Jacaltec, Navajo); marking subordination itself

(Amharic, Ubih), etc. The person-marking affixes can probably take over these functions because they are in a tight connection with the semantic task of reference (for they are of pronominal nature) and with case marking (for one member of the paradigm is sometimes itself of case marker origin, while the other members often derive from subjective, objective and possessive pronouns).

In anthropology, the phenomenon that living beings are forced by the changed circumstances to introduce an innovation which enables them to continue leading the traditional way of life, is called the Romer rule (Hockett-Ascher 1972). In their view, the value of some primordial innovation of this kind was conservative since it enabled a traditional way of life to be led under the new, changed circumstances.

This rule can also be applied in the case of language. If, for some reason, certain important grammatical distinctions disappear, it could allegorically be said that the traditional solution is to introduce an innovation and to transfer the disappeared function to some still existing grammatical process or element, thereby preserving the "way of life" of the given language. If, for example, in an SOV language the case system deteriorates or disappears altogether due to word final reduction, the language will be able to continue the traditional "agglutinative way of

life" if - as an innovation - the affixed person-marking morphemes take over the task of distinguishing cases. When it becomes necessary to distinguish degrees of definiteness for the object, the SOV "way of life" may be retained if person-marking suffixes undertake this role, and it is unnecessary for the language to apply a word order variant (SVO), or to develop an article, which would be inconsistent with the given type. The increase in the number of functions, however, preserves not only the type, but also the elements that undertake the functions, (since an element that performs many different syntactic functions), since an element that performs many different syntactic functions is obviously indispensable<sup>11</sup>.

With the above three arguments I have tried to prove that affixed person-marking changes more slowly than other typologically relevant characteristics, despite its location on word ends, which can frequently be reduced. On the other hand, in order to resolve the contradiction, we have to make yet another restriction: it is only the principle of affixed person-marking that is conservative the phonetic form of person-marking morphemes seems to change much faster (due to their word-final position) than other morphological

p h e n o m e n a .

The quick changes in the phonetic shape of person-marking affixes are proved by the fact that in a significant number of languages there exist many person-marking paradigms depending on the tense, mood, and aspect of the verb. It also shows changeability (cf. Lehmann 1973) that the order of person-marking affixes and verb-modifying affixes (and also the order of possessive person-marking affixes and case markers) is not uniform even in related languages; in many cases it is probable that affixes which developed (or re-developed) in d i f f e r e n t periods are attached to word stems.

When the ability to distinguish between persons is weakened by some phonetic change, then in principle there are two possibilities: either the independent (stressed) personal and possessive pronouns are used (analytic procedure instead of synthetic), or some other solution is found according to the old, synthetic principle. The first procedure results in type change in one of the persons; even if it is used in certain cases, the existence and permanent use of the affixed members of the paradigm will sooner or later steer the language back to the original principle also in the person in question.

Many examples could be mentioned of how in certain languages the phonetic shape of certain affixed markers

changes as compared to other related languages<sup>12</sup>. What is involved in these changes is that the function of person-marking grows weaker in certain positions, owing to the intensive word-final phonetic changes, and the given grammatical person becomes indistinguishable; because, however, the distinction of this category is of vital importance, the language will use a new affix (one that fits the existing paradigm) in the given position, in order to regain the lost distinction.

### CHAPTER III. ON THE RECONSTRUCTION OF THE PERSON-MARKING SUFFIXES IN THE URALIC LANGUAGES

#### 1. HISTORICAL APPLICATION OF TYPOLOGICAL FINDINGS

In Chapter II, I have attempted, on the basis of the empirical investigation of several (mainly unrelated) languages, to outline the typology of affixed possessive and verbal person-marking paradigms, suggesting alternative possibilities for their historical development. In this chapter, I shall first make explicit those conclusions of Chapter II that can be applied to the Uralic languages; secondly, starting out from these conclusions and using the discovered typological relations, I shall present a hypothesis relating to the development of suffixed personmarking paradigms of the Uralic languages. I shall use the framework and methods of syntactic typology, which means that I shall employ not concrete morphs and allomorphs but (morpho)syntactic categories and symbols; moreover, I shall disregard the individual developments, which can be explained within the framework of the history of the

separate languages. This hypothesis, then, can be refuted, modified or proven, in detail or as a whole, by historical-comparative investigations, which also take into account phonetic relations and correspondences.

The main points of this hypothesis to be outlined in detail under the number headings in brackets are as follows:

- The affixed possessive and verbal person-marking paradigms of the Uralic language family developed at the same time (2);
- In the history of the Uralic languages I hypothetize the existence of a VSX (verb + subject + others) serial type before the reconstructable SOV protolanguage (3);
- The encliticization and the subsequent (at least partial) agglutination of personal and possessive pronouns can be dated to this hypothetical VXS period (4);
- Vx-es developed from both subjective and objective personal pronouns in the encliticization—agglutination period. Thus there exist verbal person-marking paradigms marking both the subject and the object (5);
- In the period of agglutination, the distribution of verbal paradigms followed the nominative pattern: the person-markers of the subjects of transitive or intransitive verbs were identical with, or similar to, the possessive person-markers (except in one person), while the person of



the object of transitive verbs was marked by a paradigm different from these (6);

- In the period of their emergence, suffixed person-marking paradigms followed the pronominal pattern. An overt 3rd person verbal affix was probably adapted into the verbal paradigm later, presumably in the SOV period (7);
- Typological and theoretical considerations suggest that the history of verbal person-marking suffixes can be studied parallel to the development of case marking (mainly nominative and accusative) suffixes (8).

## 2. ORDER OF THE DEVELOPMENT OF PARADIGMS

It is a commonplace statement in Uralic studies that person-marking suffixes agglutinated to the roots of verbs from pronouns through an intermediate enclitization phase. This view in its generality needs no further explanation; every school and trend sets out from this idea, even if they do not directly derive certain person-marking suffixes from a pronoun, but from some other element. There are, however, significant differences of opinion concerning the period of agglutination--enclitization, and also the question of whether the development of verbal and possessive paradigms can be dated to the same period.

It seems that from this point of view we have three distinct systems of hypotheses for the Hungarian language. According to some researchers, possessive and verbal paradigms developed simultaneously in the Finno-Ugric, or the Uralic, protolanguage (Györke 1943, Hajdú 1966, Itkonen 1962, Mark 1929, Mészöly 1931). In the opinion of others, although the agglutination of the two paradigms occurred simultaneously, this was in a later period, when Hungarian was already an independent language and, correspondingly, these paradigms are relatively new in other Finno-Ugric languages as well (Bárczi 1963, Bárczi-Benkő

-Berrár 1957, Rédei 1962). Finally, a third group of researchers claim that the possessive person-marking paradigms emerged first, and this led to the development of the verbal paradigms later (Melich 1914, Klemm 1928)<sup>1</sup>.

On the basis of typological data each hypothesis can be questioned, and a fourth can be provided, which has most in common with the conception supporting a Finno-Ugric or Uralic origin, though differs from it in several respects.

Having compared twenty languages, I have arrived at the conclusion that the existence of affixed possessive person-marking paradigms presupposes that of affixed verbal person-marking paradigms. Obviously, this, - like any empirical generalization, - is purely a hypothesis, since the number of the old and modern languages that have synthetic person-marking is much greater; in spite of this, it nevertheless seems a sound hypothesis, at least until an existing (not reconstructed) language is found which contradicts it.

