HELLENISTIC GREEK MIDDLE VOICE: SEMANTIC EVENT STRUCTURE AND VOICE TYPOLOGY

by

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Abstract

This thesis advocates a semantic approach to Hellenistic Greek middle voice, endeavoring to capture a variety of middle expressions and their internal semantic relations. Various event types that receive middle expression in Greek form a continuum; they adopt the scale of semantic transitivity as a conceptual foundation for middle phenomena, among middle systems cross-linguistically and in Ancient Greek (Kemmer 1993). Historical traditions in voice analysis point to syntactic relationships, with alternations framed as choices in clausal subject. Such narrow definitions do not capture the semantic behavior of the Greek middle. Neglecting differences in semantic event structure overlooks fundamental aspects of the Greek voice system. The present analysis describes Greek voice in terms of meaning-oriented distinctions in event structure, as they pertain to shifts in both the type of action and attentional focus regarding facets of an event frame, engaging semantic and pragmatic motivations in voice (Langacker 2006, Shibatani 2006).

Table of Contents

1. Introduction

One of the primary challenges of describing Ancient Greek middle voice is its multifunctional character. Its semantic diversity (e.g. reflexive, reciprocal, benefactive, anticausative, passive, etc.) renders it difficult to summarize with simple generalizations (Kemmer 1993, Rijksbaron 2002, Shibatani 2004). Standard descriptions in New Testament (NT) Greek grammars offer limited help in this regard, as they are largely rooted in classical treatments of voice. Primacy is given to the active-passive contrast, with almost exclusive focus on morphosyntax as a descriptive framework. This strategy may seem sufficient at first, especially with the active-passive distinction and its close alignment of syntax and semantic roles. But its application to the middle exposes its deficiencies as an explanatory tool. The lack of a distinct syntactic realization or singular semantic role to associate with the middle brings to light its limitations.

Overreliance on morphosyntax in the description of voice has consequences for our understanding of the Greek middle. First, it sidesteps important developments in typological research that point to the polysemous nature of middle voice phenomena and their functional similarity across a variety of genetically non-related languages.[1] Second, traditional and contemporary accounts of Greek middle voice demonstrate a tendency toward overly simplified descriptions of middle semantics. By giving primacy to the active-passive alternation and its morphosyntactic expression, they are left with accounts of the middle that swing in wildly divergent directions. They either (1) list its usages as discrete and otherwise unrelated categories with all of the variety and none of the coherence.[2] Or (2), they focus on necessarily simple

[1] Representative languages include ancient languages, e.g. Greek (Allan 2003) and Hebrew (Wolde 2019), as well as modern Indo-European (IE), e.g. Spanish, French, German (Kemmer 1993) and non-IE languages, e.g. Somali [Cushitic, Somalia] (Saeed 1995) and Halkomelem [Salish, British Columbia] (Gerdts and Hukari 2006).

[2] See Gildersleeve 1900, 64-79; Wallace 1996, 414; Rijksbaron 2006, 161-69; Mounce 2009, 228-29. The challenge is that delineated types differ with each description, making it hard to parse one from another. Ladewig

generalizations, e.g. ‘subject affectedness’ or ‘participant involvement’.[3] Each approach, in its own way, construes voice functions too narrowly (Kemmer 1993, 4).[4]

The end result is that approaches in NT Greek grammar fail to understand middle voice in its typological context, on the one hand, and its paradigmatic context on the other. I propose an alternative model that (1) draws on typological regularities among middle voice systems, (2) contrasts middle usage patterns relative to their active counterparts, and (3) frames voice alternations[5] in terms of the larger forces of semantic transitivity.

My claim is that semantic transitivity, as a fundamentally scalar notion, provides the conceptual foundations for Greek middle voice, with departures from the basic transitive event allowing for a variety of semantic contrasts in event structure. In this way, transitivity affords a cognitive frame for understanding a variety of voice alternations, all of which pertain to various aspects of event development, or how actions unfold (Shibatani 2006). With this conceptual grounding, I advance a semantic approach to the Greek middle that not only seeks to differentiate middle uses according to semantic event types, but also aims to clarify how they relate to one another as well as how they function within an integrated system of cognitively related categories involving voice and transitivity (Kemmer 1993, Langacker 2006).

To gain a better understanding of the semantic range of middle voice phenomena across languages and in Ancient Greek, I review current approaches to the Greek middle (chapter 1) and

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(2010, 106) restricts the middle to direct and indirect reflexive uses. Mathewson and Emig (2016, 148-51) include reflexive, intensive, reciprocal, and intransitive middles. Wallace (1996, 416-30) lists reflexive, redundant, causative, permissive, reciprocal, and deponent middles. Often the enumeration of middle types relies more on translational convenience than on grammatical distinctions in the Greek language.

[3] See, for example, Matthewson and Emig (2019, 148-49).

[4] Such generalizations define various middle uses with a single abstract feature. Popular characterizations that simplify middle semantics then play an outsized role in describing the category; scholars and exegetes pick a term, e.g. subject affectedness, and use it as a defining feature for why any given event occurs in middle voice.

[5] i.e. verbs that inflect for active and non-active forms

then illustrate their shortcomings within a larger typological context (chapter 2). Particular emphasis is given to: (a) the fundamental differences that exist between middle voice systems and active-passive systems, (b) the tight parallels that exist among middle systems, such as semantic restrictions that occur among middle alternations in regard to semantic classes of verbs that permit one type of alternation or another, and (c) the recurring lexical event types that form the semantic locus for middle expressions across languages.

Middle typology in chapter 2 gives rise to middle diachrony in chapter 3. I examine processes of language change that affect the Hellenistic Greek voice system, specifically the natural idiosyncrasies that arise within lexical semantics (§3.1) and the grammaticalization of the *-(θ)η-* voice form (§3.2). The *-(θ)η-* form has historically been used as evidence that Greek sustains a unique marker of passive voice apart from either the active or middle. Analyzing the origins of *-(θ)η-* in early Greek (via Proto-Indo-European [PIE]) and tracing its diachronic shifts through Classical and Hellenistic periods helps to (a) illustrate its functional diversity (it is used for functions beyond the passive), (b) trace its functional parallels with other middle-passive forms, and (c) map out the semantic network of middle types and how they relate to one another.

Finally, I present an integrated and unified account of Greek middle voice (chapter 4), building on insights from typology (chapter 2) and processes of language change (chapter 3) in order to describe the Greek voice system in a way that accounts for its diversity of usage, while also providing a motivated account of its structure and unity of function.

Application of language typology and diachronic research provides practical tools for addressing key difficulties in the description of the Greek middle. First, it includes a robust and productive replacement for the problem of deponency in NT Greek studies. Voice typology helps to establish what constitutes canonical norms among middle voice systems, especially in regard

to the distribution of middle morphology across the verbal lexicon. This kind of insight offers an appealing alternative to relying on English translation value for understanding Greek middle forms, a practice common in NT Greek studies. Second, it includes insights into formal and semantic idiosyncrasies that regularly arise in Greek middle voice (and indeed across middle systems generally) but are not common to active-passive systems. With the backdrop of language typology, what appears to be language-specific anomaly actually reflects larger semantic patterns that exist across middle voice systems. These are patterns that are often overlooked and left unaccounted for within the classical active-passive framework for voice.

Beyond NT Greek studies, there are also benefits to crosslinguistic work in translation and language description. Providing a broader understanding of the Greek voice system and the kinds of semantic alternations it evinces helps in bridging the gap between source language and target language translation. Literature in voice and language typology also benefit. This is true in a broad sense as well as in a more specific sense within Greek language studies.

A semantic account of the Ancient Greek middle contributes to the growing body of literature in voice analysis. In doing so, it furnishes an empirical basis for building cross-linguistic generalizations as well as a testing ground for refining typological claims, as in Geniušienė (1987), Klaiman (1991), and Kemmer (1993). It is perhaps Kemmer (1993) who represents a deliberate turn toward cognitive approaches to voice, with an interest in how language categories reflect cognitive categorization and our ability to construe events in different ways. My account of the Greek middle offers a language-specific application of broader cross-linguistic claims from cognitively-based approaches to grammatical voice, as in Kemmer (1993), Langacker (2006), Shibatani (2006), Maldonado (2007), and Næss (2007).

In regard to Greek language studies, my account of the middle in the Hellenistic period contributes to diachronic investigations of the Greek voice system. Rutger Allan (2003) supplies a semantic analysis of the Greek middle in the Classical period, drawing from Classical texts for analysis. Linda Manney (2000) does much the same, but for Modern Greek usage patterns. My intention is to continue these discussions, by adding data and observations from Hellenistic Greek texts (e.g. Philo, Josephus, Septuagint, New Testament texts, Apostolic Fathers, etc.), providing fodder for research in language change and how middle systems evolve over time.

1.1 Challenges of the middle

A number of issues arise in the description of the Greek middle: (1) its semantic basis is unclear. Voice categories in Greek and across languages are multifunctional and this makes it difficult to draw boundaries around what is or is not 'middle' (Kemmer 1993, 1-2; Shibatani 2004); (2) its formal expression is uncertain, particularly due to variation in Greek morphology and issues in how voice morphology relates to syntactic structure (Klaiman 1991, 1-43; Allan 2003, 126-202).

1.1.1 Functional diversity

First, the diversity of middle types makes it difficult to establish what constitutes middle functions (Robertson 2006 [1919], 803; Wackernagel 2009, 164). It is frequently treated in relation to reflexives (though this is a misrepresentation of the functions it serves) across languages and in Ancient Greek (Allan 2003).[6] Yet identifying functions that go beyond standard

[6] This elusiveness is partly due to cross-linguistic variety in voice. A voice category in one language may subsume several different expressions in another (Geniušienė 1987; Shibatani 2004, 1157). The Greek middle form includes multiple functions that are distinct constructions in other languages, e.g. reflexives, reciprocals, cognition, passives, and anticausatives (Klaiman 1991, 44-109; Kemmer 1993, 16-20). Even if two languages have similar expressions with some functional overlap, there is rarely if ever exact equivalence at the level of morphology and syntax (Haspelmath 2003). This is true for English reflexives and the Greek middle. The English reflexive pronoun is a popular placeholder for glossing Greek middle verbs, but it hardly means they are coterminous. Consider middle types that resemble reflexive actions, e.g. grooming (*κατακαλύπτομαι* 'cover oneself') and motion (*τρέπομαι* 'turn (oneself)'). In both, middle morphology shows some semantic affinity for the use of the English reflexive. But the

examples (*λούμαι* 'wash oneself'), only makes the middle more difficult to define, especially given how voice is typically conceived in the Greek grammatical tradition (Geniušienė 1987, 8).[7]

Traditionally, voice is described as a relationship between subject and verb. A change in voice morphology correlates with a shift in the semantic role of the subject in relation to the verb in syntactic structure (Wallace 1996, 408-9; Mathewson and Emig 2016, 142). The subject of the active does the action, as agent. The subject of the passive suffers the effects of the action, as patient (Lyons 1968, 372-73; Mounce 2009, 228). But the middle shows more variety than syntactic rules can predict and does not reliably correlate with a distinct semantic role for the subject. Because of this, it is often described by analogy: The subject of the middle does the action (like the active) but also receives the action (like the passive) (Klaiman 1991, 3).

In this overly narrow conception of voice, the middle is often treated as though it is semantically equivalent to the Greek reflexive. In a typical reflexive, a reflexive form *ἑαυτόν* is used to mark coreference of participants in situations in which the two are normally distinct. In a transitive event like (1.1), there are two distinct participants (agent, patient) and two distinct entities (king, servant). In a reflexive expression in (1.2), two participants (agent, patient) are evoked but instead of referring to two distinct entities, they are filled by just one referent. The reflexive form *ἑαυτόν* is used with transitive (two-participant) events to signal the non-default case that agent and patient are coreferential. It provides a means of overtly expressing that an agent acts on *himself* rather than on another possible entity (Faltz 1977; Kemmer 1993, 42-44).

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same relation does not hold for other middles: *ἀποτάσσομαι* 'bid farewell', *μίγνυμαι* 'mingle, copulate', *διαθήσομαι* 'agree, make a covenant', *πείθομαι* 'obey, believe', *γεύομαι* 'taste', and *ὀργίζομαι* 'become angry'.

[7] By traditional conceptions in Greek grammar, I mainly refer to pedagogical treatments for classroom instruction, e.g. Young (1994), Wallace (1996), Mounce (2009), Mathewson and Emig (2016). Though, this tradition stems from older works, e.g. Gildersleeve (1900), Robertson 2006 [1919], Dana and Mantey (1927), and continues in more recent accounts, e.g. Lavidas and Papangeli (2007) and Ladewig (2010).

(1.1) *ἔβαλεν ὁ βασιλεὺς αὐτὸν εἰς φυλακὴν*
The king threw him [the servant] into prison (Matthew 18:30)

(1.2) *Σίμων Πέτρος ἔβαλεν ἑαυτὸν εἰς τὴν θάλασσαν*
Simon Peter threw himself into the sea (John 21:7)

The problem with treating middle morphology as semantically equivalent to the Greek reflexive is that it ignores differences in semantic event types and creates a spurious impression of the semantic range of middle expressions. This reliance on the reflexive analogy in describing the Greek middle often begins with Greek grammars citing instances of the middle that involve a similar kind of coreference, as with grooming verbs in (1.3) (Wallace 1996, 416-17). A volitional subject instigates an action that affects a change directly on one's own body.

(1.3) *θερμαίνομαι* 'heat/warm oneself, get warm'
νίπτομαι 'wash (oneself)'

It is tempting to treat such cases as equivalent to the use of the Greek reflexive pronoun. In (1.3) and (1.4), middle (*-μαι*) and reflexive (*ἑαυτόν*) forms are used to denote actions that are carried out on oneself. A single entity is both starting point and endpoint of his own action.

(1.4) *ἀγαπᾷ* **ἑαυτὸν** 'he loves himself'
περιέπειραν **ἑαυτοὺς** 'they stabbed themselves'

Yet, while middle and reflexive forms do show some functional overlap, they also differ in a few key aspects. First, as in (1.3), the middle form consistently occurs with semantic events that are normally performed by human referents on the human body. The middle specifies a set of socio-cultural practices that are customarily carried out by human agents on themselves. The reflexive form, however, occurs with a much wider class of verbs, both active and middle, that represent actions that are *not* conventionally reflexive and are *not* typically performed on oneself, e.g. *σωσάτω ἑαυτὸν* 'he should save himself', *ἀρνέομαι ἐμαυτοῦ* 'I deny myself'.[8] This formal

[8] The reflexive form can be used to express regular grooming actions, particularly in contrastive contexts, e.g. John 21:18. Active *ζώννυμι* 'gird' is used with the reflexive form to mark an explicit contrast between when

difference in Greek reflects a conceptual distinction between typical body actions and a much larger class of events that are ordinarily performed on a distinct entity (Kemmer 1993, 58).

Second, in Greek as well as in other languages with middle voice (see Ch. 2), typical body actions (e.g. grooming events in (1.3)), regularly receive middle expression. Their formal marking pattern (middle morphology) does *not* pair them with actions that are typically carried out on a distinct participant (e.g. *ἀγαπάω* 'love' in (1.4)). These actions require a reflexive pronoun in order to express reflexive action (an agent acts on itself). Instead, grooming events are formally expressed in the same way as other situation types that also involve fusion between starting point and endpoint of the action. These events specify a range of actions, from those that are less prototypically reflexive (1.5) to those that are semantically non-reflexive (1.6)-(1.8) (Faltz 1977, 7; Kemmer 1993, 53).

One type that is often subsumed in reflexive analyses of the middle is the indirect reflexive or benefactive type (see Ladewig 2010). Rather than a direct action on the body, verbs in (1.5) involve a second figure. An agent acts on a distinct patient but does so as a recipient or beneficiary of the action. The agent and beneficiary are coreferential.

(1.5) *περιποιέο**μαι*** 'acquire something, gain possession of'[9]
*προσλαμβάνο**μαι*** 'take aside, bring along'

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you, as a young man, clothe *yourself* (*ἐζώννυες σεαυτὸν*) as opposed to when you, as an old man, will submit to *others* clothing *you* (*ζώσει σε*). The middle form of the same verb is used when there is no explicit contrast between actions performed on oneself vs. those performed on others. In Acts 12:8, the context provides a situation in which it is normal and expected to put on one's own clothes, "Clothe yourself (*Ζῶσαι*) and put on your sandals".

[9] To clarify, when a reflexive pronoun occurs with a middle verb like *περιποιέομαι* (e.g. 1 Tim. 3:12-13), it is not serving as an additional marker of middle semantics as is often assumed, but its presence in the clause serves its own particular function. Often, this is contrastive stress, especially in contexts of possible ambiguity in which there is more than one activated referent. The reflexive form explicitly singles out that the action occurs in regard to a single participant to the exclusion of other possible discourse referents: 'Deacons should manage their children and households well…those who serve well gain good standing for themselves (*περιποιοῦνται ἑαυτοῖς*)'. The reflexive form disambiguates the referent. It stipulates that it is the deacons, specifically those who serve well, who gain good standing *for themselves*, not for other potential referents, e.g. other deacons, children, or household members.

Other middle types are less amenable to a strictly reflexive notion of the middle form. Those in (1.6) do not express actions carried out on oneself, but reciprocal action (a), sensory perception (b), mental activity (c), and speech (d). An agent acts volitionally, but like those in (1.5), they typically engage a second participant in the action: fight s.o., touch s.o./s.t., etc.

(1.6) (a) *μάχο***μαι** 'fight with, contend' (c) *ἐκκρέμα***μαι** 'pay attention to'
(b) *ἅπτο***μαι** 'touch' (d) *ἀμείβο***μαι** 'answer, reply'

Middles in (1.7)-(1.8) are different still. For passive expressions in (1.7), the subject does not instigate the event but only undergoes an action brought about by a second figure. In (a), the subject is an experiencer – a sentient participant who receives a sensory impression, usually with verbs of cognition, emotion, or perception. In a passive, the subject experiences a mental state brought about by another participant. In (b), the subject is closer to a patient that undergoes a physical effect or change of state/location (Langacker 1991, 285; Kemmer 1993, 128-29, 147ff.).

(1.7) (a) *παρακαλοῦ***μαι** 'be consoled (by)' (b) *βάλλο***μαι** 'be thrown (by)' [10]

For middle verbs in (1.8), the subject undergoes some kind of change, so it is patient-like, but no second figure brings about the event. Instead, the subject does the action (like (1.6)), but it is less agentive and does not volitionally instigate the event in the same way as (1.3) and (1.5).

(1.8) *φοβέο***μαι** 'fear, feel afraid' *ἀπόλλῦ***μαι** 'perish, die'
*συνάγο***μαι** 'gather (of a group)' *καταποντίζο***μαι** 'drown/sink'

The same morphology expresses reflexive action and the passive function, along with events in between that fit neither description. It is a trend to cite Lyons (1969, 373) in this regard: In the middle, "the 'action' or 'state' affects the subject of the verb or his interests", but Lyons is largely echoing those who have gone before (Goodwin 1895, 256-58; Gildersleeve 1900, 64-79;

[10] In a passive construction with *βάλλομαι* the subject may be animate or inanimate: 'If a competitor…is caught cheating, he is flogged, disqualified, and (*ἔξω βάλλεται τοῦ σταδίου*) thrown out of the stadium' (II Clement 7.4) vs. 'Every tree that does not bear good fruit is cut down and (*εἰς πῦρ βάλλεται*) thrown into the fire' (Matt. 7:19).

Smyth 1956, 389-398). Other recent portrayals also follow traditional schemes, with the middle adding a broad semantic nuance to the grammatical subject: self-interest, personal involvement, participation, special focus, or subject-affectedness à la Lyons (Porter 1994, 63, 67; Wallace 1996, 414-15; Mounce 2009, 228; Decker 2014, 235-36; Mathewson and Emig 2016, 148). As much as descriptions of this nature aim to find a reliable 'middle quality' that is abstract enough to be equally pertinent to all middle event types regardless of their differences, they only suffice as a starting point since they hardly capture the various functions the middle serves within the voice system, let alone how they relate to one another, or the factors that motivate voice alternations in the first place (Kemmer 1993, 1-4; Shibatani 2006, 217-18).

1.1.2 Formal variation

The second challenge is variation in the formal expression of the middle, particularly at the intersection of morphology and syntax. For each aspect stem in Greek, there are separate verbal affixes for active and middle-passive voices. All finite, and some nonfinite, verbs obligatorily mark a voice form. From a morphosyntactic perspective, if 'normal' or 'canonical' verbs inflect for each voice type, then all verbs are expected to do so, filling out verbal paradigm charts with middle-passive forms and their active morphological counterparts (Baerman 2007, 2; Corbett 2007, 21-31, Ladewig 2010, 121-25). Yet systematic patterns like this in natural language are always relative (Shibatani 2006, 219). Even in the midst of well-integrated patterns, there are often gaps and variations that simply do not exist across all verbs (Aikhenvald 2007, 55).

Consider the presence of *activa* and *media tantum*. *Activa tantum* (active-only) verbs constitute a set of intransitive one-participant verbs expressed only in active morphology. Verbs

like *διδράσκω* ‘walk, run’ and *θρώσκω* ‘jump’ do not inflect for middle-passive forms.[11] *Media tantum* (middle-only) verbs are expressed only in middle morphology and do not inflect for active forms. Examples include transitive (two-participant) verbs (*βούλομαι* ‘want, prefer’, *δέομαι* ‘ask’, *λογίζομαι* ‘calculate’) and intransitive (one-participant) verbs (*δύναμαι* ‘be able’, *ἅλλομαι* ‘jump’, *ἔρχομαι* ‘go’) (Klaiman 1991, 98-99; Allan 2003, 49-52, 243-44). The presence of *activa* and *media tantum* in Greek has been a long-standing source of discussion regarding (1) whether such verbs ought to participate in voice alternations (i.e. inflect for active and non-active forms), and (2) what their non-alternating status suggests about their meaning.[12]

A related area of confusion is the presence of a distinct *-(θ)η-* form in the perfective paradigm (aorist/future). It is a matter of some debate because it varies from standard expectations (Lavidas and Papangeli 2007, 102; Mathewson and Emig 2016, 152). As a voice

[11] In addition, there are a number of Greek verbs that prefer middle morphology in the future but active forms elsewhere, e.g. *γινώσκω* (present active) ~ *γνώσομαι* (future middle); *εἰμί* ~ *ἔσομαι*; *ὁράω* ~ *ὄψομαι.* See Emde Boas et al. (2019, 191-93) for examples. Typological research suggests that languages with middle morphology have a number of shared characteristics that warrant further investigation. One of them is the tight parallels that exist among semantic classes that receive middle marking across languages. I discuss this in ch. 2. Another is the interaction of middle marking with other verbal categories, e.g. tense, aspect, and modality. Klaiman (1991, 96) notes that languages like Fula (Niger-Congo) and Ancient Greek both show some affinity or correlation between the middle form and the future tense/modality. A subset of verbs in each language prefers the middle form when expressing future action. This does not mean, however, that every middle-marking language shows the same affinity; Tamil (Dravidian, South India) does not express the same correlation between future action and middle forms (Klaiman 1991, 74). In regard to Greek, Willi (2018, 445-52) discusses the correlation between middle morphology and future action as morphological matter, due to a shift that occured in early Greek. Before a distinct future form had been created in early Greek, the sigmatic aorist subjunctive could be used to express future action. Subsequently, the subjunctive stem **CeC-s-e/o-* was reanalyzed into root + future suffix **-se/o-*. This created a distinction between the future form **-se/o-* and the aorist subjunctive form **-e/o-*. However, a difficulty arose for intransitive roots. Among root aorists, adding an *-s-* form was associated with transitivity and was used to create transitive stems from intransitive ones. Thus, if a future suffix **-se/o-* was added to **sta-* ‘stand’ it would also signal a transitive meaning ‘will set up’. To mitigate this problem and maintain intransitive future formation, the transitivizing effect of the *-s-* suffix had to be fixed in some way. This fix could be realized by replacing the active suffix with a middle suffix instead, e.g. *στήσεται* ‘will stand’. Because of the transitizing effect of the -s- suffix, all intransitive roots that lacked an active sigmatic aorist required a future middle form instead. This allowed the future middle form to spread by default to more verbs. See Willi (2018, 449-61) for corroborating data and discussion.

[12] Many middle-only verbs are traditionally referred to as ‘deponents’, see §2.2.2 for discussion.

form, *-(θ)η-* is limited to only perfective aspect and is not developed through the rest of the verbal system (Ellis 2016, 153). The traditional morphological division is in Table 1.

Table 1 Traditional division of voice morphology with *λύω* [13]

Imperfective		
Active		Middle/Passive
λύω		*λύομαι*
λύεις		*λύῃ*
λύει		*λύεται*
λύομεν		*λυόμεθα*
λύετε		*λύεσθε*
λύουσιν		*λύονται*
Perfective (aorist)		
Active	Middle	Passive
ἔλυσα	*ἐλυσάμην*	*ἐλύθην*
ἔλυσας	*ἐλύσω*	*ἐλύθης*
ἔλυσεν	*ἐλύσατο*	*ἐλύθη*
ἐλύσαμεν	*ἐλυσάμεθα*	*ἐλύθημεν*
ἐλύσατε	*ἐλύσασθε*	*ἐλύθητε*
ἔλυσαν	*ἐλύσαντο*	*ἐλύθησαν*

For the imperfective (including present, imperfect, perfect, and pluperfect paradigms), one set of forms (*-ω*) marks active voice, while another set (*-μαι*) marks non-active, or middle-passive. In traditional terms, these middle-passive forms are capable of expressing either middle or passive functions. This means that verbs in (1.9) may be used with *-μαι* morphology to express either a middle event or a passive event with an external cause.

(1.9) *ἀναιρέω* 'kill, do away with' *ἀναιρέομαι* 'claim for oneself, adopt (tr.)'
'be killed (by)'[14]
ἀπόλλυμι 'ruin, destroy' *ἀπόλλῠμαι* 'perish, die'
'be destroyed (by)'

According to traditional views, the difficulty arises with respect to the three distinct morphological forms of the perfective paradigm. There are two non-active forms: sigmatic first

[13] Greek voice morphology is fused with subject agreement (person and number). Verbal suffix *-ται* marks middle-passive voice and third person singular subject agreement. Alternatively, *-νται* expresses middle-passive voice and third person plural subject agreement. See Ellis (2016, 122-59) for verbal morphology charts.

[14] The agent may be overtly expressed (*The guards were killed by invading forces*) or implied without specifying a particular referent (*The ambassador was killed*).

aorist (*-σαμην*, *-σω*, *-σατο*) and *-(θ)η-* (*-(θ)ην*, *-(θ)ης*, *-(θ)η*). Traditionally, this tripartite morphological division is taught as the expression of three distinct voices: One set is active (*-σα*, *-σας*, *-σεν*). Another set (*-σαμην, -σω, -σατο*) is middle morphology, expressing middle voice. And finally, *-(θ)η-* forms are thought to represent a fully distinct passive voice. Thus, *-(θ)η-*marked verbs are expected to appear in passive syntax in which the subject is acted on by someone else.[15] But closer inspection of *-(θ)η-* usage reveals more diversity than traditional conceptions suggest. Perfective *-(θ)η-* in (1.10) behaves much like imperfective *-μαι* in (1.9).

(1.10)	*μολύνω* 'defile, cause to be dirty'	*ἐμολύνθην*	'become dirty, defile oneself' 'be defiled (by)'
	χωρίζω 'divide, cause to separate'	*ἐχωρίσθην*	'depart from, separate oneself' 'be separated (by)'

The challenge of voice phenomena is to understand how a variety of expressions are connected. To do so, it is fruitful to look beyond syntactic discrepancies to consider the processes that shape them. This shifts the focus of analysis toward human cognition and the ways in which we understand the world around us, especially the cognitive and communicative factors that shape language behavior and linguistic expression (Bybee 2010).

One factor crucial to voice is transitivity. Traditionally, voice is treated as wholly distinct from transitivity, an assertion made on syntactic grounds. Transitivity is said to relate to the verb and its object, whereas voice relates to the verb and its subject (Robertson 2006 [1919], 797; Wallace 1996, 409; Ladewig 2010, 105). But such a narrow definition does little to recognize the

[15] With *ἀγαπάω* in (i) below, active morphology corresponds to active syntax; the subject (*my father*), as agent, performs an action on the object (*him*), as patient. The use of *-(θ)η-* morphology in (ii) inverts this configuration, promoting the patient (*those who love me*) to subject status and supplying the agent (*my father*) in an oblique phrase, prototypically *ὑπό* + genitive case in Greek.

(i) *ὁ πατήρ μου ἀγαπήσει αὐτόν*
my father will love him (John 14:23)

(ii) *ὁ δὲ ἀγαπῶν με ἀγαπηθήσεται ὑπὸ τοῦ πατρός μου*
those who love me will be loved by my Father (John 14:21)

role of event conception in voice distinctions.[16] By way of analogy, consider the role of tense in grammatical expressions. Tense relates to conceptual distinctions in time. A speaker may conceive an event as taking place in the past or future relative to speech time. Certain grammatical expressions provide the means of articulating such distinctions in language. In a similar fashion, voice is also concerned with event conception. But voice relates to how events unfold and how participants are involved in the process. If tense indicates distinctions in time resolving the question of *when* an event occurs, then voice entails distinctions in process, regarding *how* an event transpires (Langacker 1991, 362-71; Shibatani 2006, 221).

This suggests that voice is ultimately concerned with semantic distinctions in event development. It also ties voice to the notion of semantic transitivity, a conceptual parameter that pertains to the developmental stages of actions, or how events unfold. In a basic transitive event, an action is brought about by an initiating force that is transferred to a distinct secondary figure that then goes through a process of change. This kind of event structure provides a cognitive frame for understanding voice alternations. Voice distinctions represent departures from the basic transitive, allowing for different types of oppositions in event structure, pertaining to various aspects of an unfolding process, and alternate ways of viewing an event. Because actions have consequences, humans have good reason to make cognitive distinctions in event structure. Grammatical voice provides form-meaning relationships in language that allow speakers to

[16] Event conception refers to a broad cognitive ability allowing humans to effectively interact with our environment (physical, social). The ways in which we conceive events and organize them into patterns is what mediates between perceived situations in the world and the way we talk about them in language. Conceptual event structure, or conceiving events and organizing them into patterns, relies on the notion of cognitive models. These are integrated conceptual patterns fundamental to human experience. Because they have specifiable properties that underlie event structure as organized in language, we can investigate human conceptualization through language typology and analysis, noting how a certain set of meanings are specified together under a single formal expression in language after language. This reflects some conceptual similarity in how they are understood. Alternatively, a certain set of meanings may be expressed in different ways, reflecting a notable difference in how they are conceived (Lakoff 1987; Langacker 1991, 282; Kemmer and Verhagen 1994; Kemmer 2003; Lazard 2003).

communicate a variety of meaningful conceptual distinctions in how actions unfold, especially how participants are involved in the process and how the nature of their involvement alters their communicative value in the described event (Kemmer 2003, Langacker 2006, Maldonado 2007).

1.2 Motivations in voice

The way we understand events shapes the way we express them in language. Processing mechanisms like event conception help us to engage in the world by taking vastly different experiences and understanding them through recurring patterns. For voice, this involves patterns of interaction between events and participants (Kemmer 2003, 95; Langacker 2006, 115-16).

Historically, these types of mechanisms have received little attention in voice analysis. Instead, the focus is on syntactic relationships, especially the role of the subject in relation to the verb. Syntactic constraints are taken as given, without further exploration of how voice alternations are motivated by cognitive and communicative principles. A semantic account prioritizes such processing mechanisms by attending to the entire semantic scope of an event: differences in lexical meaning, participant relations, and semantic and pragmatic functions in voice. This results in the interaction of three parameters: (a) event development – how events arise, progress, and come to an end, (b) the way in which participants are related, and (c) the relative salience of participants in the process (Shibatani 2006, 219), as in (1.11).

(1.11) (a) how events unfold in the flow of energy: how they begin, progress, and end
(b) how participants are related within event development
(c) how their involvement affects the relative salience of participants[17]

[17] 'Relative salience of participants' focuses internally on a specified event, especially how participants interact in it and their salience vis-à-vis other participants in the same event. It is fundamentally relational; one participant may be highlighted relative to a secondary figure or chosen as a singular focus relative to other possible entities in the event. It is not a statement about a discourse level emphasis/prominence that applies to other states or events in the larger narrative. Still, the focusing or defocusing of a particular participant in an event can have a larger discourse function, such as the use of the syntactic passive as topicalizing the patient and defocusing the agent, especially if the agent is unknown or irrelevant within the narrative (Shibatani 1985, Langacker 2006).

The first highlights a contrast in the construal of events, regarding their origin. In the sentence, *My father picked me up and dusted me off*, the event's beginning or starting point, is an agent external to both the process (the father does not experience the sensation of lift) and the affected participant (the father and the speaker are distinct participants). Whereas, in *I got up and dusted myself off*, the initiation and origin of the event are internal to the person affected. These differences in English construal are parallel to Greek voice distinctions in (1.12).

(1.12) active *ἐγείρω* 'I raise, lift up s.t.' vs. middle *ἐγείρομαι* 'I rise, get up'[18]

Alternations like (1.12) illustrate a contrast in event origin: external cause vs. internal energy, shifting the origin of the event from an external, unaffected participant to a participant internal to the process of change itself.

Relationships among participants also underlie how event construal affects language structure. Active *διαμέριζω* 'distribute' in (1.13) profiles a process where an agent (*people of the church*) transfers a theme (*their possessions*) (accusative object) to a recipient (*those in need*) (dative indirect object). Each participant plays a distinct role in event development. The event's energy moves with the transferred possessions from the agent to a distinct recipient.

(1.13) *διεμέριζον αὐτὰ πᾶσιν καθότι ἄν τις χρείαν εἶχεν*
they would distribute them [their possessions] to all, as any had need (Acts 2:45)

(1.14) *διαμερίζονται τὰ ἱμάτια αὐτοῦ*
they divvied up his clothes (Mark 15:24)

But the middle form of the same verb in (1.14) offers a different construal in participant relations, mapping the transference frame with three participants onto a two-participant event. This has the effect of profiling an event that centers on a single set of primary participants who are construed as both agent and recipient. The event begins with the agent (*soldiers*) who acts on

[18] 'He got up from the table and removed his robe' *ἐγείρεται ἐκ τοῦ δείπνου καὶ τίθησιν τὰ ἱμάτια* (John 13:4).

a patient/theme (*clothes*) (accusative object), but rather than terminating in a distinct recipient who receives the clothes, the soldiers are the recipients. Two roles are conflated onto one participant (Kemmer 1993, 78-81). The soldiers, as a group, play the starting point (agent) and endpoint (recipient) of the event; the transferred object stays with the soldiers. Participants in (1.14) share a different relationship in event structure as compared to participants in (1.13).

The relative salience of participants emerges as a natural by-product of how participant relations are construed. The middle in (1.14) profiles an event that develops only around the primary figure without extending to a distinct recipient. This alters the scope of attention as compared with (1.13). Rather than extending attention from an initiating figure to a distinct recipient, the locus of attention remains on the primary figure as the final recipient of the action. As a result, each construal highlights different facets of a profiled relationship by changing the direction of the action. The active profiles an event that extends outward from its initiating point, highlighting the agents' activity as givers who distribute their possessions to those in need. The middle profiles an event that develops inward. The action focuses on those who initiated it. This has the effect of highlighting the recipient role of the soldiers. For both active and middle, the agent is the primary figure highlighted as the doer of the action, but only the middle draws attention to the salience of the soldiers as starting point and endpoint of their own action.

