Grammatical Relations

Author Contact Information

Corresponding Author Name: Wei-wen Roger Liao

Full Postal Address –
Institute of Linguistics, Academia Sinica
128 Sec.2, Academia Rd., Nangang, Taipei
Taiwan

E-mail: lwwroger@gate.sinica.edu.tw
Telephone/Fax: 886-2-2652-5034 /886-2-2785-6622

Abstract

Grammatical relations refer to grammatical functions, such as subjects and direct/indirect objects, and are among the most extensively assumed concepts in linguistic analyses. Despite their wide applications, traditional grammar does not successfully define grammatical relations in a precise manner. Modern linguistics, however, has achieved such a task in the formal or the functional approaches to language. Grammatical relations are now understood as a cluster of properties involving (functional-)thematic roles, Cases, and syntactic derivations regarding designated argument positions.

Keywords subject, object, indirect object, thematic role, Case, ergative predicate, unaccusative predicate, grammatical function, transitive predicate, unergative predicate, predicate, expletive, null subject language, obligatory subject language
Grammatical relations (or grammatical functions), such as subject, direct object, indirect object, refer to nominal elements that appear in designated structural positions in relation to verbal elements, in particular between subjects and predicates, and verbs and objects. Grammatical relations can be characterized in terms of meanings they express, and in terms of their morpho-syntactic properties, and/or in terms of their structural positions in formal analyses of language. Therefore, the term grammatical relations may refer to a cluster of different properties. For example, at least three types of arguments are typically referred to as ‘subjects’ in the linguistic literature: thematic subject, Case subject, and structural/grammatical subject. Although these notions may overlap, it is important to identify each of them when studying grammatical relations. Once these notions are clearly distinguished, it seems theoretically possible to derive the notion of grammatical subject/object from the interaction of thematic roles and Cases. The definitions of grammatical relations also vary drastically according to different linguistic theories. From a formal syntactic point of view, identity of the underlying structural relation serves as the main criterion for defining/deriving a grammatical function. From a functional point of view, on the other hand, one can say that grammatical relations rank-order the noun phrases in a clause on the basis of the values of a number of parameters in accordance with the noun phrases' overall communicative significance in the concrete utterance. Whether grammatical relations are universal is also a highly theory-dependent question, but in terms of formal syntactic structures, universal principles of grammatical relations can indeed be found, while the structural positions of grammatical functions might be subject to language-specific parameters.

The linguistic concept grammatical relation, or grammatical function, belongs to the most important concepts of syntactic theory. Grammatical relations characterize the structural relation
between a clausal/verbal element and its dependent nominal element(s) (see "Constituent Structure: Syntactic"), in particular between a predicate and its subject, and the verb and its object(s). Consider the following examples:

(1) *Peter sent a message to Mary*

(2) *My friend sent a congratulatory telegram to his boss*

In addition to the verbal predicate *sent*, one can identify three noun phrases (NPs) linked to the predicate by specific grammatical relations. One of the NPs (*Peter/my friend*) is the subject, the second (*a message/a congratulatory telegram*) is the direct object, while the third (*Mary/his boss*) is the indirect object. Generally speaking, noun phrases that realize the same grammatical relation occupy a designated position in a clause. In (1), for example, the subject precedes the verb, the direct object strictly follows the verb, while the indirect object is introduced by a preposition *to*. Each of the NPs is structurally distinct from the other two and makes unique reference to a concrete participant (or a thematic role) in the event denoted by the given sentence.

Grammatical relations are very useful in linguistic analysis. First, they permit identification of the various participants in the event (i.e., the subject is identified as the Agent or Actor of the sending event, the object as the Theme being sent, and the indirect object as the Recipient or Goal of the sending event). Second, they allow us to identify possible structural transformations among sentences/constructions. For example, one can detect that (3) and (4) are both structurally and semantically related to sentence (1) because the noun phrases *a message* and *Mary*, which play the same thematic roles (the Theme being sent, and the Recipient), have dislocated from the direct object and the indirect object positions to the subject position, respectively, while the
optional Agent NP is then introduced by a preposition by. Such transformations identify the signature properties of the passive construction in English:

(3) A message was sent to Mary (by Peter).

(4) Mary was sent a message (by Peter).

In addition to NPs with distinct thematic roles, subjects (and objects) can also be clausal, as in (5). Some languages, like English, also allow (and even require) a dummy element to occupy the subject position, like it and there (the so-called expletive subjects) in (6) and (7):

(5) [**That he won**] is fine.