Thus the empirical connection is as follows: if  $P_x$  (affixed possessive person-marking) exists in a language, then  $V_x$  (affixed verbal person-marking) also exists in it. On the basis of universals with implicational form, the typology of the described phenomena can be set up by postulating three

existing and one non-existing language types. (Marking) The types being marked by the symbols  $L_1 - L_4$ , this means the following:

	Px	Vx	
$L_1$	-	-	(Chinese, Japanese)
$L_2$	-	+	(French, Estonian)
$L_3$	+	+	(Hungarian, Takelman)
$L_4$	+	-	-

Out of the four, one type is excluded: the one in which Px exists, but there is no Vx.)

Implicational universals can also be interpreted historically, which is made possible by the fact that language changes derive from differences of the synchronic states of different periods, and each synchronic cut is a variant of the "possible" human languages (cf. Jakobson 1958, 1963). Historical interpretation, of course, does not exclude the simultaneous existence of several possible variants. The typology of affixed person-marking as defined above allows each a variant which  $\neq L_4$  does not exist:

appearance of Vx:	$L_1 \rightarrow L_2$
disappearance of Vx:	$L_2 \rightarrow L_1$
appearance of Px:	$L_2 \rightarrow L_3$
disappearance of Px:	$L_3 \rightarrow L_2$
simultaneous appear-	
ance of Vx and Px:	$L_1 \rightarrow L_3$
simultaneous disap-	
pearance of Vx and Px:	$L_3 \rightarrow L_1$

Thus, the historical interpretation of the given implication excludes the explanation according to which the appearance of the possessive paradigm in the Uralic languages had preceded that of the verbal paradigm, since this variant would involve the existence of the previously excluded  $\ast L_4$  state ( $L_1 \rightarrow \ast L_4$  and  $\ast L_4 \rightarrow L_3$ ). G. Mészöly arrived at similar conclusions, though by way of other arguments (1931, 64). Moreover, those of another linguist (Hajdú 1966, 74) are also similar to mine.

Thus the "possessive paradigm  $\rightarrow$  verbal paradigm" hypothesis contradicts the typology derived from the implication. The historical hypothesis which can be thus interpreted is in fact no longer considered as a possible alternative. Yet, if a similar conception were raised somehow, we ought to bear in mind the above typological data, unless at least one language were found which

contradicted the typological correlation, namely, one in which possessive person-marking is synthetic but verbal person-marking is analytic. In this case, the typological implication will acquire a statistical nature, or, if there prove to be more languages like this, the implication itself will cease to be valid.

The simultaneous development of possessive and verbal paradigms is to some degree supported by the typological fact that the phonetic shape of the possessive paradigm generally corresponds, or is similar, to that of one (or perhaps more) verbal paradigms (cf. Chapter II, 2.1.4.). This alone would not be enough to prove the simultaneous development of the two, since it is theoretically possible for the phonetic correspondence of the two paradigms to be also promoted by their functional similarity: it may be that a phonetic correspondence or similarity exists also in cases when the development of the verbal paradigm precedes that of the possessive one (in the above variant:  $L_2 \rightarrow L_3$ ). Nevertheless, I shall disregard this variant, since in historical-comparative linguistics the possibility of such a chronology has not been raised with regard to the Uralic languages.

### 3. VSX PERIOD BEFORE SOV

According to my hypothesis, the suffixed possessive and verbal paradigms are of the same age. When did they develop? Worth remembering here is that in the opinion of some researchers they had already developed in the Finno-Ugric or the Uralic protolanguage, while according to others they appeared only in the individual lives of the Uralic languages (for example, in the case of the Hungarian language, in the Proto-Hungarian period). The discord between the two hypotheses can be reduced to differences of the judgement of morphological and phonetical processes within historical-comparative linguistics<sup>1</sup>; in other words, to the question of how the difference between the verbal person-marking suffixes of related languages can be explained. Do, for example, those mainly singular members, non-pronominal in origin, of the undeterminate verbal paradigms in Hungarian reflect an original state, or are they the re-arranged variants of an original paradigm of pronominal origin? (Cf. eg. Bárczi 1963, 57 ff, Bárczi-Benkő-Berrár 1967, 417-419; another interpretation: Mészöly 1931, 64-67, Hajdú 1966, 144). Another possibility for different historical explanations has been provided by the fact that in the Uralic languages, the relative order of

nominal case endings and possessive person-marking suffixes varies (cf. eg. Bárczi 1963, 56, also Györke 1943), and the historical development of the 2nd person suffix consonant can also be explained in several ways (Bárczi 1963, 56, also Hajdú 1966, 134-135).

I would now like to contribute a syntactic-typological consideration to the discussion in historical-comparative linguistics, an alternative which will influence the appreciation of the morphological and phonetic questions outlined above, or, to be more exact, one which will exclude certain alternatives.

In the historical-comparative investigation of the Uralic languages, the regular research of word order as a special chapter of syntax has not been given much attention. "A History of the Hungarian Language" actually states that "the changes in word order are generally not independent changes, but are concomitant with, and the functions of, grammatical changes" (Bárczi-Benkő-Berrár 1967, 428). It is possible, of course, to agree with this statement to the degree that word order (as any other phenomenon) can satisfactorily be discussed only together with other linguistic phenomena. On the other hand, the opinion that word order does not belong to grammatical phenomena, or that it has no significant role in languages, can be questioned. Since J.H. Greenberg's



study on word order was published, typological research has convincingly proved (also from the historical aspect) that the development of word order is an integral part of grammar and, within this, of syntax; several grammatical phenomena are in fact conditioned by relations of word order.

Nevertheless, word order changes are inevitably involved in all historical hypotheses which derive person-marking suffixes from agglutinated pronouns. Most of the historical works mentioned explicitly claim that suffixed forms can historically be shown to have descended from verb + pronoun or possessee + pronoun constructions in Hungarian (eg. *v é g + é n* /= cut + I/, *k é z + t e* /= hand + you/). This hypothesized word order, however, contradicts the present and reconstructed word order features of the Uralic languages. These are SOV languages (except for Finnish, Estonian and partly Hungarian and Zyrian, where the SOV order is probably a recent phenomenon) and correspondingly, the order of the possessive constructions in them is GN, i.e. possessor + possessee<sup>2</sup>. Thus, the related languages suggest that the word order of the protolanguages, in so far as it can be reconstructed, was probably SOV. Using historical-comparative methods, Collinder (1960, 249) and Hajdú (1966, 81) arrived at the conclusion that the conjugated verb was the sentence-final

element in the Uralic protolanguage.

This means that the person-marking suffixes cannot have developed in the long SOV period of the Uralic languages, since in this language type independent personal pronouns cannot follow the verb, and independent possessive pronouns cannot follow the possessee. Independent unstressed pronouns are generally in the same position in word constructions as the sentence elements expressed by lexical NPs. I use the word "generally", because it may happen (eg. in the Romance languages) that objective pronouns are on one side of the verb, and lexical NP-objects on the other. This statement is also doubtful in the case of languages with a relatively free word order - in the terminology of recent typological literature these are termed TVX: topic + verb + others (concerning Latic, cf. Herman 1954). Even if there are, however, exceptions in several language types, the SOV order type is not among them. One of the most important characteristics of consistently SOV languages is that the sentence-final element is the verb (main verb or auxiliary), and the verb cannot be followed by a sentence element which is integrated within the sentence structure<sup>3</sup>.

Accordingly, there are no grounds for believing that in Proto-Hungarian (or in any previous reconstructed language, right back to the Uralic protolanguage) there existed a word

order variant in which independent subjective or possessive pronouns regularly followed the verb or the possessor.