These factors – event origin/process, relationships between participants, and the relative salience of the participants – all implicate meaning-oriented distinctions rather than syntactic ones that traditional analyses tend to focus on, independent of rationale. By connecting voice to semantic relations among events, we more readily tie voice to notions of semantic transitivity, that is, patterns of action and interaction among participants, rather than syntactic rules. Viewed this way, transitivity becomes a continuum or gradient scale for various semantic event types;

each of which can be more or less transitive, depending on proximity to the prototypical transitive event (Langacker 1991, 282-329; Næss 2007, 12-15; LaPolla et al. 2011) and voice relations are grounded within this continuum.

The transitive prototype represents a highly transitive event where a volitional agent purposely acts on a distinct patient, causing a physical change of state/location in the patient, as in (1.15) with active *ῥίπτω* 'throw'. One participant (*a group of sailors*) supplies the initiating force; the other (*the ship's gear*) absorbs the energy and is changed by it (Kemmer 1993, 50-51).

(1.15) *τῇ τρίτῃ αὐτόχειρες τὴν σκευὴν τοῦ πλοίου ἔρριψαν*
on the third day with their own hands they threw the ship's gear overboard (Acts 27:19)

The active encodes an event that is closer to the transitive prototype and thus has a higher degree of transitivity. The primary figure causes a change to occur in a secondary participant. The middle of the same verb depicts an event that departs from the prototype. In (1.16), the primary figure experiences being tossed about, rather than causing it to happen to another.

(1.16) *ὁ γὰρ διακρινόμενος ἔοικεν κλύδωνι θαλάσσης ἀνεμιζομένῳ καὶ ῥιπιζομένῳ*
the one who doubts is like a wave of the sea, driven and tossed about (James 1:6)

Voice alternations divide up the space of transitivity, categorizing semantic event types in their relation to or departure from the transitive prototype. Events deviate from the prototypical transitive in various ways, as in (1.12) and (1.14). These departures are coded in language by grammatical means with an overt voice pattern, such as middle morphology, in order to signal their status as distinct from the default active (Maldonado 2007, 864).

Voice systems form a set of relations in language, linking semantic event types along a scale of transitivity with different conventionalized expressions. Active voice encodes the transitive prototype, or high semantic transitivity, with the basic nominative-accusative pattern in a language like Greek (Shibatani 2006, 220; Langacker 2006, 123). In this basic alignment, the event origin and endpoint are filled by two fully distinct participants. The middle provides an

alternate construal. Events that depart from the transitive prototype with respect to the conceptual parameters above receive middle marking in order to formally signal a semantic shift in how the event unfolds. Among middle event types, origin and endpoint roles are filled by the same participant. Situating voice phenomena within human behavior, especially with regard to event development and semantic transitivity, not only provides for cognitive motivations in voice, but also its role as a relational tool in communicative contexts.

One common assumption in the study of language is that the meaning of a linguistic form, e.g. middle morphology, is given, and that the context in which it is placed is the variable element that further clarifies or elucidates its grammatical value. But due to the nature of human interaction, the process should really be considered from the other way around. In real-world communication, speakers do not have a choice regarding the context in which they speak or write (Bache 1997, 103). But they do have a choice in the form of grammatical expression they use to talk about it. In real-world communication, the context is given, and the form of the linguistic utterance is the variable element used to interpret it (LaPolla 2003, 120).

If language develops in communicative activity, then grammatical categories, such as voice, represent usage patterns that are conventionalized over time as part of the grammatical makeup of the language. Their function in communication rises through a process of repetition and recognition: As they are repeatedly used for limiting the interpretation of events in particular ways, this interpretation becomes a recognized part of language convention and shapes continued use (Harris 1998, 27-45; Langacker 2006, 109). Thus, our study of the middle voice concerns how it functions within the voice domain to constrain the interpretation of events.

In summary, voice is integrated in the construal process – the human ability to consider events in differing ways and express them in language accordingly (Langacker 1987, 294; 2006,

118-121). Within the grammatical resources of a language like Greek, an event can be coded in multiple ways with alternate grammatical devices that reflect how a speaker conceives it as an unfolding process. Voice oppositions embody different ways of viewing how events unfold. A speaker chooses a way to view an event, adopts it for the purpose of communication, and suggests it to their audience by means of a shared grammatical structure (Verhagen 2007, 48-81).

The three parameters in (1.11) may be subsumed under two principle motivations for the larger construal process. The first, *energy flow*, captures the first two parameters, namely how events unfold and how participants are related within the process. The second, *focus of attention*, captures the third parameter: how participant involvement affects the salience of different facets of event construal (Givón 1984; Langacker 2006, 118-19). Departures from the prototypical transitive event regarding the interplay of these motivations give rise to voice alternations:

- Energy flow: This parameter has to do with changes in semantic event types with respect to how energy is transferred in an event, particularly pertaining to adjustments in energy source, progress, and endpoint (Shibatani 2006, 219).
- Focus of attention: This involves a visual metaphor in how attention can shift to different parts of an event. Adjustments in attention motivate adjustments in voice. In this way, voice reflects attentional focus (Langacker 1987, 115-17; Croft and Cruse 2004, 40).
    - A natural consequence of shifting the center of attention in an event is a change in the relative salience of event participants (Langacker 2006, 121-27).

Broadening the scope of voice analysis to include shifts in the construal process also subsumes the popular notion of subject affectedness (Allan 2003, Campbell 2015). But it does so with an emphasis on affectedness as a relational principle, involving interdependent elements. Subject affectedness should not be treated as a static primitive as present or not. Rather, it is a matter of degree, as transitivity is, based on how events unfold. Affectedness concerns: (1) change along a scale, a participant can be more or less affected by their involvement, and (2) the nature of its endpoint. The more specific a verb is about a participant's progress along a scale of

change, the higher the degree of affectedness for that participant.[19] Verbs that involve a change of state entail a higher degree of affectedness than verbs that are unspecified for change (Beavers 2011, 356-62). This is a difference between high semantically transitive verbs (*explode*, *destroy*, *kill*) which entail a specific result state in contrast to verbs that are lower on the transitivity scale (*follow*, *ponder*, *see*) which do not entail any necessary change for the endpoint figure. When affectedness for the subject is considered in relation to the middle, these parameters come in to play. Yet since it is a gradable and relational property that involves the nature of the predicate itself, subject affectedness may or may not be readily recognizable in any given middle event.

Viewing the middle as a multifunctional category grounded in human cognition allows us to engage the construal process and the nature of event categorization. This approach seeks to (1) draw attention to shared cognitive processes and interpretive behavior that shapes the character of the middle, and (2) capture relations among subtypes and instances of use in a motivated way without positing separate rules that operate on underlying language structure.[20] Exploring external motivations for language recognizes the integrated nature of the system; the same principles that shape difference also shape unity (Harris and Wolf 1998, Verhagen 2002).

1.3 Organization

The remainder of the chapters is organized as follows: Chapter 2 places the Greek middle into a cross-linguistic context, noting similarities and differences with respect to the behavior of voice

[19] This highlights the importance of lexical semantics in voice. The specific semantic nature of the predicate has a direct impact on the grammatical devices used with it.

[20] See Lavidas and Papangeli (2007, 117-21) for a review of various approaches to the Greek middle (semantic, syntactic, morphological). Lavidas and Papangeli approach voice syntactically, suggesting that deponent middle verbs ought not to appear in clauses with an accusative object. Where this happens, they posit a morphological feature specification that operates on underlying language structure relative to a certain set of verbal stems. This is done in order to account for middle-marked verbs that do not meet certain syntactic qualifications for the middle. These morphological features apply to verbal stems outside of syntactic structure and are realized in a random way, possibly relying on idiosyncratic verbal properties (120).

alternations across languages and identifying where Greek middle morphology fits in among them. Chapter 3 considers the Greek middle in diachronic perspective, especially with regard to two particular processes of change. The first pertains to lexicalization in voice and the presence of formal and semantic idiosyncrasies. The second relates to a process of grammaticalization, as illustrated through the rise of perfective *-(θ)η-* morphology in Greek, tracing its origins and integration into the Greek voice system. Chapter 4 advances a semantic analysis of the various middle event types, introducing notions of conceptualization and construal, with the scale of transitivity as a conceptual grounding for distinctions in voice. Each semantic event type is discussed in turn, along with relations and distinctions among them. Chapter 5 provides final remarks on the semantic event types that constitute the middle domain in Greek.

2. Middle typology

Chapter 2 examines the behavior of the Greek middle in the context of cross-linguistic patterns in voice. To begin, I explore the fundamental differences between derived voice systems and basic middle systems (§2.1). Traditional conceptions of voice describe the Greek middle according to expectations that follow from the classical active-passive constrast, which not only misrepresents the grammatical behavior of Greek middle voice alternations, but also obscures the functions middle morphology serves within the Greek voice system.

In order to identify the semantic behavior that occurs within middle voice, we need to place the description of the Greek middle into its typological context and clarify the ways in which the Greek voice system behaves in kind with other languages that express middle voice. Identifying these semantic alternations in Greek voice provides a more accurate description of the kinds of patterns that drive the expression of middle morphology.

To that end, section 2.2 highlights semantic regularities in the Greek middle that are often overlooked by traditional syntactic accounts, with particular attention to the semantic restrictions that exist among anticausative alternations in voice as well as the distributional patterns of middle morphology across recurring semantic event types. Such patterns in Greek are fully consistent with cross-linguistic norms among middle voice systems. Finally, section 2.3 offers a cross-linguistic survey of common middle types, illustrating the remarkable functional similarity that exists across middle systems along with the ways in which Greek voice fits in among them.

Typological research aids in the process of language description by way of comparison and contrast. Many languages express voice contrasts that are not based on the active-passive opposition, do not resemble it, and are in fact typologically distinct from it (Kemmer 2003, 89-118; Tsunoda and Kageyama 2006).

Cross-linguistic evidence points to the diversity of voice phenomena, highlighting patterns across the world's languages. In the wider context of language typology, we can locate Greek with respect to other languages that show similar, or markedly different, voice patterns (Quirk et al. 1985, 159-71; Klaiman 1991, 44-109; Fox and Hopper 1994). The following section focuses on two typologically distinct voice types in order to demonstrate key differences: the derived active-passive system in a language like English and the basic middle system in Greek.

2.1 Voice systems: derived vs. basic

English exhibits an active-passive alternation. Greek, on the other hand, represents a distinct voice type with an active-middle(passive) alternation.[21] One key difference stands out between them. The former is a syntactically *derived* system, i.e. traced from a source, and the latter is a *basic* system, i.e. not traced from a source (Klaiman 1991, 23-24).

Greek fits with many other languages, e.g. Turkish, Hungarian, and Tamil, in expressing middle voice (Klaiman 1991; Kemmer 1993). Other voice systems include derived passive systems in English and Lango (E. Sudanic, Uganda), anti-passive systems in Chukchi (N. Chukotko-Kamchatkan, Russia) and West Greenlandic (Eskimo, Greenland), inverse systems in Native American languages like Navajo (Athapaskan), and Philippine systems in Tagalog, Cebuano, and Ilokano (Foley and Van Valin 1984, 135; Kozinsky et al. 1988, 652; Van Valin and LaPolla 1997, 295-8; Farrell 2005, 91; Keenan and Dryer 2007, 358-59).

Ultimately, research in this area makes two simple claims: (1) different languages express different distinctions, and (2) we cannot rely on one type of system to define all others. Doing so

[21] Recall that the passive alternation in Greek is expressed by the same set of voice morphology as the middle. Greek does not distinguish a distinct morphological passive but includes both middle and passive functions within a single marking pattern. Though *-(θ)η-* morphology is traditionally distinguished as a separate marker of passive voice, it should actually be included with the rest of middle-passive morphology, able to express middle and passive functions with a single formal expression. Section 3.2 considers this in detail.

diverts attention and distorts expectations for how a system ought to behave. This is because languages reflect a variety of types that evince different categories from those in the classical active-passive opposition (Shibatani 1988, 2004; Dixon and Aikhenvald 2000; Farrell 2005).[22]

One defining feature of a syntactically derived system is that the marked passive voice entails a syntactic remapping from the basic active structure to a non-basic, or derived, configuration. The passivization process in (2.1) remaps the participants in the clause so that the object of the active is reconfigured as the subject of the passive.

(2.1) (a) Joshua consumed all the champagne
(b) All the champagne was consumed by Joshua

For the active in (a), the subject has the semantic role of agent (doer) and the object has the role of patient (receiver/undergoer). In the passive in (b), the opposite is true. The patient is given subject status and the agent is demoted to a non-argument oblique phrase (*by Joshua*). The passivization process derives a marked voice structure from the basic active by taking the patient object of the active (*all the champagne*) and remapping it to the subject relation in the passive. Passivization involves syntactic derivation: a reassignment of semantic roles (agent, patient) and grammatical relations (subject, object). The derived passive in (b) has a patient subject (*champagne*); the default active in (a) has an agent subject (*Joshua*).

Several grammatical consequences follow from this type of alternation. The first is that passivization (i.e. deriving a syntactically marked voice from a basic structure) requires basic transitive clauses. All marked voice structures (i.e. passives) must have an active counterpart.

[22] Intuitions among Greek scholars that voice categories in English do not fit those in Greek reflect this fact (Gildersleeve 1900, 64n145; Lyons 1968, 373; Wackernagel 2009, 160; Porter, Reed, Brook O'Donnell 2010, 125).

There cannot be passive-only verbs in this type of system. The passive category can only arise by syntactic derivation from a basic structure; all passives have an active as their source.[23]

Second, because voice alternations in derived systems are based on the transitivity of a clause, only syntactically transitive clauses can be passivized. Intransitives, e.g. *Jeanette danced*, with only one argument are prohibited from voice alternations; there is no direct object relation to promote to subject status. The passive alternation hinges on syntactic transitivity, specifically the presence of two (syntactically required) arguments. Intransitive (one-argument) verbs, by their very nature, are barred from voice alternations because there is no second argument from which to project the event. This means that for intransitives, whether they involve a volitional, agent-like subject (*Jeanette danced*) or a non-volitional, patient-like subject (*Jeanette fell*), the semantic difference does not trigger a difference in formal expression. All intransitive verbs are expressed in the same default active pattern; they cannot be passivized (Klaiman 1991, 4-22).

Finally, voice alternations in derived systems are expected to be semantically neutral. Voice remains the property of the formal coding of a clause and is not identified as a semantic phenomenon. The semantic content of the action is regarded as unaffected; only the alignment of the subject and object to the verb changes, with no semantic contrast in view. The semantic relationship between active and passive remains the same despite a change in voice. Both (2.1)

[23] While passivization is a fairly regular process in English (most transitive verbs can be passivized), there are still semantic limitations on its grammatical expression. Some verbs, whether in general or with a particular sense, do not alternate between voices; their use is restricted to active only: (a) *This resort boasts high standards* (**High standards are boasted by this resort*); (b) *These shoes fit my feet* (**My feet are fit by these shoes*); (c) *Her suitcase weighs fifty pounds* (**Fifty pounds is weighed by her suitcase*). Passive restrictions like these are based on the semantics of the verb, tied to their low degree of transitivity, especially with regard to affectedness of the object participant. Objects that are less affected cannot be passivized in English. This is a difference between a highly affected object in *Ed crushed the ice* (*The ice was crushed by Ed*) vs. a virtually unaffected object in *Micah has thick hair* (**Thick hair was had by Micah*). The same principle can be illustrated with more ambiguous examples, as in (active) *Oliver climbed the stairs* vs. (passive) *The stairs were climbed by Oliver*. Even though the subject (*Oliver*) volitionally performs an action on the object (*stairs*), the object remains relatively unaffected by the action of climbing. While this passive alternation may be grammatical, it is still semantically odd and less likely to appear in communicative contexts (Ward, Birner, and Huddleston 2002, 1432; Shibatani 2006, 219; Croft 2012, 253).

and (2.1) have the same propositional content. The meaning of the verb remains the same, with modification only in the syntactic alignment of arguments in the clause (i.e. the relationship of the subject to the verb) (Shibatani 2006, 236).

To this derived system, we can contrast the behavior of a basic middle system (Klaiman 1991, 44-109). Cross-linguistically, middle systems have a primary division between two formal types: a basic unmarked active and a marked counterpart. Yet its grammatical behavior differs from that of the derived system. First, middles are not syntactically derived like the passive. Middle voice entails no reconfiguration of arguments from a basic to a non-basic alignment. The choice between active and middle does not rely on relocating clausal participants with respect to their grammatical roles. The active-middle alternation between *αἱρέω* 'take s.t.' and *αἱρέομαι* 'choose s.t.' provides no reason to consider one as basic and one as derived; no syntactic derivational process acts on the active to produce the middle (Klaiman 1991, 24). In both, the subject performs the action. Semantic roles (agent, patient) and grammatical relations (subject, object) remain the same. The primary difference lies in the semantic shift of the verb itself. In the active *ἅπτω* 'ignite s.t.' vs. middle *ἅψονται* 'touch s.o./s.t.', there is no reconfiguration of participants that derives the marked from the unmarked voice. These and other examples illustrate that middle systems are primarily based on the semantic organization of events, not on the syntactic reassignment of clausal arguments (Klaiman 1991, 44; Shibatani 2006, 236).

This typological principle impacts the kinds of relations we ought to expect between middle forms and the existence of active counterparts. Greek *-(θ)η-* morphology plays more than just a syntactic passive role in the Greek voice system, and in fact its functions overlap with other middle-passive (*-μαι*) morphology in Greek (see §3.2). Instead of expecting all *-(θ)η-* verbs to have an active (source) counterpart as would be the case in the English derived system, some

verbs will inflect for one voice and not the other because they are not created by a derivational process from the active. A given verb with *-(θ)η-* morphology does not presuppose an active source as its basis. This applies equally to *-μαι* morphology as well. The widespread presence of middle-only verbs attests to this fact (see §2.2.2) (Kemmer 1993, 22-23; Klaiman 1991, 97-104). Verbs without a contrasting active counterpart are merely by-products of a system that does not syntactically derive one voice from another. Both active and middle voices are basic with no need for derivational reassignment of the roles in the clause. Both *passiva tantum* (verbs with the *-(θ)η-* form and no active) and *media tantum* (middle-only verbs with no active), are basic, i.e. not derived via a syntactic process from the active, and must be understood apart from passivization (Wallace 1996, 441; Allan 2003, 2-3; Maldonado 2009, 69-111).

Related is the issue of transitivity in middle systems. Because the active-middle contrast is not directly correlated with syntactic transitivity, middle verbs are not restricted to a particular transitivity structure. Middles appear as both one- (intransitive) and two- (transitive) argument verbs. In contrast to the derived passive alternation, voice in Greek is not directly correlated with reducing the number of syntactic arguments in a clause.

Recall that in the derived active-passive system, voice is based on reducing the number of arguments from two in the basic active voice (e.g. *Dave bounced the ball*) to one in the marked passive voice (e.g. *The ball was bounced* [*by Dave*]). As a result, there are no two-argument passives possible in a derived active-passive system. But in middle systems, marked voice constructions appear in either intransitive or transitive predications with the direct object left intact (Klaiman 1991, 106).[24] When *-μαι* or *-(θ)η-* forms appear in transitive clauses, this does not break a syntactic valency rule, but merely means that both alternations involve actions in which

[24] The semantic relationship between transitivity and voice is discussed in §4.1.

energy is transferred from one participant to another. The semantic nature of the event impacts how it is expressed in syntactic structure.

For example, the causative/anticausative contrast in Greek actually does correlate with a change in valency: *λυπέω* 'make sad' vs. *λυπέομαι* 'be/become sad'. The alternation in voice hinges on a difference in how the event is brought about. In the active, a distinct external agent brings about a change of state in a second participant, hence two arguments in the active. The anticausative middle, however, involves just one participant who experiences a change of state without an explicit external cause. Because of this change in how the event is brought about, there is no semantic motivation for a two-argument structure, thus the middle is expressed as a one-argument clause. In contrast, an alternation like *ἀναιρέω* 'do away with' vs. *ἀναιρέομαι* 'take up, claim' retains a second argument with no change in valency. Both actions involve two participants; an agent does something to cause a change of state/location in a patient. The difference is in the development and endpoint of the event. In the active, the action develops away from the primary figure and ends with a distinct object. In the middle, the arc of the action develops toward the primary figure and terminates with the one who started it. Here, a change in voice does not correlate with a change in the number of arguments, i.e. valency reduction.

Finally, middle alternations are not expected to be semantically neutral. In the active-passive contrast, voice is defined as a syntactic coding mechanism that alters the alignment of clausal arguments. No semantic shift is in view between *Dave bounced the ball* vs. *The ball was bounced by Dave*. Only the arguments in the clause are reassigned; the semantic action remains the same. Regardless of grammatical status in the clause (subject, object), the semantic role of *Dave* remains the agent, *the ball* remains the patient, and the developmental action of 'someone bounces an object' remains intact. What is not expected in this type of derived passive is a

semantic shift in how the event takes place, such as an anticausative contrast: *Dave bounced the ball* vs. *The ball bounced.* In this case, the event development actually changes from 'someone bounces an object' to 'an object bounces'. But in a middle system, oppositions like the semantic shift in the anticausative alternation are common. This is why Greek grammars frequently note that sometimes the contrast between active and middle changes the lexical meaning of the verb (Wallace 1996, 416; Robertson 2006 [1919], 804). This behavior may seem odd from the perspective of a syntactic view of voice, but in a middle system it is an anticipated attribute.

Placing two voice systems side by side allows us to note the differences in grammatical expression and expected behavior. In a syntactically derived passive system, voice alternations entail a structural remapping of participants in the clause. Voice is predicated on a syntactic derivational process from a basic structure to a derived one. Because of this, (1) there are no passive (or middle)-only verbs. And (2) voice is a valency reducing operation; intransitive (one-argument) verbs cannot be passivized. Finally (3), a change in voice only alters the grammatical alignment of participants in the clause; the meaning of the verb is left unaffected.

In contrast, a number of common attributes among middle systems are manifest in Greek: (1) voice alternations are basic, non-derived structures, and the presence of non-alternating verbs is perfectly natural to the system, (2) middle alternations are predicated on shifts in semantic event types not on syntactic transitivity; thus, they do not necessarily result in a change in clausal valency, i.e. argument reduction. And (3) alternations are not expected to be semantically neutral; they entail a semantic shift in the meaning of the verb, i.e. the nature of the event type. While these attributes in Greek are difficult to explain from a syntactically derived point of view, they are easily explainable from the perspective of a basic middle system that relies not on syntactic reassignment rules but on semantic shifts in event types.

Thus, the descriptive problems in the Greek middle are due more to a misguided use of a derived passive system than to Greek voice operating differently than typologically expected in a basic middle system. Greek, as a middle system, behaves in kind with other typologically middle systems. It cannot be adequately understood without reference to changes in semantic event structure.[25] Section 2.2 picks up this theme, illustrating semantic patterns in Greek middle morphology that are often neglected among traditional (morpho-)syntactic views of voice.

2.2 Syntactic accounts and semantic regularities

Contemporary methods of analysis reflect the historical foundations on which they are built. One of the most prominent practices in voice comes from the study of classical literary languages, especially Latin, but also Greek and Sanskrit (Indo-Aryan), and their application to modern European tongues, e.g. French, German, and English (Klaiman 1991, 2; Richards and Rodgers 2014, 4-7). Modern accounts of voice that stem from the classical tradition tend to treat the active-passive dichotomy as the main contrast, with the middle serving as an addendum to an already established framework (Crystal 2003, 495; Shibatani 2004). Many traditional Greek grammars assume this classical foundation, treating the middle in relation to syntactic expectations that follow from active and passive structures.

Among traditional conceptions, voice is identified as a formal category of the verb or clause, with a particular interest in how voice alters the subject argument and its semantic role status in relation to the verb (i.e. whether it is an agent or patient of the action) (Wallace 1996, 408). For classical languages like Greek and Latin, a change in verbal morphology is expected to correlate with a change in the structural alignment between semantic roles (agent, patient) and

[25] As a descriptive approach, this applies to both the Greek middle as well as to the passive. Greek behaves in kind with a number of other middle systems that also include the passive function in the middle-marking domain (see §2.3). Recall that imperfective *-μαι* morphology expresses middle and passive functions, as noted in §1.1.2.

grammatical relations (subject, object). This creates a form-to-function mapping between morphology and syntax, with each morphological form defined by its role in syntactic structure (Klaiman 1991, 2-31; Shibatani 2004, 1146).

And yet neat correspondences between a morphological form and a distinct semantic role for the clausal subject (i.e. agent [active], patient [passive], beneficiary [middle]) make up only a subset of voice phenomena in Greek. Most middles are not reflexive and since there is no distinct role to afford them, traditional approaches ascribe a 'self-interest nuance' to the middle (Mounce 2009, 228). The subject is said to be intimately involved, directly influenced, or especially emphasized (Dana and Mantey 1927, 157; Smyth 1956, 390; Young 1994, 134; Wallace 1996, 414-15; Lavidas and Papangeli 2007, 100; Ladewig 2010).

Such accounts may have an appeal, since they seek to offer a separate syntactic function for each morphological form, but they sustain a rather skewed picture of voice in Greek. This is due to two contributing factors: (1) the practice of looking at voice morphology through a syntactic rather than semantic lens; (2) the tendency to treat Greek analysis outside of any cross-linguistic context. Or, to put it another way, the exclusive focus on voice as a morphosyntactic pairing has led to a relative neglect for deeper semantic regularities that play out in voice, both in Greek and across languages with middle systems (Kemmer 1993, 23-24; Shibatani 2006). To address such semantic regularities, two typological patterns are worth considering. Section 2.2.1 concerns the multifunctional nature of voice morphology. Section 2.2.2 follows with a discussion of the relationship between voice and lexical semantics.

2.2.1 Anticausatives and passives

One recurring pattern across languages is that elements classified as passive markers (i.e. they are used to express passive syntax) more often than not express a number of other functions as

well, including anticausatives, impersonals, potential passives, fientives, resultatives, etc. (Shibatani 1985, 825-30; Haspelmath 1990, 37-49; Givón 2002, 207-14). This fact alone begins to challenge traditional accounts that treat *-(θ)η-* morphology as uniquely passive in function. But in particular, the special treatment of the passive voice as a distinct realization in the argument structure of a clause disregards the grammatical continuum that exists among voice alternations.[26] Consider the relationship between passives and anticausatives in (2.2).[27] Both serve as alternate construals of the same causal event (Kulikov 1998, 140; Croft 2012, 253).

(2.2) (a) Cody stopped the music (b) The music stopped
(c) The music was stopped (by Cody)

The relationship between (a) and (b) is not a simple valency reduction. This would be a difference between 'Cody stopped the music' vs. 'Cody stopped', in which the transitive object (patient) is removed to produce an intransitive structure that shares the same subject argument (*Cody*).[28] Instead, the anticausative in (b) highlights a very specific kind of detransitivizing process, one in which the undergoer, or patient, of the transitive ('stopped [x]') is given subject status in the alternate structure ('[x] stopped'). In fact, the same operation is true in (c); the object of the transitive becomes the subject of the passive. For both (b) and (c), the subject (*music*) undergoes a change of state; i.e. it ceases to play. The key difference between the two lies in the presence or absence of an external force in bringing about the change. In a passive construction, the agent remains conceptually present, though its role is downplayed, either

[26] The passive is treated as unique among voice types in regard to its argument realization. According to traditional views, the passive (as opposed to active or middle) is the only voice type that requires a realignment of the arguments in the clause so that the agent is not realized in its default role as subject. Note that middle voice, as defined in teaching grammars, keeps the agentive participant in the default subject position so that there is no argument reassignment necessary. The passive is treated as unique in its expression of the subject as patient.

[27] The term 'anticausative' is used in this section in a purely functional fashion, meant to draw out cross-linguistic semantic patterns and is not meant as a commentary on any specific formal derivational processes.

[28] In the alternation 'Cody stopped the music' vs. 'Cody stopped' the object is removed. Since the process entails no realignment of clausal arguments, the agent (Cody) remains intact as grammatical subject in both.

expressed as an oblique phrase or left implied without overt coding. Thus, (c) remains an essentially causal event – an agent causes a patient to do something. The anticausative in (b), however, removes the agent entirely. As a non-causal construal, the event takes place spontaneously without direct intervention from an outside force (Haspelmath 1987, 7; 1993, 90).

A crucial challenge for traditional accounts is that a number of languages express both alternations with a single form. In Amharic, the verbal prefix *t(ə)-* applies to two-participant events: *səbbərə* 'break (tr.)', *kəffətə* 'open (tr.)'. The resulting expressions (*tə-səbbərə* and *tə-kəffətə*) may be either anticausative ('it broke', 'it opened') or passive ('be broken (by)', 'be opened (by)') (Amberber 2000, 315). In Greek, the same pattern holds for perfective *-(θ)η-* in (2.3) as well as imperfective *-μαι* in (2.4). Thus, *ἀνεῴχθη*, in contrast to *ἀνοίγω,* may be construed as anticausative 'it opened' like (2.2), or passive, 'it was opened' like (2.2).[29]

(2.3)	*ἀνοίγω* 'open [x]'	*ἀνεῴχθη*	'[x] opened' 'be opened (by)'
	σβέννυμι 'extinguish [x], put out'	*ἐσβέσθη*	'[x] went out, died out' 'be extinguished (by)'
(2.4)	*ἀπόλλυμι* 'ruin, destroy [x]'	*ἀπόλλῦμαι*	'[x] perishes, dies' 'be destroyed (by)'
	ῥήγνυμι 'break, burst [x]'	*ῥήγνῦμαι*	'[x] breaks, bursts' 'be broken (by)'

Another challenge for traditional approaches is the semantic nature of such alternations. They do not apply systematically across all verbs (as purely morphosyntactic phenomena) but are subject to semantic restrictions – a fact that receives little attention in syntactic accounts. The lexical semantics of a given verb (either in its general use or in a specific sense) constrain the interpretation of an event such that one type of alternation is more likely than another. Between

[29] See Alexiadou (2010, 185) for Modern Greek examples of the same passive/anticausative pattern.

the two, the passive remains an essentially two-participant construal, whether or not the external force is overtly coded, whereas the anticausative is a one-participant event that occurs through internal means rather than external causation (Levin and Rappaport Hovav 1995, 90-91). For this reason, not every verb can form an anticausative; certain restrictions apply to its formation.

The first specifies that the action must involve a change of state (or at least some degree of affect) for the undergoer/patient of the action. This excludes events like *watch*, *thank*, or *touch* because they do not depict actions that transfer force to a patient, resulting in a change for that patient. Just because a verb involves two participants, it does not follow that it can form an anticausative alternation. A verb like *ἀναγινώσκω* 'read' does not depict a change of state for the patient and thus forms a passive rather than anticausative construal: *ἀναγνωσθῇ* '[x] was read'.

The second restriction specifies that verbs that allow anticausative alternations must be able to conceivably take place without direct initiation from an external cause. Attempting to conceive of events in (2.5) as alternating in the same way as in (2.3) is a fairly awkward process. Verbs in (2.5) are more agent-oriented in meaning. They require an external source of energy in order to come about and cannot take place as automatic, spontaneous, or internal changes. The same is true for verbs that imply the use of a specific tool or mechanism (e.g. *cutting*, *biting*, *building*). Events in (2.5) and (2.6) allow only a passive alternation since no anticausative construal is likely available (Haspelmath 1987, 15; 1993, 93; 2016, 36).

(2.5) *σταυρόω* 'crucify' *ἐσταυρώθη* 'be crucified (by)' (*[x] crucified)
ἀποφέρω 'take away' *ἀπηνέχθη* 'be taken away (by)'
ἁγιάζω 'sanctify, make holy' *ἡγιάσθη* 'be sanctified (by)' [30]

[30] Imperfective *-μαι* morphology produces the same passive alternation: *σταυροῦνται* 'be crucified (by)', *ἀποφέρονται* 'be taken away (by)', *ἁγιάζεται* 'be sanctified (by)'.

(2.6) *ἐκκόπτω* ‘cut off’ *ἐξεκόπη* ‘be cut off (by)’ (*[x] cut off)
οἰκοδομέω ‘construct, build’ *οἰκοδομήθη* ‘be built (by)’
λατομέω ‘hew out of rock’ *ἐλατομήθη* ‘be hewn, be trimmed (by)’

Alternatively, the anticausative construal is the more likely pattern for changes that *can* occur on their own, or in fact often *do* occur as spontaneous or internally induced (rather than externally caused) events, as with perfective *-(θ)η-* in (2.7) and imperfective *-μαι* in (2.8) (Kemmer 1993, 21; Levin and Rappaport Hovav 1995, 90–98; Shibatani 2006, 229-30).

(2.7) **Causative** **Anticausative**
ἐξυπνίζω ‘arouse [x]’ *ἐξυπνίσθη* ‘[x] woke up’
κοιμάω ‘put [x] to sleep’ *ἐκοιμήθη* ‘[x] fell asleep’
ἵστημι ‘place, set, stand [x]’ *ἐστάθη* ‘[x] stood, stood up’
κατακλίνω ‘lay [x] down’ *κατεκλίθη* ‘[x] sat down, reclined’

(2.8) *ἐγείρω* ‘raise [x], lift up’ *ἐγείρομαι (ἠγέρθην)* ‘[x] rises, gets up’[31]
(καθ)ίζω ‘seat [x]’ *(καθ)ίζομαι* ‘[x] sits, takes a seat’
εὐφραίνω ‘make [x] glad’ *εὐφραίνομαι* (*εὐφράνθην*) ‘[x] rejoices, celebrates’
λυπέω ‘vex [x], distress’ *λυπεῖται* (*ἐλυπήθην*) ‘[x] grieves’

This suggests that the formation of passives and anticausatives in Greek is largely based on differences in semantic event types. Certain verbs, in virtue of their lexical meaning, are unlikely to form anticausatives, but will only be interpreted as passives with an implied external initiation present in the conception. It should be noted, however, that the anticausative formation still applies to a range of semantic types. Note the difference between a more patient-like change of state (*ῥήγνῡμαι* ‘break’) in (2.4) vs. a more agent-like one (*καθίζομαι* ‘sit’) in (2.8). In each, the contrast is between events that are externally caused (‘break s.t.’, ‘seat s.o.’) vs. those that are not (‘s.t. breaks’, ‘s.o. sits’). In the causal construal, an agent, as the head of the action chain, causes a second figure to change. In contrast, the anticausative construal for *ῥήγνῡμαι* and *καθίζομαι* originates with the one going through the process of change (‘[x] breaks’, ‘[x] sits’). Where they

[31] The anticausative construal does not necessarily preclude a passive alternation. Verbs like *ἐγείρομαι* may still be used to indicate a passive construal in which someone or something *was raised up by* an external force.

differ is in volitionality. If an event involves an animate participant who typically performs an action by his/her own internal energy (*stand*, *sit*, *walk*), then the subject of the anticausative acts volitionally as an agentive participant (*καθίζομαι* 'sit'). If an event involves a change of state that is typically non-volitional, then the anticausative subject is more patient-like. This occurs with animate (*ἀπόλλῡμαι* 'perish, die'; *ἐξυπνίσθη* 'wake up') and inanimate entities (*ῥήγνῡμαι* 'burst', *ἐσβέσθη* 'die out' [of flame]) (Haspelmath 1987; Shibatani 2006, 230).

