Transitivity Alternations in Diachrony

Changes in Argument Structure and Voice Morphology
Transitivity Alternations in Diachrony:
Changes in Argument Structure and Voice Morphology

By

Nikolaos Lavidas
CONTENTS

List of Tables ................................................................................................................................. vii
Preface ............................................................................................................................................ ix
List of Abbreviations and Acronyms .......................................................................................... xi

Chapter One .............................................................................................................................. 1
Introduction
1.1 Aim and Objectives of the Research ..................................................................................... 1
1.2 Transitivity, Prototypical Transitivity, and Causativity .......................................................... 3
1.3 Transitivity Alternations .......................................................................................................... 9
1.4 The Study of Transitivity and the Diachronic Approach ........................................................ 14
1.4.1 The problems and the contribution of diachronic study ....................................................... 14
1.4.2 Sources ................................................................................................................................ 15
1.5 Terminology Issues ................................................................................................................. 17
1.6 The Structure of the Monograph ............................................................................................ 20

Chapter Two ............................................................................................................................. 25
Theoretical Framework
2.1 Transitivity, Syntax, and Lexicon-Syntax Interface ................................................................. 25
  2.1.1 Transitivity and syntax ......................................................................................................... 26
  2.1.2 Transitivity and lexicon-syntax interface ............................................................................ 36
  2.1.3 The derivational basis issue: the relationship between the derivation of the transitive and intransitive types ................................................................. 42
  2.1.4 Morphology, argument structure, and transitivity ............................................................... 44
  2.1.5 Summary ......................................................................................................................... 48
2.2 Language Change and Transitivity .......................................................................................... 50
  2.2.1 Generative Grammar and diachrony .................................................................................. 50
  2.2.2 Language change, language acquisition, and reanalysis .................................................... 52
  2.2.3 Input, cues, and PLD .......................................................................................................... 53
  2.2.4 Diachrony and transitivity in Greek: a review of the literature ......................................... 56
  2.2.5 Summary ......................................................................................................................... 61

Chapter Three ........................................................................................................................... 63
Diachronic Data and Analysis
3.1 From Homeric to Classical Greek ......................................................................................... 63
  3.1.1 The overall picture .............................................................................................................. 63
  3.1.2 Innovative causative use of intransitive verbs: from ablaut alternation to productive causativisation ............................................................... 65
  3.1.3 Derivation and voice of the transitivity alternations: the contrast between the active causative and the non-active anticausative ........................................ 78
  3.1.4 Summary ......................................................................................................................... 92
3.2 The Hellenistic-Roman Period ............................................................................................... 94
  3.2.1 The general picture ........................................................................................................... 94
  3.2.2 Innovative causative use of intransitive verbs: causativisation of intransitives vs. case changes in accusative verbs ....................................................... 94
  3.2.3 Transitivity alternation derivation and voice: changes towards marking of the anticausative with active voice .................................................... 106
  3.2.4 Summary ....................................................................................................................... 118
3.3 Medieval Greek .................................................................................................................... 120
  3.3.1 The general picture ........................................................................................................... 120
  3.3.2 Innovative causative use of intransitive verbs: is there a limit to causativisations? ...... 121
  3.3.3 Derivation of transitivity alternations and voice: absorption of the accusative case by the non-active voice and tendency towards active causatives and anticausatives ...... 130
  3.3.4 From Medieval to Modern Greek .................................................................................... 152
  3.3.5 Summary ....................................................................................................................... 161
LIST OF TABLES

1.1 Hopper & Thompson’s transitivity parameters ................................................................. 4
2.1 Language acquisition and change: I-language and E-language ........................................ 52
3.1 Middle and passive non-active forms in the future and past tense .................................. 79
3.2 Syncretism of causative and anticausative types in English ........................................ 169
3.3 Morphological dissociation and periphrases ................................................................ 174
3.4 Morphological dissociation and pronoun SE ......................................................... 174
3.5 Morphological dissociation between anticausatives and passives .................................. 175
4.1 Formation of labile types in Greek ................................................................................. 187
4.2 Overview of anticausatives and passives in the diachrony of Greek ............................... 198
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December 2009
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>absolutive case</td>
</tr>
<tr>
<td>ACC</td>
<td>accusative case</td>
</tr>
<tr>
<td>AGR</td>
<td>agreement</td>
</tr>
<tr>
<td>ACT</td>
<td>active voice morphology</td>
</tr>
<tr>
<td>ANTIC</td>
<td>anticausative morpheme</td>
</tr>
<tr>
<td>AOR</td>
<td>aorist tense</td>
</tr>
<tr>
<td>ASP</td>
<td>aspect</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative morpheme</td>
</tr>
<tr>
<td>Compl</td>
<td>Complement</td>
</tr>
<tr>
<td>CP</td>
<td>complementiser phrase</td>
</tr>
<tr>
<td>DAT</td>
<td>dative case</td>
</tr>
<tr>
<td>DP</td>
<td>Determiner Phrase</td>
</tr>
<tr>
<td>EPP</td>
<td>Extended Projection Principle</td>
</tr>
<tr>
<td>ERG</td>
<td>ergative case</td>
</tr>
<tr>
<td>FUT</td>
<td>future tense</td>
</tr>
<tr>
<td>FUTPERF</td>
<td>future perfect tense</td>
</tr>
<tr>
<td>GEN</td>
<td>genitive case</td>
</tr>
<tr>
<td>GER</td>
<td>gerund</td>
</tr>
<tr>
<td>IE</td>
<td>Indo-European</td>
</tr>
<tr>
<td>IMP</td>
<td>imperative mood</td>
</tr>
<tr>
<td>IMPERF</td>
<td>imperfect tense</td>
</tr>
<tr>
<td>IMPRFVE</td>
<td>imperfective aspect</td>
</tr>
<tr>
<td>INF</td>
<td>infinitive</td>
</tr>
<tr>
<td>INTR</td>
<td>intransitive type</td>
</tr>
<tr>
<td>IP</td>
<td>Inflection Phrase</td>
</tr>
<tr>
<td>MID</td>
<td>middle voice</td>
</tr>
<tr>
<td>NACT</td>
<td>non-active voice morphology</td>
</tr>
<tr>
<td>NACT1</td>
<td>type 1 of non-active voice morphology</td>
</tr>
<tr>
<td>NACT2</td>
<td>type 2 of non-active voice morphology</td>
</tr>
<tr>
<td>NOM</td>
<td>nominative case</td>
</tr>
<tr>
<td>NP</td>
<td>Noun Phrase</td>
</tr>
<tr>
<td>O/OBJ</td>
<td>object</td>
</tr>
<tr>
<td>OPT</td>
<td>optative mood</td>
</tr>
<tr>
<td>PART</td>
<td>participle</td>
</tr>
<tr>
<td>PASS</td>
<td>passive voice</td>
</tr>
<tr>
<td>PERF</td>
<td>(present) perfect tense</td>
</tr>
<tr>
<td>PERFVE</td>
<td>perfective aspect</td>
</tr>
<tr>
<td>PIE</td>
<td>Proto-Indo-European</td>
</tr>
<tr>
<td>PL</td>
<td>plural marker</td>
</tr>
<tr>
<td>PLD</td>
<td>Primary Linguistic Data</td>
</tr>
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<td>PLUP</td>
<td>pluperfect tense</td>
</tr>
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<td>PRED</td>
<td>Predication head</td>
</tr>
<tr>
<td>PRES</td>
<td>present tense</td>
</tr>
<tr>
<td>prt</td>
<td>particle</td>
</tr>
<tr>
<td>REFL</td>
<td>reflexive</td>
</tr>
<tr>
<td>S/SUBJ</td>
<td>subject</td>
</tr>
<tr>
<td>SG</td>
<td>singular marker</td>
</tr>
<tr>
<td>Spec</td>
<td>Specifier</td>
</tr>
<tr>
<td>TP</td>
<td>Tense Phrase</td>
</tr>
<tr>
<td>TRANS</td>
<td>transitive type/Transitivity head</td>
</tr>
<tr>
<td>UG</td>
<td>Universal Grammar</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
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<td>Description</td>
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<td>---------------------------</td>
</tr>
<tr>
<td>VOC</td>
<td>vocative case</td>
</tr>
<tr>
<td>VoiceP</td>
<td>Voice Phrase</td>
</tr>
<tr>
<td>vP</td>
<td>light verb Phrase</td>
</tr>
<tr>
<td>VP</td>
<td>Verb Phrase</td>
</tr>
<tr>
<td>WEAK</td>
<td>weak pronoun</td>
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CHAPTER ONE
INTRODUCTION