This syntactic argument also excludes those morphological and phonological hypotheses that are based on the supposition of the independent, non-suffixed pronoun and justifies those researchers who find an answer to these morphological and phonological problems within the framework of the syntactic principle (Györke 2943, Hajdú 1966, Itkonen 1962, Mark 1929, Mészöly 1931).

Thus, word order relations suggest that person-marking must have been synthetic in this language family back to the most distant reconstructable period, the Uralic protolanguage. In other words, the agglutination of independent pronouns could not have occurred later than the Uralic protolanguage.

Further on, I attempt to prove that the person-marking paradigms under discussion are even older than the Uralic protolanguage. We have supposed that the SOV Uralic protolanguage was preceded by a V SX serial period, and the encliticization-agglutination of personal and possessive pronouns took place in this earlier stage.

If the pronouns cannot have been attached to the verb

in the reconstructable SOV period, it is logical to conclude that this period was preceded by one in which both subjective and objective pronouns regularly followed the verb and in which, correspondingly, the possessive pronoun also followed the possessee. It is in this period that the construction types *v á g é n* "Cut I, *k é z t e* "hand you" may have been frequent. It supports the reconstruction of a VSX period before SOV that in certain languages (eg. Amharic, Akkadian) this type change tendency can be proved by historical-comparative methods. (In his study on type changes, I. Vennemann postulated a VSX → SOV trend on the basis of this phenomenon, cf. Vennemann 1974.)

Our conclusions appear to be congruent with R. Austerlitz's recently outlined conception based on linguistic geography. His thesis is that the languages of peripheral areas are generally more conservative than those in the central areas, and since the reconstruction of the agglutinative and non-agglutinative languages of North Eurasia displays this distribution, Austerlitz concludes that agglutination in the languages of the central areas is relatively new. Thus his and my approach undoubtedly correspond to each other in that we both posit the existence of some languages of other types prior to the reconstructable agglutinating, SOV period. Moreover, besides other grammatical characteristics Austerlitz includes the

sentence-final position of the affixed verb in the concept of "agglutination", with which he implicitly claims that in this previous period the order of the verb, subject and object was probably different (Austerlitz 1976)<sup>4</sup>.

#### 4. THE TIME OF ENCLITICIZATION

The phonetic correspondences between the verbal person-markers of the Uralic languages indicate that the 1st and 2nd person affixes that had agglutinated from pronouns may have been used as far back as the Uralic protolanguage. It can also be taken for granted that the suffixed paradigm of the possessive person-markers had developed by this period. The 3rd person may have been marked by a zero element in the verbal paradigms; in the possessive paradigm by an overt 3rd person morpheme in the case of a pronominal possessor, and in the case of a lexical possessor, either by an overt morpheme or a zero element (cf. Mészöly 1931, 66 ff., Hajdú 1966, 140-141). Such a scheme can be accepted typologically, albeit with the restriction that the said development should be older than the SOV Uralic protolanguage.

In the chapter dealing with typology and historical linguistics, I have discussed Nenets and Hungarian paradigms. One of the most important features of both languages is that transitive verbs regularly mark only the 3rd person (definite) object, the other persons not being marked as objects. There are convincing historical arguments which prove that mainly those verbal person-markers can be related to possessive person-markers which simultaneously

refer to the subject of transitive verbs and the 3rd person object. Nevertheless, from our viewpoint it is worth examining the more-than-sporadic correspondence between possessive suffixes and suffixes marking the intransitive subject, in many Uralic languages. Therefore it can be taken as proved that in the Uralic languages the verbal suffixes referring to the 1st and 2nd person subject had originally been identical in both transitive and intransitive verbs; moreover, they corresponded to the possessive person-markers for the relevant person. As has already been mentioned, in the verbal paradigm the 3rd person may have been marked by zero and in the possessive paradigm either by an overt morpheme or (in the case of a lexical possessor) by a zero element. The system of subjective and possessive person-markers can thus be reconstructed as follows<sup>5</sup>:

S <sub>tr</sub> 1 : <u>A</u>	S <sub>i</sub> 1 : <u>A</u>	Px1 : <u>A</u>
S <sub>tr</sub> 2 : <u>B</u>	S <sub>i</sub> 2 : <u>B</u>	Px2 : <u>B</u>
S <sub>tr</sub> 3 : <u>Ø</u>	S <sub>i</sub> 3 : <u>Ø</u>	Px3 : <u>C</u>

where A—C are the agglutinated derivatives of the personal and possessive pronouns for the corresponding persons. It can be concluded from the hypothesis that in the VSX period preceding agglutination, the subjective and the possessive pronouns were possibly identical with regard to their phonetic form.

## 5. VERBAL PARADIGM REFERRING TO SUBJECT AND OBJECT

Although historical-comparative linguistics offers no support at this point, typological theory allows us to admit the possibility that in this reconstructed state transitive verbs contained suffixes marking their objects.

On the basis of the comparison of non-related languages, I have arrived at the conclusion that those languages which contain affixed possessive person-marking usually have paradigms that mark the person of more than one complement: the verb marks the person of both its subject and its object (within my corpus the only exceptions are the Altaic languages, cf. the data of Appendix Two and Chapter II, 2.1.3.). This near-universal empirical generalization leads us to suppose the existence of objective suffixes.

This hypothesis is undoubtedly strengthened by the existence of a Hungarian morpheme, the -lak/lek affix of controversial origin, which simultaneously refers to the 1st person subject and the 2nd person object. Further corroborating evidence can be found in Mordvinian, another Finno-Ugric language (cf. Evseyev 1931, 161-165), which has a whole paradigm for the marking



o f a l l t h e t h r e e o b j e c t s , b e s i d e s  
t h e s u b j e c t s .

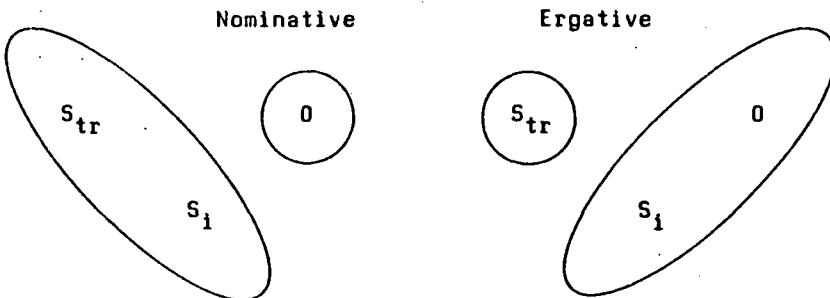
It would be unwise to interpret this rare occurrence of suffixes referring to objects and the result of late agglutination, since in what is usually considered the period of agglutination these languages were SOV; this means that the independent objective pronoun preceded the verb, so agglutination of the pronoun to the verb ought to have resulted in prefixes, not suffixes.

Though the verifying power of very general rules is usually slight, another argumentation can also be mentioned in support of the above hypothesis, in addition to the more concrete ones outlined above. R. Hetzron, A. Meillet and J. Greenberg used similar lines of argument when, discussing the Semitic languages, they put forward the thesis that from among related languages the one that shows the most heterogeneous pattern is the most archaic<sup>6</sup>. This principle of "archaic heterogeneity" also suggests that, from the viewpoint of our present investigation, it is the Mordvinian language which is the closest to the original protolanguage, with its great variety in its person-marking system.