Yet despite patterns like (2.5)-(2.8), traditional accounts remain narrowly focused on syntactic structure. As a consequence, they overlook the semantic nature of voice alternations, especially regarding differences among semantic event types. Anticausatives are often left unconsidered, labeled 'intransitive', or treated as deviant because they do not conform to expectation.[32] But to be clear, such expectations are based on how voice has been incorrectly described as a primarily morphosyntactic phenomenon without necessary regard for semantic event structure. In syntactic views, voice is predicated on changes in argument structure, especially the semantic role of the subject in relation to the verb, a quality that pertains more to English active-passive alternations than it does to distinctions in Greek. What anticausatives in (2.3)-(2.8) illustrate is that not all voice oppositions rely on altering grammatical relations. The contrast between *ἐγείρω* 'lift s.t. up' vs. *ἐγείρομαι (ἠγέρθην)* 'get up' or *κατακλίνω* 'lay s.t. down' vs. *κατεκλίθην* 'recline' is not a shift in the semantic role of the subject (both active and non-

[32] When traditional approaches describe *-(θ)η-* as uniquely passive in function, this shapes not just what they do with those instances that fit the 'rules' but it shapes what they do with those that do not. Anticausative alternations like the following are typically labeled 'intransitive' or 'passive in active sense': *ἐκαύθη* 'burn, catch fire' vs. *καίω* 'set on fire, cause to burn', *ἐξεπλάγη* 'be amazed' vs. *ἐκπλήσσω* 'overwhelm, cause amazement', *ἐνεδυναμώθη* 'become strong' vs. *ἐνδυναμόω* 'strengthen', and *ἠγριώθη* 'become wild' vs. *ἀγριόω* 'make wild'. Others like *ἐκοιμήθη* 'fall asleep' (vs. *κοιμάω* 'put to sleep') and *ἐφοβήθη* 'fear, be afraid' (*φοβέω* 'frighten') receive 'pseudo' labels: 'pseudo reflexive' and 'pseudo passive' respectively (Rijksbaron 2006, 160-61). While 'pseudo' and other alternate labels offer the ability to describe how each lexeme departs from the passive function, they do not illustrate the pervasive semantic relationships that exist among *-(θ)η-*marked verbs, nor do they capture the ways in which *-(θ)η-* morphology relates to the rest of the voice system.

active voices express the subject as agent of the action) but a shift in the semantic nature of the event itself. A semantically causal event contrasts with a non-causal alternation, such that a change of state may be construed either with or without external force.

Evidence of this kind of behavior, in which a single form plays more than one function, demonstrates a shortcoming among syntactic treatments. Their attempt to separate the passive situation, especially *-(θ)η-* morphology, as a distinct alternation apart from other construals, takes no account of patterns like (2.3) and (2.4), in which a single form expresses both passive and anticausative functions. Indeed, for languages like Greek, there is no grammatical grounding for treating passives as distinct from anticausatives. Recall their shared attributes: In both, (1) the object of the transitive becomes the subject of the non-active construal;[33] (2) the primary figure goes through a process of change; (3) the role of any outside force is defocused in the process. For anticausatives, the outside force is removed and no longer present in the conception. For passives, it is conceptually present but need not be overtly expressed. And (4), their shared semantic basis motivates their shared formal coding. Both perfective *-(θ)η-* and imperfective *-μαι* paradigms express passives and anticausatives with the same morphological marking. Finally, subsuming the passive and anticausative types under a single formal expression is a relatively common feature among languages. In fact, anticausatives often form the diachronic basis for development of passive expressions, including Greek *-(θ)η-* morphology (see §3.2) (Haspelmath 1987, 1990; Croft 2012, 253; García Ramón 2014; Kulikov 2010).

To reiterate, voice alternations in Greek and other languages are not based on purely morphosyntactic correlations but are highly dependent on lexical meaning (Croft et al. 1987;

[33] In more semantic terms, the secondary participant that undergoes the action in the active becomes the primary figure (expressed as subject) in the non-active alternation.

Klaiman 1991, 104). Some verbs are more agent-oriented and are more likely to occur as passives; others are easily construed without external intervention and are likely to function as anticausatives. This kind of distinction is not wholly foreign to English speakers since different verbal classes may also be discerned in English based on lexical meaning and grammatical behavior. It is easy to talk about change-of-state verbs like *tear*, *shatter*, and *cool* as occurring without an agent: *cloth tears*, *glass shatters*, *soup cools*. But the same cannot be said for *throw*, *cut*, or *build*, which require an agent. Thus, the anticausative alternation holds for *tear*, *shatter*, and *cool*: 'tear it' vs. 'it tears', 'shatter it' vs. 'it shatters'. But verbs that are more agent-oriented must be expressed as passives and do not function as anticausatives in English: 'it is thrown' (*it throws), 'it is cut' (*it cuts), 'it is built' (*it builds) (Haspelmath 1993, 93; 2016, 36).

Examining different alternations in this way helps to identify relevant semantic classes that tend to behave in similar ways. These lexical classes do not exhaust the meaning of each verb, but they do capture shared semantic components that distinguish their participation in certain kinds of expressions, whether syntactic or morphological, highlighting the ways in which lexical meaning impacts grammatical behavior (Levin 1993, 4-11). In this regard, the second typological pattern concerns the relationship between voice morphology and lexical classes.

2.2.2 Consistency in the lexicon

Drawing attention to lexical classes provides further corroboration of the ways in which the Greek voice system is functionally similar to other middle systems. From a traditional point of view, it is often noted that Greek middle morphology expresses a fairly disparate set of events (reflexives, reciprocals, anticausatives, passives). But when the same data are examined in light of the typological characteristics of middle systems, rather than within an active-passive framework, the Greek middle proves to be consistent with cross-linguistic patterns. This is true

in at least two ways; both are elaborated below: (1) languages with overt middle forms (Dutch, Greek, Spanish, etc.) bear a compelling resemblance to one another in the kinds of event types that receive middle expression. (2) A recurring pattern in such languages is the inclusion of non-alternating, middle-only verbs. In language after language, a set of verbs are basic to one voice and do not alternate between voices. Often middle-only verbs are referred to as *deponent* or *media tantum*. Their basic middle-only status has become a recognized hallmark among middle systems typologically. Indeed, these middle-only verbs fit into expected semantic classes that are commonly middle-marked across languages (Klaiman 1991, 44-109; Kemmer 1993, 21-23).

Typologically, Greek fits within a larger set of 'middle-marking languages', i.e. those with overt middle forms. These 'middle systems' represent a diverse cross-section of languages, including classical (Sanskrit, Greek, Latin), modern Indo-European (Germanic, Romance, Slavic families) and non-IE languages, e.g. Fula (Niger-Congo, West Africa), Tamil (Dravidian, India), Halkomelem (Salish, British Columbia) (Klaiman 1991, Kemmer 1993, Gerdts and Hukari 2006, Maldonado 2008). Their diversity also extends to the shape of the 'middle marker' in each. In some languages, e.g. Greek, Albanian (Geg, Albania), and Motuna (Papuan, Bougainville, PNG), the middle form is bound up with other grammatical distinctions, e.g. person and number agreement in Albanian *la-**hem*** 'I wash myself', *la-**esh*** 'you wash yourself'. In others, middle marking takes a stable form, as a verbal affix (e.g. Old Norse ***-sk***, Bahasa Indonesian ***ber-***), clitic, or particle (e.g. French ***se***, German ***sich***) (Geniušienė 1987, 239-41, 301-6; Onishi 2000, 120-21; Steinbach 2002, 47-48; Nedjalkov 2007a, 183-5; Manzini et al. 2009).

But when it comes to lexical classes, middle systems are strikingly similar. Middle marking is used again and again for the same semantic types, as noted below with middle forms

in bold.[34] Middle-only verbs (where known) are marked with 'MT' (*media tantum*) to indicate their basic, non-alternating status. Two closely related types involve actions carried out on or through one's own body: grooming and motion. While grooming verbs like *ἐπενδύομαι* 'dress' or *νίπτομαι* 'wash' serve as prominent examples in Greek grammars, motion verbs in (2.9) receive less attention. Like 'dress' or 'wash', motion verbs also involve bodily change; an agentive participant changes posture (*stand*, *sit*), location (*come*, *go*, *flee*), or orientation (*turn*, *stretch*).

(2.9)

Greek	*ἐγείρο**μαι*** 'rise, get up'	Greek	*στέλλο**μαι*** 'go, journey'
Hungarian	*emel-**ked-*** 'rise, get up'		*ἔρχο**μαι*** 'go, come' (MT)
Spanish	*parar**se*** 'stand up'		*πορεύο**μαι*** 'walk, travel' (MT)
		Icelandic	*ferða-**st*** 'travel' (MT)
Greek	*ὀρέγο**μαι*** 'stretch, reach out'	Old Norse	*ganga-**sk*** 'go, leave'
Kanuri	*tàn-**t**-în* 'stretch one's body'		*koma-**sk*** 'come'
Somali	*jimics-**o*** 'stretch oneself'	Romanian	***se** duce* 'go'

Together, grooming and motion constitute 'body action middles'. Their similarity to reflexives allows for reflexive marking in languages that do not have a middle form (e.g. English *dress oneself*, *stretch oneself*). Typologically though, body actions are frequently distinguished from reflexives, occurring as unmarked intransitives (*I got up, stretched, and dressed*).[35] This trend accords with their lexical value since such actions are commonly one-participant events performed through one's own bodily effort. Among middle systems, this lexical value, i.e.

[34] Data from: Fula [Gombe dialect, Niger-Congo, West Africa] (Arnott 1970; Klaiman 1991), Latvian and Lithuanian [Balto-Slavic] (Geniušienė 1987), Russian [Balto-Slavic] (Krasukhin 2006), Somali (Cushitic, Somalia) (Saeed 1995), Spanish (Maldonado 2009). Croft, Shyldkrot, and Kemmer (1987) and Kemmer (1993) provide data from Amharic (Semitic, Ethiopia), Ayacucho Quechua (Southern Quechua, Peru), Bahasa Indonesian (Malayo-Polynesian, Southeast Asia), French (Romance), German (Germanic), Hungarian (Finno-Ugric), Icelandic (North Germanic), Kanuri (Saharan, Nigeria), Latin (Italic), Lushai (Sino-Tibetan, Burma), Mohave (Hokan, Yuman, California, US), Old Norse (North Germanic, Scandinavia), Pangwa (Niger-Congo, Tanzania), Romanian (Eastern Romance), and Sanskrit (Indo-Iranian). See Kemmer (1993, 271-72) for a list of original language sources.

[35] The overlap between certain middle classes and intransitive structures is evident. A middle-marked verb in one language is often expressed as an unmarked intransitive in another (e.g. English *turn*, Greek *τρέπο**μαι***, Latin *reverto-**r*** (Maldonado 2007, 854).

typical body action, regularly prompts their middle marking. Their verbal class and semantic proximity to other middle types motivates their middle expression (Kemmer 1993, 53-57).[36]

For benefactives, contrasts like *lend* vs. *borrow* are common. These are often lexicalized, as in suppletives (*give* vs. *take*; *lose* vs. *find*). In Greek and Amharic, the same is expressed via middle alternation: *δανίζω* 'lend' vs. *δανίζομαι* 'borrow'; *bäddärä* 'lend' vs. ***tä***bäddärä 'borrow'.

(2.10)	A. Quechua	*llamka-**ku**-y* 'work for oneself'	Fula	*'udd-**o*** 'attack'
	Fula	*nyaml-**aa**-de* 'borrow'		*tirf-**o*** 'rush at and seize'
	Greek	*δέχο**μαι*** 'receive' (MT)	Greek	*βιάζο**μαι*** 'dominate, ravish'
		*ἐργάζο**μαι*** 'work, trade, earn' (MT)		*αἰκίζο**μαι*** 'maltreat, torture'
		*λήμψο**μαι*** 'acquire' (MT)	Latin	*populo-**r*** 'ravage, plunder'
	Old Norse	*eigna-**sk*** 'acquire, claim'		*aggredio-**r*** 'attack'

In (2.10), middle marking is used for actions that are *ordinarily* done for one's own benefit, e.g. *choose*, *claim*, and *receive*. The participant who initiates the event is also understood to be its intended recipient or beneficiary. For some languages, this verbal class also serves as a semantic springboard to more violent actions, extending the middle form to lexemes that express power dynamics. The subject, as a conquering force, benefits from their superiority over a conquered foe, e.g. *σίνομαι* 'plunder', *χειρόομαι* 'overpower' (Croft et al. 1987; Kemmer 1993, 78-81).

Reciprocal actions are also prevalent. These are semantically collective or mutual, often involving shared affection (German ***sich*** *grüßen* 'greet, welcome'; Latvian *skūpstītie-**s*** 'kiss') or joint animosity, as in (2.11). In some languages, verbs of this class allow reciprocal marking (e.g. *They hugged <u>each other</u>*). But they often occur as unmarked intransitives (cf. body actions) (e.g.

[36] Alternations of this type are often expressed via lexical means in English: (a) labile alternation (e.g. the same verb expresses both transitive and intransitive action: *he turns* [x] vs. [x] *turns*), (b) stem alternation (e.g. *raise* vs. *rise*), or (c) suppletive alternation (e.g. *bring* vs. *come*, *send* vs. *go*). For Greek, many of the same alternations are expressed via voice: *τρέπω* 'turn [x]' vs. *τρέπομαι* '[x] turns', *στέλλω* 'send' vs. *στέλλομαι* 'go'.

They hugged) since their lexical semantics are normally, or frequently, interpreted as reciprocal in nature without the need for explicit marking.[37]

(2.11)	B. Indonesia	***ber-****gumul* 'wrestle'	Hungarian	*vere-**ked**-ni* 'fight'
	German	***sich*** *duellieren* 'duel' (MT)	Latin	*conflicto-**r*** 'fight'
	Greek	*μάχο**μαι*** 'fight, dispute' (MT)	Russian	*borot'-**sja*** 'fight' (MT)

While some reciprocals alternate with non-reciprocal counterparts (e.g. Norwegian *slå-**ss*** 'fight' vs. *slå* 'hit'), many are simply semantically collective and are thus expressed as basic middle-only verbs (no active non-reciprocal counterpart), in keeping with their lexical value: Latin *alterco-**r*** 'wrangle'; Greek *διαλέγο**μαι*** 'discuss, argue'*, διαπληκτίζο**μαι*** 'exchange blows' (Kemmer 1993, 104-11; Nedjalkov and Geniušienė 2007, 413).

Beyond physical contact, middle marking also extends to cognitive and communicative interaction. Verbs in these classes constitute experiencer-based events; an animate participant undergoes or experiences some kind of mental, emotional, or sensory perception. Cognition middles involve acts of thinking, pondering, and the like. Some languages also include verbs of intent and expectation (e.g. *βούλο**μαι*** 'wish, intend, resolve' (MT); *niyeys-**o*** 'intend, desire').

(2.12)	Greek	*διαλογίζο**μαι*** 'consider, ponder' (MT)	Old Norse	*ætla-**sk*** 'intend'
		*συντίθη**μαι*** 'agree on, decide'	Sanskrit	*manyat-**e*** 'think, believe' (MT)
	Latin	*medito-**r*** 'ponder, meditate' (MT)	Somali	*tash-**o*** 'consider, think over'
	Latvian	*cīstie-**s*** 'decide' (MT)		*niyeys-**o*** 'intend, desire'

Speech acts describe acts of communication; a message or idea is transferred with one's voice (Kemmer 1993, 134). Some express reported speech; participants interact in dialogue (akin to reciprocals). Verbs like *πυνθάνο**μαι*** 'ask, inquire' (MT) and *ἀποκρίνο**μαι*** 'answer, reply' (MT), involve meanings that require a response in return or are themselves a response (Nedjalkov

[37] In English, non-reciprocal verbs (*poke*, *bite*) require explicit pronominal marking in order to express reciprocal action. Additionally, optional reciprocal marking may be used with naturally reciprocal events to stress the reciprocality of an action in contrastive contexts: *In the midst of a crowded room, my parents hugged <u>each other</u>.*

2007b, 319). Others specify mental attitude or communicative intent: *καυχάο**μαι*** ‘boast’ (MT), *ψεύδο**μαι*** ‘lie, speak falsely’ (MT), Lushai ***in**-fak* ‘boast’, Ayacucho Quechua *llulla-**ku**-y* ‘lie’.

(2.13)

Fula	*tor-**o*** ‘beg for’	Lithuanian	*teirauti-**s*** ‘inquire’ (MT)
Greek	*δέο**μαι*** ‘ask, beg’ (MT)	Mohave	***mat** kuna:v* ‘confess’
	*ἐξομολογοῦ**μαί*** ‘confess’	Old Icelandic	*beiða-**sk*** ‘ask’
	*προσεύχο**μαι*** ‘pray’ (MT)	Pangwa	***i**-funya* ‘pray’

For a full survey of cross-linguistic middle types, see §2.3. The present data may be brief but is still representative of some common semantic classes that occur in middle systems. In this regard, a number of observations may be made that apply to middle systems generally. First, middle morphology is semantically consistent; middle forms are used with the same lexical classes across a variety of languages. To clarify, this is not meant to suggest that middle-marked verbs in each language are precisely the same nor that their formal expression is predictable based on their meaning. Rather the semantic assertion here is that middle-marked verbs converge around similar semantic types, with the occurrence of the middle form conventionalized in each language. There tends to be a semantic core based on verbal class and middle-marked verbs are created by analogy to already conventionalized lexemes (Croft et al. 1987; Haspelmath 1987).

Second, middle-only verbs are a common trait among middle-marking languages, and they correlate with the same semantic event types most associated with middle usage (Kemmer 1993, 23; Allan 2003, 51). It is not all strange to find middle-only verbs expressing common middle types, like typical body actions (*ἀφικνέομαι* ‘arrive’, *οἴχομαι* ‘depart’, *ἅλλομαι* ‘jump’; Fula *ʾoppin-**o*** ‘squat’), or events in which the initiator is a recipient/beneficiary of the action (*δράσσομαι* ‘catch, grasp’, *δέχομαι* ‘receive, take’; Latin *apisco-**r*** ‘get’). As noted, such lexical classes form a natural semantic locus for middle morphology (Kemmer 1993, 34).

Across middle systems, the verbal lexicon is organized as follows: Lexemes may be middle-only, active-only, or alternating. Alternating verbs represent the largest portion of the

lexicon. This leaves non-alternating verbs as smaller sets, typically of unequal size. In some languages, like Fula, active-only verbs appear to be more numerous than middle-only. In others, like Hungarian, Greek, and Latin, middle-only outnumber active-only by a sizable margin (Klaiman 1991, 106; Kemmer 1993, 22; Baerman 2007, 5; Wackernagel 2009, 160).

Any claims about which verbs occur as active-only vs. middle-only is provisional, since their accounting depends on lexical history, diachronic variation in morphological expression, and various patterns within the lexicon that do not apply systematically across all verbs of one class. But some patterns do still emerge. Among active-only verbs, there are many that lack an element of change in their lexical meaning. Verbs that express simple states are non-dynamic and do not involve change over time, e.g. *ἀσθενέω* 'be ill, weak', *νοσέω* 'be sick'. Other active-only verbs involve body motion (like middles in (2.9)), but instead of focusing on a change of state/location, they concern the manner of motion. The element of change is somewhat backgrounded in their lexical meaning. These active-only verbs are atelic (durative), i.e. they do not involve an inherent endpoint with a change of state/location, e.g. *πηδάω* 'jump', *ἕρπω* 'creep, crawl', *πλέω* 'sail, float', *βαδίζω* 'walk', *τρέχω* 'run', and *νέω* 'swim'. Conversely, many middle-only verbs of motion tend to express an inherent endpoint in their lexical meaning, e.g. *ἔρχομαι* 'go, come', *ἱκνέομαι* 'reach, arrive', *οἴχομαι* 'depart, go away', *νέομαι* 'return', *χάζομαι* 'draw back'. There are certainly exceptions to this, with manner of motion verbs (e.g. *ἅλλομαι* 'jump', *πέτομαι* 'fly') serving as middle-only expressions as well (Allan 2003, 245). What is in focus here is that middle-only and active-only phenomena remain a persistent, if not universal, feature among middle systems, suggesting that both the presence and meaning of middle-only verbs in Greek is fully consonant with typological norms (Geniušienė 1987, 299; Kulikov 2013, 275).

A point of clarification is warranted here in regard to how middle-only phenomena are traditionally treated in Greek grammar. Most often, *deponency* is used to identify morphological mismatches, in which the form of a verb is considered incongruent with its function. Deponents are defined as a lexically-specified set of verbs that are 'middle (or passive) in form', but are analyzed as 'active in meaning' based on two criteria: (a) they do not alternate between voices, i.e. they are middle-only – expressed in middle morphology without an active morphological counterpart, and (b) they do not express whatever is deemed to be 'middle force' according to traditional views, and are thus seen as 'in conflict' with the rest of the voice system.

Since the majority of verbs in Greek alternate between active and non-active forms, this is treated as a canonical pattern.[38] Deponents are then viewed as exceptions to the rule, in which the form of a verb (middle) does not match its function (active). Without a certain 'middle meaning' a middle-only verb is seen as playing an active role in the voice system. Middle-only verbs like *ἔρχομαι* 'go, come', *ἐργάζομαι* 'work, trade, earn', and *βούλομαι* 'wish, intend, prefer' are often included in lists of deponents as 'active in meaning' (Smyth 1956, 90; Wallace 1996, 428-30; Baerman 2007, 2-7; Lavidas and Papangeli 2007, 97; Ladewig 2010, 135-6).[39]

A separate examination is then required to explain the presence of these exceptional cases. Yet traditional accounts offer no principled basis for their existence, primarily relying on

[38] The descriptive focus here tends to be on establishing morphosyntactic oppositions in the voice system. A formal opposition in voice morphology is described in terms of a corresponding functional opposition in syntactic structure. For a verb like *ποιέω* 'make' vs. *ποιέομαι* 'make for oneself', its morphological contrast is linked to a parallel functional contrast in the role of the clausal subject. Traditionally, the middle is said to express more subject focus, involvement, or participation in the action (Wallace 1996, 414). Once a canonical pattern like this is confirmed for the majority of verbs, it provides a means of identifying deviations from the norm. Thus, the central concern becomes distinguishing between normal and exceptional behavior. If the normal realization of voice morphology is tied to an oppositional contrast between alternating middles and their active counterparts, then any lexemes that depart from this pattern are considered non-standard in some way (Baerman 2007, 4-6; Corbett 2007).

[39] The intuition about what is considered 'active in meaning' relies heavily on English syntax (see §2.1) to the exclusion of typological norms among middle systems.

ad hoc rules or arbitrary lists of verbs that change with each account (Wallace 1996, Ladewig 2010). For example, Lavidas and Papangeli (2007) engage with, but ultimately reject semantic patterns in the Greek middle. An overreliance on morphosyntactic features leaves them ill-equipped to deal with the kinds of idiosyncrasies that naturally arise with lexical behavior (see 3.1 for discussion). This natural idiosyncrasy in lexical semantics then becomes an argument against semantic approaches rather than a case against their own syntactico-centric explanation.

Their focus remains on transitive deponents, defined as verbs that bear middle/passive morphology in transitive syntax, i.e. they occur with an accusative object. Lists of deponents include middle-only verbs like *ἀποκρίνομαι* 'answer' (illustrated among speech act middles in (2.13) above), as well as *μάχομαι* 'fight' (listed among reciprocal middles in (2.11)). According to this view, their middle marking is not semantically motivated but is instead the result of a morphological feature specification that requires them to be marked with a pre-specified form (i.e. middle) even though they appear in what is defined as active syntax. This idiosyncratic rule applies at random across the lexicon to create the familiar mismatch between morphology and syntax that defines traditional notions of deponency (120).

Yet analyses of this sort only defer explanation to another level. To explain the presence of deponent phenomena, a random morphological rule is posited. But no clarification is given for why such an anomalous rule should exist in the first place. Nor is there any elucidation for how a morphological rule could apply at random in each language and still produce a semantically consistent set of verbs both language-internally in Greek and cross-linguistically among middle-marking languages. No principled explanation is offered for why certain event types consistently appear as middle-only verbs in Greek and across middle systems. Such analyses cannot account for why certain semantic types like translational motion (self-propelled motion along a path:

ἔρχομαι ‘go, come’), naturally reciprocal actions (*μάχομαι* ‘fight’), cognition/expectation (*οἴομαι* ‘think, suppose, expect’), and speech acts (*ὀλοφυρομαι* ‘lament’) consistently appear as middle-only verbs across languages while other semantic types like creation/destruction (*οἰκοδομέω* ‘build’, *καταλύω* ‘tear down’) or physical impact (*σχίζω* ‘tear apart’, *νύσσω* ‘pierce’) and killing (*ἀποκτείνω* ‘kill’) do not (Kemmer 1993, 33, 106; Beavers 2011).

One of the consequences of traditional syntactic accounts is that cross-linguistic consistency gets treated as though it is language-specific anomaly, i.e. a problem to be solved. But, if we pay attention to typological regularities, then the status of middle-only verbs as deviant or exceptional must be called into question. Their typological persistence alone demonstrates that they ought to be treated as a general characteristic of such languages, warranting their place in an overall explanation of normal behavior among middle systems.

A more general account that gives credence to their cross-linguistic distribution is preferable to one that treats them as incompatible with regular middle patterns (Klaiman 1991, 44, 57-58; Kemmer 1993, 23-34; Matthews 2007; Maldonado 2009). The tendency for languages to mark the same kinds of event types with middle morphology illustrates how Greek voice has less to do with morphosyntactic oppositions and more to do with lexical classes. Deponent, or middle-only verbs, fit into event classes that are semantically motivated within the voice system, and represent a natural consequence, or by-product, of the semantic nature of middle marking.

Greek voice phenomena are better understood as the grammatical categorization of similar semantic types. Lexical classes are organized together with a particular marking pattern to express their shared conceptual basis. Middle morphology is extended verbs with suitable semantic characteristics regardless of the presence of an active counterpart (Kemmer 1993, 33). Section 2.3 considers these classes in more detail, with a full survey of common middle types.

This provides a broader comprehension of how Greek compares and contrasts with other middle systems and paints a wider picture of how middle voice behaves across the world's languages.

2.3 Inventory of middle types

This section provides a typological survey of middle event types. Geniušienė (1987) and Kemmer (1993) supply cross-linguistic data; this is combined with language-specific studies as well.[40] Following Kemmer, I include data from languages that are genetically and geographically diverse. I also follow her groupings in regard to various cross-linguistic middle types.[41] As in §2.2.2, middle forms are in bold to indicate where each lexeme receives middle marking. Languages may use different formal means to express the middle, yet they show significant semantic overlap in the types of events they include in the middle domain.

One of the most recognizable middle types is grooming/body care. An animate entity performs an action that affects one's body, body parts, or inalienable possessions. Such events include routine maintenance of the body as well as culturally specific ritualized actions, such as anointing with oil or wearing a veil (Kemmer 1993, 54; Rijksbaron 2006, 144; Allan 2003, 89).

(2.14)	Bella Coola	*sx̌=aax̌uc-**m*** 'shave beard'	Kanuri	*hàr-**t**-în* 'wash' (MT)
	French	***s'**-habiller* 'dress, wear' (MT)	Latvian	*apsegtie-**s*** 'cover oneself'
	German	***sich** anziehen* 'dress'	Mohawk	***-ate**-nawirohar-* 'brush one's teeth'
	Greek	*κατακαλύπτο**μαι*** 'veil oneself'	Somali	*dhay-**o*** 'rub oneself with'

[40] Language data: Balinese [Malayo-Polynesian, Bali] (Shibatani and Artawa 2007), Bella Coola [Salish, British Columbia] (Beck 2000), Danish [N Germanic] (Sansò 2006, 237), German (Steinbach 2002), Halkomelem [Salish, British Columbia] (Gerdts and Hukari 2006), Latvian and Lithuanian [Balto-Slavic] (Geniušienė 1987), Mohawk [Iroquoian, northeastern North America] (Mithun 2006, 201), Motuna [Papuan, Papua New Guinea] (Onishi 2000), Muscogee [Muskogean, Oklahoma, US] (Martin 2000, 381-87), Otomi [Oto-Pamean, Mexico] (Palancar 2004), Russian [Balto-Slavic] (Krasukhin 2006), Somali (Cushitic, Somalia) (Saeed 1995), Spanish (Maldonado 2008, 2009). From Kemmer (1993): Ayacucho Quechua (S Quechua, Peru), Bahasa Indonesian (Malayo-Polynesian, SE Asia), French (Romance), Fula (Gombe, Niger-Congo, W Africa), Hungarian (Finno-Ugric), Icelandic (N Germanic), Kanuri (Saharan, Nigeria), Latin (Italic), Lingala (Niger-Congo, Bantu), Mohave (Hokan, Yuman, California), Old Norse (N Germanic, Scandinavia), Russian (Balto-Slavic), Sanskrit (Indo-Iranian), Tsonga (Niger-Congo, SE Bantu), and Turkish (Oghuz, Turkey).

[41] Middle types in Kemmer (1993): grooming, motion (e.g. translational, non-translational, change in posture, and collective), indirect/self-benefactive, naturally reciprocal, mental (emotion, cognition, perception, speech act), spontaneous events, logophoric, and passive/facilitative/impersonal middles. Each is discussed below.

Benefactives in (2.15) are performed on a second figure so there is a direct object in the clause, but the agent also plays the role of recipient or beneficiary of the action (Kemmer 1993, 78; Rijksbaron 2006, 147-50; Allan 2003, 112).

(2.15)

Greek	*κομίζο**μαι*** 'get back, recover'	Sanskrit	*labhat-**e*** 'obtain, receive'
	*περιποιέο**μαι*** 'obtain'	Spanish	*conseguir**se*** 'get'
	*ἐκλέγο**μαι*** 'choose' (MT)		*allegar**se*** 'obtain'
Latin	*potio-**r*** 'get possession of'	Tsonga	*ku **ti**-phahlela* 'offer sacrifice for self'
Latvian	*izlasītie-**s*** 'choose for oneself'	Turkish	*ed-**in**-* 'acquire'

Similar to body care in (2.14), there are a number of types that involve various facets of body action or motion carried out through the body. Self-induced actions in (2.16) involve a participant changing location along a path through space (Talmy 1985; Kemmer 1993, 57).

(2.16)

B. Indonesia	***ber-**djalan* 'walk, stroll'	Halkomelem	*cx̌**əm*** 'jump'
Balinese	***ma**-laib* 'run'	Lithuanian	*bastyti-**s*** 'wander, roam' (MT)
Fula	*ma'y'y-**o*** 'climb, mount'	Mizo	***in**-shon* 'move' (MT)
Greek	*ἅλλο**μαι*** 'leap, jump' (MT)	Muscogee	*ta·s**k**-itá* 'jump (of one)'
	*πέτο**μαι*** 'fly' (MT)	Otomi	***n**-tsoni* 'fly'
	*ἀνάγο**μαι*** 'set sail'	Somali	*noq-**o*** 'return'
Halkomelem	*pəpətéɬəm̓* 'sailing'	Spanish	*regresar**se*** 'return'

These translational motions are contrasted with non-translational motions. While events in (2.17) do not necessarily express a change in location, they do involve bodily movement that alters the body's (or body part's) configuration (Kemmer 1993, 57; Allan 2003, 77).

(2.17)

Greek	*ἐπεκτείνο**μαι*** 'stretch out'	Lingala	*bóngwa-**na*** 'turn around'
	*στρέφο**μαι*** 'turn oneself'	Lithuanian	*versti-**s*** 'turn (side to side)'
Halkomelem	*ċaləsə**m*** 'turn around'	Old Norse	*hrista-**sk*** 'shake (the head)'
Icelandic	*snua-**st*** 'turn'	Spanish	*estirar**se*** 'stretch out'

Change in posture in (2.18) is similar to non-translational motion, but here the body ends up in a different spatial plane, e.g. Somali *foorors-**o*** 'bend over, stoop' (Kemmer 1993, 56).

(2.18)

A. Quechua	*tiya-**ku**-y* 'sit down'	Lithuanian	*leñkti-**s*** 'bend'
Balinese	***ma**-tangi* 'stand up'	Muscogee	*wak**k**-itá* 'lie (of one)'
German	***sich** hinlegen* 'lie down'	Otomi	***n**-dondi-hmu* 'kneel'
Greek	*κατάκει**μαι*** 'lie down'	Sanskrit	*nipadyat-**e*** 'lie down'

Reciprocals denote some level of mutual engagement for event participants. Alternations express a contrast between symmetrical vs. asymmetrical action. Either participants act on one another with symmetrical force or one participant acts on a second, with one direction of force, e.g. Icelandic *spyrja-**sk*** ‘ask one another’ vs. *spyrja* ‘ask’ (Croft 2012, 243). Such verbs often fall into a number of types: spatial relations (join, associate), identity or likeness (be similar, be like), and human relations (meet, marry, make a covenant) (Kemmer 1993, 117; Nedjalkov 2007c, 96).

(2.19)	Balinese	***ma**-palu* ‘fight each other’	Latvian	*sastaptie-**s*** ‘meet each other’
	German	***sich** fraternisieren* ‘fraternize’	Lingala	*-kamata-**na*** ‘resemble’
	Greek	*συναγωνίζο**μαι*** ‘fight, contend with’	Old Norse	*hitta-**sk*** ‘meet’
	Kanuri	*tòkùm-**t**-âi* ‘copulate [of insects]’(MT)	Otomi	***m**-phɔts’i* ‘help each other’
	Latin	*amplecto-**r*** ‘embrace’	Somali	*dhaxs**o*** ‘get married’
		*osculo-**r*** ‘kiss’	Tsonga	*ku ringa-**na*** ‘be similar’

Collective events also involve multiple participants and may be a subtype of (2.19) since they too involve group actions. Individuals act collectively. The group is conceived as a whole carrying out a single action together (Kemmer 1993, 123-25).

(2.20)	German	***sich** sammeln* ‘gather, assemble’	Latvian	*pulcētie-**s*** ‘come together’
	Greek	*συνέρχο**μαι*** ‘gather together’	Lithuanian	*eiliuoti-**s*** ‘line up’
		*ἀθροίζο**μαι*** ‘gather together’	Old Norse	*flykkja-**sk*** ‘flock together’
	Hungarian	*tüle-**ked**-* ‘throng’	Russian	*sobrat’-**sja*** ‘collect, gather’
	Latin	*misceo-**r*** ‘assemble, unite’	Somali	*yoobs**o*** ‘assemble, gather’

Among experiencer-based events, middle marking is used to express cognition, emotion, perception, and speech. In the cognitive domain, mental activities express mental effort on the part of the experiencer subject, including thinking, calculation, and conjecture.

(2.21)	French	***s**’aviser* (*de*) ‘think up’ (MT)	Hungarian	*gondola-**kod**-* ‘think, muse, meditate’
	Fula	*hiis-**o*** ‘calculate’	Latin	*comminīsco-**r*** ‘think, devise’
	Greek	*τεχνάο**μαι*** ‘contrive, craft’	Old Norse	*pykkja-**sk*** ‘think (that), opine’

Emotion middles involve emotional reactions of one sort or another, often expressing a lower degree of volitionality than mental activities. These emotional/mental changes tend to involve less control for the subject participant (Kemmer 1993, 128-35; Allan 2003, 64).