(6) **It** is fine that he won. (cf. *Is fine that he won.)*

(7) **There** comes a strange man. (cf. *Comes a strange man.)*

However, this obligatory “subject” requirement is not seen in the so-called “null subject languages”, such as Chinese, Japanese, Korean, Italian, Spanish, etc. The following example illustrates a Chinese sentence without an apparent subject:

(8) ø zhaodao ta le.

find he LE

‘Someone has found him.’

Furthermore, some languages, like Chinese and Japanese, also allows for null objects, where an apparent object is missing in a transitive predicate, as in (9):

(9) Wo zhaodao ø le.

I find LE

‘I found (it).’
1 What Do Grammatical Relations Mean?

Despite the widespread use of the terms subject and object, traditional grammar did not succeed in giving them coherent and precise definitions. Defining ‘subjects’ as the ‘actors’ or ‘agents’ of the sentences might at first blush be suitable for sentences (1) to (4), but such a definition is less transparent in (5), while the subjects in (6) and (7) clearly do not fall under a definition of this type.

In a series of investigations of the last decades (cf., for instance, the pioneering work of Keenan 1976), it has been established that in the most elementary sentences subject NPs correlate statistically with the meanings of various autonomous semantic domains. First, subjects are linked to the semantic role properties of participants in the given situation. The subject usually encodes the agent, if there is one in the sentence. If there is no agent in the sentence, then the prime candidate for subject position is the patient. In the presence of an agent, the patient is the prime candidate for the position of direct object. Sentences with an agent and patient constitute the prototypical transitive clause with a Subject and direct object. Sentences with participants in other roles are assimilated to varying extents to the structure of transitive or intransitive clauses, or use the position oblique object. The participant with the role of recipient/beneficiary usually occupies the position of indirect object.

Second, there are statistical correlations with the discourse (communicative) domain (see Linguistics: Information Structure). Thus, subjects often communicate known (given) information, while objects communicate new information; subjects often coincide with the focus of empathy, i.e., with that participant from whose point of view the situation is described, and with the topic (theme), while objects often coincide with the comment (rheme).
However, these distributional correlations are often probabilistic in nature, rather than
deterministic, and exceptions to these generalizations can be abundant and systematic. The
confusion is amplified by the fact that traditional grammar does not often distinguish different
types of “subjects” and “objects.” Recent advances in formal syntax, however, identify at least
three types of subjects: thematic subjects, Case subjects, and structural/grammatical subjects, and
the formal syntactic theories have rather successfully formalized the possible structural relations
among them (For convenience, the discussion here is limited to subject, but similar notions may
apply to objects as well). First, thematic subjects are related to thematic roles (See *Valency and
argument structure, in syntax*), and thematic subjects, or external arguments, refer to
agent/actor/experiencer roles, which are determined by the predicate as a whole (the thematic
roles of X’s are very different in *X killed a man* and *X killed time*, where the verb phrase as a
whole determines the thematic role of X). Case subjects refer to NPs that are assigned a
designated Case, that is, the NP with Nominative Case in accusative languages (See *Case,
Morphological, in Linguistics*). Finally, structural/grammatical subjects refer to NPs that occur in
a designated syntactic position in the hierarchical structure. Theoretically, it is possible to derive
grammatical subject from the combination of thematic subject and case subject. Nevertheless,
grammatical subjects are not equivalent to either thematic subjects or case subjects alone. In (6)
and (7), the expletive subjects are not assigned any thematic roles. In some cases, grammatical
subjects may also be caseless, such as the unpronounced grammatical subjects in infinitive
clauses in English (see *Control, syntactic*): *John tried [Ø to fix the car] (Ø = John)*. The empty
subject is a thematic subject and a grammatical subject, yet it occurs in a position that is not
assigned Case.
Structurally speaking, one of the distinctive properties of grammatical subject is that it occupies the most dominant position than any other arguments. For example, it has been shown that when a pronoun has a co-referring reading with (or is bound by) a universal quantified NP (see Quantifiers), the universal QP must be located in a structurally more dominant position than the ‘bound’ pronoun. Technically speaking, the universal QP must c-command the bound pronoun (see Generative Grammar):

(10)  a. Everyone likes his mother.  *(everyone and his can co-refer: x likes x’s mother)
    b. His mother likes everyone.  *(everyone and his cannot co-refer: *x’s mother likes x)

(11)  a. Everyone sent a postcard to his mother.  *(everyone and his can co-refer)
    b. His mother sent a postcard to everyone.  *(everyone and his cannot co-refer)