1.1 Aim and Objectives of the Research

This monograph examines the diachrony of verb transitivity (putting an emphasis on examples from diachrony of Greek verb transitivity) and, more particularly, the changes in causative verbs (verbs that denote change-of-state) and in transitivity alternations, defining the aspects of change in the lexicon that are constrained by Universal Grammar and those that are constrained by specific characteristics of language in every historical period. Furthermore, the aim is to show the mechanisms and processes of change in lexicon and in syntax that are concerned with the transitivity of verbs\(^1\). More specifically, I present the results of the research on diachronic changes in Greek in relation to transitivity alternations/alternating verbs:

\begin{enumerate}
\item (1) English
  \begin{enumerate}
  \item John opened the window
  \item The window opened
  \end{enumerate}
  Greek
  \begin{enumerate}
  \item \(\text{o Γιάννης άνοιξε το \ παράθυρο}\)\(^2\)
  \item \(\text{το \ παράθυρο άνοιξε}\)
  \end{enumerate}
\item (English)
  \begin{enumerate}
  \item John cut the bread
  \item *The bread cut by itself
  \end{enumerate}
  Greek
  \begin{enumerate}
  \item \(\text{o Γιάννης \ έκοψε το \ ψωµί}\)
  \item \(\text{το \ ψωµί \ έκοψε}\)
  \end{enumerate}
\end{enumerate}

in comparison with non-alternating verbs:

(a) transitive verbs (with no intransitive use):

\begin{enumerate}
\item (2) English
  \begin{enumerate}
  \item John cut the bread
  \item *The bread cut by itself
  \end{enumerate}
  Greek
  \begin{enumerate}
  \item \(\text{o Γιάννης \ έκοψε το \ ψωµί}\)
  \item \(\text{το \ ψωµί \ έκοψε}\)
  \end{enumerate}
\end{enumerate}

---

\(^1\) ‘Transitivity’ is, in reality, a neutral term (which is why I will frequently call it as ‘(in)transitivity’) since it does not refer to the presence of a direct object but constitutes a characteristic of the verb that can receive a positive indicator/mark [+transitive] and means that the verb takes a direct object or a negative indicator/mark [-transitive] and demonstrates the obligatory absence of the direct object.

\(^2\) Examples from Greek are quoted in both Greek and Roman scripts; the decision to transliterate the Greek can help linguists with no training in Greek to examine, check and cite the relevant examples given here (cf. Goldstein 2008). Examples will be given a broad phonological transcription; stress will be not marked except for the cases where the marking of stress is necessary for the argumentation (cf. Ralli 2009). As is well known, the phonological system of Greek has changed significantly during the Hellenistic-Roman period. For that reason and as details about the phonological system and its changes are not so relevant to this present study of syntactic changes, Ancient and Hellenistic-Roman Greek examples are transcribed according to the Classical Greek pronunciation (since not all of the changes were completed by the end of the Hellenistic period), whereas examples of the Medieval and Modern Greek period are given a Modern Greek transcription. For readability the vowels are presented by transliterating the Greek orthography, not in phonological transcription (cf. Kiparsky 2003): (i) for \(\omega\) I write \(o\); (ii) for \(\omega\); (iii) for \(\eta\); (iv) for \(\epsilon\). Phonologically \(\omega\) corresponds to \(\text{ʃ} /\omega/\) and to \(\text{ʃ} /\omega/\), \(\xi\) both to \(\text{ʃ} /\epsilon/\) and \(\text{ʃ} /\epsilon/\), and \(\eta\) to \(\text{ʃ} /\epsilon/\). This ‘shortcut’ is not problematic in the present context because this present study of syntactic change does not depend on vowel quality.
(b) non-alternating unaccusative intransitive verbs:

(3) English
a. The tree fell
b. *John fell the tree

Greek
a’. Το δέντρο έπεσε
the.NOM tree.NOM fall.ACT.PAST.PERFVE.3SG
‘The tree fell’
b’. *Ο Γιάννης έπεσε το δέντρο
*o Janis epese to dhendro
the.NOM Janis.NOM fall.ACT.PAST.PERFVE.3SG the.ACC tree.ACC
‘*Janis fell the tree’

and (c) unergative intransitive verbs:

(4) English
a. Maria came
b. *The bus came Maria back to the hotel

Greek
a’. Η Μαρία ήρθε
the.NOM Maria.NOM come.NACT.PAST.PERFVE.3SG
‘Maria came’
b’. *Το λεωφορείο ήρθε τη Maria στο ξενοδοχείο
*to leoforio irthe ti Maria sto ksenodhoxio
the.NOM bus.NOM come.NACT.PAST.PERFVE.3SG the.ACC Maria.ACC to-the hotel
‘*The bus came Maria back to the hotel (‘the bus brought Maria back to the hotel’).

Emphasis is placed on transitivity alternations (ex. 1a, b, a’, b’) for three principal reasons:

(a) the verb class (verbs denoting change-of-state) that participates in these alternations constitutes the central or prototypical class of transitive verbs (as I will argue in the second chapter/theoretical framework);

(b) the diachronic behaviour of these verbs -in comparison with the diachronic behaviour of the exclusively transitive or exclusively intransitive verbs- can present the basic characteristics of the mechanism of change in verb transitivity;

(c) the presence of a transitivity alternation even at a synchronic level comprises one of the basic means of change in verb valency since it concerns basic grammatical phenomena such as transitivisation and intransitivisation, as well as changes in voice morphology ((in)transitivity morphological markers).

The research belongs to the field of diachronic studies and examines diachronic data through the prism of the Generative Grammar diachronic approach of Lightfoot (1979, 1999, 2006a, b). It contributes to the field of language change since it constitutes a systematic attempt at research on the diachrony of syntax and of the lexicon-syntax interface. Many studies have concerned themselves with the theoretical analysis of transitivity alternation in Modern Greek (Theophanopoulou-Kontou 1980, 1982, 1999b, 2004; Tsimpli 1989, 2006a; Alexiadou & Anagnostopoulou 1999a, b, 2004), with particularly significant results, but the issue of the diachronic development of transitivity has not been the subject of systematic research.

The approach and basic position concerning the organisation of the lexicon and its interaction with syntax adopted by this monograph is that verb meaning has an effect on verb syntax (Levin & Rappaport Hovav 1995, 2005; Rappaport Hovav & Levin 1998). The verb has structured meaning that derives from the meaning of the event type. For verbs that participate in syntactic alternations, and particularly for verbs that participate in transitivity alternations, information on the event type can be
marked by overt or zero morphemes\(^3\). This morphological process has syntactic consequences since it expresses the relationship that exists between the arguments of the verb.

From the numerous general issues that can be raised concerning the argument structure, two principal issues are examined in this study:

The first concerns the explanation of the limited possible verb structures that exist in the various periods not only of Greek but of all languages. This issue arises from the observation (Hale & Keyser 1993; Juarros-Daussà 2003) that a predicate (without the help of an additional lexical head) can only accept one (mono-transitive verbs) or at the most two (ditransitive verbs) arguments (with the exception of the external argument/subject\(^4\)). The majority of theories on argument structure are based on \(\theta\)-roles and/or primitives of the aktionsart. The aim of my analysis is to demonstrate the mechanisms that synchronously (in one period of the history of the Greek language) but also diachronically (in different periods in the history of the Greek language) limit the possibilities for the extension and modification of an argument structure and connect specific verb classes with specific structures.

The second general issue concerns the correlation of the lexical-semantic structure, in other words, of the verb meaning as it is typically represented in modern theory, with syntactic structures. This problem is connected with the traditional problem of the correlation of (semantic) arguments (in other words the elements that semantically complete a verb) with syntactic representations, and it is concerned with the lexicon-syntax interface\(^5\).

It is, of course, evident that an exhaustive examination of all the phenomena and questions connected with transitivity and all the verb classes of the periods covered by this study (5\(^{th}\) century BC to the 17\(^{th}/18^{th}\) century AD) would lead to research that exceeds the size restrictions permissible for a monograph since a wide variation of syntactic behaviours and changes in the syntax of various verb classes can be observed. For this reason, the research into the diachronic theory of transitivity takes into consideration three specific questions:

(a) What is the connection between transitive and intransitive types? Are transitive and intransitive types connected lexically with processes of (lexical) transitivisation (therefore, the intransitive type is the basic type [Dowty 1979; Pesetsky 1995]) or of (lexical) de-transitivisation (therefore, the transitive type is the basic type [Levin & Rappaport Hovav 1995; Chierchia 1989/2004; Reinhart 1997, 2000])?