## 6. NOMINATIVE PATTERN

In view of the typological facts, the formal distribution of the verbal paradigms marking the object and the subject of transitive or intransitive verbs follows either a nominative or an ergative pattern. These terms, of course, refer to nominal case systems, on the basis of a rather rough typology. The nominative pattern is one in which the subject of the transitive verb and the subject of the intransitive verb are marked in the same way, in contrast with the object of the transitive verb; in the ergative pattern, the subject of the intransitive verb and the object of the transitive verb are marked the same way, in contrast with the subject of the transitive verb.

This can be represented as follows:



Analogically, verbal person-marking paradigms are nominative when the subject-marking morphemes in transitive and intransitive verbs are identical, while the object is marked by other morphemes; in a similar vein, they are ergative when there is identical marking for the intransitive subject and object, while the marker of the transitive subject is different.

In illustrating this distribution we can use the typological fact that the phonetic shape of the affixed possessive person-marking paradigm corresponds or is similar to that of some verbal paradigm. Accordingly, those languages where the possessive person-marking paradigm corresponds to either the subjective or the objective person-markers, have nominative person-marking, while those languages in which either the markers of the transitive subject or those of the intransitive subject and object are of Px-form, have ergative person-marking. Illustrated with some examples, this is as follows (in detail see Chapter II, 4.2.):

Nominative pattern:	Px = S <sub>tr</sub> , S <sub>i</sub>	(Quechua)
	or Px = O	(Navajo)
Ergative pattern:	Px = S <sub>tr</sub>	(Sierra Miwok)
	or Px = S <sub>i</sub> , O	(Assiniboiné)

As expected, the person-marking paradigms of the Uralic languages show the nominative pattern, although the original system has changed somewhat in certain languages (e.g. in Hungarian). Regarding the Uralic protolanguage and the earlier VSX period, it can be hypothesized that the phonetic shape of verbal person-markers of transitive and intransitive subjects corresponded to that of the possessive person-markers. In the 3rd person this correspondence did not exist, since the language used a zero element in the verbal paradigms, while an overt morpheme was used in possessive constructions.

## 7. THE PRONOMINAL AND ADAPTATIONAL PATTERNS

In Chapter II, I have outlined the development of three types of person-marking paradigms on a typological basis. All overt morphemes of the pronominal paradigm type derive from pronouns, and the main characteristic of this system is that in the verbal paradigm a zero affix marks both the subject and the object. The adaptational type is a further developed variant of the pronominal pattern; in this type I have illustrated an overt 3rd person morpheme (in the Takelma and Sierra Miwok languages). This overt 3rd person morpheme, which developed through adaptation, served to eliminate ambiguity by distinguishing the subject from the object, there being no other means to serve this purpose. In a third group of languages, both the overt 3rd person verbal morpheme and the 3rd person of the possessive paradigm derive from case markers. In the Uralic languages, the case marker origin probably has to be excluded, but the features of the other two paradigm types can be clearly delineated.

It is quite certain that in the Uralic languages the 3rd person subject suffix was originally a zero element. This indicates an originally pronominal paradigm type. On

the other hand, certain archaic features of Hungarian suggest that the overt 3rd person suffix, which appeared later, may at one time have performed a s u b j e c t v s. o b j e c t distinctive function: there exist certain participial constructions in which it is only the zero vs. non-zero opposition in the 3rd person that determines whether the NPs (unmarked for case) are to be interpreted as subjects or as objects:

<u>világlátott-Ø ember</u>	=	<u>ember, aki világot látott</u>
<u>(world seen man</u>	=	<u>man who world (Acc.) has seen)</u>

<u>színehagyott-Ø kabát</u>	=	<u>kabát, amely elvesztette a színét</u>
<u>(colour+its lost coat</u>	=	<u>coat which has lost the colour-its</u>
		(Acc.) )

<u>istenvert-e idő</u>	=	<u>(olyan) idő, amelyet Isten megvert</u>
<u>(god-damned weather</u>	=	<u>"weather that Good damned")</u>

<u>pék sütött-e cipő</u>	=	<u>cipő, amelyet pék sütött</u>
<u>(baker-baked loaf</u>	=	<u>loaf that a baker baked)</u>

With the zero-affixed forms, the noun before the verb is interpreted as the object, while with overt affixed verb forms, it is the subject of the phrase.

Unfortunately, it has not been possible to find similar phenomena in the related Uralic languages, partly because their syntax, although described, has not been outlined in such a framework as to enable these distinctions to be revealed. I would not, however, exclude the possibility that similar phenomena exist in these languages.

The above Hungarian pair of constructions enables us to conclude that the paradigm system of Uralic person-markers may once have been a d a p t a t i o n a l , with the 3rd person overt verbal suffix serving as a means of distinguishing subject from object. The overt 3rd person suffix was attached to the verb when the noun preceding the verb was interpreted as its s u b j e c t , while a zero-morpheme was used in the same position when this noun was its o b j e c t . A further conclusion can be that, since in its earlier state Hungarian was an SOV language, the OV order was marked by zero in the verb in every construction, while the SV order (which was not consistent with the regular order) was marked by an overt morpheme. This now occurs in participial constructions, which are subordinate clauses in the interpretation of typological and generative linguistic schools; since subordinate clauses are in many

respects more conservative than superordinate clauses, it may be that at an earlier period the same phenomenon could also appear in main clauses. In SOV sentences the 3rd person was marked by a zero element, while the OSV variants (which probably existed because of communicational demands) had an overt morpheme as the 3rd person marker.



## 8. THE CONNECTION BETWEEN PERSON-MARKING AND CASE MARKING

Applying the above claims, further on I shall attempt to reconstruct the history of Uralic person-marking paradigms in detail. This reconstruction obviously concerns only morpheme types and not actual phonetic forms.

Since we have discovered the features of the adaptational paradigm type in Hungarian, and this type is the continuance of an original pronominal paradigm system, our hypothesis is that in the VSX period the 3rd person of both the subject and the object was marked by a zero element in the verbal paradigm. That the subjective person-marker is now proved to have been zero also supports this hypothesis.

In the table below the person-markers of the subject are represented by capitals, and those of the object, by small letters. In the table of transitive person-markers the empty spaces are where reflexives occur; in the 3rd person, however, a reflexive does not necessarily result, if both the subject and the object are in the 3rd person, since their references may differ.

Intransitive constructions

S <sub>i</sub> 1st pers	<u>A</u>
S <sub>i</sub> 2nd pers	<u>B</u>
S <sub>i</sub> 3rd pers	<u>Ø</u>

Transitive constructions

	Obj 1st pers	Obj 2nd pers	Obj 3rd pers
	<u>a</u>	<u>b</u>	<u>Ø</u>
S <sub>tr</sub> 1st pers <u>A</u>	-	<u>Ab</u>	<u>AØ</u>
S <sub>tr</sub> 2nd pers <u>B</u>	<u>Ba</u>	-	<u>BØ</u>
S <sub>tr</sub> 3rd pers <u>Ø</u>	<u>Øa</u>	<u>Øb</u>	<u>ØØ</u>

In the Assiniboine language, which follows the pronominal pattern, possessive constructions are unmarked if the possessor is expressed by a lexical NP, and an overt 3rd person morpheme is used in the possessee if it is pronominal. We can assume that a system like this existed in the Uralic languages, and this is supported by the fact that, according to the data of historical-comparative reconstruction, the possessive constructions were unmarked in certain cases, while sometimes the relation in question was marked by a genitive suffix or a possessive person-

-marker. Thus traces of unmarked possessive constructions are undoubtedly still to be found.