(10) and (11) show that there is an asymmetry between the structural position of subject and those of the other arguments. The subject is able to c-command the direct object and the indirect object, yet none of the arguments can c-command the subject. The subject thus occupies the most prominent structural position in the syntactic structure. The subject is also obligatory in some languages, in contrast to all other arguments (no languages impose an obligatory object requirement). Notably, there is often a unique structural position for the subject in a given language, but the exact position might vary cross-linguistically (see section 5).
2 How are Grammatical Relations Encoded?
Languages may employ different means to encode grammatical relations. The best known morphological category specifically designated to encode grammatical relations is Case (see Morphological Case in Linguistics). Overt morphological Case marking is present in many language families, e.g., in Latin, Greek, the Slavic and Dravidian languages, the Altaic languages, the languages of Australia, and many of the Austronesian languages. Under overt case marking, grammatical relations are expressed through various overt morphological forms of nouns (as in Latin and Russian), or through different forms of other structural constituents related to NPs (e.g., forms of articles and nouns in German). Alongside inflectional morphology many languages (such as Japanese and Korean) make use of grammatical words or particles (usually prepositions or postpositions), which combine with NPs to give rise to analytical elements that indicate grammatical relations (e.g., in English, the combination of preposition to and NP, such as to Mary in (1), encodes the indirect object). In some languages, overt morphological marking may be indicated not on NPs, but on the verb by means of agreement (see Grammatical Agreement): the form of the verb expresses information about the grammatical properties of that NP which stands in a particular grammatical relation to the verb (or auxiliaries). An example in English is agreement of the verb (or auxiliary) with a third-person singular subject in number. Some languages have polypersonal agreement of the verb with two or more NPs. Thus, in Abkhaz the verb has three agreement positions indicating agreement with specific syntactic types of NPs. The linear order of NPs in the sentence is the positional equivalent of inflectional or analytical marking (see Word Order) and is calculated according to the position of the NP relative to the verb, relative to the beginning or end of the sentence, or relative to other NPs. This strategy is often seen in languages without overt morphological case markings. Thus, in linguistic typology, it is common to characterize languages in terms of their unmarked word orders among subject,
verb, and object. For example, one can distinguish between SVO languages (e.g. English and Chinese) and SOV languages (e.g. Japanese and Korean), the combination of which constitute the largest share among world languages. It is noteworthy that the mainstream generative grammar embraces the hypothesis that Case is universal in natural languages, and for those overt Case markings are not observed, Cases are assigned under specific structural configurations that are systematically mapped to certain linear word orders. If such a position is maintained, then the close association between word order and Case assignment can be established through structural relations.

Grammatical relations are also strongly tied with grammatical voices. Take English for example. In a sentence with a transitive voice, the NP with the thematic role Agent/Actor emerges as the grammatical subject, while in a sentence with a passive voice, the NP with the thematic role Patient/Theme emerges as the grammatical subject. Some languages, especially the Austronesian languages, have other voice constructions (inflected on verbs) that allow NPs with various thematic roles (e.g., Instrument, Location, Beneficiary, etc.) to surface as grammatical subjects (see Voice, grammatical).

3 Formal Analyses of Grammatical Relations
Modern formal theories of syntax may speak of grammatical relations directly as theoretical primitives (as in Lexical Function Grammar and Relational Grammar), or indirectly as derivatives of theta-roles and Cases (as in Generative Grammar). Nevertheless, one common ground is that grammatical relations strongly correlate to verb/predicate types. Four types of predicates will be briefly introduced: accusative/transitive, unaccusative, ergative, and unergative.
A typical accusative/transitive verb takes one or two objects, in addition to the subject. An example of transitive verb is *like*, as in *He likes her*, and *send*, as in *John sent a letter to Mary*, the latter of which is called a ditransitive verb. In the former example, *he* is a nominative marked NP with an Agent/Actor role, and occupies the structural subject position, while *her* is an unaccusative marked NP with an Patient role, and occupies the (direct) object position. In English, it is not possible to use expletive subject in transitive sentences (cf. *there ate John some cake*), but it is possible to find such sentences in Icelandic, as in (12) (from Bobaljik and Jonas 1996: 196):

(12) það borðuðu sennilega margir jólásveinar bjúgun.

there probably many Christmas.trolls the.sausages

‘Many Christmas trolls probably ate the sausages.’