(b) What is the role of morphology? Is morphological marking connected with lexical derivation? Is there a link between the additional morphology and the derived form?

(c) Why do languages and historical periods of the same language vary regarding which verbs participate or do not participate in transitivity alternations? What is the relationship between (a) intransitive alternating verbs (anticausatives), (b) intransitive passive verbs, and (c) transitive verbs (as a whole, and especially with causative transitive verbs)? (cf. the theoretical examination of (anti)causativisation by Alexiadou 2006a, c).

Finally, a necessary supplement to a complete study of (in)transitivity would consist of the examination of changes in relation to the arguments and adjuncts that complete the transitive (causative) structures (agent, cause or instrument and patient) and the arguments that complete the intransitive structures (patient, cause or instrument and/or agent [in the case of intransitive passive structures]).

Parallel to the aforementioned primary questions, an examination was also undertaken regarding the following issues that correlate with the previous central questions of diachronic research: the presence or loss of prefixes for innovative transitive or intransitive structures and the changes in the (direct) object case (genitive, dative morphological case, and prepositional phrases that replace or are replaced by the accusative morphological case). The tendency, as will be shown, is only towards the extension of the morphological accusative case, but a distinction between the different instances of the extension of the accusative case is vital.

### 1.2 Transitivity, Prototypical Transitivity, and Causativity

In this section, I will try to present the reasons why I posit causative verbs as the focus of my research on transitivity, as well as the precise characteristics that distinguish them from the rest of the transitive verbs and, of course, from intransitive verbs. The theoretical analysis of the prototypical transitive

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\(^4\) The external argument is ‘the argument of a predicate X which is not contained in the maximal projection of X; in general, this is the subject of a predicate’ (J. Kerstens, E. Ruys & J. Zwarts 1996-2001: Lexicon of Linguistics. Utrecht Institute of Linguistics OTS, Utrecht University – Williams 1980; Chomsky 1981, 1986).

\(^5\) The correlation of the semantic structure with the syntactic structure is dealt with theoretically either by the same syntactic principles that also define the relations in the syntactic level or by the separate level of the lexicon-syntax interface, which is based on special rules of correlation, thematic hierarchies, and linking rules.
verbs, i.e. causative verbs, is based, on the one hand, on Tsunoda’s approach, which modified Hopper & Thompson’s classical study on transitivity, and, on the other hand, on the analyses of Levin & Rappaport Hovav.

(a) Hypotheses on transitivity and unaccusativity
Hopper & Thompson (1980, 1982) analysed transitivity as a continuum and attempted to show the parameters of the complete transitive sentence that are related to grammatical universals (which appear in the typology of languages) and to the use of language.

Table 1.1 Hopper & Thompson’s transitivity parameters (1980: 252)

<table>
<thead>
<tr>
<th></th>
<th>High Transitivity</th>
<th>Low Transitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARTICIPANTS</td>
<td>two or more participants (agent and object)</td>
<td>one participant</td>
</tr>
<tr>
<td></td>
<td>John hugged Maria.</td>
<td>Peter died.</td>
</tr>
<tr>
<td>KINESIS</td>
<td>action.</td>
<td>non-action</td>
</tr>
<tr>
<td></td>
<td>Kain killed Abel.</td>
<td>I like Helen.</td>
</tr>
<tr>
<td>ASPECT</td>
<td>telic</td>
<td>atelic</td>
</tr>
<tr>
<td></td>
<td>I ate it up.</td>
<td>I’m eating it.</td>
</tr>
<tr>
<td>PUNCTUALITY</td>
<td>punctual</td>
<td>non-punctual</td>
</tr>
<tr>
<td></td>
<td>Mary kicked the ball.</td>
<td>Mary carried the book.</td>
</tr>
<tr>
<td>VOLITIONALITY</td>
<td>volitional</td>
<td>non-volitional</td>
</tr>
<tr>
<td></td>
<td>I wrote your name.</td>
<td>I forgot your name</td>
</tr>
<tr>
<td></td>
<td>I broke the glass.</td>
<td>The glass broke.</td>
</tr>
<tr>
<td>AFFIRMATION</td>
<td>affirmative</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Peter smokes.</td>
<td>Peter does not smoke.</td>
</tr>
<tr>
<td>MODE</td>
<td>realis</td>
<td>irrealis</td>
</tr>
<tr>
<td></td>
<td>I picked up the phone.</td>
<td>If I had picked up the phone.</td>
</tr>
<tr>
<td>AGENCY</td>
<td>The agent is high in potency [+animate]</td>
<td>The agent is low in potency [-animate]</td>
</tr>
<tr>
<td></td>
<td>George startled me.</td>
<td>The picture startled me.</td>
</tr>
<tr>
<td></td>
<td>John frightened me.</td>
<td>The picture frightened me.</td>
</tr>
<tr>
<td>AFFECTEDNESS OF OBJECT</td>
<td>The object is totally affected (total change of object)</td>
<td>The object is not affected (partial change of object)</td>
</tr>
<tr>
<td></td>
<td>I drank the milk.</td>
<td>I drank some milk.</td>
</tr>
<tr>
<td>INDIVIDUATION OF OBJECT</td>
<td>High degree of individuation of object (proper nouns, concrete animates, singular number, countable, definite)</td>
<td>The object is not individuated</td>
</tr>
<tr>
<td></td>
<td>I bumped into Charles.</td>
<td>I bumped into the table.</td>
</tr>
</tbody>
</table>

In relation to the previously shown parameters, Hopper & Thompson formulated the Transitivity Hypothesis (1980: 255): ‘If two clauses (a) and (b) in a language differ in that (a) is higher in transitivity according to any of the features, then, if a concomitant grammatical or semantic difference appears elsewhere in clauses, that difference shows (a) to be higher in Transitivity’.

6 It should be noted that the indirect animate object is considered an indication of greater transitivity than any direct object.

7 Hagège (1982) also dealt with transitivity as a continuum. For Hagège, the contrast between ‘strong’ and
The degree of transitivity (high-low) has morphosyntactic and semantic consequences: the morphological markedness of the object, according to the analysis by Hopper & Thompson, is attributed not to the distinction between subject and object but is the result of the degree of transitivity of the sentence as a whole, as it arises from the parameters of transitivity. Hopper & Thompson support their hypothesis by analysing, in a large number of languages, the case marking of the object, the case marking of the subject (which bears the semantic role of the agent or the patient), the incorporation of the object into the verb, the word order, the verb morphology, the anti-passive, and the reflexive structure.

Furthermore, according to recent approaches, neither transitive verbs nor intransitive verbs make up a homogeneous group: the Unaccusativity Hypothesis (Permutter 1978; Burzio 1986) distinguishes two subclasses of intransitives, the unergative and the unaccusative intransitives, each one of which is related to a different syntactic structure. The unergative verbs (e.g., swim) have their sole argument in the position of the syntactic subject ([Spec, vP]) but have the position of the syntactic object empty ([Compl, VP]); the sole argument of the unaccusatives (e.g., appear) is generated in the [Compl, VP] position, but the subject position is empty. With the application of the rule ‘move α’ (movement of NP) according to the older theoretical perspective or to receive/check the nominative case, the sole argument of the unaccusative verbs moves to the empty position of the subject.

(5) a. unergative verb (swim, sing, dance):
   DP [vP V ]

b. unaccusative verb (appear, intransitive break, intransitive open): __ [vP V DP]

In thematic terms, the unergative verbs take agents as arguments and the unaccusative verbs take patients or themes as arguments. Burzio (1986) connected the ability of a verb to have an external argument with the ability to assign structural case (Burzio’s Generalisation): an unaccusative verb, precisely because it does not have an external argument, is unable to take an object in the accusative case, or, according to the Government and Binding theory, it does not assign structural case to its object.

8 'weak' transitivity in different languages refers to: (1) the degree of volitionality for the accomplishment of an action, (2) the degree of the affectedness of the patient, (3) the degree of accomplishment of the action and (4) the degree of definiteness of the patient.