As has already been mentioned, possessive person-marking suffixes are identical to verbal subjective person-markers in the 1st and 2nd person, while in the 3rd person an overt morpheme (derived from the 3rd person pronoun with a possessive function) appeared in the case of pronominal possessors, but the construction could remain unmarked in the case of lexical possessors (Mészöly argues similarly, cf. l.c. 65 ff.).

#### Possessive constructions

Pronominal possessor	Lexical possessor
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Px 1st pers <u>A</u>	-
Px 2nd pers <u>B</u>	-
Px 3rd pers <u>C</u>	unmarked

The verbal zero morpheme of the 3rd person object and subject can be easily applied as long as the lexical NPs are marked by a clear case system. If, however, case marking fails to function for some reason, ambiguity will appear: sometimes it may, for example, become impossible to identify the subject and the object. In this

case the most likely outcome is that an overt 3rd person morpheme is adapted (cf. the Takelma and Sierra Miwok examples) in order to perform the necessary distinctions. We have actually found an archaic Hungarian construction in which a 3rd person possessive affix indicates the syntactic function of nouns unmarked for case. Thus it is possible that in the above table of transitive constructions, the section of the paradigm referring to the 3rd person object - this being the one that is most sensitive to ambiguity - can be adaptationally extended by a variant where, in the 3rd person, an overt morpheme - the 3rd person of the possessive paradigm - is used.

Original	Adaptational
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<u>AØ</u>	<u>AØ</u>
<u>BØ</u>	<u>BØ</u>
<u>ØØ</u>	<u>C</u>

The development of the pronominal pattern can be dated to the VSX period. On the other hand, the adaptation of the 3rd person overt verbal suffix probably took place in the SOV period; moreover, this probably happened only in a part of the linguistic area, since the zero—non-zero dichotomy of

the 3rd person cannot be found in every Uralic language (cf. Mészöly l.c. 67; Serebrennikov 1956, 194; Hajdú 1966, 75-76)

The unmarked possessive constructions have survived, though sparsely, in several Uralic languages; in addition, they also have constructions that contain a lexical possessor and are marked by the x-n genitive suffix or Px.

In the following section I shall compare these statements to those provided by workers in the field of Uralic studies.

The fact that in a significant number of the Uralic languages the 1st and 2nd person subjective person-markers (in a determinate and indeterminate, transitive and intransitive paradigm) go back to the same origin, is generally interpreted so that in the 1st and the 2nd person the distinction of the two paradigms had not probably taken place in the protolanguage (Mészöly 1931, 67; Serebrennikov 1956, 194; Hajdú 1966, 76-77). This interpretation also suggests that the development of determinate—indeterminate or transitive—intransitive paradigms is seen as the result of a divergence that spread over to the other persons from the 3rd person. Within the framework of the historical-founded and consistent one, but it is not borne out by typological arguments. On a typological basis, there is ground to suppose that the said

process developed in the opposite direction: probably in the 1st and 2nd person there existed an overt morpheme marking both the subject and the object which were marked by a zero element in the 3rd person, and the distinction of zero vs. non-zero 3rd person only took place after this period, with adaptational divergence. The suffixes of the 1st and 2nd person object later disappeared in most of the Uralic languages, and their form can probably never be reconstructed.

I now would like to show that at least in the languages with the nominative paradigm patter ( $P_x = S_{tr}, S_i$ ) the suffixes marking the person of the object are generally more liable to change than those that mark the subject. I employ the notion of liability to change in the same sense as Benkő has understood it (Benkő 1975, 29-30). In these examples, this sensitivity to change is seen in the following facts: (1) concerning order, the objective suffixes do not show homogeneous characteristics (Belle Coles, Quechua); (2) they appear in suppletive forms (Quechua); (3) certain persons of the paradigm cannot be expressed, i.e. the paradigm of

objective person-marking may at times be defective (Kanuri, Quechua, Takelma), finally; (4) the suffixes marking the person of the object are inclined to perform another function which is more or less related to the original one (Bella Coola, Quechua).<sup>7</sup>

In the case of the 1st and 3rd person object in Bella Coola, the order of the suffixes in the transitive verb is the following: o b j e c t i v e V x + + s u b j e c t i v e V x , while in the case of the 2nd person object this order is reversed: s u b j e c t i v e V x + o b j e c t i v e V x in the transitive forms with the meaning "I y o u (Acc.)", while in all the other combinations it is o b j e c t i v e V x + + s u b j e c t i v e V x (Lastra 1968, 25-26).

In the Cochabamba dialect of Quechua, the 2nd person object is marked by the -ki morpheme in certain person combinations, while in others it is marked by -su, or sometimes by the two together: -suki. In the A y a c u c h o dialect of the same language the situation is a little different: -su itself cannot refer to the person of the object (Lastra 1968, 25-26; Parker 1969, 26-29).

In Q u e c h u a the 3rd person object is not marked in the verb; the authors of the grammar of one of the dialects above have also omitted this person from the paradigm, not including even its zero form. This state of

affairs is similar to that in the K a n u r i language, while in T a k e l m a the 1st person singular object cannot be expressed by a verbal suffix when a 2nd person subject is involved, although this language abounds in person-markers (Sapir 1922, 167).

In B e l l a C o o l a the objective person-markers serve to express the subject with verbs forms with passive meanings, which means that they have taken on another, similar function (Newman 1969, 300). The role of the objective person-markers in the C o c h a b a m b a dialect of Quechua is also connected with passive meaning: according to the grammar, in certain combinations these person-markers show that the formally subjective person-marking suffix following them really refers to the object of the verb; the translations of the verb forms however, reveal that here the verbs are often agentless passives, and the -wa and -su suffixes in them can also be interpreted as passive affixes. In (1) and (3) below, the suffixes under discussion are performing their original function, while in (2) and (4) they are passive affixes:

(1) qo-wa-nki

(Lastra 25)

(give-me-you)

("you give me")



- (2) go-wa-yku (Lastra 26)  
(give-Pass-we)  
("we are given")
- (3) go-su-nku  
(give-you /Acc./ -they)  
("they give you")
- (4) go-su-nki  
(give-Pass-you)  
("you are given")

The affix -su can be found in the singular, and -wa in plural passive constructions. In another dialect of Quechua, Ayacucho, the same morphemes perform other grammatical functions: -wa (besides having the role of objective person-marking) serves to emphasize imperatives: upala is "to be quiet", and upalaway means "do be quiet". The affix -su, which in itself cannot mark the person of the object, is partly found in inclusive Vx 1st Pl forms, and partly indicates that the formally subjective Vx 2nd suffixes following it have an objective function.

riku-su-nki "sees-su-you" ("he sees you") (Parker 26-29) If your hypothesis concerning the reconstruction of Uralic person-marking suffixes can be accepted, then we can

and must interpret the development of the paradigms in question alternatively, not just in general but in some detail. Hajdú (l.c. 76) claims that the overt Vx 3rd Sg affix in the paradigm derives from personal or demonstrative pronouns with an accusative function, through agglutination; in the final analysis, its origin is the same as that of the 3rd person of the possessive paradigm (Hajdú l.c. 133, 142). Furthermore, he also considers it probable that the overt affix once performed the function of distinguishing definite (determinate) vs. indefinite (indeterminate) object, which function has disappeared in some languages where the zero vs. non-zero 3rd person distinction has become the person-marker of transitive vs. intransitive verbs (l.c. 74-76; Serebrennikov l.c. 195).