Transitive sentences can also undergo passivization, in which the Agent NP is demoted to a less prominent position, and the Patient NP in turn occupies the structural subject position (and obtain the structural Nominative Case). Under a structural account, it is argued that, in active sentences, the Agent NP is base-generated in a position closer to the grammatical subject position than the Patient NP, and therefore, the Agent NP is the NP that can move into the grammatical subject position, rather than the Patient NP, as in (13):

(13) [subject position: ___ [Agent [V Patient]]]

When a transitive verb undergoes passivization, on the other hand, the Agent NP is demoted, and the verb no longer assigns an Accusative case to the object position, and therefore, this forces the Patient NP to move into the structural subject position instead:

(14) [subject position: ___ [[V Patient][by Agent]]]
For unaccusative verbs, such as *arrive, appear*, and *come*, there are no Agent arguments, and the only argument (a Theme NP) may either stay in the object position or move to the subject position (for Nominative Case), as shown in the following examples:

(15)  

a. There arrived three guests.

b. Three guests arrived.

Unlike transitive predicates, the promotion of the theme argument to the subject position does not require a passive voice in this type of predicate, and an expletive may occupy the subject position. Under a structural account, the obligatory subject position is either fulfilled by an expletive *there*, or it triggers the Theme argument to move into the subject position:

(16)  

a. [subject position: *there* [V Theme]]

b. [subject position:  

In the null subject languages, where there is no obligatory subject requirement, such as Chinese, the subject can be left empty in this type of predicate:

(17)  

a. ø Lai-le san ge keren.
   
   come-LE three Classifier guest
   
   ‘There came three guests.’

b. San ge keren lai-le.

   ‘Three guests came.’

An ergative verb is minimally different from the transitive and the unaccusative verbs in that the Agent argument is optionally projected in the argument structure. Examples of ergative verbs in
English is *roll, sink, open*, etc., as in (18) and (19). The structural configuration of ergative verb is displayed in (20):

(18) a. John rolled the ball down the hill.
    b. The ball rolled down the hill.

(19) a. Peter opened the door.
    b. The door opened.

(20) [subject position: ___ [(Agent) [V Theme]]]

In the (a) examples, the Cases assigned to the subject and the object are the same as the transitive predicates, where the subject position is assigned a Nominative Case and the object position an Accusative Case. In the (b) examples, on a par with the unaccusative predicates, the Theme argument (as the only argument) must move to the subject position, and is assigned a Nominative Case. Unlike unaccusative predicates, however, expletive subjects are not allowed in ergative predicates in English: *There rolled a ball down the hill*. Therefore, when the Agent role does not appear, movement of Theme NP to the subject position is obligatory. It has also been argued that the Agent argument in this type of predicate is introduced by a silent causative verb, and therefore, in (18a) and (19a), the structures may involve an additional layer of null verb CAUSE:

(21) [subject position: ___ [Agent/Causer CAUSE [V Theme/Casee]]]

Finally, an unergative verb, like *laugh, complain, lie*, etc., can only project an Agent argument, which, being the only argument, moves to the subject position and is assigned a Nominative Case. There is no direct object in this type of predicate. However, an indirect object may appear if it is introduced by a preposition, as shown in (22). Formally, this type of predicate has the
structural configuration in (23), where the only argument (the Agent NP) ultimately moves into the subject position:

(22)  
a. Tom laughed (at the girl).
    b. Harry complained (about his lunch).

(23)  [subject position: ____  [Agent V ]]

It is therefore possible for the formal structural analyses to derive the less transparent notions of grammatical relations from more primitive and well-defined notions of theta-roles (which are regulated by argument structures) and Cases, and thus avoid the ambiguous uses of grammatical relations.

4 (Non-)universality of Grammatical Relations

Whether grammatical relation is universal is a theory-internal question, and answers to the question vary according to different theoretical assumptions and syntactic tests. In descriptive linguistics and linguistic typology, where linear word orders and functional morpho-syntactic alignments are concerned, one usually concludes that grammatical relations are not universal among languages, and some languages might even have no well-defined grammatical relations at all. The widely adopted morpho-syntactic alignment test is often carried out by nuclear arguments with the symbols S, A, P (or O), where S is the nuclear argument of an intransitive clause, and A and P the agent-like and patient-like arguments, respectively, of a transitive clause, then in European languages the S/A arguments have identical encoding, grouping them together as the grammatical relation of subject, in opposition to the encoding of the P argument. Such a system is called accusative alignment. Alongside this possibility, many languages found in
various continents have the ergative pattern (e.g. Basque, Dyirbal), uniting the S/P arguments in opposition to the A argument. Here the S/P arguments are usually morphologically unmarked, while the A argument is marked (Ergative Case or its analog). (24) and (25) draw a comparison between an accusative language like Japanese and Dyirbal (From Aldridge 2008):

(24) Japanese (NOM=Nominative, ACC=Accusative)
   a. Hanako-ga kita.
      Hanako-NOM came
      ‘Hanako came.’
   b. Hanako-ga Taro-o hihan-sita.
      Hanako-NOM Taro-ACC criticize-did
      ‘Hanako criticized Taro.’