The structure of intransitive predicates in Modern Greek and their relationship with the Unaccusativity Hypothesis have occupied many linguists (Markantonatou 1992; Kakouriotis 1993, 1994; Sioupi 1997; Embick 1998; Alexiadou & Anagnostopoulou 1999a, b; Theophanopoulou-Kontou 1999a, b, 2003a). Markantonatou (1992) and Alexiadou & Anagnostopoulou (1999a) attempted to define the criteria that distinguish the intransitive verbs of Modern Greek into unergative and unaccusative since the majority of the criteria used cross-linguistically cannot be applied to Modern Greek (all intransitive verbs in Modern Greek take the verb ‘have’ as auxiliary; Modern Greek does not have resultative and impersonal passive structures). An important criterion for Modern Greek verbs has been said to be the ability to form adjectival participles for unaccusative but not for unergative verbs:

(1) a. πεσμένο φύλλο
   pezmeno filo
   ‘fallen leaf’

b. *τρεγμένος άνθρωπος
   *treghmenos anthropos
   ‘a person who has run a lot’

Furthermore, unaccusative verbs in the past tense, when the subject exhibits something countable, do not allow the presence of a progressive adverbial (and atelic interpretation); only when the subject exhibits quantity is the progressive adjunct (and atelic interpretation) allowed:

(2) a. *Ο Θησέας είνανε
eftanan epi meres stin Athina
   ‘Theseus was arriving for days in Athens’

b. Αθλητές είνανε
eftanan epi meres stin Athina
   ‘Athletes were arriving for days in Athens’

Finally, Alexiadou & Anagnostopoulou (1999a) point out that unaccusative verbs of change-of-state in Modern
(b) Prototypical transitivity

The transfer of emphasis from the transitivity continuum to prototypical transitivity was first undertaken by Cooreman, Fox & Givón (1984). For them, transitivity is concerned with three main characteristics of the sentence: (a) the agent: the prototypical transitive sentence has an explicitly denoted agent (or cause), who acts volitionally and has full control over the action; (b) the patient: the prototypical transitive sentence has an explicit patient who does not participate of his/her own volition in the action and does not control the action; and (c) the verb: a prototypical transitive sentence has a verb that shows the realis mood and perfective aspect. The sentences that bear the three aforementioned properties are prototypically transitive.

The concept of prototypical transitivity has been accepted and used (sometimes with modifications) in many studies: Tsunoda (1985, 1994); DeLancey (1987); Croft (1990); Antonopoulou (1991); Kibrik (1993); Ono (1999); Lazard (2006); Naess (2007).

Tsunoda & Lazard reject, however, the opinion that all the parameters of transitivity are connected equally among themselves: a sentence may exhibit low transitivity in relation to a parameter (for example, the definiteness of the object) and high transitivity in relation to another parameter (for example, the presence of the agent). Lazard considers the presence of two participants in a sentence as a fundamental and necessary condition to be able to talk about transitivity and not simply as one of the many determinants that indicate high transitivity. For Tsunoda, the close relationship of only some of the factors (the volitionality and agent) is also of particular importance, as is the existence of a hierarchy of the morphosyntactic marking (the affectedness of the object appears to constitute a more significant factor than the volitionality and the agent for the morphosyntactic marking of increased transitivity) and the scale of affectedness (a continuum of affectedness that has consequences for the morphosyntactic markedness of the object).

Tsunoda, using as a basis the aforementioned correlations of high transitivity parameters, creates a hierarchy of verbs based on the probability that semantic classes of verbs have of being transitive cross-linguistically. The verbs that belong to the semantic classes that are higher in the hierarchy are more likely to be transitive across languages. The classes and their particular semantic characteristics are as follows:

(i) Verbs with a direct effect on the argument of the patient and resultative meaning (causativity): ‘kill’, ‘break’, ‘bend’
(ii) Verbs with a direct effect on the argument of the patient but with non-resultative meaning: ‘hit’, ‘kick’, ‘shoot’
(iii) Verbs of perception; patient more attained: ‘see’, ‘hear’, ‘find’
(iv) Verbs of perception; patient less attained: ‘look’
(v) Verbs of pursuit: ‘search’, ‘wait’
(vii) Verbs of feeling:

Greek can form transitive structures, whereas the unergative verbs cannot:

(3) a. Το βάζο έσπασε  
the.NOM vase.NOM break.ACT.PAST.PERFVE.3SG
‘The vase broke’
b. Ο Γιάννης έσπασε το βάζο  
the.NOM Janis.NOM break.ACT.PAST.PERFVE.3SG the.ACC vase.ACC
‘Janis broke the vase’

Antonopoulou recognises prototypical transitive verbs and non-prototypical transitive verbs; the core of transitivity is sentences that contain natural, punctual, significant, and total change of the state of the patient. According to Antonopoulou (cognitive approach of transitivity) transitivity concerns syntax, semantics, and pragmatics: a situation that is dealt with cognitively as transitive is comprised not only of two participants but also of their interaction and of the complete affectedness of one of the two. Transitivity is the superordinate category: the active transitive structure, the passive structure without agent (=anticausative structure), and the passive structure with agent make up the basic categories. The passive structure comprises the marked member of the category and has many characteristics of de-transitivisation in the form in which it is expressed. The focus on the patient is the main parameter of transitivisation, whereas the defocalisation of the agent is considered the main parameter of de-transitivisation.
Levin’s approach to verb classes (1993, 2000, 2004), be limited to the following four classes:

(i) Resultative verbs with a direct effect on the patient argument (causative event structure):

(ii) Non-resultative verbs with a direct effect on the argument of the patient (and surface contact) (simple event structure):

(iii) Verbs of pursuit/denotation of relation with the second argument (simple event structure):
- ‘search’, ‘wait’, ‘await’, ‘see’

(iv) Stative verbs of perception, knowledge, and feeling (simple event structure):

The aforementioned classes (semantically highly detailed) could, on the basis of their aktionsart and Levin’s approach to verb classes (1993, 2000, 2004), be limited to the following four classes:

(i) Verbs that mean ‘break’. Only the result (and the specific form of the result) is expressed; the manner of the action is not denoted:

(ii) Verbs that mean ‘bend’. They have the same characteristics as the verbs of the first subclass; the only difference is the ability to be restored to their previous state (ξεκλείπω κατά κεφαλήνων κατα κεφαλήνων κατα λέφτονων κατα λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτονων λέφτο

(iii) Verbs that indicate ‘cooking’:

(iv) Verbs that indicate a change-of-state of a specific substance. These verbs have strict selectional restrictions:

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<th>(i)</th>
<th>(ii)</th>
<th>(iii)</th>
<th>(iv)</th>
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<td>Stative verbs of perception, knowledge, and feeling (simple event structure):</td>
</tr>
</tbody>
</table>

The following are examples of selectional restrictions:

(i) Resultative verbs with a direct effect on the argument of the patient (causative verbs) can be distinguished into smaller semantic classes (cf. Levin 1993; for Modern Greek data see Theophanopoulou-Kontou et al. 1998).

(i) Verbs that mean ‘break’. Only the result (and the specific form of the result) is expressed; the manner of the action is not denoted:

<table>
<thead>
<tr>
<th>σπάω</th>
<th>‘to break’</th>
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<tbody>
<tr>
<td>συντρίβω</td>
<td>‘to crash’</td>
</tr>
<tr>
<td>θρηµµατίζω</td>
<td>‘to shatter’</td>
</tr>
<tr>
<td>κοµµατίζω</td>
<td>‘to cut-into-pieces’</td>
</tr>
<tr>
<td>δισπάω</td>
<td>‘to split’</td>
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</table>

(ii) Verbs that mean ‘bend’. They have the same characteristics as the verbs of the first subclass; the only difference is the ability to be restored to their previous state (ξεκλείπω κατα κεφαλήνων λέφτονων λέφτονων λέφτο

(iii) Verbs that indicate ‘cooking’:

<table>
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<tr>
<th>βάφω</th>
<th>‘to boil’</th>
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<tbody>
<tr>
<td>ζεστάω</td>
<td>‘to heat’</td>
</tr>
<tr>
<td>καίω</td>
<td>‘to burn’</td>
</tr>
<tr>
<td>μαγείρεω</td>
<td>‘to cook’</td>
</tr>
<tr>
<td>ψηνώ</td>
<td>‘to roast’</td>
</tr>
</tbody>
</table>

(iv) Verbs that indicate a change-of-state of a specific substance. These verbs have strict selectional restrictions:

10 Differentiation of transitive verbs has also been supported in the Cognitive (Langacker 1991) and the Systematic-Functional approaches (Halliday 1980, 1985a, b): ergative vs. transitive verbs. Davide (1991, 1992) and Lemmens (1998) consider as central the distinction between ergative (which correspond to what we call causative transitive verbs) and transitive structures (which correspond to what we call non-causative transitive verbs or accusative verbs). Davide argues that in the ergative structures with two participants, the participant (‘medium’) who is affected by the event (the direct object) is presented as the most involved since it is both affected and participates in the process (Ο Παντελής έλεγε: το τηρί / ο Παντελίς είχε το τηρί / the NOM Pantelis.NOM melt.ACT.PAST.PERFVE.3SG the.ACC cheese.NOM ACC / ‘Pantelis melted the cheese’; Άννα άνοιξε την πόρτα / i Ana unikse tin porta / the.NOM Anna.NOM open.ACT.PAST.PERFVE.3SG the.ACC door.ACC / ‘Anna opened the door’). The structural centrality of the aforementioned process is reflected by the fact that the participant (the core of the above process) can be isolated without the presence of the agent (To τηρί έλεγε: / to tiri eliose / the.NOM cheese.NOM melt.ACT.PAST.PERFVE.3SG / ‘The cheese melted’, Αννα άνοιξε / i porta unikse / the.NOM door.NOM open.ACT.PAST.PERFVE.3SG / ‘the door opened’). The ergative differs from the transitive structure which contains an ‘inactive’ affected participant. The main characteristic for transitive structures is the agent (‘actor’), who acts with volition. The fundamental structural characteristics for the transitive structure are, therefore, agent and process, which can be isolated in transitive sentences without an object (H άληθε είχα / i athlisi vithai / the.NOM athletics.NOM help.ACT.PRES.3SG / ‘Athletics helps’). The structure expands in cases that also contain the goal towards which the action of the agent is directed. The ‘goal’ in transitive examples does not participate in the process but is an ‘inactive’ component that is totally affected by the agent’s action.

11 It is worth noting that Tzartzanos (1946) (in relation to voice and diatheses) has already distinguished between two sub-groups of transitive verbs, the simple transitives (affectedness of the object but without change-of-state – χτυπάω στίχο ‘to hit’) and the causatives (change-of-state of the direct object – σκοτώνω σκότων ‘to kill’).

12 The following are examples of selectional restrictions:
The psych-verbs are separated into three categories (Belletti & Rizzi 1998):

- Participate in transitivity alternations:

The last category of psych-verbs is of great interest. For the theoretical analysis of these verbs as causatives, for the theoretical analysis of the oblique lines indicate smaller verb classes showing change-of-state of specific substances.

The psych-verbs are separated into three categories (Belletti & Rizzi 1998):

- Participate in transitivity alternations:
  - (a) ‘admire’: experiencer [Verb theme]
  - (b) ‘like’ : e[Verb theme][Preposition-experiencer]
    [experience-dative]
  - (c) ‘frighten’: e[Verb theme][experiencer]

The last category of psych-verbs is of great interest. For the theoretical analysis of these verbs as causatives, see Tsimpli (1989), Grimshaw (1991), Croft (1993), and Pesetsky (1995). For Modern Greek, cf. also Kakouriotis & Kitis (1999). These verbs:

(i) Participate in transitivity alternations:

- (1) a. Η μουσική δόναμε
  the.NOM music.NOM intensify.ACT.PAST.PERFV.3SG
  ‘The music intensified’

- (2) a. Τα παιδιά ογρέψαν τη σχολή
  ta children.NOM aggravate.ACT.PAST.PERFV.3PL the.ACC school.ACC
  ‘The children aggravated the dogs’

(ii) Do not form a passive structure

- (2) a. Ο Κώστας δίψαε
ti φλάε
  ‘The dogs became aggravated’ (*by the children)
verbs always bears the θ-role of cause:

ηρεµώ ιρεµο 'to calm',
ησυχάζω ισιξαζο 'to pacify',
ανησυχώ ανισιξο 'to make anxious',
αγριεύω αγριευο 'to make fierce',
θυµώνω θιμονο 'to anger',
νευριάζω νευριαζο 'to annoy',
στενοχωρώ στενοχωρο 'to worry',
πεισµώνω πιζµονο 'to make stubborn',
τρελαίνω τρελενο 'to madden',
µπερδεύω βερδηευο 'to confuse',
χαροποιώ χαροπιο 'to gladden',
eυχαριστώ ευχαριστο 'to please',
ικανοποιώ ικανοπιο 'to satisfy',
dιασκεδάζω διασκεδαζο 'to entertain',
ενθουσιάζω ένθουσιαζο 'to make enthusiastic'.

(vii) Aspectual verbs:

αρχίζω αρχιζο 'to begin',
tελειώνω τελειωνο 'to end',
συνεχίζω συνεχιζο 'to continue',
σταµατώ σταµατο 'to stop',
κρατώ κρατο 'to hold',
προχωρώ προχωρο 'to forward',
επαναλαµβάνω επαναλαµβανο 'to repeat'.

To summarise, according to the aforementioned theoretical analyses of Hopper & Thompson ('transitivity hypothesis'), Perlmutter & Postal, and Burzio ('unaccusativity hypothesis'), Tsunoda and Levin, we come to the preliminary conclusion that transitivity is not a unified phenomenon: many classes of verbs can be identified according to their transitive or non-transitive behaviour. If we consider as transitive all verbs that take DPs in the default case of the object (accusative for Modern Greek), then we must distinguish (with mainly semantic criteria) the verbs that denote change-of-state (causative verbs – e.g., 'murder', 'destroy', 'open') as core and central (see section 2.1.1 for the corresponding syntactic criteria, as well as 2.1.2 for the correlation between syntactic and semantic structure). In the following section, we will see that causative verbs are also differentiated according to their participation in transitivity alternation (alternating vs. non-alternation causative verbs).

1.3 Transitivity Alternations

Only one class of causative verbs, the alternating causative verbs, participate in transitivity alternations, i.e. they have the possibility for both transitive (causative) (agent/cause + Verb + patient) and intransitive (anticausative) use (patient + Verb + P(repositional)P(hrase)- cause/instrument):

(6) a. Ο Γιάννης άνοιξε το παράθυρο
    o Janis anikse to parathiro
    ‘Janis opened the window’

b. Το παράθυρο άνοιξε (από µόνο του)
    to parathiro anikse (apo mono tu)
    ‘Kostas angered his friend’

c. *Η φίλη του Κώστα θυµώθηκε από τον Κώστα
    i fili tu Kosta thimose apo ton Kosta
    ‘Kostas’s friend was angered by Kostas’

The periphrastic passive structures (είναι + -µένος / ine + -menos / ‘be + past participle’) are grammatical with these verbs.

(3) a. Αυτά τα ρούχα στεγνώνουν εύκολα
    afta ta ruxa steghnoon efkola
    ‘These clothes dry easily’

b. Η Ελπίδα θυµώνει εύκολα
    i Epsilon thimoni efkola
    ‘Elpida gets angry easily’

c. Αυτό το βιβλίο διαβάζεται ευχάριστα
    afto to vivlio dhiavazete efxarista
    ‘This book reads pleasantly’

(iii) Form middle structures:

(3) a. Αυτά τα ρούχα στεγνώνουν εύκολα
    afta ta ruxa steghnoon efkola
    ‘These clothes dry easily’

b. Η Ελπίδα θυµώνει εύκολα
    i Epsilon thimoni efkola
    ‘Elpida gets angry easily’

c. Αυτό το βιβλίο διαβάζεται ευχάριστα
    afto to vivlio dhiavazete efxarista
    ‘This book reads pleasantly’
the.NOM window.NOM open.ACT.PAST.PERFVE.3SG (by itself)
‘The window opened (by itself)’

Change-of-state, however, is also shown by causative verbs that do not alternate (non-alternating causative verbs), such as the verb ‘cut’ or the verb ‘murder’. In this case, the intransitive structures are ungrammatical. These verbs (causatives that do not alternate) can participate in intransitive structures (in Modern Greek bearing non-active morphology) but only with a passive reading; anticausative interpretation (change-of-state without the presence of the agent) for these verbs is not possible.