(2.22)

French	***se*** *réjouir* ‘rejoice’ (MT)	Lingala	*-tataba-**na*** ‘be troubled, astonished’
Greek	*μαίνο**μαι*** ‘become mad’ (MT)	Mohave	***mat*** *iθa:v* ‘be angry’ (MT)
	*μιμνῄσκο**μαι*** ‘remember’	Otomi	***n***-*sente* ‘be/get sad’
	*ὀργίζο**μαι*** ‘become angry’	Sanskrit	*ramat-**e*** ‘rejoice’
	*φοβέο**μαι*** ‘fear, be afraid’	Spanish	*acordar**se*** ‘remember’
	*εὐφραίνο**μαι*** ‘rejoice’	Somali	*garwaaqs-**o*** ‘recall, remember’
Latvian	*bītie-**s*** ‘fear’ (MT)		*cabs-**o*** ‘fear, be afraid’

For speech act verbs, an internal reaction is expressed as outward speech, including both positive (e.g. *ἀσπάζομαι* ‘welcome, greet warmly’) and negative responses (e.g. *μέμφομαι* ‘blame, censure’; Spanish *quejar**se*** ‘complain’) (Kemmer 1993, 133).

(2.23)

Balinese	***ma***-*takon* ‘ask’	Greek	ἐντέλλο**μαι** ‘command’
Bella Coola	*ck^{w}= uc-**m*** ‘start talking’	Halkomelem	*k^{w}ec**əm*** ‘scream, yell’
French	***se*** *plaindre* ‘complain’	Hungarian	*dicse-**ked***- ‘boast’
Fula	*wull-**o*** ‘lodge complaint against’	Latin	*preco-**r*** ‘ask for’ (MT)
Greek	*μωμάο**μαι*** ‘criticize’ (MT)	Spanish	*jactar**se*** ‘brag’ (MT)

Perceptions describe sensory experiences. An animate participant perceives a state of affairs through the senses, e.g. taste, touch, smell (Kemmer 1993, 136; Allan 2003, 95).

(2.24)

Bella Coola	*k̓x-**m*** ‘look around’	Latin	*conspicio-**r*** ‘perceive’ (MT)
Greek	*ὀσφραίνο**μαι*** ‘smell’ (MT)		*odōro-**r*** ‘smell’ (MT)
	*περιβλέπο**μαι*** ‘look around’	Lithuanian	*dairyti-**s*** ‘look around’
	*γεύο**μαι*** ‘taste’ (MT)	Somali	*dhadhans**o*** ‘taste s.t. for oneself’

For types above, the middle involves an animate participant who does or experiences something through mind or body, but for the following types this isn’t necessarily the case. Terms like ‘spontaneous process’/‘change-of-state’ are used widely in typological literature to describe events that are non-agentive; a physical change of state or process of change occurs spontaneously without explicit involvement of an agentive or external force (Kemmer 1993, 2003; Shibatani 2006). Events in (2.25) can involve animate subjects (*wake up*, *fall asleep*), but many express biological/physiological processes that occur with inanimate entities (*ξηραίνομαι* ‘dry, wither’; *αὐξάνομαι* ‘grow’), existential changes (*γίνομαι* ‘come about, happen’; *φαίνομαι* ‘appear’), and changes in attribute/property (*λευκαίνομαι* ‘become white’).

Some languages include involuntary movement, e.g. Latin *temblo-r* ‘tremble’, Sanskrit *vepat-e* ‘tremble, shiver’, Lingala *–ninga-na* ‘move, tremble’, and Greek *σείομαι* ‘shake’. Greek *σείομαι* can be used with animate participants (e.g. guards tremble in Matt. 28:4) and inanimate entities (e.g. the earth shakes in Matt. 27:51) (Kemmer 1993, 142-45).

(2.25)	Balinese	*burq**o*** ‘pour out’ *buk**o*** ‘become sick’	Lithuanian Old Norse	*lieti-**s*** ‘stream, pour’ *gróa-**sk*** ‘grow’
	Bella Coola	*x̌up-**m*** ‘sink (in mud)’		*søkkva-**sk*** ‘sink’
	Greek	*ἐκχέο**μαι*** ‘pour out, spill’ *ἐλαττόο**μαι*** ‘become less’ *ὀπτάνο**μαι*** ‘appear’	Sanskrit Spanish	*várdhat**e*** ‘grow’ *dormir**se*** ‘fall asleep’ *aparecer**se*** ‘appear’
	Halkomelem	*liq^{w}**əm*** ‘get calm’ (weather)	Turkish	*gör-**ün*** ‘appear’

Examples in (2.26) illustrate a number of semantically similar types that commonly receive middle expression, e.g. passives, facilitatives, and impersonals. Passive events involve two participants. The agent (as external cause that initiates the action) is given a lower degree of relevance compared with the patient, the participant that undergoes the effects of the action. In a typical passive, the patient is promoted to subject status as primary figure in the event (*be hit by*). The agent is either left unexpressed or is demoted to an oblique phrase, reflecting its status as pragmatically deemphasized (Haspelmath 1987, 29; Kemmer 1993, 147; Shibatani 2006, 248).

In the facilitative (or potential passive) type, a semantic agent is implied in the event, but it cannot be overtly expressed, e.g. French *le livre **se** vend bien* ‘the book sells well’. Similar expressions occur in German and Modern Greek (Steinbach 2002, 37, 48; Haspelmath 1987, 7). A quality judgment is asserted about the relative ease or difficulty by which an event occurs. Similar cases occur in Kanuri, expressing whether or not something is edible/potable. The event proceeds from the patient based on an inherent quality, allowing the event to progress or not. In the impersonal middle type, the agent is generic and is left unexpressed, as in Spanish: ***se** habla mucho aquí* ‘there’s a lot of talking here’ (Geniušienė 1987, 262-67; Kemmer 1993, 147).

(2.26)	Danish	*Bogen sælge-**s***	‘The book is sold’
	German	*Dieser Rasen mäht **sich** schnell*	‘This lawn mows quickly’
	Greek	*σπείρε**ται***	‘be sown’[42]
		*κρίνο**μαι***	‘be tried, be condemned’
	Halkomelem	*pas-ət-**əm***	‘be hit by’
		*k^{w}ən-ət-**əm***	‘be taken by’
	Kanuri	***t**-úrúk-ìn*	‘I am seen’
		***t**-ə́wìnbâ*	‘it is not eaten/edible’
	Latin	*amo-**r***	‘be loved’
	Russian	*dom stroit’-**sja***	‘the house is being built (by)’
	Spanish	*vender-**se***	‘be sold’

The final type is the logophoric middle in which middle marking is used in complement clause constructions with a range of reportive verbs (believe, say, claim, and decide). The middle is used for this type in Old Norse and Modern Icelandic. While Ancient Greek does express similar ‘accusative-plus-infinitive’ constructions, they do not directly correlate with the use of the middle voice form (Smyth 1956, 442, 449; Kemmer 1993, 81-93; Allan 2003, 44).

(2.27) Modern Icelandic

Haraldur	*segi-**st***	*hafa*	*skrifað*	*ritgerð-ina*
Harold	says-MID	to.have	written	thesis-the.ACC

‘Harold says that he has written his thesis’ (Andrews 1982)

Event types in (2.14)-(2.27) represent major cross-linguistic middle uses in both IE and non-IE languages. The functional domain of the middle shows remarkable consistency across languages, spanning semantic types from body care and reciprocals, to body motion and cognition events, as well as passives and passive-like semantics within the scope of a single grammatical form. And yet even among middle-marking languages, variation persists. Expressive flexibility allows languages to maintain alternate grammatical routes to similar communicative paths. Greek and Halkomelem subsume the passive type within the scope of the

[42] A middle form like this can be used in impersonal events in Greek such as in LXX Numbers 20:5 *τόπος οὗ οὐ σπείρεται* ‘a place where there is no sowing (of seeds)’ or ‘a place of no sowing’.

middle form, but other languages, such as French, do not. French includes the facilitative and impersonal uses within the middle-marking domain, but the passive function is expressed as a separate type with a distinct grammatical form (Kemmer 1993, 149).

Further differences appear in Halkomelem. The middle form in Halkomelem fits well within typological middle patterns, but two event classes receive middle marking (*-m*) that are not attested as major cross-linguistic types, e.g. *body processes* and *verbs of emission* (Gerdts and Hukari 2006, 53). Body processes are involuntary acts that do not result in a full change of state. But much like Greek *σείομαι* 'shake', Halkomelem includes *sneeze*, *cough*, *tremble*, and *breath* in this type. There are other languages that include body processes in the middle-marking domain, including Greek (*πέρδομαι* 'break wind', *χρέμπτομαι* 'spit, cough', and *χασμάομαι* 'yawn, gape') and Sanskrit (*svedat-e* 'sweats' and *kāsat-e* 'coughs'). Such verbs demonstrate some level of patient-like self-affectedness inherent in their semantics since they are generally not events that can be performed on another participant (Kemmer 1993, 61).

Verbs of emission in Halkomelem describe inherent properties of participants, e.g. *shine*, *flicker*, or *smell foul*. At the same time, Halkomelem excludes verbs of cognition/emotion in the scope of the middle form. No verbs of these types receive the verbal suffix *-m* (Gerdts and Hukari 2006, 50-52). Ancient Greek is similar; it too omits types that are exhibited in other languages. Neither the logophoric nor facilitative types are expressed as middles in Greek. Yet Classical and Hellenistic Greek fit within cross-linguistic trends in expressing all other major types: grooming, benefactive, motion, reciprocal, cognition and emotion, speech act, perception, spontaneous process, and passive (Kemmer 1993, 16-20; Allan 2003, 43). The middle category may be typologically diffuse, i.e. no two middle systems are exactly alike, but there remains a strong semantic overlap in the kinds of events that receive middle expression across languages.

3. Middle diachrony

The previous chapter examined the Greek middle in the context of cross-linguistic patterns in voice. Greek middle morphology, and especially the presence of middle-only verbs, may seem erratic or illogical if considered from the persective of an active-passive system. But when brought into the context of voice typology, their cross-linguistic consistency attests to the fundamentally semantic nature of middle systems. The present chapter focuses on historical processes among middle-marking languages, particularly how middle marking and middle-marked verbs evolve and change over time, with the Greek middle taking centre stage. Historical developments are examined through the lens of two diachronic processes, both of which concern the intersection of voice morphology and lexical semantics. Section 3.1 considers lexicalization and distributional idiosyncrasies that commonly occur among middle-marking languages. Section 3.2 pertains to the development of *-(θ)η-* morphology in Greek, following its path from Proto-Indo-European (PIE) to Classical and Hellenistic periods. Essentially, the *-(θ)η-* form rose through a process of grammaticalization, expanding its use in the voice system from a more lexical/derivational form (restricted/irregular) toward a more inflectional one (general/regular).

The grammatical status of morphological forms revolves around the extent to which their behavior is idiosyncratic or systematic (Bybee 1985, 81-86). Inflectional forms tend toward greater grammaticality, exhibiting highly general, regular, and systematic patterns. By contrast, derivational forms tend toward greater lexicality, showing more idiosyncrasy, distinct shifts in meaning, and less systematic patterns. These two poles (lexical vs. grammatical) provide a continuum of behavior with the possibility of change over time. As form-meaning pairs are used in language, their status may shift by degrees, toward one pole or the other (Kiefer 2000, 300; Brinton and Traugott 2005, 2, 101-2).

Changes in grammatical status are often the result of diachronic processes like lexicalization and grammaticalization. The former refers to semantic enrichment and the creation of more contentful forms. When complex words or phrases take on idiosyncratic properties, both formal and semantic, this can lead to a loss in semantic segmentability over time. The meaning of a lexicalized element cannot be understood on the basis of its constituent parts, a phenomenon that encompasses anything from syntactic phrases (a *death-in-the-afternoon* is a cocktail) to lexical compounds (Modern English (ME) *bailiwick* 'a person's sphere of interest or skill' < Middle English *bailiffwic* 'jurisdiction of a bailiff' < *bailie* 'bailiff' + *wick* 'town, district' (Brinton and Traugott 2005, 95-97; Sauer 2004, 1626; Bauer 2003,44- 45).

Conversely, grammaticalization refers to a process of semantic bleaching. Elements become more grammatical, functional, and systematic. As certain forms lose specificity of meaning, they adopt more generalized purposes, altering their function and expanding their distribution in the process (e.g. Old English *magan* 'have strength to' > ME *may*) (Brinton and Traugott 2005, 99; Bybee 2010, 106). Section 3.2 focuses on this kind of grammatical change, as it pertains to the perfective *-(θ)η-* form and its integration into Greek voice morphology.

3.1 Lexicalization in voice

Voice categories often behave in ways that are typical of derivational morphology,[43] a trait especially true of middle systems. Middle-marking languages generally subsume a host of

[43] I use the term 'derivational' here in contrast to inflectional morphology, in order to draw attention to the idiosyncratic distribution of the middle voice form across the verbal lexicon and its semantic behavior among lexical classes. Derivational and inflectional morphology exist on a continuum without a sharp distinction between them (Bybee 1985, 11-12). Inflectional affixes are typically obligatory forms that apply systematically across all verbs, as higly productive expressions. As such, they must be combinable with any verbal stems and yield a predictable and generalized meaning. Derivational affixes, on the other hand, are closer to lexical forms. They tend to apply in an idiosyncratic manner across the verbal lexicon and are restricted to certain semantic classes of verbs. They derive new semantic expressions that are more distinct in meaning from their bases. In §2.1, the term 'derived' refers to a type of voice system in which a marked voice is syntactically derived from a basic unmarked expression.

semantic functions within the scope of the middle form, including reflexives, reciprocals, and anticausatives, all of which are often themselves described in derivational terms (Haspelmath 1987, Nedjalkov 2007c). Two major patterns point to idiosyncrasies in voice. The first is that middle morphology frequently displays formal idiosyncrasies in its verbal marking patterns, resulting in unpredictable limitations on its productivity (§3.1.1). The second involves semantic idiosyncrasies in voice and its propensity toward lexicalization (§3.1.2) (Bybee 1985, 20-21, 32; Haspelmath and Müller-Bardey 2004; Brinton and Traugott 2005, 87, 92).

3.1.1 Formal idiosyncrasies

Examples of formal idiosyncrasy include the following: (1) verbal triads created via labile alternations, (2) semantic doublets, and (3) diachronic shifts in voice morphology. Among middle systems, it is common to find a degree of synchronic variation in the expression of certain event types. In some cases, there may co-exist a parallel means of expressing the same type of alternation (Geniušienė 1987, 253, 261; Kemmer 1993, 21). In (3.1), the anticausative function in Greek is primarily expressed through voice alternation (Sausa 2016). A change in voice morphology signals a grammatical contrast between causative (active) and anticausative (middle) events. An alternate means of expressing the same contrast occurs in (3.2) with labile alternations. Here, there is a change in meaning between alternants (causative vs. anticausative), but no change in form. The same lexical form, i.e. basic active, expresses both alternants.

(3.1)	*κινέω* ‘set [x] in motion’	*κινέομαι* ‘[x] moves’
	χωρίζω ‘separate, divide [x]’	*χωρίζομαι* ‘[x] leaves, departs’
	ψύχω ‘cool [x]’	*ψύχομαι* ‘[x] cools’
(3.2)	*ἀνατέλλω* ‘cause [x] to rise’	*ἀνατέλλω* ‘[x] rises’
	ἀπορίπτω ‘drive [x] away’	*ἀπορίπτω* ‘[x] jumps off’
	ἐνισχύω ‘strengthen [x]’	*ἐνισχύω* ‘[x] grows strong’

With this kind of variation, it is only natural to find some lexemes that follow both patterns, as in (3.3), resulting in verbal triads of the anticausative type. In middle systems, active

and middle forms of the same verb may co-exist as synchronic variants with both active and middle forms expressing the same anticausative event (Junčytė 2018, 80-95). Between *στρέφω* ~ *στρέφο**μαι*** '[x] turns', there is a change in form, but no change in meaning.

(3.3)			
	Greek	*στρέφω* 'turn [x]'	*στρέφω* ~ *στρέφο**μαι*** '[x] turns'
		καθίζω 'seat [x]'	*καθίζω* ~ *καθίζο**μαι*** '[x] sits'
		αὐξάνω 'cause [x] to grow'	*αὐξάνω* ~ *αὐξάνο**μαι*** '[x] grows'
	Lithuanian	*virsti* 'tumble, turn [x]'	*virsti* ~ *virsti-**s*** '[x] tumbles, turns'
		klišinti 'make [x] slipshot'	*klišti* ~ *klišinti-**s*** '[x] becomes slipshot'
	Russian	*starit'* 'make [x] old'	*staret'*~ *starit'-**sja*** '[x] grows old'

Verbal triads in (3.3) relate to one another in one of two ways. Either they are largely interchangeable, collocating with the same noun phrases and appearing in similar discourse contexts, or they vary in terms of lexical senses and other relevant parameters. Some verbal triads in Greek diverge in relation to other verbal categories; (3.4) splits according to mood, with the active used only in the imperative and the middle form used elsewhere. In contrast, (3.4) varies with aspect. The active is preferred in the (aorist) perfective and the middle in the (present) imperfective (Geniušienė 1987, 106-7, 261; Allan 2003, 209).

(3.4)			
	(a) *ἐγείρω* 'raise [x]'	*ἔγειρε* [Imp.] 'get up!'	~ *ἐγείρο**μαι*** '[x] rises'
	(b) *ἀνίστημι* 'raise [x] up'	*ἀνέστην* [Aor.] '[x] stood'	~ *ἀνίστα**μαι*** [Pres.] '[x] stands'[44]

Rather than showing systematic patterns across verbal paradigms, middle marking tends to be more idiosyncratic in its distribution and is often contingent on lexical semantics and the history of a given verb. This leads to the second type of formal idiosyncrasy. Middle systems

[44] These kinds of patterns are often shaped by historical factors including lexical value, formal analogy in morphological expression, and historical shifts in meaning and usage. A possible formation process for *ἀνίστημι* (derivative of *ἵστημι*) may start with an intransitive active aorist *ἔστην* 'stood' in Greek (compare with Sanskrit *ásthām* < PIE *h₂é-steh₂-m*) corresponding to other active forms (e.g. *ἔφυν* 'grew'). Greek creates a causative active form, resulting in aorist causative/anticausative pairs: *ἔστην* 'stood' vs. *ἔστησα* 'caused to stand', *ἔφυν* 'grew' vs. *ἔφυσα* 'caused to grow'. By analogy, a causative present develops (*ἵστημι*). Or, an already existing active intransitive present *ἵστημι* 'stand' takes on a causative meaning 'cause to stand'. Finally, an anticausative middle develops in opposition to the causative present, yielding *ἵστημι* 'cause to stand' vs. *ἵσταμαι* 'stand, stand up' (Allan 2003, 209n362; Beekes 2010, 601). In this history, formal coding develops via analogy and oppositional contrast, an active intransitive produces a causative alternation, which then provides the impetus for an anticausative middle.

often involve some level of idiosyncratic distribution among lexical types. Speech acts like *ἀποδύρομαι* 'lament', *ὀλοφύρομαι* 'wail over', and *μωμάομαι* 'criticize' consistently receive middle marking, whereas similar verbs like *οἰμώζω* 'wail' *κλαίω* 'weep', and *γογγύζω* 'grumble' do not. Likewise, in German, ***sich*** *hinsetzen* 'sit down' and ***sich*** *hinlegen* 'lie down' are middle marked, but *aufstehen* 'stand up' is not. And in Tsonga, *ku* ***ti-****stakela* 'be/become happy' is middle, but *ku hundzuka* 'be/become angry' is not. Which verbs receive middle expression, and which do not must be lexically specified; the event type of a given verb does not necessarily guarantee its voice morphology (Kemmer 1993, 21; Haspelmath and Müller-Bardey 2004, 1139).

Such idiosyncrasy may further result in the creation of semantic doublets or overlapping distribution of active and middle forms for the same verb. In a semantic class, there may be some variation in voice morphology, such that either form is possible (cf. middle verbs of asking: *δέομαι* 'beg, plead, ask', *πυνθάνομαι* 'inquire, ask' vs. active verbs of the same: *ἐρωτάω* 'ask, request'). This prompts the rise of synonymous pairs (e.g. *αἰτέω* ~ *αἰτέομαι* 'ask, request, beg'), in which active and middle forms serve as synchronic variants with little to no difference in meaning. Semantic doublets are widely attested among middle systems: Czech *vzpomínat* ~ *vzpomínat* ***si*** 'recollect', German *irren* ~ ***sich*** *irren* 'err', Greek *πειράω* ~ *πειράο****μαι*** 'try, experience', Hungarian *kéredz* ~ *kéredz****-ked-*** 'ask, request', Norwegian *skimle* ~ *skimle****-s*** 'grow mouldy', Lithuanian *bijóti* ~ *bijóti****-s*** 'fear', Spanish *engordar* ~ *engordar****-se*** 'grow fat' and Swedish *rosta* ~ *rosta****-s*** 'become rusty' (Genuišienė 1987, 137, 282-90; Krasukhin 2006, 91).

Finally, the third type of formal idiosyncrasy arises through diachronic shifts in voice morphology, as in (3.5). Classical Greek usage patterns show an alternation between active and middle. But in Hellenistic, the active has largely fallen out of use, leaving the middle to remain. This results in a media tantum expression: A middle form with no active counterpart available.

(3.5)	Classical	Hellenistic
	(*ἀποκρίνω* ‘separate, distinguish’)	*ἀποκρίνομαι* ‘reply to a question’
	(*πορεύω* ‘make go’)	*πορεύομαι* ‘go’
	(*ορχέω* ‘make dance’)	*ὀρχέομαι* ‘dance’

Frequency effects can shape which elements endure and which do not. Token frequency (i.e. number of instances of a lexeme) strengthens lexical elements. Those with a sufficiently high frequency will be stronger than those with low frequency. This lexical strength has two consequences for middle verbs in (3.5). High-frequency lexemes are (1) more readily accessible for decision-making in language production. And (2), they show increased lexical durability over time, with a lower likelihood of undergoing analogical change. That is, token frequency has a conserving effect. Middle verbs in (3.5) are more likely to remain middle despite a loss in voice alternation (Allan 2003, 55; Brinton and Traugott 2005, 17; Bybee 2007, 280; 2010, 24, 75).

Among other verbs, however, this conserving effect is not present. One lexeme that undergoes analogical change is *εὐαγγελίζω* ~ *εὐαγγελίζομαι* ‘announce good news’. The middle is the older formation, with the active serving as a later Hellenistic variant. In this case, the active form may arise by formal and semantic analogy to other verbs of its kind: *διαφημίζω* ‘spread news abroad, report’ and *ἐμφανίζω* ‘make a report, inform’. This pattern follows the expansion of *-ιζω* morphology in the Hellenistic period (e.g. older Classical forms like *ῥαίνω* take on Hellenistic variants like *ῥαντίζω* ‘sprinkle’).

3.1.2 Semantic idiosyncrasies

Semantic idiosyncrasies are also common among middle systems. Alternations in (3.6) are formally relatable in their morphological alternation, but semantically distinct and idiosyncratic in their meaning compared to other active-middle alternations. Instead of expressing a general or regular shift in meaning, their semantic relation has become essentially lexicalized, reflecting the

natural semantic idiosyncrasies that arise through lexical development (Bybee 1985, 21; Geniušienė 1987, 136, 300; Haspelmath 1987, 14; Wiemer and Nedjalkov 2007, 468).

(3.6)			
	Bulgarian	*kanja* ‘invite’	*kanja* ***se*** ‘intend’
	Czech	*hádati* ‘tell fortunes’	*hádati* ***se*** ‘quarrel, argue’
		hoditi ‘throw, fling’	*hoditi* ***se*** ‘be suitable’
	French	*douter* ‘doubt’	***se*** *douter* ‘suspect, conjecture’
	German	*unterhalten* ‘to entertain’	***sich*** *unterhalten* ‘to talk, chat’
		zerwerfen ‘to annul’	***sich*** *zerwerfen* ‘to separate’
	Greek	*ἅπτω* ‘set on fire, kindle’	*ἅπτο****μαι*** ‘touch’
		γαμέω ‘marry (of men)’	*γαμοῦ****μαι*** ‘marry (of women)’[45]
		συμβάλλω ‘compare, wage war’	*συμβάλλο****μαι*** ‘contribute, help’
	Icelandic	*taka* ‘take’	*taka-****st*** ‘succeed’
	Latvian	*zāgt* ‘steal’	*zāgtie-****s*** ‘sneak (~go furtively)’
	Norwegian	*syne* ‘show’	*syne-****s*** ‘seem’
	Spanish	*volver* ‘to turn, return’	*volver****se*** ‘to become’
	Swedish	*finna* ‘find’	*finna-****s*** ‘be on hand’

Once formed, lexemes often sustain further changes along the lexical-grammatical continuum. This type of change is generally incremental, with gradual shifts toward the lexical pole, from “less” to “more” lexical, as when additional morphological or semantic variation modifies existing lexemes (Brinton and Traugott 2005, 96).

(3.7) *κόπτω* ‘smite, strike, cut off’
κόπτομαι ‘strike or beat oneself [in mourning]’ > ‘mourn’ (intr.) > ‘mourn s.o.’ (tr.)

(3.8) *γράφω* ‘write’
γράφομαι ‘take notes for one’s use, enroll oneself’ > ‘indict for public offense’

By their nature, lexemes are free to deviate from their original coinage. As a diachronic process, this involves figurative extensions and other associative connotations that result in meanings that are semantically idiosyncratic and lexically individuated. Thus, their synchronic outcome may no longer reflect their original morphological contrast process, cf. Hellenistic *κόπτω* ‘cut off’ vs. *κόπτομαι* ‘mourn s.o.’ in (3.7) and *στέλλω* ‘dispatch’ vs. *στέλλομαι* ‘avoid s.t.’ in (3.9) (Geniušienė 1987, 149; Bauer 2003, 44; Nedjalkov 2007b, 319).

[45] Also, *τεκνοποιέω*: Active (of women) ‘bear children’ vs. middle (of men) ‘beget children’.

(3.9) *στέλλω* ‘make ready, send, dispatch’ > ‘gather, furl [as a nautical term]’
στέλλομαι ‘get ready, set out, journey’ > ‘keep away, avoid s.t.’

(3.10) *ἀναστρέφω* ‘overturn s.t., turn s.t. upside down’ > ‘turn back’
ἀναστρέφομαι ‘go up and down, roam’ > ‘stay, live’ > ‘conduct oneself well, behave’

The reason voice categories are prone to idiosyncrasy is closely tied to their semantic function. In many cases, voice alternations (aside from the passive) entail substantial semantic change to the meaning of the verb. Anticausative oppositions like those in (3.9)-(3.10) as well as reflexives like (3.7)-(3.8) involve not only a change in event development (i.e. the semantic nature of the action) but also a change in the number of participants. In Bybee (1985, 13), this semantic impact is described in terms of relevancy. A category is considered relevant to the verb if it directly alters its semantic content (Haspelmath and Müller-Bardey 2004, 1139-40).

For comparison, consider voice in contrast to tense. While voice is highly relevant to lexical semantics, directly altering the nature of the action described by the verb, tense is less relevant; it does not alter the meaning of the verb, but only distinguishes when it takes place. In addition, a typical attribute of highly relevant categories like voice is their tendency to produce more semantically distinct results. That is, they are more likely to create derived words that are quite distinct in meaning from their bases. Thus, two forms of the same verb that differ in voice are more semantically distinguished than two forms of the same verb that differ in tense. Over time, semantically distinct oppositions are more likely to drift part as they take on further semantic associations and unpredictable shifts in their lexical value. As they become lexicalized, this often warrants the inclusion of separate senses and sub-senses in lexical entries to capture their semantic shifts. Perusing any Greek lexicon illustrates this point in regard to voice. Note that the same type of significant semantic change does not occur with distinctions in tense (Bybee 1985, 20-23, 83; Haspelmath 1987, 13-14).

3.2 Grammaticalization of passive morphology

With lexicalization, language elements become more idiomatic as they move from less to more lexical. With grammaticalization, elements move toward the grammatical pole as they develop new grammatical functions, expanding their marking domain in the process (Brinton and Traugott 2005, 99). Recall that in traditional conceptions of *-(θ)η-*, this particular voice form is often considered to be uniquely passive. Table 1 in §1.1.2 illustrates the traditional divide in voice morphology. For imperfective aspect, there are two morphological sets, one active, the other non-active, or middle-passive. For perfective aspect, there are three sets. If the first is active (*-σα*, *-σας*, *-σεν*) that leaves two non-active sets remaining. The second is sigmatic (first aorist) morphology (*-σαμην*, *-σω*, *-σατο*); the third is *-(θ)η-* morphology (*-(θ)ην*, *-(θ)ης*, *-(θ)η*). Traditional syntactic accounts impose the rules of a derived passive system onto sigmatic *-σα-* and *-(θ)η-* forms, claiming that one (*-σαμην*, *-σω*, *-σατο*) represents middle voice with a reflexive function and that the other (*-(θ)η-*) is evidence of a distinct passive voice with a uniquely passive syntactic function. While this kind of isomorphism is appealing, it runs counter to the nature of voice, from a typological perspective and in the diachronic development of *-(θ)η-* in Greek.

Two typological patterns in voice morphology are pertinent to *-(θ)η-*. First, the passive function in IE and non-IE languages alike tends to arise as a secondary function from a variety of source domains, e.g. statives, anticausatives, inactive auxiliaries,[46] causatives, and generalized subject constructions[47] (Shibatani 1985; Haspelmath 1987, 35-42; 1990, 38-54; Givón 2002, 23-

[46] Also called 'periphrastic passives' (especially in IE languages), these constructions combine a participial form of the verb with an inactive auxiliary (or non-agentive verb), such as *be*, *become*, *fall*, *happen* (e.g. 'get-passives' like *the window got broken*). At first, such auxiliaries function as main verbs in their own right, but over time they are re-analyzed as verbal auxiliaries or affixes (Haspelmath 1990, 38-9).

[47] Generalized subject constructions are often referred to as 'impersonals'; the subject pronoun typically has a generic or indefinite referent like *anyone*, *someone*, *man*, or *person* (Haspelmath 1990, 49; Givón 2002, 24). Such constructions are functionally similar to passives since the patient is topicalized and the agent is backgrounded.

25). As a result, the multi-functionality of passive forms reflects a diachronic chain of related extensions. Over time, as new functional types are added, we see how two very different functions (passive vs. reflexive) are included in the scope of a single form. This relates to the second typological pattern. Voice morphology tends to be multifunctional (§2.2.1). From a synchronic stance (a slice of language at one period), a marker of passive voice is more likely than not to express additional functions, e.g. reflexive, potential passive, fientive, anticausative, etc. (Shibatani 1985, 825-30; Haspelmath 1990, 37-49; Givón 2002, 207-14). Synchronic variety is integrated with diachronic development (i.e. how a form originates and develops over time) and is best considered in light of historical change. If diachronic development shapes the synchronic system, then the functional variety in *-(θ)η-* and its diachronic history are two sides of the same coin; they shed light on the same data (Sweetser 1990, 9).

The *-(θ)η-* form in Greek can be traced back to a stative suffix in PIE (*-η-* from **-eh₁-*), a derivational morpheme denoting state predicates. Its integration into voice inflection is the result of a gradual process, in which a lexical-derivational form, initially restricted to certain lexical types, develops into a larger meaning class by way of lexical expansion. As it applies to more and more lexemes, it loses specificity and expands its marking domain, culminating in a more inflectional affix that expresses voice (middle-passive) and aspect (aorist perfective) in the verbal system (Haspelmath 1987, 39-43; Jasanoff 2002/2003, 143-47; García Ramón 2014, 162).

Before considering the rise of *-(θ)η-* in Greek, it is useful to briefly examine its origins in PIE. The earliest stages of classical IE languages reflect a voice contrast inherited from PIE,

active vs. middle-passive (Sihler 1995, 448).[48] There was no distinct passive form in PIE, nor originally in its daughter languages (Szemerényi 1996, 283; Kulikov 2006, 62-3; Wackernagel 2009, 160).[49] In Greek, *-(θ)η-* originated as a stative affix, a form used to derive stative verbs from nominal-adjectival roots. The root **h_1rud^h* 'redness' (Old Iranian *rú* 'red') provides an underlying source for a number of suffixed derivations. In (3.11) stative **-eh_1-* represents one part of a family of patterns (Jasanoff 2002/2003, 143-47, 165-67; Beekes 2011, 95-96, 252-56):

(3.11) Stative verb **h_1rud^h-$éh_1$-* 'be red' (inherited in Latin *rubere*, Old Iranian *ruidid*)
Adjective **h_1rud^h-$ró$-* 'red' (passed down to Greek *ἐρυθρός*, Latin *ruber*)
Abstract noun **h_1rud^h-$í$-* 'redness' (as in Latin *rubi-dus* 'red')

Since PIE nouns are declinable, they take different forms. One declension is instrumental singular **-eh_1* in **h_1rud^h-$éh_1$* 'with redness', or as a non-verbal predicate: [x]*...*h_1rud^h-$éh_1$* '[x] is/was with redness', '[x] is/was red'. This nominal form provides the basis for deriving stative verbs: **[x]-eh_1-* 'be characterized by [x]-ness' or 'be/become [x]'. Evidence of 'e-statives' is manifest in several IE languages, e.g. Latin, Hittite, Greek, Old Church Slavonic, Lithuanian, etc. The **-eh_1-* form traces a unique developmental path in each (Jasanoff 2002/2003).

3.2.1 -(θ)η- development

The adoption of stative *-η-* (**-eh_1-*)[50] in Greek begins with its integration into two lexical types: states and changes of state,[51] both of which are intransitive (one-participant) event types, though

[48] Middle-passive morphology (or, non-active) expresses both middle and passive functions. This includes events that are volitional (e.g. reflexives) as well as those that are non-volitional (e.g. spontaneous processes: *burst/break* or passives brought about by an external cause: *be broken by*).

[49] If any IE languages developed a separate passive marker, they did so independently. Though see Kulikov (2006, 62-81) for a discussion of a possible passive in early Sanskrit.

[50] In its earliest stages, *-θη-* was just *-η-*, reflecting the **-eh_1-* origin. The fuller *-θη-* form is a proto-Greek innovation with no direct PIE equivalent. Since there is no clear consensus on the origins of the full *-θη-* form, I have refrained from including one here. Aorist *-θη-* and future *-θησ-* were later developments added to the original aorist form: *-η-*. See Jasanoff (2002/2003), Hinge (2007), and García Ramón (2014) for discussion and reviews. For a discussion of the future form (*-θησ-*) in Homer and Classical, see Allan (2003, 178-202).