(25) Dyirbal (ABS=Absolutive, ERG=Ergative, NF=Non-Future)
   a. yabu banaga-n’y u
      mother.ABS return-NF
      ‘Mother returned.’
   b. nguma yabu-nggu bura-n
      father.ABS mother-ERG see-NF
      ‘Mother saw father.’

The ergative alignment of nuclear arguments thus brings about an analytical challenge for theories of grammatical relations. Other patterns are also found in natural languages. One possibility is a pattern that distinguishes agent-like and patient-like arguments of both transitive and intransitive clauses (active alignment). Under active alignment one finds different expression of the single argument of verbs like ‘run’ and verbs like ‘fall.’ There is even the tripartite scheme,
distinguishing all three arguments, S, A, and P. Finally, there is the neutral pattern, which fails to
differentiate the S/A/P arguments by means of coding. Language of this type are often claimed to
have no grammatical relations at all (Dixon 1994, Van Valin and LaPolla 1997).

From a structural point of view, on the other hand, where more complicated hierarchical relations
and structural dependencies are taken into consideration, grammatical relations are generally
considered to be universal, and may be derived from more primitive and universal notions like
theta-roles and Cases, as illustrated in section 3. For example, the universal principle of
subjecthood is that the structural position of subject is structurally more prominent than all other
argument positions, and a language always has a designated structural position for grammatical
subject that is derivationally related to thematic and/or case subjects. While the principle holds,
languages may still differ with respect to the structural position where a given grammatical
relation is encoded. For example, it is often argued that the grammatical subject in English
occupies a unique position licensed by the Inflection or Tense Phrase (or the specifier of TP),
which dominates the Verb Phrase (VP), while the object NP is base-generated as a complement
or specifier of verb inside VP. On the other hand, it has been argued that the grammatical subject
in Irish occupies a lower position (perhaps inside the VP) than that in English. McCloskey (1996
et seq.), for example, has demonstrated that in Irish, the subject is elided along with the object in
the VP-ellipsis construction:

(26) Ni tháinig muid ’na bhaile anuraidh
    not came we home last-year

ach tiocfaidh -- i mbliana

but come[Future] this-year

‘We didn’t come home last year, but we will [come home] this year.’
Irish is a language with the VSO word order, where the verb is argued to move to a higher position out of VP (to the Tense or Inflection) and pass the structural position of subject. If the subject in Irish also moved out of VP to a position licensed by Tense/Inflection Phrase (like the subject in English), we would expect that after VP-ellipsis, the subject should escape being elided within the VP. The fact that subject and object are both elided in the VP-ellipsis construction in Irish then suggests that the Irish subject occupies a position inside VP, on a par with the object. Conversely, in some Austronesian languages, it is often argued that the grammatical subject may occupy a structurally higher position than that in English. For example, Pearson (2005) has argued that the grammatical subject in Malagasy occupies a position typically associated with Topic and wh-movement (see Movement Theory and Constraints, in Syntax), which is a higher projection than TP. In this type of language, the structural requirements of topics outweigh those of grammatical subjects to an extent that the role of topic has replaced the grammatical function of subject. In language typology, languages of the Malagasy type are generally referred to as Topic-prominent languages, in contrast to Subject-prominent languages, such as English and French. Some languages, such as Japanese and Korean, show mixed characteristics, where subjects and topics may co-exist, and are both considered prominent in their discourse functions.

The controversial issue of ergative alignment, which is often used as an argument against the universality of grammatical relation, may also be neutralized once a more articulated structural account is adopted, especially when we consider grammatical relations as derivatives of theta roles and Case assignments. Recent studies in Legate (2002 et seq.) and Aldridge (2004 et seq.), for example, both argue on independent grounds that the Ergative Case in ergative languages is tied to the thematic role of Agent/Actor (or the external argument), and the Absolutive Case is
identified as the default unvarying form of structural cases (compared to Nominative Case and Accusative Case in accusative languages). If such approaches are on the right track, then the difference between ergative languages and accusative languages simply supports the idea that grammatical relations are not primitives in natural languages, but are derivatives of universal notions of theta-roles and Cases, as argued in the mainstream generative grammar (Williams 1984).