(7) a. *Το ψωµί κόπηκε   (από µόνο του)
   *to psomi kopike
   ‘The bread cut by itself’
b. Το ψωµί κόπηκε από τον Γιάννη
   to psomi kopike apo ton Jani
   ‘The bread was cut by Janis’

The characteristics of verbs that participate in causative and anticausative structure (alternating causatives) are as follows (Levin & Rappaport Hovav 1995: 89-119, 2005: 117-130):

(a) They denote change-of-state:
   e.g., σπάω spao ‘to break’;
   causative: [x CAUSES [y BECOMES predicate]]
   anticausative: BECOME [y BROKEN] (see also section 2.1.2.2)

(b) They denote an event that can be imprinted semantically as evolving with or without external cause (causative-anticausative):

alternating causatives:

(8) a. Ο Γιάννης άνοιξε την πόρτα
   o Janis anikse tin porta
   ‘Janis opened the door’ (change-of-state; agent-Verb-patient)
   b. Η πόρτα άνοιξε
   i porta anikse
   ‘The door opened’ (unspecified for external cause)

cf. non-alternating causatives:

(9) a. Οι νεόνυµφοι έκοψαν την τούρτα
   i neonimfi ekopsan tin turta
   ‘The newly-weds cut the cake’ (change-of-state; agent-Verb-patient)
   b. Η τούρτα έκοπτε ή έκοπτε ή κόπηκε
   i turta ekopse / kopike
   ‘The cake (was) cut by itself’ (obligatory presence of external cause)
   c. Η τούρτα κόπηκε από τους νεόνυµφους
   i turta kopike apo tus neonimfous
   ‘The cake was cut by the newly-weds’ (passive type)

cf. transitive non-causatives:

(10) a. Ο Γιάννης έγραψε το κείµενο
    o Janis eghrapse to kimeno
    ‘Janis wrote the text’ (activity verb)
   b. *Το κείµενο έγραψε / γράφτηκε
      *to kimeno eghrapse / graphtike
      ‘*I wrote (the text)’

With the same meaning that the transitive type also has (‘to cut the bread’). I do not refer here, in other words, to structures such as Το γάλα έκοπτε / To ghala ekopse / the.NOM milk.NOM cut.ACT.PAST.PERFVE.3SG / ‘The milk curdled’; these structures do not correlate with the corresponding transitives (*Εκοπά το γάλα / *Ekopsa to ghala / cut.ACT.PAST.PERFVE.1SG the.ACC milk.ACC / ‘*I curdled the milk’).
The text was written by itself (obligatory presence of external cause)

The text was written (passive type)

They allow agents and causes as external arguments in their transitive use:

(11) a. Ο Γιάννης άνοιξε την πόρτα
Janis.NOM open.ACT.PAST.PERFVE.3SG the.ACC door.ACC
Janis opened the door

b. Ο αέρας άνοιξε την πόρτα
wind.NOM open.ACT.PAST.PERFVE.3SG the.ACC door.ACC
The wind opened the door

-cf. non-alternating causatives:

c. *Ο ενθουσιασµός έκοψε την τούρτα
*enthusiasmos cut.ACT.PAST.PERFVE.3SG the.ACC cake.ACC
The enthusiasm cut the cake

They do not allow agents but allow causes in their anticausative use:

(12) a. Η πόρτα ανοίχτηκε από τον κλειδαρά
door.NOM open.NACT.PAST.PERFVE.3SG by the locksmith
The door was opened by the locksmith

b. *Η πόρτα άνοιξε από τον κλειδαρά
*door.NOM open.ACT.PAST.PERFVE.3SG by the locksmith
*The door opened by the locksmith

The differences between anticausative and passive types (important mainly for the non-active anticausatives of Greek, which bear the same morphology as the passives), can be summarised as follows:

(i) In passive types, a by-PP that denotes agent can be present (and is always implied); in the anticausative types, the presence of a by-PP of the agent results in an ungrammatical sentence.

(ii) In contrast with the passives, the anticausatives cannot allow agent-oriented adverbs and allow control with sentences of purpose.

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(ii) In contrast with the passives, the anticausatives cannot allow agent-oriented adverbs and allow control with sentences of purpose.

16 Despoina Chila-Markopoulou (personal communication) notes that structures such as this are beginning to be heard; she explains their acceptance (albeit to a limited degree) due to interpretation of the by-PP as cause and not as agent.
c. Η πόρτα ανοίχτηκε για να μπουν οι αστυνομικοί στο σπίτι
The door was opened so the policemen can enter into the house (passive type)

(iii) Every transitive verb can be passivised, but only one sub-class of transitive verbs ("alternating causatives") has anticausative types.

(15) a. Η Μαρία άνοιξε το χρηματοκιβώτιο
Maria opened the safe (causative type)

b. Το χρηματοκιβώτιο ανοίχτηκε από τη Μαρία
The safe was opened by Maria (passive type)

c. Το χρηματοκιβώτιο άνοιξε (από μόνο του)
The safe opened by itself (anticausative type)

(16) a. Η Μαρία έκοψε το ψωµί
Maria cut the bread (transitive, non-causative type)

b. Το ψωµί κόπηκε από τη Μαρία
The bread was cut by Maria (passive type)

c. *Το ψωµί έκοψε/κόπηκε από μόνο του
*The bread cut by itself (*anticausative type)

(iv) Only anticausatives allow the addition of the PP 'by itself' that denotes the absence of an external argument.

(17) a. *Το χρηματοκιβώτιο ανοίχτηκε από μόνο του
*The safe was opened by itself (passive type)

b. Το χρηματοκιβώτιο ανοίχτηκε από μόνο του
The safe opened by itself (anticausative type)

(v) The anticausatives, but not the passives, can be accompanied by a DP-'dative’ (in Modern Greek: in the genitive morphological case) which has, inter alia, the interpretation of the unintentional causer.

(18) Του Γιάννη του τελείωσε το μελάνι
Janis’s ink finished up (to him) (anticausative + DP-’dative’)

(vi) In certain languages, there is also a morphological distinction between the passive and the anticausative:

(19) Russian (Kulikov 1999a):
Passive: periphrastic
The morphological derivation of the transitivity alternations is not expressed uniformly across languages, but neither is it expressed uniformly across all of the verbs of the same language. Languages vary with respect to the structure that constitutes the basis of morphological derivation.

Haspelmath (1993) presents (on the basis of a typological research of transitivity alternations in twenty languages) three cross-linguistic patterns of morphological derivation, with the criterion of the presence of additional morphology in the derived type:

(a) **Causative pattern**

Turkish

i. **diş-mek** ‘anticausative - fall’
fall-INF

ii. **diş-ür-mek** ‘causative - throw’
fall-CAUS-INF

(b) **Anticausative pattern**

Russian

i. **otkryt’sja** ‘anticausative open’

ii. **otkryt** ‘causative open’

(c) **Without any direction in the morphological derivation**

• With the same type (“labile”)

Modern Greek

i. **σπάω spao** ‘anticausative break’

ii. **σπάω spao** ‘causative break’

The first causative morpheme is considered as being added at the lexical domain, whereas the second causative morpheme is added at the syntactic level.
• With the addition of a morpheme to both verbs (‘equipollent’)

Japanese
  i. *tok-eru* ‘anticausative melt’
  ii. *toku-asu* ‘causative melt’

• With substitution (‘suppletive’)

Finnish
  i. *kuolla* ‘anticausative die’
  ii. *tappaa* ‘causative kill’

To summarise, in the last two sections, I attempted to present arguments for the differentiation of transitive verbs into classes on which our research will be based. I endeavoured to show that transitive verbs do not comprise a unified class and that causative verbs (verbs denoting change-of-state) are the prototypical transitive verbs. The causative verbs are, moreover, divided into alternating causative verbs (verbs with transitive and intransitive (with the patient as subject) use) and non-alternating causative verbs. According to the above, a diachronic study of transitivity must take into consideration verb classes and in relation to these must search for systemisation in the changes. In the following section, I will try to present not only the problems that such a diachronic study encounters but also the likely positive aspects that arise from a diachronic study of transitivity.

1.4 The Study of Transitivity and the Diachronic Approach

1.4.1 The problems and the contribution of diachronic study

The problems that face a diachronic study of transitivity are no different from those that every diachronic study faces. The following main difficulties are indicated (Roberts & Roussou 2003; Moser 2005; Faarlund 2006; Lightfoot 2006a, b):

(a) A main methodological problem of diachronic linguistic studies is the limited data of what has survived or not survived by chance. The data that we have at our disposal are not, in all instances, spontaneous oral speech; they mainly represent written speech, and often they are not close to oral speech. Special care is needed so that the data that are finally selected for the analysis of the grammar of every period are as close as possible to the everyday speech of that period. Movements such as Atticism, which supported a return to an earlier form of the language, may cause additional difficulties for any attempt to examine everyday language.