[51] In some cases, adoption into the Greek aorist stem may be the result of a back-formation from adjectival derivatives. A verb like *ἄγνυμι* 'break' (IE root **ueh2ǵ*) (Beekes 2010, 13) serves as an example. In early Greek,

further expansion to transitive (two-participant) verbs quickly follows. The earliest *-η-* aorists in Greek appear to supplant older root aorists: *τερση-* 'dry up' (**ters-* 'dry') corresponds to Vedic Sanskrit root aorist *tr̥ṣat*; *ἐμανη* 'became mad' from aorist **mn̥-tó* (Sanskrit *áma-ta*); *ἐμίγη* 'mixed' competes with older root aorist *μίκτο* (Jasanoff 2002/2003, 163; Beekes 2010, 1470; García Ramón 2014, 159). Since diachronic change is generally a progressive process, this replacement of older aorists with *-η-* aorists likely began among certain lexemes in a limited set of types and then slowly expanded over time. The following discussion considers the semantic conditions under which it spread, from Homeric to Classical and Hellenistic periods.

To note, the gradual expansion of *-η-* aorists coincides with a lengthening of its form, e.g. productive *-θη-* in *τράφθη* 'turned (intr.)', *ἐφιλήθη* 'be loved' (Jasanoff 2002/2003, 161-67). Because the fuller *-θη-* form was created early in Greek (attested in Homer) and used alongside the *-η-* form to denote the same semantic event types, I use the *-(θ)η-* label.[52]

The first source for *-(θ)η-* is among intransitive change-of-state verbs. These are one-participant dynamic (non-static) events that entail a change from one state to another for the subject participant.[53] They interact with *-(θ)η-* in two ways, depending on verbal transitivity.

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aorist participles like **ueh2ǵ-ént* 'broken' were established as reinterpretations of old adjectives, formed with a grammaticalized *-ént* (**-éh₁-(e)nt-*) in PIE (*-ént* was originally an independent nominal form but was later used to form adjectives and participles **rudh-ént* 'red'; **kruh2-ént* 'bloody'). These participial forms were likely interpreted as aorist perfective (rather than imperfective) because of the punctual (i.e. non-durative) semantics of the roots (**ueh2ǵ* 'break'). The reinterpretation into verbal use (from adjectives) began its spread into other verbal stems. As aorist participles with the form *-é-* (**-éh₁-*) were adopted among verbs, they replaced older root aorist participles **ueh2ǵ-meno-* 'broken'. The finite *-η-* forms (*-ην*, *-ης*, *-η*) are possible back-formations of aorist participles (*-ηντ-*). This gives a derivational schema: (a) adjective **ueh2ǵ-ént* 'broken', (b) aorist participle **ueh2ǵ-ént* 'having become broken', (c) aorist finite stem **ueh2ǵ-é-* (*ἐάγη* 'broke') (Jasanoff 2002/2003, 164-5; García Ramón 2014, 178-9).

[52] The *-η-* and *-θη-* forms express the same semantic types; there is no evidence of a functional contrast. The choice between the two was often determined by the formal shape of the verb and by analogy to similar lexemes (García Ramón 2014, 152-153; Emde Boas et al. 2019, 177). See Allan (2003, 126-141) for a discussion of the morphological features and semantic factors at play in their distribution in Homer and Classical Greek.

[53] These include physical change, mental/psychological change, and change in location. García Ramón (2014, 162) uses the term 'telic-transformative'.

First, *-(θ)η-* aorists denote the punctual fulfillment of a change of state, with physical and mental processes as well as body motion and collectives (García Ramón 2014, 163).[54]

(3.12) **Change-of-state verbs**

Physical process	*ἐξηράνθη* 'dried up', *ἐπάγη* 'got stuck', *ἐάγη* 'broke'
Mental process	*ἐμνήσθη* 'remembered', *ἐτάρπη* 'became full, enjoyed'
Body motion	*κλίνθη* 'bent aside, turned', *ἐάλη* 'crouched, cringed'
Collective (of groups)	*ἠγέρθη* 'gathered', *ἐμίγη* 'mingled, joined'

Verbs in (3.12) denote changes of state and the *-(θ)η-* form indicates that the change is complete; the subject reaches the state expressed by the verb.[55] Some are strictly intransitive: *ἀλήθη* 'wandered' (*ἀλάομαι* 'wander'); *ἐκ...ῥύη* 'flowed out' (*ἐκ...ρέω* 'flow out').[56] Others alternate with an active transitive counterpart, as in the causative/anticausatives pairs in (3.13).

(3.13)

ἐχόλωσεν 'made angry, provoked'	*ἐχολώθη* 'became mad'
ἔτρεψεν 'turned (tr.)'	*τράφθη* 'turned (intr.)'
μειξα- 'brought together (tr.)'	*ἐμίγη* 'joined (intr.)'

This initial foray enables *-(θ)η-* to extend to passives.[57] For both passives and changes of state, the subject undergoes some kind of change expressed by the verb. The differences are that passives entail an external force, but not necessarily a full change of state (*πλήγη* 'be struck'; *δοθείη* 'be given'), whereas changes of state do involve a change of state but do not involve external force (*τράφη* 'grew up'). This extension of *-(θ)η-* morphology to passives was likely bolstered by alternating causative/anticausative pairs: *ἔαξε* 'break [x]' ~ *ἐάγη* '[x] broke' leads to a passive reinterpretation *ἐάγη* '[x] was broken (by)'. Thus, *-(θ)η-* spread beyond events that often, or necessarily, occur as internally-induced changes (*σαπήηι* 'rotted') to events that are

[54] Physical processes involve inanimate entities that go through a physical change of state. Mental processes, motion, and collectives involve animate participants that experience a cognitive change (mental process), a change in location/posture (motion), and with collectives, crowds that disperse/converge. Labels used are from Kemmer (1993) and Allan (2003). Allan adapts Kemmer's labels to his study of the Classical Greek middle.

[55] This is consistent with the aorist as a perfective aspect (as opposed to imperfective).

[56] For a discussion of the construction *ἐκ...ρέω* see García Ramón 2014, 168-69.

[57] This extension to passives began pre-Homer since *-(θ)η-* was readily used with two-participant passive events in Homeric texts, e.g. *ἐβλάφθησαν* 'was hindered (by)'; *ἐτύπη* 'was hit (by)'.

often, or necessarily, brought about by external intervention (*κρίνθη* 'be chosen'). In the passive, the patient, as primary focus, is given subject status; the agent is often left implied as a defocused participant, but if expressed occurs in a non-argument oblique phrase (3.14) or with non-subject case marking (3.14) (Shibatani 1985, 831; Haspelmath 1990, 33; Jasanoff 2002/2003, 165; García Ramón 2014, 169-71; Emde Boas et al. 2019, 455).

(3.14) (a)...*δάμεν Τρώων ὑπὸ χερσίν* '...were defeated by the hands of the Trojans' *Iliad* 8.344
(b)...*δάμεν Ἕκτορι δίῳ* '...were defeated by godlike Hector' *Iliad* 18.103

The second source for *-(θ)η-* aorists is states.[58] Here, *-(θ)η-* functions as an ingressive, or inceptive marker, expressing entry into a state, i.e. a state commences (Haspelmath 1987, 33). With *φαίν-* (*b^heh_2* 'shine'), the active/middle opposition reflects a caused vs. non-caused state: *φαίνω* 'make visible' vs. *φαίνομαι* 'be visible' (Beekes 2010, 1545; García Ramón 2014, 160). In the middle, imperfective *φαίνομαι* expresses a state, 'the city of Priam is visible' (Homer, *Iliad* 13.11). But when a state verb interacts with perfective (punctual) aspect, it produces an inceptive reading, or onset of the state: *ἐφάνη* 'became visible' as in 'then appeared a great portent' (*Iliad* 2.307-9) (Comrie 1976, 19-20; Bybee 1985, 148). This is illustrated with *μαίνομαι* 'is mad' vs. *ἐμάνη* 'became mad'; *χαίρω* 'is glad' vs. *ἐχάρη* 'became glad' (García Ramón 2014, 172-78).[59]

Given the above, it is worth noting that *-(θ)η-* diachrony accords with wider typological patterns. Its passive function rises secondarily from an originally intransitive source, specifically change-of-state verbs (especially anticausative alternations) (Jasanoff 2002/2003, 164-65; Allan

[58] States are non-dynamic or static predicates. They do not involve change, e.g. *be, love/hate, be dry/wet* (Payne 2006, 344; Pavey 2010, 95).

[59] The *-(θ)η-* forms *ἐφάνη* and *ἐχάρη* (from statives *φαίνομαι* 'be visible' and *χαίρω* 'be glad') were Greek innovations and had no older corresponding aorist forms. Adopting the *-(θ)η-* aorist form allowed them to complete a full verbal paradigm with imperfective and perfective forms (Ramón García 2014, 160, 172-78).

2003, 132-33).[60] This highlights the central importance of the change-of-state/anticausative type, not just as an inception point for *-(θ)η-* but its pivotal role in shaping *-(θ)η-* development.

From the original change-of-state/anticausative verbs, *-(θ)η-* spread in two directions: (1) toward more agentive intransitives and (2) to a wider collection of passives. First, its extension to other intransitives marks a slight departure from more a patient-like subject toward one that is more likely to show a degree of volitionality (and animacy), especially among motion verbs. Body motion involves a change in location or posture (*ὁρμήθη* 'set out') rather than an internal physical change of state (*ἐάγη* 'broke'). The subject is animate and tends to be volitionally involved,[61] though this is a scalar notion and varies with each lexeme.[62]

Second, *-(θ)η-* extended to passives. The subject is more patient-like; a non-volitional participant undergoes an externally initiated event. A scalar notion applies since the passive may or may not involve a complete change of state (*δρύφθη* 'be torn apart'; *ἑλκηθείς* 'be dragged about'). The *-(θ)η-* form spread to a wider class of verbs, allowing it to span the continuum from more derivational (lexically restricted) to more inflectional (lexically general). This means that for state/change-of-state types the meaning of the verb is highly relevant and the *-(θ)η-* form is semantically restricted to a particular lexical class. Its extension to the passive marks a move toward a more lexically-general process. The passive is a syntactic realization and the meaning of the verb is less relevant since it applies to any verbs that allow a two-participant conception.

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[60] Initially simply as *-η-* but its further expansion was likely reinforced by its lengthened form.

[61] Body motion verbs involve a conflation of roles onto a single participant. The same entity that performs the action (as agent) simultaneously undergoes the action (as patient). When someone sets out or bends over, the subject is both the agentive source of the action as the one who volitionally performs the event. At the same time, the subject is also the one who undergoes the changes that the action produces. This may partially account for the spread from internal physical change to body motion. Change-of-state verbs are discussed in §4.3.

[62] Agent-like *ὁρμήθη* 'set out' as in 'they set out in pursuit' (*Iliad* 10.359) vs. patient-like *ἰδνώθη* 'bend over, double up in pain' as in 'he doubled over and fell' after being struck in battle (*Iliad* 13.618).

The scope of the *-(θ)η-* form includes a range of types, from those that are lexically restricted (state/change-of-state) to those that are lexically general (passives), and from those that are more patient-like (passives) to those that are more agent-like (body motion). Physical change-of-state verbs occupy an intermediate space, serving as a semantic link between passives and more agent-like changes of state (e.g. body motion).

Typologically, the change-of-state/anticausative type also plays a central role in the development of passive and reflexive markers across a variety of languages (Shibatani 1985). As noted in §2.2.1, a frequent pattern applies to anticausative-passive polysemy; the same form marks both one-participant changes of state and two-participant passives (Haspelmath 1987, 28).

(3.15)	Swahili	Anticausative	*vunj-**ik**-* 'break (intr.)'	*vunj-* 'break (tr.)'
		Passive	*it-**ik*** 'be called'	*it-* 'call'

The anticausative also connects passives with other more agent-like intransitives. In Turkish, the same form (*-Il-*) marks passives, physical changes, and body motion (3.16) – much like *-(θ)η-* in Greek (Geniušienė 1987, 327; Haspelmath 1987, 28; 2003, 225-6).

(3.16)	Turkish	Anticausative	*aç-**il**-mak* 'open (intr.)'	*aç-mak* 'open (tr.)'
		Passive	*yap-**il**-ir* 'are made'	
		Body motion	*dik-**il**-mek* 'to stand oneself up'	
	Greek	Anticausative	*ἐάγ**η*** 'broke (intr.)'	*ἔαξε* 'break (tr.)'
		Passive	*ἐβλάφ**θη*** 'was hindered (by)'	
		Body motion	*ὡρμή**θη*** 'set out, rushed out'	*ὥρμησα* 'set in motion'

There is also widespread correlation with reflexives, anticausatives, and passives; the same form is used for all three functions. This is true for both IE (Latin, Spanish, Russian, Romanian, Armenian) and non-IE languages (Hungarian, Arabic, Amharic) (Geniušienė 1987, 244-58, 308-20; Haspelmath 1987, 24-35; 1990).[63]

[63] Also, anticausative-reflexive polysemy. One form marks both functions, but does not include the passive, e.g. Quechua: anticausative *paska-**ri*** 'open (intr.)' ~ *paska-* 'open (tr.)'; reflexive *riku-**ri*** 'see oneself' ~ *riku-* 'see'.

(3.17)	Arabic	Anticausative	***ta***-*bayyanna* 'become clear'	*bayyanna* 'make clear'
		Passive	***ta***-*rabbā* 'be raised'	
		Reflexive	***ta***-*labbasa* 'dress oneself'	*labbasa* 'dress (tr.)'
	Old Norse	Anticauative	*hræð*-***sk*** 'be frightened'	*hræða* 'frighten'
		Passive	*skeina*-***sk*** 'get hurt'	
		Reflexive	*klæð*-***sk*** 'dress oneself'	*klæða* 'dress'

The significance of the anticausative type lies in its semantic character. It is semantically adjacent to other types, showing only minimal differences with each (Haspelmath 1987, 31). For anticausatives and passives, the subject is a patient that undergoes a change; the difference is in the energy source. For anticausatives, the energy is internal; for passives, it is external. The same applies to anticausatives in relation to reflexives. Both represent one-participant events that are internally induced rather than externally driven by a second more agentive participant. Likewise, the subject in each undergoes some change – whether internal change or external manifestations, such as a change from dressed to undressed (reflexive). The difference lies in how the subject is involved in the event. With the anticausatives, the subject is more patient-like. But for reflexives, the subject is more agentive, showing volitional instigation in bringing about the event.

To summarize: What begins as a PIE stative affix is adopted into Greek (*-η-* from **-eh_1-*) as a lexical-derivational form, marking a limited spectrum within the lexicon. It is initially integrated among change-of-state verbs, or one-participant (intransitive) events in which the subject is a patient or undergoer, i.e. the participant that changes state. Through lexical expansion (motivated by semantic similarities) the anticausative alternation plays a central role in *-(θ)η-* development, expanding to more agent-like events (body motion) and more patient-like ones (passives). Or, to put it another way, it is characteristic of *-(θ)η-* aorists that the fulfillment of the action leads to a change of state for the subject participant, whether this is among states (*φαίνομαι* 'be visible'), denoting entry into the state (*ἐφάνη* 'became visible'), one-participant changes of state (physical, mental, motion, collective) in which the subject reaches a state as a

consequence of a completed process (*οἰνωθείς* ‘got drunk’; *ἐκορέσθη* ‘be satiated, satisfied’), or finally, among two-participant passives, wherein the subject undergoes a change as a result of external force (*ἔκταθεν* ‘be slain’, *σαώθη* ‘be saved’) (García Ramón 2014, 151).

3.2.2 *-(θ)η-* expansion

A few observations may be made with regard to *-(θ)η-* development in Classical and Hellenistic. Specifically, this concerns its semantic scope within middle voice and its attendant relationship with older middle morphology as it expands in the Greek voice system. It was previously noted that one of the patterns in *-(θ)η-* diachrony is its gradual displacement of older aorist forms. This includes root aorists (*βλῆτο* supplanted by *ἐβλήθην* in Classical) as well as thematic aorists (Homeric *ἐπιθόμην* gives way to Classical *ἐπείσθην*; Homeric *ἐλιπόμην* > Classical *ἐλείφθην*). But it is the *-σα-* middle (*-σαμην*, *-σω*, *-σατο*) aorist that is of particular interest. Over the course of Greek, from Homer to Hellenistic, *-(θ)η-* slowly expands its marking domain, largely at the expense of the *-σα-* middle, such that by the Modern period, the *-σα-* form has fallen out of use, having been fully displaced by *-(θ)η-* as the primary middle marker in the perfective paradigm (Manney 2000; Allan 2003, 148; 169-73). The following discussion provides a brief outline, tracing the contours of this expansion from Homer to Hellenistic.[64]

Recall that in Homer *-(θ)η-* marks a limited spectrum in the semantic middle domain. Change-of-state verbs (*ἰάνθη* ‘became ripe, warm’) and passives (*ἐβλάφθησαν* ‘be hindered’) are more patient-like middle types; the subject tends to be a (non-volitional) patient/undergoer. By contrast, the *-σα-* middle is restricted to more agent-like middles; the subject is animate and tends to be volitionally involved. The *-σα-* form is used for the following middle types in Homer:

[64] For a more detailed account of this expansion in Homer and Classical Greek see Allan 2003, 126-77.

(3.18) **More agent-like:** *-σα-* middle form

Benefactive	*ἐδέξατο* 'received, accepted'	Speech act	*μυθήσατο* 'spoke'[65]
Grooming	*ἀλείψατο* 'anointed oneself'	Perception	*γεύσασθαι* 'tasted'
Reciprocal	*μαχέσσατο* 'fought'	Mental activity	*μητίσασθαι* 'devised'

More patient-like: *-σα-* middle form (change-of-state verbs)

Mental process	*χολώσατο* 'became angry'
Body motion	*ὠρμήσατο* 'set off, rushed out'
Collective	*λέξασθαι* 'gathered'

Note that the *-σα-* middle is not used for physical proceses or passives; these are the domain of *-(θ)η-* morphology. Nonetheless, the two forms do overlap. During any process of change (e.g. a morphological shift from *-σα-* to *-(θ)η-*) there is necessarily a transitional period in which either form is acceptable. Speakers do not adopt forms overnight and since the process is a gradual one, it takes time for older morphology to fade out of use and new forms to become predominant. In Homer, *-(θ)η-* usage extends into change-of-state verbs (mental processes and body motion), thus producing newer variants alongside older forms (Allan 2003, 150-53):[66]

(3.19) *-σα-* and *-(θ)η-* variants among change-of-state verbs: Homer

Mental process	*ἐμνήσατο* ~ *ἐμνήσθῆναι* 'remembered'
	ἐχολώσατο ~ *χολώθη* 'became angry'
	ὀίσατο ~ *ὠίσθη* 'thought'
Body motion	*τανυσσάμενος* ~ *ἐτανύσθη* 'stretched out'
	ὠρμήσατο ~ *ὠρμήθη* 'set off'
	τρεψάμενοι ~ *τραφθῆναι* 'turned'

The shift into Classical and Hellenistic, brings with it two major consequences for distributional patterns in voice morphology. First, *-(θ)η-* solidifies its position among more patient-like middles in (3.20), taking the place of the *-σα-* form as the primary marking pattern for change-of-state verbs (physical and mental processes, body motion, and collectives) along

[65] Once again, labels used are from Kemmer (1993) and Allan (2003).

[66] It should be noted that this kind of variation is not limited to *-σα-* and *-(θ)η-* alone. For a verb like *ἐμιγη* 'mingle, join', both *-(θ)η-* aorist *μίγη* and root aorist *μίκτο* are available variants: 'he *joined* (*μίγη*) battle with the Trojans' (*Iliad* 5.143) and 'he *joined* (*μίκτο*) his own throng' (*Iliad* 11.354) (Allan 2003; 169-70; García Ramón 2014, 163-9). Later on, *μίκτο* falls out of use and *-(θ)η-* becomes standard, e.g. *ἐμίγησαν* 'they mingled with the nations' (Psalm 105:35). See Allan (2003, 148-177) for further examples of morphological variation in the aorist.

with passives. This coincides with a gradual displacement of *-σα-* middle morphology among these types, such that Homeric variants (*ἐμνήσατο* ~ *ἐμνήσθῆναι* 'remembered') see a shift to more dominant *-(θ)η-* patterns (*ἐμνήσθη*) in Classical and Hellenistic periods.

(3.20) **Patient-like middle types:** *-(θ)η-* middle form is dominant

Body motion	*ὡρμήθη* 'set off'; *ἀπηλλάγη* 'leave, depart'; *ἐπορεύθη* 'go, walk'
Collective	*συνελέγη*/*συλλέχθη* 'gather'; *συνεπορεύθη* 'go together, assemble'
Mental process	*ἐφοβήθη* 'fear'; *ἠγάσθη* 'admire'; *ὠργίσθη* 'grow angry'
Physical process	*ἐγενήθη* 'be born, come about'; *πλήθη* 'become full'
Passive	*ἐκλήθη* 'be called, summoned'; *εὑρέθη* 'be found, caught'

This results in a formal split in the perfective aorist middle paradigm; *-(θ)η-* morphology is dominant among more patient-like middles, whereas *-σα-* morphology is dominant for more agent-like middles. Examples (3.20) and (3.21) reflect broader distributional patterns for *-σα-* and *-(θ)η-* morphology for Classical and Hellenistic periods (Allan 2003, 154-56).

(3.21) **Agent-like middle types:** *-σα-* middle form is dominant

Perception	*ἐθεάσατο* 'look at'; *ἐπεσκέψατο* 'look at, inspect'
Speech act	*ἐψεύσατο* 'lie, speak false'*; προσεύξατο* 'pray'
Mental activity	*ἐβουλεύσατο* 'deliberate, decide'; *ἡγήσατο* 'hold that, regard'
Reciprocal	*ἠγωνίσατο* 'struggle, fight'; *ἐμαχέσατο* 'fight'
Grooming	*ἐλούσατο* 'wash'; *ὑπεδήσατο* 'put on shoes, bind on feet'
Benefactive	*ἠργάσατο* 'work, work at'; *ἐκτήσατο* 'acquire'

The *-σα-* and *-(θ)η-* forms divide up the semantic space of the middle, as in (3.20)-(3.21). But the boundary between them is not hard and fast. In fact, *-(θ)η-* shows sporadic extension into more agent-like middles.[67] The *-σα-* form is dominant, with *-(θ)η-* encroaching on a few lexemes.

(3.22) Agent-like middle types: *-(θ)η-* variants

Perception	*ὠσφρήσατο* ~ *ὠσφράνθη* 'smelled', *ἔδρακον* ~ *ἐδέρχθη* 'saw'
Speech act	*ἐδεήθη* 'ask, beg', *ἐμνήσθη* 'mentioned'
	ἐμβριμησάμενος ~ *ἐνεβριμήθη* 'warned sternly, scolded, rebuked'
	ἠρνήσαντο ~ *ἠρνήθη* 'denied, refused, declined'

[67] The term 'sporadic extension' is used to suggest that *-(θ)η-* does not show widespread distribution among these types. In fact, only a few lexemes in each type show morphological variation between an older aorist form and a new *-(θ)η-* variant. The majority of lexemes in these more-agent like middles receive *-σα-* middle morphology in Classical and Hellenistic, with a limited distribution of *-(θ)η-* forms.

	ἀμείψατο ~ *ἠμείφθη* ‘answered’, *ἀπεκρίνατο* ~ *ἀπεκρίθη* ‘answered’
	ἐλοιδορήσαντο ~ *λοιδορηθείς* ‘railed at, reproached’
	κριθῆναι ‘quarreled, disputed/pleaded in court’
	ἀπελογήσατο ~ *ἀπελογήθη* ‘spoke in defense, pleaded’
Mental activity	*ἐπιλεξάμενος* ~ *ἐπιλεχθείς* ‘thought about’
	ἐπελογίσαντο ~ *ἐπιλογισθέντες* ‘considered’
	διεκρίθη ‘differentiate, judged against, opposed one another’[68]
	ἐμηχανήσατο ~ *μηχανηθείσης* ‘contrived, devised’[69]
Reciprocal	*διελέξατο* ~ *διελέχθη* ‘conversed with, discussed, argued’
	ἐμαχέσατο ~ *μαχεσθῆναι* ‘fought’[70]
	ἁμιλλήσαιντο ~ *ἁμιλληθείς* ‘vied for, contended with’
	συνειστιάθησαν ‘dined with, feasted with’

Instances in (3.22)-(3.23) illustrate *-(θ)η-* variants that arise in Classical and Hellenistic usage for perceptions, speech acts, mental activities, and reciprocals, along with a few grooming and benefactive middles (3.23) that newly arise in Hellenistic.

(3.23)

Grooming	*ἐβαπτίσατο* ~ *ἐβαπτίσθη* ‘dipped, washed oneself’
	ἐκτιναξάμενος ~ *ἐκτιναχθήσομαι* ‘shook s.t. off oneself’
	ἡγνίσαντο ~ *ἁγνίσθητε* ‘cleansed, consecrated oneself’
	θερμανθεὶς ‘warmed oneself, got warm’
Benefactive	*ὑποκρίνασθαι* ~ *ὑποκριθῆναι* ‘pretended, acted hypocritically’

Middle morphology, in perfective and imperfective paradigms, represents a semantic continuum rather than a dichotomy. In this continuum, middle morphology includes both middle and passive semantics in its scope. Though, it is notable that the rise of the *-(θ)η-* form and its integration into voice morphology has significant consequences for the synchronic structure of the Greek voice system. For the imperfective paradigm (relevant to present, imperfect, perfect, and pluperfect forms), middle marking is consistent across all middle types. The same form

[68] The middle form of *διακρίνω* has two primary senses in Hellenistic; both involve opposition or conflict based on differing judgments. One is a volitional mental activity ‘dispute with or differentiate between one another’, as in ‘Have you not made distinctions (*διεκρίθητε*) among yourselves?’ (James 2:4). The other is a non-volitional mental process. Conflict results from inward dispute (‘doubt, hesitate, be at odds with oneself’), as in ‘No distrust made him waver (*διεκρίθη*) concerning the promise of God’ (Romans 4:20).

[69] ‘She saw that her endeavors would not succeed…’ *μὴ ἀποσκευῆς αὐτῇ μηχανηθείσης τῶν γνησίων τοῦ Φραάτου παίδων* ‘unless she could contrive how to remove Phraates’s legitimate sons’ (Josephus *Antiquities* 18.41).

[70] The *-σα-* form remains the primary pattern in Hellenistic, though *-(θ)η-* continues to expand, e.g. *ἐγὼ βούλομαι μαχεσθῆναι* ‘I want to fight’ (Josephus *Antiquities* 6.185).

expresses agent and patient-like functions of the middle. But in the perfective paradigm (aorist/future), middle marking diverges from this pattern. The dual means of middle marking, via -*σα*- and -*(θ)η*- forms, results in an overlapping of middle types. Each form approaches middle semantics from opposing ends of the continuum (agent-like middles for the -*σα*- form, patient-like middles for the -*(θ)η*- form) as they meet and overlap in the central space.[71]

[71] See Emde Boas et al. (2019, 464) for a chart illustrating these usage patterns.

4. Event construal and the nature of voice

Chapter 1 lays out a descriptive account of Greek middle-passive syntax and semantics relative to event conceptualization. Prefaced by a brief summary of event structure and construal, the grammatical description begins with the patient-oriented middle-passive uses in their contrast with the prototypical transitive event and moves progressively along the transitivity continuum, ending with reciprocal, grooming, and benefactive events.

Before examining each middle type in turn, it is worth discussing certain parallels from embodied experience that address the connections between how we conceive events and how we express them in language. Grammatical voice distinctions find their conceptual basis in how we understand and categorize events and the participants involved in them.

A few conceptual notions may furnish a foundation for talking about voice distinctions. Some of our most fundamental cognitive patterns arise from embodied experience of movement and interactions in space. These *conceptual schemas* are cognitive processing patterns that help us to engage in the world by taking vastly different experiences we have in the course of a day and understanding them through recurring elements. These patterns and processes help us to comprehend two basic themes in events, *participants* and *relationships.* In relationships, two schemas are pertinent: one and two-participant interactions (Langacker 2006, 116-7). Some relationships involve one focused participant, which may occupy a location (*κάθημαι* 'sit') or change that location (*πνίγομαι* 'drown', *ἐβυθίσθην* 'sink'). A single participant may exhibit a stable property (*ξηρός* 'dry') or undergo a change in property (*ξηραίνομαι* 'dry up'). A person can experience a state (*κοίμησις* 'sleep') or a change in state (*διαγείρομαι* 'wake up').

Figure 1 illustrates one-participant schemas. Such relations may be static, in which a single participant is in a static location, property, or experience, as in the left column.

Conversely, they may also be dynamic; the participant goes through a dynamic process with a change in location, property, or experience, as on the right.[72]

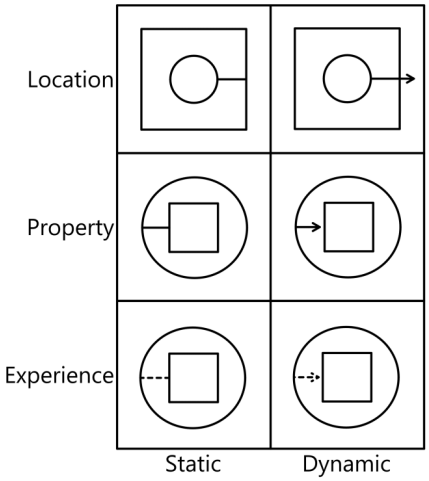

Figure 1 Types of event conceptualization

Either type (static/dynamic) can be conceptualized without involvement from an outside force. Alternatively, a dynamic version of these prototypes may be conceptualized as a more elaborate two-participant relation, representing common types of causation. Arrows in Figure 2 indicate exertion from an external force that induces a change of state in the second participant.

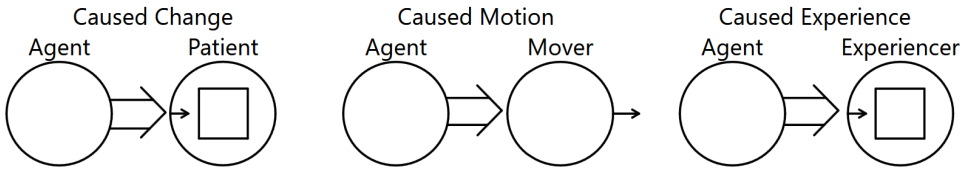

Figure 2 Two-participant caused change (Langacker 2006, 117)

Relational schemas presuppose that participants relate together in a given event. Because of this, we can talk about *participant roles*. Participant roles have to do with how participants are

[72] Figures in chapter 4 are adapted from Langacker (2006, 115–37). In figure 1, circles represent locations; squares are properties; solid lines are physical changes; and dashed lines are mental/psychological changes.

involved in an event.[73] The more active participant, the agent in Figure 2, is the energy source, the one who induces a change in other participants. Opposite to the source is the endpoint, the participant changed by the action. The patient in (a) undergoes a change of state; the mover in (b) changes location. The experiencer in (c) goes through a cognitive or emotional change of state.

Conceptual schemas shape our thinking and avail themselves of expression in language. They are readily accessible as the prototypes for fundamental grammatical categories. As such, conceptual schemas mediate between situations in the world and grammatical expressions in language. Our body-based understanding of physical objects supplies the prototype for the linguistic category of nouns. And our body-based understanding of causation/physical force supplies the prototype for the linguistic category of active transitive events.

4.1 Semantic transitivity

In a basic active transitive clause in (4.1), the agent is the starting point or energy source and the patient is the endpoint or energy goal (Kemmer 1993, 50-51; Næss 2007, 28).

(4.1) *οἱ στρατιῶται τοῦ πρώτου κατέαξαν τὰ σκέλη*
The soldiers broke the legs of the first man (John 19:32)

This transitive event type provides the basis for most two-participant events in language. It arises through our embodied experience of physical force and energy transfer, where humans, as agents in the world, act on other entities by physical contact. A volitional participant (agent) causes a change of state in another participant (patient). This is the *prototypical transitive event*.[74]

[73] Participant roles (also termed *thematic* or *semantic*) are rooted in semantic and pragmatic relations expressed in language, regarding how participants relate to one another in a given event. Participants roles differ according to the type of action. As such, roles like experiencer, stimulus, recipient, beneficiary, agent, and patient are useful in recognizing different types of relationships among participants in voice distinctions (Kemmer 1993, 8).

[74] It is best understood as an experiential gestalt because it involves a cluster of properties that we understand as a patterned whole (Lakoff 1987, 54–55).

As a prototype category, the basic two-participant relation provides a framework for organizing knowledge about the world and understanding different event types in our shared human experience. Because of this, it is concerned with the *construal process*, or how we think about actions. Because the construal process is dynamic, we can think about events from a variety of perspectives and express them in language accordingly. Given the default active in (4.1), we may construe the event in different ways. One strategy focuses on the man with the broken legs by expressing the same action in a passive clause: 'The legs of the first man were broken by the soldiers.' Another strategy focuses on how the soldiers work in a group to carry out the action: 'The soldiers together broke the legs of the first man.' Each expression shapes how we see, or process, the event. In the grammatical resources of a given language, the same situation can be coded (i.e. formally expressed) in multiple ways with alternate grammatical devices that reflect how a speaker conceives an action (Næss 2007, 11- 17).

Each grammatical structure has conceptual content and imposes imagery on an event. Coding and construal are interdependent processes (Langacker 1987, 294). A situation's construal determines whether a linguistic structure may code it. In turn, linguistic structures embody conventional imagery and thus impose a certain construal on the situation they encode. This construal process is inevitably present in all language use, reflecting the fact that languages provide various means (via grammatical structures) for categorizing events and participants in different ways. Speaking entails choice; every utterance construes an event in some manner, imposing an interpretation on the content involved. As soon as people begin to speak, they are participating in a meaningful construal process; each linguistic utterance is an interpretive act.

4.2 Adjustments in energy and attention

The transitivity continuum provides a framework for understanding voice. Voice alternations offer the grammatical means for expressing different conceptualizations of events. In this, voice is a communicative tool, one among many in language, for interpreting events in different ways. Specifically, voice involves two principal motivations in the construal process. One is energy flow in the event; the other is the focus of attention we give to different aspects of an event.

First, every action involves some type of energy transfer. For this to happen, there must be some type of change. Bare states like 'I live here' lack change and thus also energy transfer. For the prototypical transitive event, there are two participants: source and endpoint. Imagine a girl kicking a ball. The girl, as energy source, makes contact with the ball, as endpoint. Energy is transferred from her foot to the ball. The ball (patient) receives the energy and undergoes a change in location as a result; it flies through the air from one point to another farther away. In this conception, no change in location is profiled for the prototypical agent (energy source); the agent is unaffected by the event. As the endpoint, the prototypical patient receives the energy and is altered by it. We can follow the energy transfer from agent to patient and observe its effects.

This basic event type is typically coded in the prototypical active transitive clause so that we mentally scan it from cause to effect, from source (coded as subject) to endpoint (object). This pattern reflects the nature of our body-based experience with causation: In cause-effect relationships, someone does something that causes something else to happen; we see the consequences of this action take place in the world (Langacker 2006, 123).

Two points regarding the prototypical active transitive are important to keep in mind vis-à-vis voice alternations. The basic alignment involves two distinct participants playing two distinct roles (Kemmer 1993, 65-66). *Distinctness of participants* involves a conceptual

separation from both (a) the background and (b) one another in terms of the roles in the event. The prototypical transitive involves two distinct participants; both are salient in event conception and distinct from the general background.[75] The subject, as energy source, plays a volitional agent who causes the event to take place and does not experience a change of state in it. The object, as endpoint, plays a non-volitional patient who receives the energy transfer and undergoes a change of state. Figure 3 depicts the active transitive prototype (Næss 2007, 23, 30).