The typological relations outlined above, on the other hand, point to the possibility that it could have been the 3rd person of the possessive paradigm that was adapted by the verbal paradigm, not by agglutination from independent pronouns, but by the direct adaptation of a suffix (which, of course, had been attached to the possessee through agglutination in an earlier period). The original function of this suffix could have been to distinguish between the major sentence elements in cases of ambiguity. In certain cases this function has remained, if

there was no other way for the distinction to be made, while in others its rules of usage came to be modified to enable functions related to the original ones.

This concept, which relies on the same empirical basis as does historical linguistics but interprets it differently, can be proved by the following:

Agglutination from independent pronouns cannot be conceived of in a period when the major sentence elements, including pronominal subjects and objects, occur on one side of the verb while the suffixed 3rd person morpheme on the other side. This is untenable, because the reconstructed syntax of Proto-Uralic entirely shows the characteristics of an SOV serial type language (Collinder l.c. 247 ff; Hajdú l.c. 81-82). This means that the period of agglutination has to be dated to a time that preceded the Proto-Uralic period, when the serial type allowed the pronouns to suffixate to the words.

The universal rules are that in most of the Uralic languages the form of the possessive person-marking paradigm is identical to that of at least one of the verbal paradigms. The historical interpretation is that these person-marking suffixes derive from pronouns with the same phonetic form. In particular, some historical linguists are of the opinion that the suffixes of the possessive paradigm have developed from pronouns performing a possessive

function, while the suffixes of the verbal paradigm containing an overt 3rd person morpheme go back to personal pronouns with a subjective and objective (i.e. mixed) function. According to this, origin from identical phonetic forms can only be posited if, in the period of agglutination, the phonetic shape of the prospective possessive suffixes was identical with the subjective pronoun in the 1st and 2nd person, while it was identical to the objective pronoun in the 3rd person. This would be a rather curious state of affairs, even if we admit that we have sparse empirical data for the detailed phonetic reconstruction of the independent (and later agglutinated) pronouns. Typological data rather suggest that the pronouns with a possessive function will show similarity to either the subjective or the objective pronoun set. This similarity, of course, is not complete even in the language type in which the elements of the paradigm are of pronominal origin, since we have posited the existence of a zero in the verbal paradigm in the same place (the 3rd person) where in the possessive paradigm we have found an overt morpheme. What could lead to the identity of the whole paradigm is that the language adapts the affix eliminating ambiguity in the verbal paradigm from the 3rd person in the possessive

paradigm. Thus a substantial evaluation is needed of the hypothesis that the suffixes of the verbal paradigm can be derived from pronouns with a mixed function in the paradigm types represented by Hungarian and Nenets.

The next problem is the question of what the original function of the paradigm containing the zero vs. non-zero 3rd person could have been. Hajdú considers the reference to a definite vs. indefinite object as the original function (which is fairly rational within Uralistics), since these two types of paradigm perform this function in very distantly related languages. Conversely, on the basis of similar considerations, we claim that for a function to be considered original for a given construction type, it must exist in non-related languages; and it can actually be found-albeit in vestiges-in the Uralic languages. It should be also added that the function which we postulated (the distinction of the major sentence elements) is obviously very close to the one identified by Hajdú (i.e. the distinction between the definite vs. non-definite object), especially in languages where case endings do not

(regularly) mark the subject and/or the object. The Uralic protolanguage could have been of this kind, since there is historical-comparative evidence that the deduced u-m accusative ending freely alternated with cases when the object was unmarked, i.e. it was nominative like the subject (Wickman 1955, 147; Fokos 1963, 6-13).

There is, nevertheless, a disturbing fact within this system of historical hypotheses, namely that the "object with accusative ending vs. unmarked object" alternation is reconstructed as the means of distinguishing definite vs. indefinite object in the same way as the verbal zero vs. non-zero affix alternation. That a language should develop a new and more complicated marker of object definiteness in the verb is improbable, especially when a simpler and more evident marker exists in it (viz. nominal case marker vs. zero case marker). One could argue that the distinction of definiteness developed differently in various dialects: in some the case affix while in others the verbal affix performed this function. This explanation, however, is also improbable: for this to be the case, in those languages where the accusative u-m did exist and has remained, the definite conjugation for the distinction of object definiteness ought never to have existed. Yet we know that the accusative ending under discussion (or its traces) can be found in every Uralic language except Hungarian and

Ostyak, and although in these two languages the definite vs. indefinite (determinate vs. indeterminate) paradigm alternation does exist, it can also be found in four other languages.

It is obvious from the above statements that the development and functioning of the 3rd person zero vs. non-zero verbal suffix ought to be examined in parallel with the development (and disappearance) and functioning of the accusative case ending. Meanwhile, the following theoretical and typological considerations have to be borne in mind.

If in a language the morphological case marker in the object is not obligatory, then (according to our present knowledge) its usage is governed by two related systems of rules:

Either (A) the object has to be morphologically marked if the order of sentence elements (in relation to the word order type of the language) does not help in determining the function of the given sentence element (Vennemann 1974, 356); the Diegueno language uses morphological cases in such constructions (for the rules of usage in detail see Langdon 1970, 150-176);

Or, (B) the accusative is used for marking the determinate object, as e.g. in Persian or Tatar (Cf. Rastorguyeva 1964, 14; Poppe 1968, 119; for illustration with several languages see Moravcsik 1978).

The two rule systems are probably based on related principles, since the subject precedes the object in each word order type (except for VOS), and the object itself is typically indetermined (Comrie 1976) and belongs to the comment part of the sentence. On the other hand, if the object is determinate/definite and accordingly forms the topic, it is probable that this will be positionally marked: the object will precede the verb. This is how definiteness of the object is related to OS order which deviates from the neutral type.

The general rules for the usage of the 3rd person zero vs. non-zero suffix in the adaptational pattern can develop in the following ways:

(a) A zero person-marker must be used in the verb if the marking of the subject and the object uses the same principle that is applied in the "normal" cases, while a non-zero person-marker is employed when this principle is dispensed with. The sentence-element distinctive function of the non-zero person-marker can manifest itself in several ways, according to the principle valid in normal cases. The subject, for example, is normally /+ Human/; it is the



person nearest to the speaker; it is the first NP in order, etc.

(b) A zero person-marker must be used when the object is non-determinate, and a non-zero when it is determinate.

(c) A zero person-marker must be used in intransitive verbs and a non-zero in transitive verbs.

It is obvious that (a) and (b) are related on similar bases to those discussed in (A) and (B) above. Rule type (c) probably develops secondarily to (a) and (b): the use of non-zero person-markers spreads over to sentences where the object can be clearly distinguished from the subject, where the object is indeterminate or where the transitive verb occurs without an object. The next step in this spread may be the case of the Si u s l a w language, in which the non-zero 3rd person objective marker functions as a t r a n s i t i v e a f f i x : it forms transitive verbs from intransitive ones, and causatives from transitive verbs (Frachtenberg 1922, 481-482). A similar phenomenon can be found in Navajo (Sapir—Hoijer 1967, 86):

The framework of the present study does not make it possible to follow, by means of the principles offered by typology and historical-comparative linguistics together, the history of the grammatical devices used in the Uralic languages. On the other hand, the exact reconstruction of c a s e m a r k i n g and v e r b a l p e r s o n -

- marking morphemes could be pursued further if the principle were systematically asserted according to which (a) these two markers could not have performed the same function at the time of their emergence, and (b) the two elements probably performed the same functions in the reconstructed state as an accusative ending or a 3rd person verbal person-marking affix performs today.