(b) The analyses that adhere to the perspective of Generative Grammar are based on the grammaticality and ungrammaticality of structures, i.e. on the linguistic knowledge of the native speaker, on linguistic competence. Consequently, it is obvious that the methodology of diachronic research is necessarily differentiated from synchronic research since the conclusions drawn for the grammar of earlier historical periods are derived solely from observations in relation to the data of linguistic performance. More specifically, in diachronic studies, we are obviously unable to carry out experiments in order to enlarge the evidence that we will be using in the analysis, to minimise the possible errors that are contained in the data or to check the accuracy of our hypotheses. On the other hand, some negative remarks (for example, by the Atticist Phrynichus) about structures that were innovative for the period contribute to the study of language of the specific period and its differences from that of earlier periods.

20 We can distinguish two further possible instances:
(a) morphological marking of a different kind on causatives and anticausatives (Winnebago);
(b) use of the same marker (ambiguous marker) for both the causatives and the anticausatives (Korean).

→Winnebago (Guerssel et al. 1985):
The causative type bears a prefix (*gi*), whereas the anticausative type bears the morpheme -*re*.

(1) a. Kununga naanksik-ra gi-shishshannan
    Kununga the-wood        gi-broke(causative)
    ‘Kununga broke the wood’

  b. Naanksik-ra shiish-re-ena
    the-wood        broke(anticausative)-re
    ‘The wood broke’

→Korean
Some Korean unaccusative verbs derive corresponding causative types with additional causative morphology (class I), whereas some causative verbs derive corresponding unaccusative types with additional anticausative morphology (class II). The morphemes *(h)i*- and the allomorphs *-li*, *-si*, and *-ki* are ambiguous between the causative and the anticausative (Volpe 2005a, b).

21 On the other hand, some negative remarks (for example, by the Atticist Phrynichus) about structures that were innovative for the period contribute to the study of language of the specific period and its differences from that of earlier periods.
hand, when we study living languages, we acquire information from experiments regarding the acceptability of sentences, usually by eliciting judgements concerning the acceptability of sentences.

The difficulties concerning the choice of data can, however, be reduced if we propose two hypotheses (Adams 1987; Santorini 1989):

(i) the past is as the present and the general principles that derive from the study of living languages in the present, likewise, hold good for the earlier stages of language; and

(ii) with regard to simple sentences, if a specific type of sentence does not appear in a representative corpus of data, then it is not grammatically possible in the language. This hypothesis is, of course, problematic since the lack of the presence of a structure in a corpus of data can always be the result of non-grammatical contextual factors or even coincidence. Despite that, for structurally simple sentences, it is extremely likely that the absence of the structure from a large corpus of data also means its absence from the structure of the language.

The positive aspects of diachronic study that make linguists try particularly hard to deal with the aforementioned difficulties and to find the most suitable solutions to the problems already referred to, are, therefore, evident:

(a) Diachronic research can offer us the appropriate examples in relation to a grammatical phenomenon from many historical periods and make possible the connection between a specific grammatical phenomenon and others that remain the same or change in different historical periods. The field of analysis is widening increasingly. Characteristic grammatical phenomena that are difficult to explain and interpret in only one historical period are found in different historical periods of one language or many languages.

(b) The diachronic remarks give us the ability to strengthen the analysis of grammatical systems and to locate the role of universal principles and the differences in the parameters of language. Comparison between different grammatical systems and conclusions for language changes provide evidence for the areas of language that change, for the kinds and causes of change, and also for the characteristics of language that remain unchanged and constitute stable characteristics of human linguistic ability. The data concerning language change are of particular importance for approaches such as Generative Grammar since, as Kiparsky (1982a) first pointed out, they provide a gateway into the form of linguistic ability.

Diachronic data contain types of information that are absent from synchronic data and make a vital contribution to the examination of the general principles of language. Through an understanding of the process of change, we can also understand the principles underlying the organisation of language. Given that the characteristics of a language in a specific historical period are the result of the interaction between the general principles of language and specific language changes, knowledge of diachronic processes is important in the exploration of the role that diachronic and general linguistic factors play, and, therefore, for the suitable formation of linguistic theory.

### 1.4.2 Sources

The historical periods of the Greek language that are examined in this study are: Homeric, Classical, Hellenistic-Roman, Medieval, and Modern Greek (the latter only concerning the changes in relation to Medieval Greek). The reference to indicative examples from the Post-Byzantine/Early Modern Greek period (16th-17th and 18th centuries) aims at the strengthening of conclusions with regard to the tendencies that have been tracked. Further problems concerned with the setting of the boundaries of the historical periods and sub-periods are outside the goals of this monograph and do not concern me here.

Special emphasis is given to Classical Greek. The study of Classical Greek is extensive for two reasons: (a) the system of transitivity (syntactic behaviour as well as the markers of transitivity) of Classical Greek has not been examined systematically to date and (b) we observe that Classical Greek (which constitutes the starting point of the present study on verb transitivity) differs considerably from Modern Greek with regard to verb transitivity.

The general aim of this work and the domain of grammar that is analysed define the first restriction regarding the sources that are used for diachronic examination: the present study seeks to make known the similarities and differences in possible structures (transitive and intransitive structures) in the different periods of the history of the Greek language. Consequently, the comparative examination of every historical period in relation to the preceding period (as far as innovative structures or the loss of structures is concerned) constitutes the principal part of this study. The analysis begins with the Classical Greek period and uses Homeric Greek as a basis only for comparison and individual remarks on specific verbs.

The data on which the analysis was based are derived from traditional Greek historical grammars, studies, and dictionaries (I refer here mainly to Jannaris 1897/1968, Psaltes 1913/1974, Mayser
1934/1970, Schwytzer & Debrunner 1950/2002, Chantraine 1953, Humbert & Kourmoulis 1957/2002, Browning 1983/1991 – Liddell, Scott, Jones & McKenzie 1940, Kriaras 1969/2009). In addition, systematic indexing was done of representative texts of the Classical Greek, Hellenistic, Medieval and Early Modern Greek periods. The data are divided into four large historical periods, which for the present analysis correspond to four distinctive grammatical systems: Classical Greek, Hellenistic-Roman Koine Greek, Medieval Greek, and Modern Greek. This present study in its entirety does not aim at an exhaustive judgement of data but is a study that is more oriented towards modern theory of language change and the testing of highly specific structures and aspects of the linguistic system in different historical periods. In any case, regarding the specific topic of transitivity, it can be observed that there has been, in the past, a total lack of examination of diachronic data and, consequently, this study constitutes the first attempt in this direction.

(a) Classical Greek (5th – 3rd century BC)
An attempt is made to locate evidence of everyday speech (in contradistinction to learned elements) in specific types of texts. The choice of texts is based on the histories of the Greek language of Babiniotis (1985/2002), Horrocks (1997), Christidis (2001) and the analyses mainly by Dover (1987), Chila-Markopoulou (1990-91, 1999), Kopidakis (1999), Manolessou (2000, 2005), and Moser (1988, 2005). For example, the medical treatments of Hippocrates, written in a non-literary style, contain many elements of everyday speech (Manolessou 2005: 7-10). Additional limitations concerning the choice of data from Classical Greek comprise the avoidance of the effect of metre, archaisms, and particular register features; the emphasis is, nevertheless, on Attic Greek, which constitutes the dominant form of Classical Greek and the main source, through the Hellenistic and the Medieval periods, of Modern Greek (Lopez-Eire 1997; Horrocks 1997: 33-37). Beyond the grammars and the special studies on Classical Greek (Schwyzer 1939, 1959; Goodwin 1889/1965), texts representative of every text type were systematically indexed: Herodotus, Thucydides, Plato, Aristophanes, Demosthenes, Lysias, Euripides, Sophocles, Hippocrates, and Aristotle.

(b) Hellenistic-Roman period (3rd century BC – 4th century AD)
The New Testament, the non-literary papyri, and authors of written Koine such as Polybius and Epictetus comprise the most important sources of the colloquial language: the subsequent development of the language shows that all of the particularities of the language of the New Testament are precursors of the changes that emerged in the following centuries; the non-literary papyri are invaluable since they contain elements of the colloquial language. There are, moreover, ample inscriptions in Hellenistic Greek, such as many informal letters and documents written on papyri (Moser 2005: 22-24). Apart from the evidence that was brought to notice from the studies of Mayser (1934), Mandilaras (1973), and Gignac (1976/1981), from the histories of the Greek language by Jannaris (1987), Horrocks (1997), and Christidis (2001), and from the monographs of Humbert (1930) and Janse (1993), collections of papyri, the Translation of the Septuagint, the New Testament, and the Acts and Lives of the Saints were also systematically indexed.