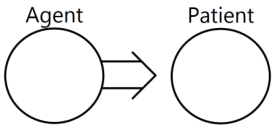

Figure 3 Prototypical transitive event

The second motivation in voice involves a visual metaphor highlighting the scope of attention. All languages provide structural schemas for one- and two-participant clauses. Each schema highlights one participant as primary focal point. In an agent-oriented system like Greek, primary focus is conferred on the most agent-like participant as the source of energy (Langacker 2006, 121-23). When the template is metaphorically extended to non-agentive interactions, the more agent-like figure (e.g. experiencer in mental events) is naturally chosen as primary focal point and energy source, with the more patient-like participant as a secondary focal point.

As we saw in (4.1) with the soldiers breaking the man's legs, we can shift attention to different aspects of an event. In a two-participant clause, such as the active transitive prototype, there is generally a primary and secondary focal point (Langacker 2006, 119).

(4.2) *ἐμέθυσεν αὐτόν*
He [David] made him [Uriah] drunk (LXX 2 Samuel 11:13)

[75] This salience of participants will become evident in §4.2.1 with the passive alternation.

(4.3) *ἐμεθύσθη Οὐρείας*
Uriah <u>became drunk</u>

An expression like (4.2) selects a two-participant relation as locus of attention. Two on-stage participants play two distinct roles. David, as primary figure, is the energy source or starting point, for the action. Uriah, as secondary figure, plays the endpoint role. When the action begins, that is, when the agent does something, the spotlight, or primary focal point, is on the energy source. But since the process highlights the agent's activity in regard to its interactions with a second figure, we follow the arc of the action as its effects play out on a distinct patient. The focus of our attention, or the spotlight, shifts from primary figure to secondary participant as we see the consequences of the action unfold.

But if a speaker chooses to narrow the focus from two participants to one, then there is just one on-stage figure in the spotlight. Removing the role of the agent in (4.3) shifts the primary focal point from agent to patient and puts in profile the patient's change of state from sober to drunk. This gives the event a new starting point for mentally accessing it and allows a speaker to highlight the change undergone by the primary figure. The starting point and endpoint of the action are conflated onto a single participant. The natural consequence of this is that the patient participant is now the primary focal point as the most salient for the event and has undivided attention. In contrast to a two-participant event, we can already see how removing the agent and thus changing the number of participants shifts the centre of attention for an event.

The transitive prototype (a) profiles a two-participant relation with an agent-patient interaction and (b) highlights the most agent-like figure as the primary focal point, or energy source, for the event, with the patient as a secondary figure, or energy endpoint (Langacker 2006, 121-29; Shibatani 2006, 221-222). Departures from the transitive prototype regarding the

interplay of these two parameters give rise to voice alternations. Voice involves two kinds of motivation for how we construe events in different ways:

- Adjustments in the *energy source* and *energy endpoint* for the event[76]
- Adjustments in the *scope of attention*
    - The natural consequence of shifting the focus of attention in an event is a change in the *relative salience of participants* (Langacker 2006, 121; Næss 2007, 23).

Situations that deviate from the transitive prototype with respect to these two parameters are often encoded by marked voice constructions to explicitly signal their conceptual difference. Active voice supplies the basic voice type, while middle marking indicates that an event departs from the basic transitive prototype in some way (Langacker 1987, 125; Shibatani 2006, 217-69; Næss 2007, 17). Each of these voice parameters play out in middle event types discussed below.

4.2.1 Alternations in voice: Shift in primary focus

The active transitive clause represents the most basic alignment for two-participant interactions. The energy source (agent) for the event plays the role of default primary focal point, with the energy endpoint (patient) as a secondary focal point. Given this type of default configuration, this creates a need for an alternate construal, one in which discourse coherence favors focusing on the secondary figure instead. Passive structures allow for grammatical flexibility in language (reflecting our cognitive construal abilities), for expressing two-participant relations as endpoint-oriented processes rather than source-oriented events (Langacker 2006, 125; Sansò 2006, 238).

Selecting the endpoint patient as primary focal point increases its relative salience for the interaction, thereby highlighting the core process that the patient undergoes. The passive in (4.4), coded with the *-(θ)η-* form, represents the most patient-like event on a continuum from agent to

[76] Terminology employed in cognitive linguistics is generally *trajector* (TR) and *landmark* (LM). The TR is the starting point or initiating figure for the event. The LM is the goal/endpoint, the one who receives the energy transfer and is changed by it (Langacker 1987, 304–29). In a basic active clause, the subject is the TR as the primary, most salient figure. The object as LM is secondary figure, or second most prominent participant.

patient-like event types. The primary figure is the participant who undergoes a change (brought about by external force) and is not volitionally involved in the event (Langacker 2006, 127).

(4.4) *Ἡρῴδης ἰδὼν ὅτι ἐνεπαίχθη ὑπὸ τῶν μάγων*
Herod saw that he was tricked by the wise men (Matthew 2:16)

The conceptual content evoked in the passive profiles the same overall interaction as the active transitive (*The wise men tricked Herod*). But in the passive, the agent is less relevant or salient for event construal. The role of the wise men in tricking Herod is downplayed in the scene so that Herod's anger and subsequent action becomes topicalized as focal point. Attention is drawn to the patient (coded as subject), indicating that the relevance of the agent (coded in an oblique phrase) is comparatively low, and becomes blurred in the background (Shibatani 2006, 248). The agent is still the initiating entity (source) and the patient remains the one who receives that energy (endpoint). The key difference for the passive is a shift in the spotlight from agent to patient so that the agent becomes a non-distinct participant, blurred in the background, and no longer salient. Selecting a particular element as focus of attention in a profiled relationship naturally enhances the aspects of the interaction that it underlies. If the active highlights the agent's activity in its interaction with a patient, then the passive highlights the central process that the patient undergoes. In (4.4), it is the fact that Herod was tricked that makes him angry and his subsequent response to that anger is highly salient for event construal: He decides to kill the children of Bethlehem (Langacker 2006, 217).

The passive exemplifies but one alternative construal based on a shift in attention from source to endpoint. Another conceptual alternation is achieved by changing energy flow. This choice in energy source and endpoint, i.e. choosing which participant plays the starting point or endpoint for the energy transfer, also diverges from the active transitive prototype. In the

perfective paradigm, the *-σα-* and *-(θ)η-* forms in (4.5) represent two kinds of deviation from the basic active pattern, one for energy transfer (b) and one for focus of attention (c).

(4.5)	(a) Aorist active	*ἐφύλαξεν* 'guard s.o./s.t.'	Agent-patient interaction
	(b) Aorist *-σα-* middle	*ἐφυλάξατο* 'keep for oneself'	Change in energy endpoint
	(c) Aorist *-(θ)η-* middle	*ἐφυλάχθη* 'be guarded (by)'	Shift in primary focus

The active in (a) profiles an event that ends with a distinct endpoint recipient. The *-σα-* middle in (b) profiles an event that alters the energy endpoint (discussed more fully in §4.5.3). The action takes place with the source as the intended endpoint. The spotlight is drawn to the primary figure as source and endpoint/recipient of the action. The *-(θ)η-* middle form in (c) shifts the focus of attention; the spotlight is on the patient rather than the agent's activity.

The active transitive prototype forms the basis for understanding energy flow from source to endpoint. The relational parameter of affectedness is thus implicated in the scale of transitivity (Beavers 2011, 362). The more specific an event is about a participant's progress along a scale of change, the higher the degree of affectedness for that participant. Events that express a full change of state (*κλάω* 'break into parts') entail a higher degree of affectedness than those that involve only surface contact or impingement (*παίω* 'hit'). This difference in scalar change is illustrated with active-passive alternations in (4.6)-(4.7).

(4.6)	*πειράζω* 'test [x]'	*πειράζομαι* '[x] is tested (by)'
	ἀπόλλυμι 'destroy [x]'	*ἀπόλλυμαι* '[x] is destroyed (by)'
(4.7)	*βλέπω* 'see [x]'	*βλέπομαι* '[x] is seen (by)'
	ἀκούω 'hear [x]'	*ἀκούεται* '[x] is heard (by)'
	εὑρίσκω 'find [x]'	*εὑρίσκονται* '[x] is found (by)'

Highly transitive events (i.e. those closer to the semantic transitive prototype) in (4.6) entail a specific result state for the energy flow of the event from source to endpoint. But lower transitivity events in (4.7) involve no necessary change for the endpoint participant. This is

especially true for perception verbs (*βλέπω* 'see', *ἀκούω* 'hear'). Rather than expressing an agent-patient interaction, verbs in (4.7) involve an experiencer-stimulus relationship (cf. §4.4.3).

In such cases, an experiencer, as primary focus, directs his/her attention toward a stimulus. The stimulus, as secondary figure, is the entity that prompts attention or sensory input for the experiencer. But unlike a prototypical patient, the stimulus remains wholly unaffected by the perceptual interaction. Thus, with a passive alternation (*βλέπομαι* 'be seen', *ἀκούεται* 'be heard'), the primary focus for the event shifts from the experiencer to the stimulus, a wholly unaffected entity as the most salient for event conception.

What this suggests is that subject affectedness, as a gradable and relational parameter, does not apply in the same way to every passive clause. Passives with verbs like *ἀπόλλυμαι* 'be destroyed' implicate a change of state for the subject and thus a high degree of affectedness. But passives with verbs like *βλέπομαι* 'be seen' entail no such change for the subject and thus express little to no affectedness for the (stimulus) subject participant.

Despite differences in affectedness, passive construals in (4.6)-(4.7) do share two things in common: (1) They involve two-participant relations that imply the conceptual presence of an external source of energy, even if that energy source is downplayed in event conception. And (2), the endpoint participant is brought into the spotlight as the onstage focus. Thus, passives represent a change in attentional focus from source to endpoint. In the discussion that follows, the rest of the middle event types are broken up into smaller sets, those that are more patient-like and thus closer to the traditional passive type (§4.3), and those that are more agent-like and thus closer to the active transitive prototype (§4.4- 4.5).

4.3 Alternations in voice: External vs. internal energy

Within the semantic space of the middle-marking domain, imperfective middle morphology in Greek is formally consistent across all middle event types. The same form is used for reflexive semantics as well as the passive function. The perfective paradigm, however, maintains two middle forms in the Hellenistic period.[77] In early Greek, the *-(θ)η-* form was restricted to anticausatives (physical, mental, body motion, collectives) and passives. These two types occupy the more patient-like end of the spectrum. But during Classical and Hellenistic periods, the *-(θ)η-* form began to expand its scope, so that *-(θ)η-* sporadically extended to other middle types, i.e. those that are primarily expressed by the *-σα-* middle: reflexive, reciprocals, etc. More agent-like events are discussed in §4.4-§4.5. For now, events in §4.3 share a property with the passive type: Anticausative alternations include a marked choice in the focus of attention that departs from the prototypical active. But, unlike the passive type, these middle types also alter energy flow for the event, changing from a two-participant caused relation to a one-participant change of state.

4.3.1 Change of state: Physical process[78]

Recall from Figure 3 that an external cause brings about a change to a second participant. It may be a change of state, experience, or location/posture. In each case, primary focus is on the agent, as source and starting point for the event, causing a change of state in the patient, as secondary focus and energy endpoint. Active voice is the default expression for such caused events.

Active clauses in (4.8) and (4.9) represent the default formal expression used for events in which an agent (source) performs an action that induces a change of state in a distinct patient

[77] I focus on the *-(θ)η-* and *-σα-* middle aorist forms here, but there are of course thematic and root aorist forms as well. See Emde Boas et al. (2019, 464) for a verbal chart illustrating the use of such forms.

[78] The labels in this and the following sections in ch. 4 are taken from Kemmer (1993) and Allan (2003): Physical process, body motion, collective motion, mental process, mental activity, speech act, perception, reciprocal, grooming, and self-benefactive.

(endpoint). The syntactic structure in each reflects a two-participant caused relation, with the energy source encoded as subject and energy endpoint as object.

(4.8) **Active caused change**
Λάβε καὶ κατάφαγε αὐτό [τὸ βιβλαρίδιον], καὶ πικρανεῖ σου τὴν κοιλίαν
Take and eat it [the scroll], and it will make your stomach bitter (Rev. 10:9)

(4.9) *καὶ τῶν κολλυβιστῶν ἐξέχεεν τὰ κέρματα*
He also poured out the coins of the moneychangers (John 2:15)

In (4.10) and (4.11) a change in voice morphology alters event conception.

(4.10) **Middle spontaneous change**
ἐπικράνθη ἡ κοιλία μου
My stomach grew bitter (Rev. 10:10)

(4.11) *ῥήγνυνται οἱ ἀσκοί, καὶ ὁ οἶνος ἐκχεῖται*
the skins burst and the wine spills out (Matthew 9:17)

Middle voice expresses events in which a single focused participant undergoes a change of state. The patient (object) of the causative active becomes the subject of the anticausative middle. Removing the role of the causal agent shifts the focus of attention. The participant that undergoes a change of state becomes primary focus and starting point for accessing the event. This anticausative middle event type is a valency reducing process. An active (two-participant) conception with an agent and patient is reduced to a middle (one-participant) construal with a single patient participant undergoing a change of state.

Narrowing the scope of attention to one participant heightens its relative salience in event conception. Syntactic structures in (4.10)-(4.11) signal that the patient is the primary focal point and starting point for the action.[79] Each is expressed as an intransitive clause with a single participant. The subject plays the role of patient, as the one who undergoes a change. Energy

[79] Alternatively, the causative active widens the scope of attention to include not just a changed participant but an external causer that brings about that change, as agent (Haspelmath and Müller-Bardey 2004, 1141).

source and endpoint roles are conflated onto a single participant – the energy for the event is not an external force but is internal to the changed participant.

This is why the physical process type cross-linguistically includes events usually conceived as lacking an identifiable external force: *grow*, *rust*, *rot*, and other natural physiological processes. But keep in mind that physical processes may also be formulated using active morphology, as in (4.8), to express a causative version of the same state of affairs. Almost all physical processes in Greek have a causative counterpart. Examples of the causative-anticausative contrast and middle-only physical processes are in (4.12).

(4.12)

Active/Causative		**Middle/Anticausative**	
ἀλλοιόω	make different, alter	*ἀλλοιούμαι*	change (intr.)
ἀπόλλυμι	destroy	*ἀπόλλυμαι*	perish, die
ἀφανίζω	make disappear	*ἀφανίζομαι*	disappear
βυθίζω	cause to sink	*βυθίζομαι*	sink (intr.)
(δι)εγείρω	waken, rouse s.o.	*(δι)εγείρομαι*	awaken
δυναμόω	strengthen	*δύναμαι*	be/become strong > be able[80]
δύω	cause to sink, plunge in	*δύομαι*	sink, set (of the sun)
ἐκχέω	cause to pour out	*ἐκχέομαι*	spill out
(κατα)καίω	burn, consume (tr.)	*(κατα)καίομαι*	burn (intr.)
κρεμάννυμι	cause to hang, hang up[81]	*κρέμαμαι*	hang down, hang from
πνίγω	strangle, choke (tr.)	*πνίγομαι*	drown, choke (intr.)
ῥήγνυμι	break (tr.)	*ῥήγνυμαι*	burst, break (intr.)
σήπω	make rotten	*σήπομαι*	rot
σκοτίζω	make dark	*σκοτίζομαι*	become dark
τήκω	melt (tr.)	*τήκομαι*	melt (intr.)
τρέφω	cause to grow, nourish	*τρέφομαι*	grow
φθείρω	destroy	*φθείρομαι*	perish
φλογίζω	ignite	*φλογίζομαι*	burn
φύω	cause to grow, beget	*φύομαι*	grow
ψύχω	make cold, dry, refreshed	*ψύχομαι*	become cold, dry, refreshed

[80] The middle expression is the older form; the causative active is a later Hellenistic formation.
[81] In LXX, also *κρεμάζω* 'cause to hang, hang up.'

Media tantum – Physical process

γίνομαι	come to exist, be formed[82]	*διαγίνομαι*	pass, elapse (of time)
κατιόομαι	become rusted	*ὀπτάνομαι*	appear, become visible

Many media tantum (middle-only) verbs have semantics that refer to physical processes that do not readily include an alternative causal expression, as with events that, from a folk perspective, are less likely to have a ready external explanation, or the origin of their existence is socially expected to lack an external cause, as with passing of time or coming into existence.

In contrast to physical processes, the passive construal implies the presence of an external cause that brings about the event. The agent is conceptually present, even if it is not syntactically expressed. Although the passive type often involves events that come about by external cause, no clear demarcation is evident. At times, it may be difficult to tell if an external source is implied or if it is construed as a one-participant event brought about spontaneously, as in (4.13).

(4.13) *καὶ ὁ οὐρανὸς <u>ἀπεχωρίσθη</u> ὡς βιβλίον ἑλισσόμενον*
And the sky <u>split apart</u> like a rolled-up scroll (Rev. 6:14)

Deciding to interpret (4.13) as a spontaneous physical process vs. a passive relies on the prominence the reader gives to the supernatural context of the Revelation narrative.[83] Natural processes that "just happen," earthquakes, floods, etc., are taken as spontaneously occurring events, but a supernatural narrative like Revelation opens up the possibility for a passive reading.

In contrast to the active transitive, the anticausative middle narrows the scope of attention so that the onstage focus is on the participant who undergoes a change of state. This shift in attention heightens its salience so that it becomes the primary focal point. As the central onstage figure, the patient undergoes an internal process of change that occurs without external force. For

[82] Many change-of-state verbs have active perfects, expressing the state that results from the process of change: *γίνομαι* (perfect *γέγονα*); *ἀπόλλυμαι* (perfect *ἀπόλωλα*); *σήπομαι* (perfect *σέσηπα*); *φαίνω* (perfect *πέφηνα*).

[83] Some physical process verbs denote events that may be brought about spontaneously or by external force, e.g. *πνίγομαι* 'drown' (spontaneous) or 'be suffocated by' (passive); *φλογίζομαι* 'burn up' (spontaneous) or 'be set on fire by', 'be burnt by' (passive); *φθείρομαι* 'perish' (spontaneous) or 'be destroyed (by)' (passive).

the passive type, the patient is also the central figure, but the role of the external force (while downplayed) is still conceptually present. For both types, the focus of attention remains on the core process that the patient undergoes, thus highlighting similar facets of event development.

For the anticausative type, the conceptual content (or kind of event) is altered. Rather than an agent causing a change in a patient, the anticausative removes the agent and presents the event as occurring without external force. The starting point for the action is the patient. Because attention is not divided between two distinct on-stage participants, the primary focus naturally falls on the remaining participant. As both source and endpoint, energy flow is construed as internal to the process. The anticausative type can be contrasted to the active transitive by means of an image schema. In Figure 4, a two-participant active is shown in contrast to the one-participant event expressed via middle morphology.

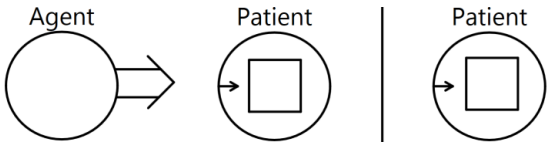

Figure 4 Caused change vs. spontaneous change

Active expressions in (4.8)-(4.9) correspond to the figure on the left; an agent (source) triggers a change in a patient (endpoint). Spontaneous changes in (4.10)-(4.11) correspond to the figure on the right. The role of an external force is conceptually removed; the patient undergoes a spontaneous change of state with an internal cause rather than external force. A single focused participant, as source and endpoint for the action, undergoes an internal change of state.[84]

[84] In English and Greek, these kind of patientive intransitive events are common with change-of-state verbs: bend, break, shatter, burn, die, sink, spill, open. Events like ‘the ice melts’, ‘the glass shatters’, and ‘the leaves burn’, all involve a patient subject. The event takes place through a spontaneous physical process (via internal means not external force). These kinds of events form the semantic core for this type of alternation, as presented in figure 4.

The schema in Figure 4, contrasting two- and one-participant events, is also applicable to the next four middle types. The only alteration is the participant role that the single entity plays in the event. This change in participant role arises from the lexical semantics of the verb. If it is a mental process, the participant has an experiencer role – the one who undergoes a mental or emotional change. If the event involves motion, then the single participant plays a mover – the one who goes through a change in location/posture. This recurring pattern in the Greek middle accomplishes the same adjustments in focus and salience for body motion, collective motion, and mental processes, as it does for the physical process type (Maldonado 2008, 165).

4.3.2 Change of state: Body motion

Body motion involves a change in location (*leave*, *return*) or a change in body posture (*stand*, *sit*, *turn*). In an active two-participant event, an agent (source) causes a mover to change location/posture (endpoint). As energy source and starting point for event construal, the agent is the external cause that brings about the event. The mover is construed as energy endpoint, the one that is made to move, as in (4.14) and (4.15).

(4.14) **Active caused motion**
σὺ ἔστρεψας τὴν καρδίαν τοῦ λαοῦ τούτου ὀπίσω
You turned the heart of this people back (LXX 3 Kingdoms 18:37)

(4.15) *ὅτε ἐπλήσθησαν αἱ ἡμέραι τοῦ καθαρισμοῦ αὐτῶν κατὰ τὸν νόμον Μωϋσέως, ἀνήγαγον αὐτὸν εἰς Ἰεροσόλυμα παραστῆσαι τῷ κυρίῳ*
When the days of their purification were complete according to the Law of Moses, they brought him to Jerusalem to present him to the Lord (Luke 2:22)

A metaphorical change in posture occurs in (4.14); (4.15) references a change in location. Note *ἐπλήσθησαν* in (4.15) is a middle-marked verb expressing a spontaneous physical process in which purification comes to an end (is completed). As a telic event, it expresses a fully achieved change of state, in keeping with perfective aspect and the historical origins of the *-(θ)η-* form.

In contrast to the active, middle marking expresses a single participant who moves without external cause. The mover is the primary figure, as both energy source and endpoint. The energy is internal; the one who induces the change is also the one who undergoes the change, as in (4.16) and (4.17). The same lexemes from the active events are used, but here the grammatical subject is the one who experiences the change in location or posture.

(4.16) **Middle body motion**
ταῦτα εἰποῦσα ἐστράφη εἰς τὰ ὀπίσω, καὶ θεωρεῖ τὸν Ἰησοῦν ἑστῶτα
After saying these things, she turned around and saw Jesus standing there (John 20:14)

(4.17) *Ἡμεῖς δὲ προελθόντες ἐπὶ τὸ πλοῖον ἀνήχθημεν ἐπὶ τὴν Ἄσσον*
Going on ahead, we set sail for Assos (Acts 20:13)

Because no external force induces the change, no cause/agent subject is needed. The scope of attention narrows from two participants (active) to one (middle), resulting in greater salience for the single participant mover. Its syntactic expression reflects this shift in attention. This middle event appears in an intransitive clause with the mover (object in the active) as grammatical subject. In some cases, the subject is both an agent who volitionally instigates the movement and the mover who changes location/posture, as in (4.18). In others, the mover may be more patient-like without a volitional role. This depends on the lexical semantics of the verb and its collocation with certain noun phrases, as in (4.19).

(4.18) *καὶ πάσης ψυχῆς τῆς κινουμένης ἐν τῷ ὕδατι*
and every living thing that moves in the water (LXX Lev. 11:46)

(4.19) *ὅπως μὴ κινουμένης ἐμποδίζηται πρὸς τὸ ἔργον, ἀναβαλόμενος ἐπὶ τὸν λαιὸν ὦμον φέρει*
that he [the priest] may not be hindered in his work by [his girdle] moving about, he throws it to the left, and bears it on his shoulder (Josephus, *Antiquities* 3.155)

Note that middle morphology is used to denote actions that are *typically* performed by one's own bodily efforts, hence 'body motion middle' as a descriptive label. A contrasting construal occurs in (4.20) with active *ῥίπτω* 'throw', a caused motion event that is typically performed on a distinct patient participant. Here, the verb is used with a reflexive pronoun to signal the non-

default case that the action is performed on the agent's own body rather than on a distinct entity. Middle morphology is not available for this meaning: *ῥίπτομαι* *throw oneself.

(4.20) *ἵνα μὴ ψαύσειέν τι τοῦ σώματος αὐτῆς, ἑαυτὴν ἔρριψεν κατὰ τῆς πυρᾶς*
so that no one would touch her body, she threw herself down into the fire (4 Macc. 17:1)

The typical nature of body motion middles allows for a regular semantic alternation between causative (active) and anticausative (middle) action. The active widens the scope of attention for event development, including two onstage participants – agent/source and mover/endpoint. The middle provides an alternate construal. Removing the external cause narrows the scope of attention to just the mover – as a natural energy source and endpoint of his own action. Examples in (4.21) illustrate the regularity of the causative-anticausative pattern in voice and (4.22) shows middle-only verbs of the same semantic types.

(4.21) **Translational motion**

Active/Causative		**Middle/Anticausative**	
ἀνάγω	bring up (tr.), moor a ship	*ἀνάγομαι*	go up, enter a harbor[85]
ἀπολύω	dismiss, send away	*ἀπολύομαι*	leave, depart
διαχωρίζω	cause distance, separate	*διαχωρίζομαι*	part, leave, go away
ἐκβάλλω	drive out, throw out	*ἐκβάλλομαι*	go out, embark
εὐοδόω	lead/help on the way	*εὐοδοῦμαι*	have a prosperous journey[86]
κινέω	cause to move, set in motion[87]	*κινέομαι*	move (intr.)
περιΐστημι	encircle something	*περιΐσταμαι*	go around to avoid
πορεύω	make go (Classical)	*πορεύομαι*	go, travel, walk[88]
ὑψόω	lift something up	*ὑψόομαι*	rise up
πλανάω	make wander, make go astray	*πλανάομαι*	wander about, go astray
σῴζω	save, make safe	*σῴζομαι*	get to safety, escape

Nontranslational motion

Active/Causative		**Middle/Anticausative**	
ἀνορθόω	build s.t. up	*ἀνορθόομαι*	straighten up (intr.)[89]

[85] In the third person, *ἀνάγεται* also refers to improvements in the weather, e.g. 'The storm lifted.'
[86] Primarily occurs with *-(θ)η-* morphology, metaphorically extends to 'suceed, prosper' in one's actions.
[87] Also, non-translational motion sense: cause to shake, shake the head', e.g. Mark 15:29.
[88] Derivative: *διαπορεύω* 'carry s.t. through' (Classical) vs. *διαπορεύομαι* 'go through, throughout'.
[89] *ἐπέθηκεν αὐτῇ τὰς χεῖρας· καὶ παραχρῆμα ἀνωρθώθη* 'he placed his hand on her and immediately she straightened up' (Luke 13:13). This illustrates the close relationship between body motion and physical processes. That both event types are marked by middle morphology is no accident; their relationship is structured and natural.

κυλίω	roll (tr.)	*κυλίομαι*	roll about (intr.)
μεταβάλλω	change, alter, turn	*μεταβάλλομαι*	turn oneself, change direction
μετατίθημι	convey, bring, transfer;	*μετατίθεμαι*	turn (intr.)
σείω	shake, agitate (tr.)	*σείομαι*	quake, shiver, be agitated
στρέφω	cause to turn, return	*στρέφομαι*	turn, turn around (intr.)[90]
τρέπω	cause to turn, turn (tr.)	*τρέπομαι*	turn (intr.)[91]

Posture

Active/Causative		**Middle/Anticausative**	
βάλλω	put in a location[92]	*βάλλομαι*	lie down, lie
ἐγείρω	cause to stand[93]	*ἐγείρομαι*	get up, stand up
ἐπαίρω	lift up, hold up	*ἐπαίρομαι*	rise up[94]
ἵστημι	place, set, make stand	*ἵσταμαι*	stand (intr.)[95]
(καθ)ίζω	cause to sit, seat	*(καθ)ίζομαι*	sit, take a seat
κλίνω	cause to bow, bend, fall over	*κλίνομαι*	lean, fall, turn[96]
παρακαθίζω	make sit near[97]	*παρακαθίζομαι*	sit near[98]

(4.22) **Media tantum**

Translational motion

ἀλάομαι	roam, wander	*ἅλλομαι*	leap, spring up[99]
ἔρχομαι[100]	come, go, move[101]	*ἱκνέομαι*	arrive at, reach, come[102]
οἴχομαι	go, depart, be gone[103]	*παραγίνομαι*	come, arrive
παραλέγομαι	sail along past	*πέτομαι*	fly

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[90] Derivative: *ἀποστρέφω* 'cause to turn away' vs. *ἀποστρέφομαι* 'turn away (intr.)'.

[91] Derivatives: *ἀποτρέπω* 'cause to turn away > dissuade' vs. *ἀποτρέπομαι* 'turn away > be dissuaded'; *ἐκτρέπω* 'cause to turn' vs. *ἐκτρέπομαι* 'turn away; be dislocated'; *μετατρέπω* 'cause to turn > transform (tr.)' vs. *μετατρέπομαι* 'turn (intr.) > transform, change (intr.)'.

[92] *βάλλω* has other senses that participate in the active-passive alternation: 'throw' vs. 'be thrown'.

[93] Active *ἐγείρω* may be used intransitively in imperfective aspect commands: Get up! Stand up!

[94] The middle *ἐπαίρομαι* extends metaphorically from 'rise up' to 'be presumptuous' and 'put on airs'.

[95] The perfect active form *ἑστήκα* expresses the state that results from the spontaneous (body motion) process: The standing position (*ἑστήκα*) is the result of the standing process (*ἵσταμαι*). Derivatives: *ἀνίστημι* 'cause to stand' vs. *ἀνίστημαι* 'rise up, stand up'; *ἀφίστημι* 'remove, draw away, cause to leave' vs. *ἀφίστημαι* 'depart, withdraw'; *ἐφίστημι* 'set, place' vs. *ἐφίστημαι* 'stand near'; *καθίστημι* 'set down' vs. *καθίστημαι* 'come before'.

[96] Also: *ἀνακλίνω* 'cause to recline/lie down' vs. *ἀνακλίνομαι* 'recline to eat' and *κατακλίνω* 'cause to lie down/sit down' vs. *κατακλίνομαι* 'sit/lie, recline at dinner'.

[97] In earlier Greek, *παρακαθίζω* was an active intransitive 'sit down', but by analogy with the larger system developed a causative sense and in turn, an intransitive non-causal middle.

[98] Also: *συγκαθίζω* 'cause to sit with' vs. *συγκαθίζομαι* 'sit down with'. Active *συγκαθίζω* also occurs intransitively: 'sit down with', semantically analogous to the middle.

[99] Derivatives with pre-verbs: *ἐξάλλομαι* 'leap up/out'; *ἐφάλλομαι* 'leap up/out'.

[100] Also: *ἀπέρχομαι* 'depart'; *διέρχομαι* 'go through'; *εἰσέρχομαι* 'go into'; *ἐξέρχομαι* 'go out'; *ἐπεισέρχομαι* 'come upon'; *ἐπανέρχομαι* 'go back to'; *ἐπέρχομαι* 'come to, arrive'; *κατέρχομαι* 'move, come, go down'; *παρέρχομαι* 'pass by'; *περιέρχομαι* 'wander about'; *προσέρχομαι* 'approach, come near'; *προέρχομαι* 'pass along'.

[101] Note that *ἔρχομαι*, along with its pre-verb relatives, is active-only in the aorist. See Beekes (2010, 468).

[102] Derivatives: *ἀφικνέομαι* 'reach, arrive'; *διϊκνέομαι* 'move through a space'; *ἐφικνέομαι* 'come, arrive'.

[103] Derivative *παροίχομαι* used of time. Time is construed in terms of motion 'have gone by, be past'.

Nontranslational motion

ἐπεκτείνομαι	reach out, stretch toward[104]		
Posture			
ἀνάκειμαι	recline[105]	*(κάθ)ημαι*	sit down
(καθ)έζομαι	sit down	*παράκειμαι*	lie before, be adjacent[106]

4.3.3 Change of state: Collective motion

A second type of caused motion is collective motion. It occurs when an agent moves multiple participants en masse. In the active causative construal, the agent as energy source causes a group to change location as energy endpoint. In (4.23), Joseph is the source and the food that he gathers is the endpoint. Likewise, (4.24) involves an agent (God) and a mover (people) but in this case it is two people who are joined together in marriage to become one.

(4.23) **Active caused motion**
συνήγαγεν πάντα τὰ βρώματα τῶν ἑπτὰ ἐτῶν, ἐν οἷς ἦν ἡ εὐθηνία
he gathered together all the food from the seven years in which there was abundance (LXX Gen. 41:48)

(4.24) *ὃ οὖν ὁ θεὸς συνέζευξεν ἄνθρωπος μὴ χωριζέτω*
Therefore, what God has joined no human must separate (Matt. 19:6)

Collective motion expressed using middle morphology is similar, but in (4.25) and (4.26) no external agent brings about the collective action. The motion is conceptualized as taking place spontaneously by internal energy. The focus of attention is on what happens to the crowd, downplaying the salience of an external force by omitting any kind of agent in the syntactic expression. The secondary participant from the caused active becomes the primary figure put into profile in the collective middle, making the mover the focal point of event conception.

(4.25) **Middle collective motion**
Καὶ διαπεράσαντος τοῦ Ἰησοῦ ἐν τῷ πλοίῳ πάλιν εἰς τὸ πέραν συνήχθη ὄχλος πολὺς ἐπ᾽ αὐτόν
And after Jesus had crossed over in the boat to the other side, a large crowd gathered to him (Mark 5:21)

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[104] Via metaphorical extension, *ἐπεκτείνομαι* has the additional sense ‘to exert oneself to the uttermost’.

[105] Relative to cultural knowledge *ἀνάκειμαι* extends metaphorically to ‘recline to eat, have dinner’. As do *κατάκειμαι* ‘lie down, recline for a meal’ and *συνανάκειμαι* ‘recline, sit for a meal’.

[106] Derivative of *κεῖμαι* ‘be in a place, lie’: *παρά* + *κειμαι* ‘lie before’ > be at hand, ready’ > ‘press, urge’.

(4.26) *ἐγένετο δὲ παροξυσμὸς ὥστε ἀποχωρισθῆναι αὐτοὺς ἀπ᾽ ἀλλήλων*
There was a sharp disagreement, so they separated from each other (Acts 15:39)

The majority of collective motion middles are verbs with preverbs derived from more basic forms, as in (4.27). The preverb *συν-* is especially, and predictably common, with its commitative/associative semantics. The nature of the middle event type, as involving participants that move collectively in some way, means that most lexemes fall into construals involving gathering/separating. Variation among them involves the nature of the gathering as a disparate cluster (*ἐπισυνάγομαι*) or for a conspiracy (*συστρέφομαι*). A dispersal might be erratic and unpredictable (*διασκορπίζομαι*) or clear and well-defined (*ἀποχωρίζομαι*). Note the shared similarities and overlap with the physical process domain (cf. §4.3.1). These are not discrete or distinct middle types, but clusterings of groups of lexemes with a shared construal: the event develops from energy that is internal to the process itself.