5 Grammatical Relations and the Functional Approach to Language

The functional explanation of grammar (see Grammar: Functional Approaches) has permitted establishing the polyfunctional character of the elementary categories which form the clusters known as grammatical relations. The majority of these categories were themselves discovered and investigated in the framework of the functional approach (Kibrik 1997).

In this connection the question of the existence of different patterns of encoding S, A, and P arguments merits special attention. Proceeding from the now widely established assumption of the iconicity of the linguistic sign (see Linguistics: Iconicity), replacing the Saussurean assumption of the arbitrariness of the sign, one can allow for the existence of a functional motivation for the various coding patterns. These patterns unite arguments with different elementary roles in different ways. The basic prototypes of all these groupings (see Linguistics: Prototype Theory) are given by the agent and patient of the transitive construction. From this viewpoint active alignment is a natural metonymic extension of the elementary roles of agent and patient, generalizing them to the hyperroles (macroroles) of actor (the participant in the event which performs, effects, instigates, or controls it) and undergoer (the participant in the event
which does not perform, effect, instigate, or control it, but rather is affected by it in some way).
Arguments with different elementary roles can be interpreted in terms of these hyperroles. Accusative alignment is also motivated essentially not by grammatical relations, but by the hyperroles principal and patientive. The principal indicates the main participant, the ‘hero’ of the situation, who is primarily responsible for the fact that this situation takes place. In the transitive clause the principal is, of course, the agent-like argument, while in the intransitive clause the single nuclear argument has no competitors for the role of principal. The patientive is the most patient-like participant of a multi-participant event. This role unites, in addition to the patient, arguments of other types.
Ergative alignment articulates the S, A, P arguments by means of other hyperroles, absolutive and agentive. The absolutive is the metonymic extension of the patient to intransitive verbs, it is the immediate, nearest, most involved or affected participant in the situation. In the transitive clause the patient is most involved in the situation. In the intransitive clause there is no competition for the role of closest and most involved participant in the situation. The absolutive in the transitive clause is in opposition to the agentive, the most agent-like participant of the multi-participant event.
Tripartite alignment distinguishes agentive and patientive of the transitive clause, distinguishing them from the single nuclear argument of the intransitive clause.
All these means of generalizing the elementary roles are in principle motivated, but a language has the option of grammaticalizing just one of them as its basic pattern. In addition, a language may have different patterns in different contexts, and examples of this kind have been attested.
6 Grammatical Relations and the Cognitive Approach to Language
The ‘statistical’ correlations between concepts of different semantic domains noted above and
which are grammaticalized in grammatical relations and the means of their encoding are not
chance, rather they have a cognitive nature, reflecting the human capacity for categorizing reality.

Behind the limitless variety of whole grammatical systems lie the same stable cognitive
structures of human thought and the pragmatic strategies (see Pragmatics: Linguistic) for their
verbalization. The reconstruction of these structures and strategies on the basis of data from
different languages is the task of cognitive typology (see Linguistic Typology).

Bibliography
Cornell University.
Aldridge, E., 2008. Generative Approaches to Ergativity. Language and Linguistics Compass 2,
966-995.
Aissen, J. (1999). Markedness and subject choice in optimality theory. Natural Language and
Linguistic Theory, 17, 673–711.
Aldridge, E., 2008. Generative Approaches to Ergativity. Language and Linguistics Compass 2,
966-995.
Bobaljik, J.D., Jonas, D., 1996. Subject Positions and the Roles of TP. Linguistic Inquiry 27,
195-236.
Chicago Press.
Transitivity. Cambridge, UK: Cambridge University Press.
(Eds.), Studies in Language Function and Language Type. (pp. 115–143). Benjamins,
Amsterdam.
Amsterdam.
Keenan, E. (1976). Towards a universal definition of ‘subject’. In N. Li Ch (Ed.), Subject and
Linguistic Typology, 1, 279–346.
The Syntax of The Celtic Languages: A Comparative Perspective. Cambridge University Press,
Cambridge, pp. 241-283.
Pearson, M., 2005. The Malagasy Subject/Topic as an A'-Element. Natural Language &
Linguistic Theory 23, 381-457.
Chicago Press.
Academic.
UK: Cambridge University Press.