(c) Medieval Greek
Systematic indexing of verbs of the semantic classes that we are concerned with was done in representative texts of this period (according to remarks made in the histories of Greek and by researchers of this period): the vernacular texts are few and the collection of data is particularly difficult. The texts that were chosen are: chronicles (Malalas: 6th century, Lysias, Euripides, Sophocles, Hippocrates, and Aristotle).

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22 Despite the high degree of uniformity in written Hellenistic Koine, the differences between the authors are worth noting; the language of Polybius, for example, is more artificial than the language of Epictetus, which is much nearer to the everyday spoken language.

23 For this purpose, electronic data were utilised: (a) TLG: Thesaurus Linguae Graecae, version E (CD-Rom) 2000 (and online version: <http://www.tlg.uci.edu/>), University of California, Irvine. (b) PHI #7 Greek Documentary Texts (CD-Rom) (1991-1996), Packard Humanities Institute, Los Altos, California.

24 I follow here the argumentation and the practice of David Holton and Geoffrey Horrocks: “Grammar of Medieval Greek Project”, <http://www.mml.cam.ac.uk/greek/gramaromediageek/aims>: “… These dates [between 1100 and 1700] are chosen because texts in the vernacular become available in significant quantity only in the 12th century, and, although there is no obvious point at which to locate the end of the “medieval” period, by the 18th century important cultural and political changes are afoot. The period 1100-1700 constitutes a coherent whole in terms of the development of the Greek vernacular. … In certain cases, early medieval texts (5th-11th century) will be taken into account, mainly to illuminate points of historical evolution or the earliest dating of phenomena”.
Paschalion: 7th century, Georgios Monachos: 9th century, Theophanes the Confessor: 9th century), religious texts (John Moschos: 6th century, Romanos Melodos), and Protobulgarian inscriptions (Beševliev 1963)

(b) late Medieval period (Beck 1971/1988; Vitti 1971/1978; Politis 1978; Browning 1983/1991; Tonnet 1993; Horrocks 1997; Adrados 1999; Eidenieer 1999; Manollessou 2005): Digenis Akritas (the Grottaferrata and Escorial versions), the Ptochoprodromic poems (12th century), the poems of Spaneas, Michail Glykas, and Spanos, the Chronicle of Moreas (13th century), the metrical Byzantine romances of the 13th-15th centuries, the chronicles of the later period (Schreiner 1975), the Cypriot chronicle of Leontios Machairas, and the translation of the Assizes of Jerusalem and Cyprus; post-Byzantine period (Dimaras 1948; Politis 1978; Mastrodimitris 2006): anthologies of historical, philosophical, fictional texts, love poetry (Katalogia/ Erotopaignia, 15th century), Erofili, The Sacrifice of Abraham, Erotokritos (16th-17th centuries), The Chronicle of Rhodes of Georgilas, demotic songs from the collections of I. Legrand (1880-1913, 1885) and N. Politis, and formal documents (Miklosich & Müller 1865).

Useful data were also found in secondary sources, such as grammars, linguistic commentaries on specific texts and authors and studies of certain grammatical phenomena (Sofianos (16th century); Portius 1638; Psaltes 1913/1974; Browning 1983/1991).

(d) Modern Greek

Research on transitivity in Modern Greek is based on a personal corpus of data (written texts from the Internet: newspaper articles, taped sessions of the Greek Parliament, blogs), observations (examples of spontaneous oral speech from natural dialogues and from the radio and television), judgements of native speakers, personal linguistic intuition, and data from Modern Greek grammars and studies (articles and monographs).

1.5 Terminology Issues

The terms that were and are used in relation to the various types of transitive and intransitive verbs and structures depend on the theoretical perspective to which the analyses adhere.

The widest variation with regard to the use of terms concerns the verbs that can be used in transitive and intransitive structures, often without any change in morphology, and with the meaning of change-of-state.

(20) a. Η καρέκλα έσπασε
i karekla espase
the.NOM chair.NOM break.ACT.PAST.PERFVE.3SG
‘The chair broke’

b. Ο Κώστας έσπασε την καρέκλα
o Kostas espase tin karekla
the.NOM Kostas.NOM break.ACT.PAST.PERFVE.3SG the.ACC chair.ACC
‘Kostas broke the chair’

Levin (1993) and Levin & Rappaport Hovav (1995) talk of causative alternation. The terms causative and anticausative are used for the transitive and the intransitive members of the alternation respectively (e.g., Antonopoulou 1987), and the term middle intransitive only for the intransitive use (Theophanopoulou-Kontou et al. 1998). Clairis & Babiniotis (1999: 283-290) distinguish between two

25 Particularly frequent, especially in earlier times, is the term *ergative or ergative pairs* in literature. This is the term used by Halliday (1964) and Lyons (1968): ‘the term for the syntactic relation that exists between (1) the stone moved and (2) John moved the stone is “ergative”. The subject of the intransitive verb becomes the object of the corresponding transitive verb, and a new ergative subject is introduced as the “agent” (or “cause”) of the action referred to’ (Lyons 1968: 352).

There have been serious objections raised, however, about the use of that term because it was initially linked to the typological categorisation of languages in nominative-accusative vs. ergative-absolutive. Dixon (1987) expresses his opposition to extending the meaning of the term ‘ergative’, believing that it could cause confusion.

26 For the history of (anti)causative terms, see Haspelmath (1987: 8ff). The term anticausative was taken from Nedjalkov & Sil’nickij (1969) and was used mainly by Russian linguists and those with knowledge of the typological group of Leningrad/St. Petersburg. The term anticausative was also used by: Siewierska (1984), Haspelmath (1987, 1990), Comrie (1989), and Cennamo (1993). Other terms used for the anticausative are: decausative (Geniušiene 1987), deagentive (Lehmann 1992b), spontaneous (Kemmer 1993; Shibatani 1985), and verbal derivation (Lehmann 1972a).
categories of verbs (based on the non-change in voice morphology): (a) verbs that have as their basic use the transitive (e.g., Kapios aniji kati / someone.NOM open.ACT.PRES.3SG something.ACC / ‘Someone opens something’ – Kati aniji / something.NOM open.ACT.PRES.3SG / ‘Something opens’) that are called ergatives, and (b) verbs that have as their basic use intransitive (Kapios thimoni / someone.NOM anger.ACT.PRES.3SG / ‘Someone gets angry’ – Kati thimoni kapion / something.NOM anger.ACT.PRES.3SG somebody.ACC / ‘Something angers someone’) that are called causatives. The aforementioned distinction is supported by the frequency of the appearance of the transitive or the intransitive type and the ability to appear in more environments (for example, the intransitive use of causative verbs is deemed to be the most basic, as it is more frequent and is possible in more environments:

(21) a. Γέρασε κατά την άρχη του
get-old.ACT.PAST.PERFVE.3SG before the time his
’S(he) got old before his time’

b. Οι σκοτώρες του γέρασαν πριν την άρχη του
the.NOM worries.NOM he.ACC.WEAK get-old.ACT.PAST.PERFVE.3PL before the time his
‘Worries made him old before his time’

Following the Generative Grammar approach, I have decided on the term causative for the transitive type of the verb and the term anticausative for the intransitive type. I will call the transitive/intransitive verb alternation transitivity alternation, and the verbs that participate in alternation alternating causatives [in contrast with the causative (with change-of-state meaning) verbs that do not participate in alternation and which I will call non-alternating causatives]. The term anticausative is not used as such by Haspelmath (1993), where it only refers to intransitive verbs that are derived morphologically from transitives; it is used in the sense of the intransitive verbs that denote change-of-state, with the obligatory absence of the agent.

<table>
<thead>
<tr>
<th>CAUSATIVE TYPE</th>
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</thead>
<tbody>
<tr>
<td>causative meaning: ‘X makes Y (which pre-exists of the action of X) to change state (affected Y)’</td>
</tr>
<tr>
<td>AGENT/CAUSE/INSTRUMENT + Verb + PATIENT (=DIRECT EFFECT)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTICAUSATIVE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>anticausative meaning: ‘Y changes state by itself; external agent does not exist, only the cause or instrument may exist’</td>
</tr>
<tr>
<td>PATIENT + Verb + CAUSE/INSTRUMENT (by-PP)</td>
</tr>
</tbody>
</table>

Terms that derive from the theory of Generative Grammar are used for the most part without showing disregard for the terms and perspective of other approaches.

Transitive types

27 Cognitive and Systemic-Functional terminology (Lemmens 1998) is particularly detailed (possibly more than it needs to be in relation to grammatically encoded distinctions). Lemmens’s terminology is given below (1998: 46); the corresponding terms which are used in Generative Grammar are displayed in brackets.