(4.27)

Active/Causative		**Middle/Anticausative**	
ἀθροίζω	muster, pull together	*ἀθροίζομαι*	gather for battle/for a unified goal
ἀποχωρίζω	make separate	*ἀποχωρίζομαι*	become separate
διαλύω	disperse a crowd	*διαλύομαι*	disperse (intr.)
διανέμω	to distribute	*διανέμομαι*	spread out (intr.)
διασκορπίζω	scatter	*διασκορπίζομαι*	be scattered
ἐπισυνάγω	collect	*ἐπισυνάγομαι*	gather unprompted, cluster together
κολλάω	glue, join together	*κολλάομαι*	join oneself to, cling to
μίγνυμι	bring together, mix	*μίγνυμαι*	mingle among[107]
προσκληρόω	allot, assign together	*προσκληρόομαι*	attach oneself to another
προσκλίνω	make lean against	*προσκλίνομαι*	join with (+DAT), stand beside
σκορπίζω	cause to scatter	*σκορπίζομαι*	disperse, scatter
συνάγω	bring together	*συνάγομαι*	assemble, gather together[108]
συναθροίζω	pull together as a mass	*συναθροίζομαι*	gather as a unified group
συναλίζω	bring together	*συναλίζομαι*	eat together, stay with
συστρέφω	rally, gather tightly	*συστρέφομαι*	gather closely, join a conspiracy
συλλέγω	scrape together	*συλλέγομαι*	gather (from disparate places?)

[107] Also: *συναναμίγνυμι* ‘mix up together’ vs. *συναναμίγνυμαι* ‘mingle, associate with’.
[108] Also: *συναπάγω* ‘take, lead away’ vs. *συναπάγομαι* ‘associate with’.

Media tantum – Collective motion

συμπορεύομαι	assemble, move as a group
συνέρχομαι	meet together, travel together[109]
(συν)έπομαι	accompany
συμπαραγί(γ)νομαι	come together, arrive together, be ready at the same time
ἐπαθροίζομαι	gather in increasing numbers

4.3.4 Change of state: Mental process

In the active transitive prototype, an agent (source) causes a change in the patient (endpoint). Among mental events, the same relation holds, but it is metaphorically extended from the physical to psychological (cognition/emotion) domain. In (4.28)-(4.29), an agent causes a mental experience/change in an experiencer. In (4.28), the Jews (source) mentally stir up the crowd (endpoint), causing a change in their state of mind.

(4.28) **Active caused experience**
οἱ ἀπὸ τῆς Ἀσίας Ἰουδαῖοι θεασάμενοι αὐτὸν ἐν τῷ ἱερῷ συνέχεον πάντα τὸν ὄχλον
The Jews from Asia seeing him in the temple stirred up the entire crowd (Acts 21:27)

(4.29) *καὶ μὴ λυπεῖτε τὸ πνεῦμα τὸ ἅγιον τοῦ θεοῦ*
And do not grieve the Holy Spirit of God (Eph. 4:30)

The use of middle morphology results in a non-caused (or anticausative) mental process. These middle events express a spontaneous mental change of state in the experiencer. By shifting the focus to the experiencer and omitting an explicit agentive external force, attention is focused on a single participant going through a mental change.

(4.30) **Middle mental process**
γενομένης δὲ τῆς φωνῆς ταύτης συνῆλθε τὸ πλῆθος καὶ συνεχύθη
At this sound, the crowd came together and grew confused (Acts 2:6)

(4.31) *ἐλυπήθησαν σφόδρα*
They were extremely depressed (Matt. 17:23)

[109] With the addition of *συν-*, body motion middles like *πορεύομαι* 'walk' and *ἔρχομαι* 'go' become collective motion middles 'walk/go together as a group'.

In (4.30)-(4.31), the experiencer is brought forward into the spotlight by profiling it as the source or starting point for the action. The event occurs not as an external cause, but as an internal change. The experiencer alone is in view.

From physical processes to motion and mental processes, the use of middle morphology reflects a change in event construal, specifically a conceptual shift away from the transitive prototype in which an agent (source) does something to cause a change in a patient (endpoint). What motivates middle marking in each of these event types is a deviation from the prototypical active with respect to two parameters: (1) by removing the role of the external agent (causer), the middle conflates the roles of energy source and endpoint onto a single participant. The energy for the event is internal to the changed participant. And (2), this narrows the scope of attention. Rather than two on-stage participants (primary and secondary figures) there is just one. Attention naturally falls onto the single participant, i.e. the one undergoing some kind of change – be it physical state/property, mental experience, or motion.

Each syntactic expression reflects conceptual content. In the active caused event, the experiencer/mover/patient is expressed as syntactic object – the secondary downstream figure in the event. But in the anticausative middle, these same participants become the syntactic subject – as primary figures. In the resulting intransitive predication, the subject does not play the role of external cause as in the active, but plays the role of experiencer, mover, or patient. Their participant roles do not change, only their heightened salience in event conception.

Of course, there are alternate means of coding psychological events. Each formal strategy embodies a different type of event construal, imposing different imagery on event development. Some of these alternate means are discussed in (4.33) below. Others are discussed in §4.4.1.

Causative/anticausative mental processes are listed in (4.32). Additionally, many mental processes are expressed via metaphor from cultural and embodied domains of experience. Active *παχύνω* may mean 'cause to be fat, fatten' but also 'cause to be mentally dull/calloused'. The former refers to a caused physical state, the latter a psychological one.

(4.32)

Active/Causative		**Middle/Anticausative**	
αἰσχύνω	cause shame[110]	*αἰσχύνομαι*	be/feel ashamed
διακρίνω	make a distinction, judge	*διακρίνομαι*	have doubt[111]
διαταράσσω[112]	cause confusion, make upset	*διαταράσσομαι*	become confused, upset
ἐκθαμβέω[113]	cause to be amazed	*ἐκθαμβέομαι*	be amazed
ἐκλανθάνω	escape notice, make forget	*ἐκλανθάνομαι*	forget
ἐμπίπλημι	fill, satisfy	*ἐμπίπλημαι*	become full > enjoy
ἐνοχλέω[114]	cause discomfort, annoy	*ἐνοχλέομαι*	become annoyed
ἐξίστημι	amaze, confuse, displace	*ἐξίστημαι*	be amazed, astonished
εὐφραίνω	make glad	*εὐφραίνομαι*	become glad
ἥδω (rare)	please, make glad	*ἥδομαι*	enjoy oneself, delight in
θαμβέω[115]	cause astonishment	*θαμβέομαι*	be astonished
θυμόω[116]	make angry	*θυμόομαι*	become angry
κοιμάω	put to sleep	*κοιμάομαι*	fall asleep[117]
λυπέω	make sad	*λυπέομαι*	become sad
μωραίνω	make foolish, remind	*μωραίνομαι*	become foolish
φοβέω[118]	cause to be afraid	*φοβέομαι*	become afraid, fear
φράζω	make known, show forth	*φράζομαι*	ponder, think, perceive
φυσιόω	inflate, make proud	*φυσιόομαι*	become inflated, proud
ξενίζω	cause surprise	*ξενίζομαι*	become surprised
παχύνω[119]	make dull	*παχύνομαι*	become dull
πείθω	convince, persuade	*πείθομαι*	believe, be certain, obey
ὑπεραίρω	make high, lift	*ὑπεραίρομαι*	exalt oneself, be elated
(ὑπο)μιμνήσκω	cause to remember	*(ὑπο)μιμνήσκομαι*	remember

[110] See also *καταισχύνω*.
[111] That is: 'be divided psychologically/mentally'.
[112] See also: *θορυβέω/θορυβέομαι*, *θορυβέω/θορυβέομαι*, *παροξύνω/παροξύνομαι*, and *συγχέω/συγχέομαι*.
[113] See also: *θαμβέω/θαμβέομαι*.
[114] See also: *σκύλλω/σκύλλομαι*.
[115] New causative back-formation; the older active form was intransitive and still occurs in some authors.
[116] See also: *μαίνω/μαίνομαι*, *ὀργίζω/ὀργίζομαι*, and *πυρόω/πυρόομαι*, which involve a metaphorical extension via the metaphor ANGER IS HEAT: burn > upset.
[117] This verb also extends metaphorically to sexual intercourse 'lie with' and death 'fall asleep > die'.
[118] See also: *πτοέω/πτοέομαι* and *πτύρω/πτύρομαι*.
[119] This verb also has a causative vs. physical process alternation: 'make fat' vs. 'become fat'.

An additional set of mental processes in (4.33) do not necessarily entail a causative-anticausative contrast (though some do), but instead express a physical-psychological distinction. A basic physical agent-patient relation in the active is mapped to an experiencer-stimulus relation in the middle.[120] One instance of a caused event is *καταλαμβάνω* 'make s.t. one's own, take hold of'. The active is used in contexts of pursuit and capture. Often, the middle supplies a passive contrual; the object that is seized becomes the subject and the agent is demoted. But for those middles that express a mental process, there is no demotion of the agent. Rather, the event of pursuit and attainment is mapped onto the domain of cognition: 'I grasped (*κατελαβόμην*) that he had done nothing worthy of death' (Acts 25:25) or 'grasping (*καταλαμβανόμενος*) in his mind the clever tricks she put forward' (Josephus *Antiquities* 8.167). The learning process is mapped onto pursuit, and comprehension onto attainment of an idea. English verbs share a similar mapping: *Leah grasped the concept quickly* or *Emily seized on the idea with enthusiasm*.[121]

Other verbs do not involve caused events, e.g. *ἀρκέω* in (4.33). Note that its argument realization reflects differences in conceptual event structure. The active form usually takes a dative oblique argument denoting a beneficiary and refers to a situation in which the relative state of an object (a condition/quantity) is deemed (in-) sufficient: 'Two hundred denarii of bread would not be enough (*ἀρκοῦσιν*) for them' (John 6:7). The middle reconstrues the event from the view of the experiencer/recipient (as subject) and, if it occurs at all, the physical object is expressed as an oblique dative: 'Be content (*ἀρκεῖσθε*) with your pay' (Luke 3:14).

(4.33)	**Active/Physical**		**Middle/Psychological**	
	ἀρκέω	s.t. is sufficient/adequate	*ἀρκέομαι*	be satisfied/content

[120] For discussion of experiencer and stimulus roles, see §4.4.1.

[121] A common construal across languages: Experience of physical control over objects is mapped onto mental manipulation. Physical objects that we control are those within our reach. Mental concepts that we control are those that we can process and understand (in contrast to ideas that we do not 'have hold of') (Sweetser 1990, 38).

ἀνέχω	make erect, lift up, prop up[122]	*ἀνέχομαι*	hold oneself up, endure
ἀντέχω	hold against, hold out	*ἀντέχομαι*	cling to, resist
διαπονέω	cultivate, till a field	*διαπονέομαι*	be troubled[123]
διαπρίω	saw/cut through[124]	*διαπρίομαι*	become infuriated
ἐκκρεμάννυμι	cause to be suspended, hang	*ἐκκρέμαμαι*	cling to > attend to
ζημιόω	cause injury	*ζημιόομαι*	experience hardship
καταλαμβάνω	seize, take hold of, grasp	*καταλαμβάνομαι*	comprehend
σαλεύω	cause to shake	*σαλεύομαι*	feel shaken (mentally)

Many verbs, whether the active is causative or not, often maintain a separate middle usage that is not a mental process, but fits another middle type, e.g. body motion. There is a tendency for a more regular alternation of the primary sense of the verb alongside a secondary psychological sense that is middle only. Regardless, all involve a metaphorical construal of the mental domain in terms of a physical interaction. Middle-only mental processes are in (4.34).

(4.34) **Media tantum – Pyschological**

ἄγᾰμαι	admire, wonder	*αἰδέομαι*	be ashamed, feel regard for
ἀνδρίζομαι	be courageous	*ἀπεκδέχομαι*	wait eagerly
ἄχθομαι	be vexed, be angry with	*βούλομαι*	want, desire, intend, plan[125]
διανοέομαι	think, intend, understand	*(δι)ενθυμέομαι*	ponder, contemplate
ἐμμαίνομαι	become enraged	*ἐνυπνιάζομαι*	dream[126]
ἐπαισχύνομαι	be ashamed, feel shame[127]	*ἐπαναπαύομαι*	rely on, trust, rest upon
ἐπιλανθάνομαι	forget	*ἐπιμελέομαι*	attend, take care of, manage
ἐπίσταμαι	understand, be acquainted	*ἔρᾰμαι*	love, lust, desire[128]
εὐλαβέομαι	be concerned, dread, fear	*μεταμέλομαι*	regret, change one's mind
μετεωρίζομαι	be anxious about	*οἴομαι*	think, suppose, imagine
ὁμείρομαι	have affection, yearn for	*προσδέομαι*	be in need of, want
σέβομαι	revere, worship[129]	*σπλαγχνίζομαι*	feel compassion
συνήδομαι	delight in	*χρηστεύομαι*	be kind, show kindness

Each anticausative middle type (physical process, body motion, collective motion, and mental process) provides a new starting point or energy source for event conception. Source and

[122] Also, active intransitive: rise up, emerge.
[123] This verb involves a metaphoric extension where one's mental state is construed as tilled up like a field.
[124] Metaphorical extension: 'cause emotional pain'.
[125] Less volitional senses: 'want, desire', more volitional senses: 'plan a course of action, intend to do'.
[126] This verb was in earlier history an *activa tantum* that changed into a *media tantum*.
[127] Later Byzantine Greek develops a causative active form with the sense 'make ugly'.
[128] This is a middle alternative to the activa tantum: *ἐράω*. See also Beekes (2010, 449).
[129] Also: *σεβάζομαι* 'show reverence, worship'.

endpoint roles are conflated onto the same participant with internal energy supplying the energy transfer for the event (rather than external energy in the active). For both the passive and anticausative types there is a limited to vanishing saliency for an external source of energy (Kemmer 1993, 205). Among anticausatives, removing the external cause provides a shift in attention toward the participant that is internal to the core process. This narrows the scope of attention and heightens the salience of the change undergone by the single participant.

4.4 Alternations in voice: Symmetrical energy in cognitive events

As noted in §4.3.4, cognitive events vary in their formal expression, with each coding strategy representing a different event construal. In (4.35), the mental event in (a) is coded much like the transitive prototype, with active morphology. The stimulus, as external source/cause for the mental event, is coded as primary figure (subject), with the experiencer, the changed participant, as secondary focal point (object). The opposite realization is in effect with middle morphology in (b). The changed participant (experiencer), as primary focal point is realized as subject, with the stimulus, source/cause for the change, coded as object. In (c), the external cause is removed, and the experiencer serves as a single focused participant.

(4.35)	(a) *ἐφόβησε αὐτὸν ὁ ὄχλος*	the crowd frightened him	active (stimulus → experiencer)
	(b) *ἐφοβήθη τὸν ὄχλον*	he feared the crowd	middle (experiencer → stimulus)
	(c) *ἐφοβήθη*	he became afraid	middle (experiencer)

One reason for this type of variation in coding is that cognitive events (unlike physical ones) involve a symmetrical, or bidirectional transmission of force, allowing either experiencer or stimulus to be coded as starting point (source) or endpoint (effect) in event conception. In a two-participant mental event, an experiencer directs attention to a stimulus. That's one relational arc. The stimulus, in turn, produces some sort of mental change/response in the experiencer.

That's the second relational arc (Croft 2012, 233). Symmetrical energy in cognitive events represents a contrast with the transmission of force in prototypical transitives.

In the transitive prototype, one participant supplies the energy source, exerting force on a secondary figure that receives the energy, as endpoint, and is affected by it. In a force-dynamic model of event conception, causal relationships are construed as directed and asymmetric. Based on a general metaphorical mapping, experience of a spatial path from source to goal is mapped onto transmission of force; energy flows in one direction along a path from source/cause to endpoint/effect. Yet, as illustrated in (4.35), there are circumstances in human experience, like mental events, that involve symmetrical rather than asymmetrical energy flow.

Symmetrical energy transfer is present among cognitive events in the middle domain, i.e. those that imply mental attention of one sort or another, as in mental processes (§4.3.4), mental activities (§4.4.1), speech acts (§4.4.2), and perception (§4.4.3). Transmission of force is bidirectional, with two participants and two relations. An experiencer directs attention to, or becomes aware of, a stimulus. The stimulus, in turn, engenders a cognitive change in the mind of the experiencer. In middle expressions, the primary figure (experiencer) is a sentient participant in whose mind a mental event occurs. Depending on the verb, this may be a mental activity (e.g. devising a plan), a perceptual experience (e.g. visual/tactile observation), or a speech act that expresses something about the mental state or thoughts of the speaker. The stimulus, as secondary figure, may be a real-world entity or an imagined representation thereof, as with a salient concept or other perceptual prompt (Kemmer 1993, 127; Croft 2012, 221-33).

An alternative construal (common for mental processes in §4.3.4) involves just one participant with no stimulus coded in syntactic structure. This type of one-participant construal may be preferred if there is no relevant external stimulus that occasioned the event, such as when

the stimulus is understood to be solely internal to the experiencer. One-participant relations function to pragmatically downplay or remove the role of any external stimulus so that the event transpires exclusively with regard to its effect on the experiencer. This alternation among mental events is similar to that among physical processes and motion in §4.3.1 -§4.3.3. Removing an external cause has the effect of placing the changed participant into the spotlight.

The formal expression of mental events reflects a semantic-pragmatic motivation. For two-participant mental events, middle morphology signals a deviation from the basic agent-patient interaction in the active transitive prototype. In the middle, the experiencer, unlike a typical agent, is both energy source and ultimate endpoint for the relational arc of the event. Two roles are conflated onto a single participant; the experiencer is both the initiating force and the participant that experiences the endpoint change. For one-participant events, the intransitive nature of the predication focuses attention on a single participant that is source and endpoint, downplaying or eliminating the role of any secondary figure.

For mental construals, the experiencer is at both ends of a relational arc or bidirectional energy transfer. The experiencer is the energy source in whose mind the mental event originates and the energy endpoint as the one who is cognitively changed by the experience. The stimulus, as the object of perception, unlike a prototypical patient, remains unaffected by the interaction (Kemmer 1993, 127-129; Kemmer and Verhagen 1994; Croft 2012, 221-33).

4.4.1 Mental activity

Middle event types fall on a continuum from those that are more patient-like and lower in transitivity to those that are more agent-like and higher on the transitivity scale. The shift from mental processes (§4.3.4) to other cognitive events represents a subtle part of this transition. Verbs of cognition, as a whole, are lower on the transitivity scale since they do not express a

typical agent-patient interaction, one in which a volitional agent instigates an action to cause a physical change of state in a distinct patient. Yet cognitive events do still vary in their degree of transitivity as well as in the nature of energy transfer in a given cognitive predication. Mental processes entail lower transitivity with a more patient-like primary figure that undergoes but does not generally instigate the cognitive change. This represents a shift for the next set of cognitive events (mental activity/speech act/perception), where the experiencer plays a volitional role in instigating the event with a particular goal in mind, resulting in a more agent-like primary figure that still experiences the mental effect of the action.

The line of demarcation between the two (mental activity vs. mental process) is not an exacting division but runs along a scale of volitionality. Humans do not always have control over where our attention is directed. Mental *processes* tend to describe events in which a primary figure is less volitional and more patient-like, whereas mental *activities* tend to describe events in which a primary participant acts volitionally as an agent-like subject. Their morphological expression reflects this semantic difference. As illustrated in (3.20)-(3.21) in §3.2.2, mental processes, as more patient-like events, receive *-(θ)η-* morphology in the perfective paradigm. In contrast, volitional mental activities primarily take the *-σα-* middle form. Examples in each section (contrast mental processes (4.30)-(4.31) and mental activities (4.36)-(4.37)) reflect this formal shift in middle morphology between *-(θ)η-* and *-σα-* forms.

In a two-participant mental activity, an experiencer directs his mental attention to a stimulus. In turn, a mental event is brought about in the mind of the experiencer, so that he is cognitively changed in the course of the event (Kemmer 1993, 129).

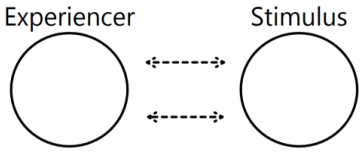

Figure 5 Two-participant mental activity

Although there are two participants, this event type still departs from the active transitive in that it profiles a change *not* in the secondary figure, but in the primary participant. In the transitive prototype, the agent causes a change to take place in the patient; no profiled change occurs for the agent. But for mental events, the opposite is true. The profiled change occurs in the primary figure (experiencer) instead. The stimulus, as secondary figure, remains unchanged. In (4.36), Tobit keeps track of the days, anxiously awaiting the arrival of his son. And Solomon, in (4.37), applies mental effort in reflecting on the judgments of God. Note the use of the perfective *-σα-* middle form with mental activities (rather than *-(θ)η-* with mental processes).

(4.36) **Mental activity middle**
Καὶ Τωβεὶτ ὁ πατὴρ αὐτοῦ ἐλογίσατο ἑκάστης ἡμέρας
Now his father Tobit counted each day (LXX Tobit 10:1)

(4.37) *Ἀνελογισάμην τὰ κρίματα τοῦ θεοῦ ἀπὸ κτίσεως οὐρανοῦ καὶ γῆς*
I considered the judgments of God from the creation of sky and earth (LXX Ps. of Sol. 8:7)

For one-participant mental activities, a single participant goes through a mental change. These cognitive activities are much like one-participant mental processes, but the experiencer subject is generally more volitionally involved as an instigator of the event.

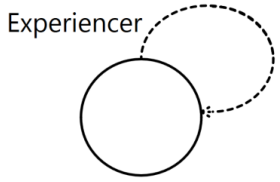

Figure 6 One-participant mental activity

The dotted arrow in Figure 6 indicates that with mental activities no distinct secondary figure is changed by the action. This also reflects its deviation from the active transitive in which

an agent causes a change in a distinct patient. In mental activity middles, the change caused by the event does not alter a distinct entity but the one who initiated it. Rather than two participants sharing the stage, the spotlight is focused on one figure, serving as primary focal point for event development. The experiencer is mentally altered by his involvement. The *-σα-* middle in (4.38) is used in an intransitive predication; the primary figure is mental source and altered endpoint.

(4.38) *καὶ ἐβουλεύσατο ὁ βασιλεύς*
And the king deliberated (3 Kingdoms 12:28)

Like mental processes, mental activities may also arise via metaphoric extension based on other event types. The verb *στρέφω* is used as as a body motion middle: 'turn'. The active expresses caused motion: 'turn s.o./s.t. around.' The middle expresses an internally-induced single participant construal: 'turn around', as in 'do not throw your pearls before swine, or they will trample them under foot and turn (*στραφέντες*) and maul you' (Matt. 7:6).

Basic body motion is then extended from the physical to psychological domain, so *στρέφω* also fits among cognitive middles: 'Truly I tell you, unless you turn (*στραφῆτε*) and become like children, you will never enter the kingdom of heaven' (Matt. 18:3). Its use is more about a mental attitude than a physical turn. A single lexeme fits both motion and cognition. This kind of lexical polysemy allows for metaphorical extension throughout the middle network. Mental activities display many of the same alternation patterns as mental processes (§4.3.4), though see the discussion of the causative/anticausative pattern below.

(4.39)

Active/Causative		**Middle/Anticausative**	
βδελύσσω	make detestable	*βδελύσσομαι*	regard with disgust, detest
σοφίζω	make wise, instruct	*σοφίζομαι*	reason out, devise, concoct[130]

[130] Both *βδελύσσομαι* and *σοφίζομαι* are derivatives (*βδελυρός* 'disgusting'; *σοφός* 'skillfull'/*σοφία* 'skillfulness'). The middle is the older expression, with the active form as a later Hellenistic addition, fitting such verbs within the larger causative/anticausative voice pattern (Beekes 2010, 208, 1374).

Active/Physical		**Middle/Psychological**	
μεταβάλλω	cause to change, alter	*μεταβάλλομαι*	change one's purpose/mind
ὀρέγω	reach out for s.t.	*ὀρέγομαι*	aspire to, desire
προαιρέω	bring s.t. forth, take out	*προαιρέομαι*	determine, decide, prefer
προβλέπω	foresee, see beforehand	*προβλέπομαι*	select in advance, provide for
σημειόω	make a mark on, designate	*σημειόομαι*	take note, pay attention to
σταθμάω	measure with a rule/line	*σταθμάομαι*	estimate, assess, measure
τίθημι	lay, put, set up	*τίθημαι*	contrive, resolve, effect s.t.[131]

Media tantum – Psychological			
ἀναλογίζομαι	consider, reason, think	*ἀποδέχομαι*	recognize, approve of
βουλεύομαι	deliberate, devise	*διαλογίζομαι*	consider, reason, discuss
ἐγκρατεύομαι	exert self-control	*ἡγέομαι*	think, consider
λογίζομαι	calculate, evaluate, consider	*μηχᾰνάομαι*	contrive, devise, plot[132]
μιμέομαι	imitate, emulate, follow	*παραιτέομαι*	excuse, reject, avoid
στοχάζομαι	calculate, survey, explore	*τεχνάομαι*	contrive, craft

For anticausative alternations in (4.39), there is a semantic difference in the use of *-σα-* and *-(θ)η-* morphology, illustrated with perfective aorist forms in (4.40).

(4.40)

Active/Causative		Middle/Anticausative	
ἐβδελύξατε	make detestable	*ἐβδελύχθη*	become detestable/loathsome
		ἐβδελύξατο	regard with disgust, detest, abhor
ἐσόφισεν	make wise, instruct	*ἐσοφίσθης*	become wise
		ἐσοφίσατο	gain wisdom, reason out, devise, concoct

Active *ἐσόφισεν* expresses a caused mental change ‘make s.o. wise’, whereas the middle removes the external agent as the source of energy for the event so that the experiencer becomes the primary mental source for the change. The *-σα-* form in (4.41) expresses a volitional mental activity, whereas *-(θ)η-* in (b) expresses a less volitional mental process. The causative-anticausative pattern tends to be more robust among change-of-state verbs, where the contrast between high transitivity in the active (an agent causes a change of state in a patient) and low transitivity in the middle (a patient undergoes a change of state) is most evident.

[131] Derivatives: *μετατίθημι* ‘bring, transfer’ vs. *μετατίθεμαι* ‘change one’s mind, turn away’; *συντίθημι* ‘put with’ vs. *συντίθημαι* ‘agree, decide, affirm’; *συγκατατίθημι* ‘deposit together’ vs. *συγκατατίθεμαι* ‘agree with’.

[132] Also, *μήδομαι* ‘plan, contrive’ and *μητίομαι* ‘devise’.

(4.41) (a) *καὶ ἐσοφίσατο Ηλι ὅτι κύριος κέκληκεν τὸ παιδάριον*
And Eli reasoned out that the Lord had been calling the child (1 Kingdoms 3:8)

(b) *καὶ ὁ ἐλασσούμενος πράξει αὐτοῦ σοφισθήσεται*
and the one who reduces his activity will become wise (Sirach 38:24)

A verb like *ἱλάσκομαι* shows a similar semantic difference with *-σα-* and *-(θ)η-* forms. The *-σα-* middle is used of men in their relation to deities, expressing appeasement of the gods, imploring their favor, appeasing their anger, and appealing to their mercy. This is often accompanied by sacrifice, as with seeking a pardon for sin in (4.42). The *-(θ)η-* form in (b) is used of deities in their relation to men, expressing pardon for sin, the granting of favor, and the giving of mercy. Thus, the *-σα-* middle represents propitiation of the gods, with the *-(θ)η-* middle used to denote the gods becoming propitious toward men.

(4.42) (a) *πρότερον γὰρ εὐξάμενοι καὶ θυσίας ἀναγαγόντες καὶ ἱλασάμενοι τὸ θεῖον*
For after having first prayed and presented sacrifices and implored the favour of the deity (Philo *Planting* 162)

(b) *καὶ ἱλάσθη Κύριος περιποιῆσαι τὸν λαὸν αὐτοῦ*
And so the Lord was favorably inclined to preserve his people (Exodus 32:14)

Two further types in the mental domain include speech acts and perception middles. Both involve the interplay of experiencer and stimulus roles. The schema in Figure 5 above pertains as much to speech acts and perceptions as it does to mental activity middles. In the perception and speech act types, similar patterns are repeated as in mental activities. The only difference is the lexical semantics of the verbs: speech and perception (Kemmer 1993, 133-36).

4.4.2 Speech act

Speech acts denote a class of verbs that relate to communication and verbal exchange. Some describe the transfer of information (*ἀνατίθημαι* ‘explain’) or conversational interchange (*ἀποκρίνομαι* ‘answer, reply’). Others specify something about the mental attitude or communicative purpose of the speaker (*περπερεύομαι* ‘brag’; *μέμφομαι* ‘blame’). Though they

may differ in how a message is communicated (*παρρησιάζομαι* ‘speak boldly’; *προκαλέομαι* ‘call out angrily’), they share a similar conceptual structure (Levin 1993, 202).

In a two-participant speech act, an experiencer, as primary figure, directs attention to a secondary stimulus (real or imagined). And by virtue of the interaction, the stimulus brings about a cognitive, and indeed expressive, reaction on the part of the experiencer. Middle marking is used to signal an explicit difference among speech acts from event development in a prototypical agent-patient interaction. Instead of profiling a change in a distinct endpoint, speech acts portray an event in which an experiencer is both source and endpoint of a relational arc. Conflating these roles into a single participant (rather than two distinct participants) highlights the speaker’s experience and apprehension of the stimulus (Langacker 2006, 128-30).

(4.43) **Speech act middle**
καὶ προσκαλεσάμενος αὐτοὺς ὁ Πιλᾶτος λέγει· εἶπατέ μοι ὅτι πῶς δύναμαι ἐγὼ ἡγεμὼν ὢν βασιλέα ἐξετάσαι
And Pilate summoned them and said: Tell me, how can I, as a governor, examine a king? (The Acts of Pilate 1:2)

(4.44) *καὶ προσηυξάμην πρὸς Κύριον τὸν θεόν· ἐξωμολογησάμην*
And I prayed to the Lord God and made confession (LXX Daniel 9:4)

Some speech acts are similar to benefactive middles (see §4.5.3). Certain events confer an additional benefactive or recipient role onto the experiencer, as with Pilate summoning the Jews to himself in (4.43). Speech acts like *εὔχομαι* ‘pray’, *καυχάομαι* ‘boast’, *περπερεύομαι* ‘brag’, and *ψεύδομαι* ‘lie’ are examples of such types, as are *ἀπολογέομαι* ‘speak in one's defense’ and *διακατελέγχομαι* ‘refute in debate’. In (4.45), false prophets gain benefit by lying to the people. Their contrition comes as a result of their exposure as false prophets. Note the one-participant intransitive construal. No secondary stimulus is syntactically coded since it can be inferred from context that they lied about the Lord to the people.

(4.45) *καὶ ἐνδύσονται δέρριν τριχίνην ἀνθ’ ὧν ἐψεύσαντο*
and they [false prophets] will put on a cloak of hair, because they lied (Zech. 13:4)

Voice alternations among speech acts, in (4.46), tend to be idiosyncratic and depend on the lexical semantics of a given verb. Often this involves an alternation in event development, especially in regard to the construal of energy endpoint: *ἐπαγγέλλω* 'command someone to do something' vs. *ἐπαγγέλλομαι* 'promise to do something oneself'; *συμβουλεύω* 'advise, give counsel to' vs. *συμβουλεύομαι* 'take counsel, consult, plot'. Other alternations may rely on a difference between a non-speech act in the active (*ἀνατίθημι* 'lay s.t. out') vs. a speech act in the middle (*ἀνατίθημαι* 'lay out in speech, explain'). If lexical senses are not fully distinguished between active and middle forms, then some semantic overlap is to be expected, as in (4.48).

(4.46)

Active/Physical		**Middle/Speech act**	
ἀνατίθημι	put, lay s.t. out	*ἀνατίθημαι*	impart, communicate, lay out
ἀποτάσσω	set apart	*ἀποτάσσομαι*	part with > bid adieu
ῥώννυμι	make strong	*ῥώννυμαι*	be in good health > bid farewell
Active/Speech act		**Middle/Speech act**	
ἐξομολογέω	agree, accept (rare)	*ἐξομολογέομαι*	confess, admit, acknowledge[133]
ἐπαγγέλλω	give orders	*ἐπαγγέλλομαι*	promise, profess, claim
παρακελεύω	command, order	*παρακελεύομαι*	exhort, encourage
συμβουλεύω	advise, give counsel to	*συμβουλεύομαι*	consult/ask, plot with
ψεύδω	deceive, cheat, disappoint	*ψεύδομαι*	lie, speak falsely

(4.47) **Media tantum – Speech act**

ἀναίνομαι	refuse, reject	*ἀνθομολογέομαι*	give thanks
(ἀπ)αρνέομαι	deny[134]	*ἀποκρίνομαι*	answer, reply[135]
ἀπολογέομαι	speak in one's defense	*(ἀπο)φθέγγομαι*	speak, utter, speak out
δέομαι	plead, beg, ask	*διαβεβαιόομαι*	insist, state confidently
διακατελέγχομαι	refute in a debate	*διαμαρτύρομαι*	solemnly urge
διηγέομαι	inform, relate, tell[136]	*διϊσχυρίζομαι*	insist, maintain firmly
εἰσκαλέομαι	invite in	*ἐμβριμάομαι*	insist, warn sternly
ἐρεύγομαι	blurt out[137]	*εὔχομαι*	speak to God, pray[138]

[133] The middle is the older form with the active *ἐξομολογέω* as a later addition in Hellenistic, perhaps by analogy to a more longstanding active form with a similar meaning: *ὁμολογέω* 'agree to, admit'.

[134] The verb *ἀπαρνέομαι* may have the additional sense: 'act selflessly,' i.e. deny one's self.

[135] Also: *ἀνταποκρίνομαι* 'answer, reply in opposition'.

[136] Also: *ἐκδιηγέομαι* 'inform, relate, tell fully'; *ἐξηγέομαι* 'make known, tell fully'.

[137] The sense: 'blurt out' arises via metaphor from 'belch, disgorge'. Forceful discharge out of the mouth is extended to the domain of speech as forceful expression.

[138] Also: *προσεύχομαι* 'pray'.

(κατα)καυχάομαι	boast[139]	*(κατ)αράομαι*	swear, curse[140]
λίσσομαι	beg, pray, entreat	*μαντεύομαι*	tell fortunes
μαρτύρομαι	affirm, testify	*μέμφομαι*	censure, blame
μυκάομαι	bellow, roar[141]	*μωμάομαι*	blame
ὀδύρομαι	mourn, lament	*παραβιάζομαι*	urge strongly
παραιτέομαι	ask for, entreat	*παραμυθέομαι*	speak soothing, console
παρρησιάζομαι	speak boldly	*περπερεύομαι*	brag, be boastful
προεπαγγέλλομαι	announce before[142]	*προκαλέομαι*	call out angrily, provoke
προμαρτύρομαι	predict, foretell	*προοιμιάζομαι*	make a prelude
προσκαλέομαι	summon, call to oneself	*προφασίζομαι*	make excuses
πυνθάνομαι	inquire, ask, learn about	*ὑπισχνέομαι*	promise

(4.48) **Formal variation – Speech act**

αἰτέω/ομαι	ask, demand, plead	*ἀπειλέω/ομαι*	warn, threaten s.o.
διακρίνω/ομαι	judge, criticize	*διαστέλλω/ομαι*	command, assert
(δια)τάσσω/ομαι	give instruction, order	*ἐντέλλω/ομαι*	instruct, command
ἐξαιτέω/ομαι	demand, request	*ἐπικαλέω/ομαι*	call on, invoke, appeal
εὐαγγελίζω/ομαι	proclaim good news[143]	*λοιδορέω/ομαι*	revile, rebuke
μετακαλέω/ομαι	summon[144]	*ὁμολογέω/ομαι*	profess, confess
παραγγέλλω/ομαι	order, command	*προσαπειλέω/ομαι*	threaten further
προστάσσω/ομαι	instruct, determine	*συγκαλέω/ομαι*	call together, summon

As noted in §3.1.1, middle morphology often shows idiosyncratic distribution among lexical types. This is especially true among speech acts. A verb like *θρηνέω* ‘wail, lament’ takes active morphology, but *ὀλοφύρομαι* ‘lament, wail, moan’ receives middle marking. Idiosyncrasies like this are the norm among middle-marking languages. This is largely due to its semantic nature. As middle morphology spreads from one verb to another, idiosyncrasies arise as a natural consequence of a lexically-driven process.