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Besides presenting the investigated phenomena, I would have liked to show how typology can help historical comparative linguistics in achieving its aim. Typological inquiry by itself is inadequate either to state linguistic relationships or to reconstruct common source languages. It is likely that only typical cases of language change can be presented and outlined by typological means; yet, coupled with historical-comparative methods, typology is undoubtedly capable of clarifying linguistically related connections, and of showing the structure of the reconstructed languages more accurately, since typological investigations enable us to choose the most probable alternatives from those brought to light by historical-comparative research. Typology is also capable of helping us choose, by means of typological correlations, those changes which are to be examined in their relationship. Finally, it is not to be excluded that in certain exceptional instances a typological approach can also enlighten the history of phenomena that would otherwise not be discovered by historical-comparative methods.

# APPENDIX

## Appendix One

Language	Language family	Area	Source
Agta	Malayan-Polynesian	Philippines	Healey 1960
Amharic	Semitic, Ethiopian	Ethiopia	Cohen 1936, Titov 1976
Assiniboine	Macro-Sioux, Sioux	Montana, USA	Levin 1967
Aztec	Uto-Aztec	Mexico	Whorf 1946
Bella Coola	Salish	Canada, British Columbia	Newman 1969a,b
Blackfoot	Macro-Algonquian, Algonquian	Montana, USA	Frantz 1966, 1971
Buriat	Altaic, Mongolese	Buriat ASSR, Soviet Union	Poppe 1960
Diegueno	Hoc, Yuma	California, USA	Langdon 1970
Jacaltec	Penutian, Maya	Guatemala	Day 1973
Eskimo	Eskimo-Aleut	South Greenland	Swadesh 1946, Thalbitzer 1911
Kanuri	Nilo-Saharan, Saharian	Africa, Chad	Lukas 1937
Quechua	Andean-Equatorial, Andean	Peru, Bolivia	Lastre 1968, Parker 1969
Hungarian	Uralic, Finno-Ugric	Hungary	

Language	Language family	Area	Source
Navajo	Na-Dene, Atabasquan	Arizona, USA	Sapir-Hoijer 1967 Akmajian-Anderson 1970
Nenets	Uralic, Samoyedic	West Siberia, Soviet Union	Hajdú 1968
Sierra Miwok	Penutian, Miwok	California, USA	Freeland 1951
Siuslaw	Penutian, Yakanan	Oregon, USA	Frachtenberg 1922
Takelma	Penutian (isolating)	Oregon, USA	Sapir 1922
Tatar	Altaic, Turkic	Tatar ASSR, Soviet Union	Poppe 1968
Ubih	Caucasian, Western	Black Sea coast, Soviet Union	Dumézil 1931

Appendix Two

	1	2	3	4	5	6	7
Language	Order of major sentence elements	Order in possessive constructions	Type of relative clause	Place of case marking	Person- -marking affix in the possessee	Person- -marking affix in the verb	Whose person is marked in the verb
Agta	VSO	NG	Postnominal	Preposition	Suffix	Suffix (Enclitic)	S <sub>tr</sub> , O <sub>1</sub>
Amharic	SOV	GN	Prenominal	Prefix Suffix	Suffix	Prefix	S, O
Assiniboine	SOV	GN	Postnominal	-	Prefix	Prefix	S, O
Aztec	SV, VSO	GN	Postnominal	Suffix	Prefix	Prefix	S, O
Bella Coola	VSO	NG	Postnominal	Preposition	Suffix	Suffix	S, O
Blackfoot	TVX	GN	?	-	Prefix Suffix	Prefix Suffix	S, O
Buriat	SOV	GN	Prenominal	Suffix	Suffix	Suffix	S
Diegueno	SOV	GN	Substitutive	Suffix	Prefix	Prefix	S, O
Eskimo	SOV	GN	Prenominal	Suffix	Suffix	Suffix	S, O, IO

	1	2	3	4	5	6	7
Language	Order of major sentence elements	Order in possessive constructions	Type of relative clause	Place of case marking	Person- -marking affix in the possessee	Person- -marking affix in the verb	Whose person is marked in the verb
Jacaltec	VSO	NG	Postnominal	-	Prefix (Proclitic)	Prefix (Proclitic) Suffix	S, 0
Kanuri	SOV	GN	Prenominal Postnominal	Suffix	Suffix	Suffix	S, 0 <sub>1,2</sub> Pers
Quechua	SOV	GN	Prenominal Postnominal	Suffix	Suffix	Suffix	S, 0 <sub>1,2</sub> Pers
Hungarian	TVX	GN	Prenominal Postnominal Right-sided	Suffix	Suffix	Suffix	S, 0 <sub>2,3</sub> Pers
Navajo	SOV	GN	Prenominal Substitutive Right-sided	-	Prefix	Prefix	S, 0

	1	2	3	4	5	6	7
Language	Order of major sentence elements	Order in possessive constructions	Type of relative clause	Place of case marking	Person- -marking affix in the possessee	Person- -marking affix in the verb	Whose person is marked in the verb
Nenets	SOV	GN	Prenominal	Suffix	Suffix	Suffix	S, O <sub>3</sub> Pers
Sierra Miwok	TVX	GN	Prenominal Right-sided	Suffix	Suffix	Suffix	S, O
Siuslaw	TVX	GN	? Infix Suffix	Prefix	Suffix	Suffix	S, O, IO
Takelma	TVX	GN	Prenominal Postnominal	-	Suffix	Suffix	S, O
Tatar	SOV	GN	Prenominal	Suffix	Suffix	Suffix	S
Ubih	SOV	GN	Prenominal	Suffix	Prefix	Prefix	S, O, IO



Appendix Three

Language	Type	Language family	Source	Independent possessive pronoun	Possessive pronoun clitic	Possessive person- marking affix
Albanese	SVO, NG, NA, Prep	Indo-European	Lambertz 1948	+	-	-
Ghichewa	SVO, NG, NA, Prep	Bantuese	Watkins 1937	+	-	-
Gbeya	SVO, NG, NA, Prep	Niger-Congolese Adamawa-Eastern	Samarin	+	-	1Sg, 3Sg, 2Pl
Greek (modern)	SVO, NG, NA, Prep	Indo-European	Householder- -Kazazis- -Koutsoudas 1964	+	+	-
Icelandic	SVO, NG, NA, Prep	Indo-European	Jónsson 1932	+	-	-
Khmer	SVO, NG, NA, Prep	Mon-Khmer	Gorgoniyev 1966	+	-	-
Malayan	SVO, NG, NA, Prep	Malayan- Polynesian	Lewis 1956	+	-	+
Sango	SVO, NG, NA, Prep	Niger-Congolese Adamawa-Eastern	Samarin 1967	+	-	-
Thera	SVO, NG, NA, Prep	Chadian, Biu-Mandara	Newman 1970	+	-	-
Thai	SVO, NG, NA, Prep	Thai	Warotamasikkhadit 1972	+	-	-

## NOTES

### Notes to Chapter II

1. All the necessary and sufficient conditions could be formulated if it were possible to compare the features and historical changes of languages that contain affixed person-marking paradigms with the features of those languages in which these paradigms do not exist. The empirical material of my study is insufficient to cover this.

2. These data correspond to Lehmann's (1973) statement that person-marking affixes do not follow the "placement principle", according to which the nominal and verbal modifiers (case markers; interrogative, negative and modal elements) are placed on the opposite side of the noun or verb as compared to the lexical complements of the given word.

3. Jacalteco is more complicated than I have shown here. It is extremely difficult to decide whether it belongs to this group or the previous group of languages, since its person-markers are partly prefixes and partly proclitics.

Moreover, in some constructions they are clearly in suffix position (near an auxiliary verb, or when they lack a time and aspect marker). This particular language, then, needs further investigation.

4. Edith Moravcsik has drawn my attention to *C r i o*, a Creole language spoken in Sierra Leone, in which the possessive construction is clearly topicalized: *d i t i c a i p u s* "the teacher his cat", or "the teacher's cat".

5. Here I deal only with the morphological markers of the person category, identifying them by 1st pers, 2nd pers, and 3rd pers. I disregard the markers of the number category. I have borrowed the abbreviations used in the table from Finno-Ugric studies: *Vx* marks the verbal affix and *Px*, the possessive affix. The *Vx* of intransitive verbs obviously marks the person of the subject, while transitive *Vx*'s, the person of the subject and the object. Here I also disregard the fused morphemes for marking the complements of transitive verbs, and neglect the regular phonetic similarities or correspondences between *Vx*'s and *Px*'s.

6. The Dakota language, described by Hunfalvy in 1861, is very closely related to Assiniboine. The 3rd person of its verbal paradigm is zero with regard to both the subject and

the object, while that of the possessive paradigm is non-zero with non-inherent possessors. Hunfalvy, however, mentions that the unmarked possessive construction is a variant besides those marked with a Px 3rd pers Sg.

7. I follow the traditions of syntactic typology and generative grammar when I consider participial constructions not as attributes but as clauses.

8. This indicates that the principle of affixed person-marking must be very recent in the language. That there are no affixed paradigms in the related Malayan-Polynesian languages (Tagalog, Cebuano, Kapampangan, Ivatan ect.) also lends support to this.

9. The hypothesis of the phonetic reduction had emerged a long time ago in the history of linguistics. Cf.: "Sound-decay probably exists not only in inflecting languages but in almost every language of the world; there are not differences between languages in this respect. This sound-decay should be termed the *h i s t o r i c a l s o u n d c h a n g e* of languages, to distinguish it from *g r a m m a t i c a l s o u n d c h a n g e*, which can vary from language to language. Historical sound change is, in a certain respect, *s o u n d - d e c a y* or more

correctly sound-reduction, as can be seen if we compare an earlier state of a language to its present state, or if we compare the corresponding words of related languages..." (Hunfalvy 1978, re-published: Havas 1977, 329).

10. In the description of a significant part of the American Indian languages under discussion, the 3rd person forms are designated in several ways depending on linguistic traditions: eg. 3rd, 4th and even 5th person (all three are in fact 3rd person), or "proximate" vs. "obviative" (these are also 3rd person forms used under different conditions).

11. Benkő (1975, 30) mentions a similar principle, although he writes that "the resistance of prefixes and suffixes is rather weak". I shall return to a more detailed formulation of this principle in connection with person-marking affixes on pp. 184-185.

12. Some examples from the Uralic languages: in Eastern Votic the -n marker of Vx 1Sg has disappeared. The language compensated for the missing distinction by making phonological changes: 1 Sg is now marked by a lengthening of the stem-final vowel or sometimes by other concomitant changes. The old synthetic principle remains, although agglutination is replaced by inflexion in this person

(Ariste 66-67). The case of the Estonian language is very convincing: as a result of a pervasive change, the word-final -n disappeared, and this process also took place in the 1st person of verbs, where the Vx 1Sg was -n. Data from about 1600, however, prove that in a number of the verb forms under discussion the ancient -n was preserved, when the following word began with a vowel. This rare occurrence served as an adequate basis for the re-emergence of the morpheme of Vx 1Sg in every context. It further helped this return when, after the disappearance of -n, the 1 Sg of verbs became homonymous with the 2nd Sg of the imperative mood. In Southern Estonian, on the other hand, the -n vanished even in the critical positions, because the original x-k morpheme of the imperative did not disappear but became a guttural stop, preserving the distinction of the two verb forms even after the reduction of -n (László Monti, personal communication; L. Kettunen 106-107). It is well-known that the largest number of person-markers of nonpronominal origin can be found in Hungarian, mainly in the indeterminate verbal paradigm. According to hypotheses, in these persons a participle affix, a frequentative affix and a tense suffix agglutinated to the stem to distinguish persons (cf. Hajdú 1966, 144). During a later period, functional coincidences brought about the development of the determinate paradigm containing the j element (for a detailed analysis see: Benkő 1975, 23-27).

### Notes to Chapter III

1. It is interesting to note that besides morphological and phonetical arguments some historical studies put forward hypotheses that it is synthetic forms which signal the appearance of a more developed language state. I reject linking grammatical phenomena with value judgements not only because they can be proved neither empirically nor theoretically, but also because the judgements implicitly discriminate against languages in which processes of the opposite direction have taken place, where synthetic constructions have been substituted by analytic ones. Typological investigations are generally performed on the basis of the tacit assumption that the grammatical structures of both the present and the reconstructed languages are at an essentially identical stage of development. Besides, typological investigations have revealed that the grammatical phenomena which were once considered as "Hungarian specialities" can be found in several languages of the world.

2. See Greenberg's (1963) second universal on the relation between SOV word order and the GN order of possessive constructions.

3. cf. Greenberg l.c. 79.

4. In the light of the expression "N millénaires", which occurs several times in his study, I am inclined to interpret Austerlitz's notion "novatrice", "récent" as referring to something rather ancient. Thus my interpretation is rather different from Korhonen's (1976), who (partly relying on Austerlitz) outlines a very interesting concept concerning the question of why it is impossible to consider authentic the picture of the earlier states of a language family drawn by means of internal reconstruction and the comparative method. The methods referred to (and also typological ones) can in fact be criticized for crediting the earlier language states with too much regularity; I consider this a result of the idealizing tendency of reconstruction (cf. Radics 1979, 20ff), but I do not doubt the validity of this regularity.

5. Now and further on  $S_{tr}$  indicates the subject of a transitive verb,  $O$  indicates its object, and  $S_i$  symbolizes the subject of an intransitive verb or a nominal predicate.

6. R. Hetzron has formulated the thesis as follows: "IF a number of cognate languages each have a system similar to its homologues in the other languages in some respects, but



different in other respects - unless one can find a clear conditioning factor for differentiation - the relatively most heterogeneous system might be considered the most archaic, the closest to the ancestor, and the more homogeneous ones might be assumed to have arisen as a result of simplification." (Hetzron 1976, 93).

7. The three languages in the example belong to three language families (Bella Coola: Salish; Takelma: Penutian; Quechua: Andean-Equatorial) and their speakers have always lived far from each other (Bella Coola: British Columbia, Canada; Takelma: Oregon, USA /now extinct/; Quechua: Peru, Bolivia).

## Notes to Appendix Two

1. In marking the type of relative clauses I have relied on terms set down in a latest typological study (Downing 1978). The terms refer to the mutual position of the subclause and the "governing noun" (head) in the main clause. Briefly and roughly, the types refer to the following structural features: the clause type in which the clause directly follows the noun is *p o s t n o m i n a l* (it is generally introduced by a relative pronominal conjunction). The *p r e n o m i n a l* type is its exact opposite; here, the verb in the clause is generally a participle. The *s u b s t i t u t i v e* construction is one where the subclause substitutes for the head (and the related noun is named in its adequate syntactic position in the clause itself). The *r i g h t - s i d e d* construction is one in which the subclause follows the whole main clause and thus the subclause does not immediately follow the head only after the other elements of the main clause.

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