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[139] Also: *ἐγκαυχάομαι* ‘boast’.

[140] Use of the *-(θ)η-* suffix allows for the passivization of the sigmatic middle.

[141] In addition to human speech acts, a number of animal/human sounds also receive middle marking: *βληχάομαι* ‘bleat’, *βρωμάομαι* ‘bray’, *κνυζέομαι* ‘wimper’, *μηκάομαι* ‘bleat’, *ὀγκάομαι* ‘bray’, *φρῑμάσσομαι* ‘snort’, *φρυάσσομαι* ‘whinny’, *χασμάομαι* yawn, *ὠρύομαι* ‘roar, howl’.

[142] An active does occur in Dio Cassius *Historicus* 38.13, canvass for an office before.

[143] The middle also takes a passivizing function of the active, ‘be proclaimed [by]’. Derivative: *προευαγγελίζομαι* ‘proclaim good news in advance.

[144] *μεταπέμπω/ομαι* ‘send for, summon’ is sometimes active, but mostly middle.

But there are some lexical tendencies among speech acts in Greek that are worth noting. General verbs of speech, those that are semantically neutral, often default to active morphology, e.g. *λέγω* 'speak, say', *λαλέω* 'speak, talk', *ἐρωτάω* 'ask' (Allan 2003, 106). Verbs with more precise connotations, especially those with an emotional element in their lexical semantics, tend to receive middle marking: *παρρησιάζομαι* 'speak boldly with courage'; *διαβεβαιόομαι* 'state confidently'; *παραμυθέομαι* 'speak soothing to'. This also applies to verbs of announcement (*ἀγγέλλω* 'tell' vs. *ἐρεύγομαι* 'blurt out, express forcefully') and assertion (*φάσκω* 'assert, claim' vs. *μαρτύρομαι* 'testify from personal knowledge'). With others, a lexical opposition may be at play: *εὐλογέω* 'bless' vs. *καταράομαι* 'curse'; *ἀληθεύω* 'speak truth' vs. *ψεύδομαι* 'speak false'.

Verbs of reciprocal exchange often receive middle marking. Either an experiencer solicit's information (*πυνθάνομαι* 'inquire, ask, learn') or imparts information in response to a previous utterance (*ἀποκρίνομαι* 'answer, reply'). The same occurs among verbs that involve future obligation on the part of the speaker: *ὑπισχνέομαι* 'promise'; *μαντεύομαι* 'prophesy'. Some speech acts share a lexical root, which tends to shape their morphological expression; *ἡγέομαι* 'consider, regard' is a mental activity middle, but it also extends to speech acts. An experiencer makes something known by relating what he has seen/heard: *διηγέομαι* 'describe in detail'; *ἐκδιηγέομαι* 'inform fully'; *ἐξηγέομαι* 'tell fully'. Similarly, *ἀνθομολογέομαι* 'thank' and *ἐξομολογέομαι* 'confess' share a lexical root *ὁμολογέομαι* 'profess'. All involve an experiencer who expresses out loud what is already internally acknowledged (Kemmer 1993, 133-41).

4.4.3 Perception

Perception verbs pertain to events involving the perceptual modalities: taste, touch, see, smell, and hear. In a two-participant interaction, an experiencer directs attention to, or becomes aware

of, a stimulus via the senses. As a result, the stimulus induces a perceptual or cognitive encounter on the part of the experiencer (Kemmer 1993, 136; Croft 2012, 233).

(4.49) **Perception middle**
ἡμεῖς μὲν τῶν ἡψημένων βρωμάτων παραθήσομεν· σὺ δὲ ὑποκρινόμενος τῶν ὑείων ἀπογεύσασθαι σώθητι
We will serve you boiled meat. As for you, save yourself by pretending to taste the pig (4 Macc. 6:15)

(4.50) *τίς γὰρ ἀνδριάντας ἢ γραφὰς θεασάμενος οὐκ εὐθὺς ἐνενόησεν ἀνδριαντοποιὸν ἢ ζωγράφον;*
Who can look upon statutes or paintings without thinking at once of a sculptor or painter? (Philo *The Special Laws* I 33)

As with other mental events, the middle form is used among perception verbs to signal an explicit difference between an experiencer-stimulus relation and a typical agent-patient relation. Rather than profiling a change in a distinct endpoint participant, perception middles portray an event that involves a bidirectional transmission of force; an experiencer attends to a stimulus and the stimulus causes a mental change in the experiencer. The experiencer plays both source and endpoint roles. Conflating these roles onto a single participant – rather than on two distinct participants – has the consequence of highlighting the experiencer's apprehension of, or relation to, an external stimulus, as illustrated in Figure 7 (Figure 5 in §4.4.1).

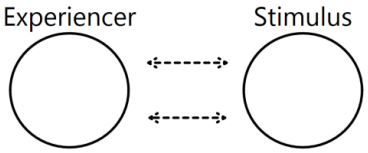

Figure 7 Two-participant perception

Two common alternations apply among perception verbs: One is the causative (active) vs. anticausative (middle) pattern persistent in Greek voice. The other is the distinction between physical and psychological experience: A physical agent-patient relation in the active alternates with an experiencer-stimulus relation in the middle. This pattern is common to the cognitive domain, as noted with mental processes §4.3.4 and mental activities §4.4.1.

(4.51)

Active/Causative		**Middle/Anticausative**	
γεύω	cause to taste	*γεύομαι*	taste[145]
κατοπτρίζω	show in a mirror	*κατοπτρίζομαι*	look in a mirror, reflect
ὀσφραίνω	make smell (rare)	*ὀσφραίνομαι*	smell
θεάω	cause to see (rare)	*θεάομαι*	observe, look at
Active/Physical		**Middle/Perception**	
ἅπτω	light a fire, fasten, grasp	*ἅπτομαι* (+GEN)	touch
ἐφάπτω	bind to, fasten	*ἐφάπτομαι*	partake of food, taste

As with other cognitive events, perceptions also differ in regard to volitionality (Kemmer 1993, 136-37; Allan 2003, 97). This semantic difference often motivates a difference in formal coding.[146] Middle verbs of perception tend to involve controlled actions; an experiencer acts intentionally: *ακροάομαι* 'listen to'; *θεάομαι* 'look at'. Active verbs of perception, on the other hand, often involve non-volitional or unintentional perceptions: *βλέπω* 'see, be able to see' (secondary sense is intentional: 'look at, note'); *κλύω* 'hear' (secondary sense: 'attend to'); *λεύσσω* 'see' (secondary sense: 'look at'). Such scalar semantic patterns among verbs, with no definite demarcation between volitional vs. non-volitional acts, along with the natural polysemy that arises with lexical semantics, may lead to some degree of morphological variation among perceptions. Active and middle forms may exist as synchronic variants of the same lexeme.

(4.52)

Media tantum – Perception		**Formal variation – Perception**	
αἰσθάνομαι	notice, perceive, understand	*ἀκούω/ομαι*	hear
δέρκομαι	see, see clearly	*εἰσακούω/ομαι*	listen, obey
ἐνωτίζομαι	listen carefully to	*ὁράω/ομαι*	see, catch sight, look
(ἐπ)ακροάομαι	listen	*παρατηρέω/ομαι*	observe, watch

[145] Also: *ἀπογεύω* 'give a taste of' vs. *ἀπογεύομαι* 'take a taste of'.

[146] Most perception verbs in the middle domain receive a sigmatic aorist, reflecting their more volitional involvement, but some are expressed with *-(θ)η-* as in *ὀσφραίνομαι* 'smell' (*ὠσφράνθη*) which is typically non-volitional. This also applies to *δέρκομαι* in Plutarch, *Adolescens* 4: 'As especially lucky are those among mortals who, (*οἳ ταῦτα δερχθέντες*) having seen these [mysteries], will pass to Hades'. Its semantic shift in Classical from Homeric 'fix one's eyes, look at' to the more generic 'see' may provide sementic motivation for why *δέρκομαι* adopted *-(θ)η-* when other perception middles had not yet done so. Its use with the sense 'see' suggests less volitionality/control on the part of the experiencer, placing it closer to the patient-like end of the spectrum in contrast to other perceptions that involve a more agent-like experiencer (*θεάομαι* 'look at'), which utilize *-σα-* middle forms in Hellenistic. In this way, *δερχθέντες* reflects a more patient-like involvement of the primary figure, analogous to mental process middles that frequently take the *-(θ)η-* form in Classical and Hellenistic (Allan 2003, 159).

ἐπισκέπτομαι	look at, inspect[147]	*περιβλέπω/ομαι*	look at, around
σκέπτομαι	look at, consider	*προοράω/ομαι*	see beforehand

Due to the symmetrical nature of experiencer-stimulus relations, some perceptions may also allow variable argument realization in the clause. This, of course, depends on the lexical semantics of the verb. If a verb lexicalizes the cognitive experience of attending to a stimulus, such as *listening* or *looking*, then the experiencer is likely to be realized as primary figure with the stimulus as a secondary participant (or left unrealized in a one-participant construal). The verb profiles the relation of the experiencer directing attention to the stimulus (Croft 2012, 234).

If the verb does not lexicalize a particular direction of force, then either experiencer or stimulus may be coded as primary figure and starting point for the action. With *ἅπτομαι* 'touch' in (4.53), the experiencer-subject serves as energy source, touching the menstruating woman in (a), the corpse in (b). The stimulus then prompts a change in the experiencer, as ultimate energy endpoint for the action, highlighting the altered state of the experiencer from clean to unclean.

(4.53) (a) *πᾶς ὁ <u>ἁπτόμενος</u> αὐτῆς ἀκάθαρτος ἔσται ἕως ἑσπέρας*
anyone who <u>touches</u> her will be unclean until evening (LXX Leviticus 15:19)

(b) *Ὁ <u>ἁπτόμενος</u> τοῦ τεθνηκότος πάσης ψυχῆς ἀνθρώπου ἀκάθαρτος ἔσται ἑπτὰ ἡμέρας*
The one who <u>touches</u> the corpse of any human being will be unclean for seven days (LXX Numbers 19:11)

In (4.54) the stimulus-subject serves as starting point for the action. The profiled relation in (a) highlights the energy transfer from the stimulus (sword) to the experiencer (people, even to their soul). A similar interaction occurs in (b); Jesus transfers energy through his touch to a woman's hand to make her clean. With *ἅπτομαι* either experiencer or stimulus may be realized as primary figure in a symmetrical interaction. Each formal coding provides a different construal for the same type of event. The experiencer-subject realization is connected to a greater degree of

[147] The sense 'look at, inspect' extends to 'go see, visit' and 'look after, be concerned about'.

control on the part of the experiencer. In turn, the stimulus-subject realization is linked to a lesser degree of control for the experiencer (Croft 1993, 65–67; 2012, 235). The participant chosen as primary figure (coded as subject) is often the more salient participant, as discourse topic. Variable realization also underscores an important point concerning the use of 'subject-affectedness' as a short-hand in describing middle events. In some cases, based on the nature of the event development associated with a particular verb, the affected experiencer may or may not be profiled as the subject in a given middle event.

(4.54) (a) *καὶ ἰδοὺ ἥψατο ἡ μάχαιρα ἕως τῆς ψυχῆς αὐτῶν*
And look, the sword has touched all the way to their soul (LXX Jeremiah 4:10)

(b) *καὶ ἥψατο τῆς χειρὸς αὐτῆς, καὶ ἀφῆκεν αὐτὴν ὁ πυρετός*
And he touched her hand, and the fever left her (Matthew 8:15)

Cognitive events in the middle domain in §4.4 deviate from the transitive prototype in two central ways: energy transfer and scope of attention. Because mental events rely on an experiencer-stimulus interaction, they involve a bidirectional relational arc, with two participants and two relations. An experiencer, as a sentient participant provides mental or perceptual attention. In turn, the stimulus, in the virtue of the interaction, brings about a change in the experiencer. This stands in contrast to a basic agent-patient relation, which profiles an asymmetric energy transfer, with a unidirectional arc from agent to patient.

In the cognitive domain, middle marking is used for events in which an experiencer directs attention toward a stimulus and subsequently experiences a change in reaction to that stimulus. Conflating the roles of energy source and endpoint onto one participant (rather than two distinct participants) narrows the scope of attention, highlighting the change undergone by the experiencer. This may be cognitive, perceptual, or an expressive speech act.

4.5 Alternations in voice: Symmetrical energy in cyclic events

In the final subset of middle event types, alternations express a contrast in event termination, or how an event comes to an end. In a typical agent-patient interaction, an agent (source) applies asymmetrical force toward a patient (endpoint). In contrast, cyclic events in the middle offer an alternate energy endpoint. Rather than terminating in a distinct patient, the effects of a cyclic action accrue to the agent itself. The affected agent, as primary figure, plays both source and endpoint roles in the same event (Næss 2007, 82).

Symmetrical force is present in reciprocals and reflexives. Reciprocal relations, e.g. *They met in the stairwell*, are semantically collective in nature. Two or more participants are involved in an inverse relationship. The first acts on the second; the second acts on the first in the same way. In a typical reflexive, an agent acts on himself. This may be direct, e.g. *He shaved*, with an agent acting on his own body. Or, it may be indirect, e.g. *She adopted a son*, in which case an agent acts on a distinct patient but is affected by the outcome as a recipient or beneficiary (Kemmer 1993, Shibatani 2006, 232; Croft 2012, 236).

Their commonality comes in the bidirectional transmission of force that results in dual roles for the primary figure. Among these more agent-like middle types, the primary figure is a volitional agent, initiating the event – whether reciprocal or reflexive. Thus, the primary figure plays dual source and endpoint roles as an affected agent. Where they differ is in the directness of the agent's involvement. For typical reciprocal relations, the agent is a direct source and endpoint, but since there are multiple participants, all such figures play the same dual roles. For reflexives, the agent is a direct source and endpoint of his own bodily action. But for indirect reflexives, the agent, as a direct source, is only an indirect endpoint – as recipient or beneficiary of an action carried out on a secondary figure (Croft et al. 1987, 186).

In this regard, cyclic events deviate from the asymmetric transmission of force in the prototypical transitive, but they do so differently from middle events in the cognitive domain (§4.4). Among cognition middles, there are two directions of force, each of a different event type. In the first, an experiencer pays attention to a stimulus. In the second, a stimulus induces a change in an experiencer. For cyclic events, the two directions of force are of the same type. With reciprocals, two participants act on each other in the same way, e.g. *embrace*. With reflexives, there is just one cyclic action, and thus only one event type, e.g. *wash oneself* (Kemmer 1993, 54-81, 202; Shibatani 2006; Croft et al. 1987; Croft 2012, 235-37).

4.5.1 Reciprocal

Reciprocal relations, like events in the cognitive domain, rely on a symmetrical transmission of force, with two participants and two relations. But rather than representing different event types (as in experiencer-stimulus interactions), the two directions of force for reciprocals involve inverse relations of the same type. Participants act on one another in similar ways. And because of their relational symmetry, they play identical roles: Each participant is energy source of one relation and energy endpoint of a second relation of the same type.

This kind of symmetrical energy deviates from the asymmetrical force associated with the transitive prototype. In a typical agent-patient interaction, two distinct participants play two distinct roles. The process highlights the agent's activity vis-à-vis its interactions with a second figure. Beginning with an energy source, the event follows the effects of the action as it plays out on a distinct endpoint. For reciprocals, this participant distinction is lost, as participants play essentially the same roles. Figure 8 illustrates this role conflation in reciprocal events, which include verbs that naturally involve mutual exchange, e.g. *meet*, *fight*, *argue* (Kemmer 1993, 102; Næss 2007, 23; Nedjalkov 2007c, 6; Croft 2012, 236).

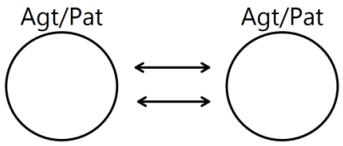

Figure 8 Reciprocal event

This lack of distinction has the effect of narrowing the scope of attention. For reciprocals, participants act collectively in the same event at the same time. If A acts on B and B acts on A, then A and B act jointly. Removing the conceptual distinction between them draws attention to the joint character of their action. As a consequence, onstage focus does not shift from primary source to secondary endpoint. Instead, attentional focus is drawn to the relational symmetry of simultaneous source/endpoint figures. The joint action links two participants to each other without shifting to a distinct endpoint (Kemmer 1993, 101; Næss 2007, 29; Croft 2012, 244).

Reciprocals permit either one- or two-argument structures. Each formal coding represents a different semantic construal. For one-argument structures, two symmetrically interacting participants are construed in terms of a plural set, as a holistic entity (Nedjalkov 2007c, 8).

(4.55) **Reciprocal Middle**
μάχωνται δύο ἄνδρες
Two men are fighting (LXX Exodus 21:22)
καὶ εὗρεν αὐτοὺς περιπλακομένους καὶ κλαίοντας
She found them embracing and crying (Testament of Abraham (A) 5.11)

As a group, participants act collectively in the same dual roles. Source and endpoint are fused into a cluster of symmetrical relations. This allows two simultaneous sub-events (A acts on B, B acts on A) to be conceived as a collective one-participant action. Like collective motion middles (§4.3.3), reciprocals are internally caused. The energy source is internal to the group itself, allowing for a one-argument construal (Allan 2003, 85-86; Croft 2012, 236-245).

In one-argument reciprocals like (4.55), participants form an undifferentiated whole; no one participant is given primary attention over another. Instead, the collective nature of their

simultaneous action is highlighted. Two-argument reciprocals offer an alternate construal. In a two-argument conception, participants are differentiated into two referential entities.

(4.56) *διελέγετο μὲν οὖν ἐν τῇ συναγωγῇ τοῖς Ἰουδαίοις*
So he argued in the synagogue with the Jews (Acts 17:17)

(4.57) *καὶ ἐμαχέσαντο οἱ ποιμένες Γεραρων μετὰ τῶν ποιμένων Ισαακ*
And the shepherds of Gerares fought with the shepherds of Isaac (LXX Genesis 26:20)

One (of two) participants is chosen as primary figure (usually discourse topic), expressed as nominative subject, with the other as a secondary figure, expressed as dative complement in (4.56), or prepositional phrase in (4.57). In (4.56), the outgoing energy from Paul to the Jews is highlighted as focus of attention. The incoming energy from the Jews to Paul is present but comparatively backgrounded. Here, Paul's perspective comes into focus. His distress at finding idols in Athens is what brings him to argue back and forth with the Jews It is the symmetrical energy in reciprocals that enables either participant to be chosen as focal point (Allan 2003, 86-87). In (4.58) both realizations take effect with the inclusion of a subordinate clause.

(4.58) *ἄνδρες γοῦν οὐ γυναιξὶν οὐδὲ γυναῖκες ἀνδράσιν ἀμιλλήσαιντο*
Men could not contest with women, nor women with men (Philo *Sacrifices* 100)

While reciprocals represent cyclic action, the constraints of argument structure in a basic clause require an acyclic realization of arguments. Consequently, reciprocals are expressed much like acyclic events, realized as either two-argument structures with one a primary and secondary figure, or as one-argument expressions with a holistic construal. The cyclic nature of such events is signaled grammatically, via middle morphology in middle-marking languages. In (4.57), argument structure encodes one direction of force; middle morphology signals that the reverse

relation is also true. Middle marking explicitly encodes that the energy source is also the energy endpoint of a symmetrical relation (Allan 2003, 86; Nedjalkov 2007c, 8-11; Croft 2012, 240).[148]

In addition to this, two-argument reciprocals in Greek are often realized with a dative complement (or prepositional phrase) rather than the default accusative in the prototypical transitive (Kemmer 1993, 107). This shift in formal coding signals a difference in construal in how participants are involved in the action. A prototypical patient (coded as accusative in Greek) undergoes the effects of an action without any kind of initiating role in the event. Yet the comitative role, signaled by the use of the dative among two-argument reciprocals, signifies collaborative behavior in a joint activity. The secondary figure in a reciprocal is involved in the same type of action in a similar way as the primary figure. In English, this role is often marked by a prepositional phrase, e.g. *The man fought with/against his attacker* (Croft 2012, 245). This is similar to *μάχομαι* 'fight'. It may be realized with a dative complement, e.g. *μαχόμενος τῷ νόμῳ κυρίου* 'fighting with the law of the Lord' (Protevangelium of James 14:1). Or, the preposition *ἐπί* offers an alternative construal with a focus on the hostile opposition between parties: *ἐπ᾽ Αὐσονίοισι μάχεσθαι* 'to fight against the Ausonians' (Sibylline Oracles 13.141).

Voice alternations among reciprocals express a contrast in symmetrical vs. asymmetrical energy. Note the use of *δια-* with some middles, reflecting a sense of separation and mutual exchange. In such cases, the active encodes asymmetrical force in what is usually a one-participant action (though plural subjects occur, e.g. 'they spoke to him'). The derived middle

[148] Cyclic events may also be lexically expressed as a facet of lexical semantics. A few reciprocal verbs are realized with active morphology rather than middle. In such cases, cyclic action is signaled lexically based on the meaning of the verb rather than signaled grammatically: active *πολεμέω* 'fight, do battle with' (*πολεμοῦντα τοῖς Ἰουδαίοις* 'at war with the Jews' (Josephus *Wars of the Jews* 7.423)); active *ἐρίζω* 'quarrel, vie with' (*ἐρίζουσαι τῷ Ισαακ* 'quarreling with Isaac' (LXX Genesis 26:35)).

with *δια-* denotes symmetrical energy among two or more participants in a synergistic relation that results in combat, competition, or conversation (Allan 2003, 86; Nedjalkov 2007c, 95-96).

(4.59)

Active/Asymmetrical		**Middle/Symmetrical**	
ἀμείβω	change, exchange	*ἀμείβομαι*	take turns, alternate, repay
καταλλάσσω	change, reconcile	*καταλλάσσομαι*	become reconciled with
μίγνυμι	bring together, mix	*μίγνυμαι*	have sexual relations with
περιπλέκω	twine around, bind	*περιπλέκομαι*	embrace
ἀκοντίζω	hurl a javelin	*δια*κοντίζομαι	compete/combat with javelins
λέγω	speak	*δια*λέγομαι	converse, discuss, argue
τοξεύω	shoot with a bow	*δια*τοξεύομαι	compete in archery

(4.60) **Media Tantum – Symmetrical**

ἀγωνίζομαι	fight, struggle[149]	*μάρναμαι*	contend
ἀκροβολίζομαι	skirmish	*μάχομαι*	fight, quarrel[150]
ἁμιλλάομαι	compete, vie, contend with	*συγγίγνομαι*	have sex with

Middle morphology in Greek and other middle systems is used for naturally reciprocal actions, those events that typically involve two or more participants acting on one another. The reciprocal pronoun *ἀλλήλους* is then used among non-reciprocal events to signal a reciprocal interpretation with symmetrical energy rather asymmetrical force. One of the key differences between middle morphology and reciprocal pronouns is in their distribution. The middle form occurs with verbs whose lexical meaning necessarily or at least frequently implies a mutual exchange between participants. Reciprocal pronouns, in turn, are used with a wider set of verbs, any event that is not naturally reciprocal (Kemmer 1993, 102-3; Allan 2003, 84-86).

Which verbs represent reciprocal action, and which do not, is grounded in human experience – pertaining to events that involve mutual human relations. At the same time, it is also language specific, arising within the constraints of a socio-cultural context. English *kiss* is frequently reciprocal though not necessarily so. *They kissed* is typically interpreted as a

[149] Also: *ἐπ*αγωνίζομαι ‘contend again’; *συν*αγωνίζομαι ‘fight along with’ focuses on the supportive role.
[150] Also: *διαμαχομαι* ‘fight against each other, do battle with, argue sharply’.

simultaneous exchange between two participants, often in the context of lovers: A kissed B, B kissed A.[151] In Greek, *καταφιλέω* 'kiss' is typically interpreted as an asymmetrical action with active morphology rather than middle. It is often used in contexts of greeting and leave taking. To express a reciprocal action, a reciprocal pronoun is used (Kemmer 1993, 105).

(4.61) *κατεφίλουν ἀλλήλους, περιπλεκόμενοι τοῖς συγγενέσιν, ἐπὶ τοὺς τραχήλους*
they began to kiss one another, embracing their kinsmen on their necks (3 Macc. 5:49)

This illustrates a natural semantic constraint in middle marking. The middle form occurs with events that are naturally reciprocal, a grammatical expression of a semantic category, i.e. those events conceived as typically reciprocal in nature. The same occurs with direct reflexive middles. Middle marking is used to express typical grooming actions and body care events.

4.5.2 Grooming/Direct reflexive

Reflexive and reciprocal relations are similar in kind. In both, participant involvement relies on the same dual roles – source and endpoint – of a cyclic action. The subject in each is an animate and agentive figure who performs the same action that it undergoes. The primary figure is thus the source and endpoint of a symmetrical transmission of force. The difference between the two comes in both the nature and number of participants involved. For reciprocals, two separate participants act, not on themselves, but on one another. For direct reflexives, this action is turned inward. A single primary figure acts on himself, rather than another participant.

Middle marking is used with grooming actions – those typically or naturally performed by humans on their own bodies. The primary figure is both source as initiator of the action and endpoint as the one changed by it. Unlike the transitive prototype, source and endpoint roles are

[151] English has just one marker of reciprocal semantics. It occurs with transitive verbs but is not required with naturally reciprocal actions. These are expressed as unmarked intransitive events. Reciprocal semantics may be expressed by omitting the direct object and expressing the intransitive with a plural subject. This strategy is constrained to those events that are conceived as naturally reciprocal: *She kissed him* > *They kissed*; *She met him* > *They met*; *She argued with him* > *They argued* (Kemmer 1993, 102; Nedjalkov 2007a, 171).

conflated onto a single referent, as in Figure 9. Onstage focus is drawn toward the primary figure who is changed by his own action (Langacker 1991, 367; Kemmer 1993, 98; Croft 2012, 245).

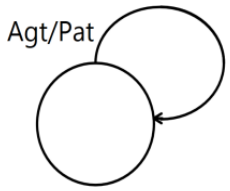

Figure 9 Direct reflexive/Grooming

Reflexives, like reciprocals, permit one- and two-argument structures; each reflects a different construal. In one-argument conceptions, two semantic roles converge onto a single entity. And because such actions are frequently carried out by people on their own bodies, no object coding is required (Kemmer 1993, 60). It is often the case that the lexical semantics of the verb and the context of use constrain the interpretation, helping to distinguish which body part is affected. Verbs like *περικλύζομαι* 'wash one's body' and *νίπτομαι* 'wash a body part' (e.g. hands, feet, head) may illustrate. In (4.62), a man goes down to the Tigris River to wash his body. In (4.63), the context of entering the tabernacle, along with the use of the verb *νίπτομαι*, rather than *περικλύζομαι*, implies that this particular act of washing refers to the hands and feet (not the whole body), as instructed by God for the purification of priests.

(4.62) *τὸ δὲ παιδάριον κατέβη περικλύσασθαι*
Then the young man went down [to the river] to wash (LXX Tobit 6:3)

(4.63) *νίψονται ὕδατι καὶ οὐ μὴ ἀποθάνωσιν*
they will wash with water, so they will not die (LXX Exodus 30:20)

With regular body actions, middle morphology is used to signal their semantic character: source and endpoint roles are naturally fused together onto a single participant who acts on himself. For *περικλύζομαι* and *νίπτομαι*, the endpoint participant is not passively involved as in a typical agent-patient interaction. Instead, the endpoint-self actually participates in the event in

some way. By necessity, acts of washing (along with other grooming events) require the use of the body and body parts as simultaneous acting and acted on entities. With the self-involved nature of such actions, it makes sense that typical body care verbs would formally reflect, via middle morphology, a conceptual difference from actions that are normally carried out on a distinct endpoint participant (Kemmer 1993, 60).

What accounts for their single-argument conception is the internal causality associated with such events. The energy that brings about the action is internal to the single participant, as source and endpoint of the same event. This is also what brings the grooming/reflexive middle into close proximity with other one-participant middle types, such as anticausative alternations, expressing a change of state among physical processes (§4.3.1), body motion (§4.3.2), collective motion (§4.3.3), and mental processes (§4.3.4). For both anticausative and reflexive middles, the energy source is internal to the changed participant, rather than coming from an external source of energy. In each case, the primary figure, as the focus of attention, is the changed participant – the one that undergoes the action of the verb.

The difference among anticausatives and direct reflexives is the degree of control on the part of the primary figure. Both grooming and body motion middles involve bodily action, wherein a more agentive figure volitionally instigates the action that it also undergoes. In comparison, other one-participant middles (e.g. physical processes, mental processes, and collective motion), tend to involve a lower degree of control on the part of the primary figure. The single participant is more patient-like, with far less control over bringing about the action. This suggests that the grooming middle shows more of a difference in degree than in kind with other one-participant middle events. On a scale of one-participant actions, grooming verbs

occupy the higher-control end of the continuum, with physical processes at the lower-control end, showing little to no control over the process described by the verb (Croft 2012, 238).

(4.64) **Degree of control: One-participant actions**

Physical process	*ἀπόλλυμαι*	die	lower
Mental process	*ἐκλανθάνομαι*	forget	
Collective motion	*διαλύομαι*	disperse	
Body motion	*ἐγείρομαι*	stand up	
Grooming	*ἀμφιέννυμαι*	dress	higher

Beyond one-argument conceptions, there are also two-argument construals. In two-argument reflexives, a second argument is overtly realized in the clause that is coreferent with the first. Middle morphology signals an identity of relational participants. For most grooming events, this is a part-whole possessive relation. A possessor (agent) stands in possession of a partitive (patient). Supplying this secondary object not only provides an explicit specification, identifying the locus of effect upon which the agent acts, but also a conceptual separation of different facets of a single referent, i.e. a volitional agent and the affected body part.

The lexical semantics of a given verb and the grooming action it denotes naturally constrain the noun phrase which may be expressed in this secondary position. Bodily actions directed toward the self involve inalienable or at least quasi-inalienable possession. Verbs like *περικλύζομαι* 'wash one's body' and *χρίομαι* 'anoint oneself' in (a) typically refer to whole-body actions without specifying a particular body part. But *κατακαλύπτομαι* 'wear a veil, cover one's face/head' in (b) and *περιτέμνομαι* 'circumcise oneself' in (c) generally refer to body actions directed toward a specific body part rather than the whole (Langacker 1991, 368; Kemmer 1993, 77; Genuišienė 1987, 131; Dench 2013, 145).

(4.65) (a) *περιεκλύσατο τὸ σῶμα ὕδατι καὶ ἐχρίσατο μύρῳ παχεῖ*
she washed her body with water, and anointed [it] with rich perfume (LXX Judith 10:3)

(b) *Ιουδας ἔδοξεν αὐτὴν πόρνην εἶναι, κατεκαλύψατο γὰρ τὸ πρόσωπον αὐτῆς*
Judah assumed she was a prostitute, for she covered her face (LXX Genesis 38:15)

(c) *περιετέμετο τὴν σάρκα τῆς ἀκροβυστίας αὐτοῦ*
he circumcised the flesh of his foreskin (LXX Judith 14:10)

With verbs of dressing and undressing, reflexive actions typically involve articles of clothing and other wearable items. The second argument specifies which garment is put on or taken off.

(4.66) *ἐξεδύσατο τὰ ἱμάτια τῆς χηρεύσεως αὐτῆς καὶ ἐνεδύσατο τὰ ἱμάτια τῆς εὐφροσύνης αὐτῆς*
she took off her garment of widowhood and put on her garment of joy (LXX Judith 10:3)

A lexeme like *ζώννυμαι* 'gird oneself' is used not only for girding one's clothes with a belt for work, but it is also in contexts of battle, preparing to fight by strapping on one's sword or armor.

(4.67) *Ζώσασθε ἕκαστος τὴν ῥομφαίαν*
Everyone strap on his sword (LXX 1 Kingdoms 25:13)

The middle, unlike the prototypical transitive, lacks an expectation of another participant. The agent acts on a patient, but rather than a distinct endpoint, the patient represents part of the agent's own body or something that covers the agent's body, as a metonymic relation. The normal expectation among such grooming events is the identity of source/endpoint roles.

The consequence of this expectation is that middle morphology is not likely to occur on any generically self-directed action, but this event type requires socio-culturally recognized activities that are normally performed on oneself as a regular practice. Middle formations in (4.68) do not just indicate that the lexical meaning of the verb (cutting, covering) is directed toward oneself in a general way, but they specify culturally relevant acts performed on the body. That is, *ἀποκόπτομαι* (in opposition to *ἀποκόπτω*) does not mean 'cut oneself' but refers to making oneself a eunuch, an act that specifies a culturally sanctioned cutting of a specific body part. The same may be said of *κατακαλύπτομαι*. It is not used as a generic act of covering oneself but refers to the use of a veil to cover one's head or face in a culturally appropriate manner.

(4.68)

ἀποκόπτω	cut away s.t.	*ἀποκόπτομαι*	castrate oneself
κόπτω	cut off s.t.	*κόπτομαι*	smite or beat oneself (in mourning)
κατακαλύπτω	cover s.t./s.o.	*κατακαλύπτομαι*	put on a veil, cover one's head

Regular grooming activities may involve culturally-specific events like rites of purification or circumcision, but they also include more cross-cultural activities like dressing and keeping clean.

(4.69)

Active/Causative		**Middle/Anticausative**	
ἁγνίζω	make clean, purify	*ἁγνίζομαι*	purify/dedicate oneself
βαπτίζω	make clean, purify	*βαπτίζομαι*	get baptized, purify/wash oneself
θερμαίνω	make warm, heat	*θερμαίνομαι*	warm oneself, get warm
καθαρίζω	make clean, purify	*καθαρίζομαι*	purify oneself
ὁπλίζω	make ready	*ὁπλίζομαι*	get ready, prepare oneself
παρασκευάζω	make ready	*παρασκευάζομαι*	get ready, prepare oneself
παύω	cause to stop	*παύομαι*	cease an action, stop oneself[152]

(4.70)

Active/Acyclic		**Middle/Cyclic**	
Ritual activities			
ἀλείφω	anoint with oil	*ἀλείφομαι*	anoint oneself
ἀποκόπτω	cut away	*ἀποκόπτομαι*	castrate oneself
κόπτω	cut off	*κόπτομαι*	beat oneself (in mourning)
περιρραίνω	sprinkle around	*περιρραίνομαι*	sprinkle oneself in purification
περιτέμνω	circumcise s.o.	*περιτέμνομαι*	circumcise oneself, get circumcised
στεφανόω	crown/wreath s.o.	*στεφανούμαι*	crown oneself
χρίω	rub, anoint with oil	*χρίομαι*	anoint oneself
Washing			
(ἀπο)λούω	wash (off)	*(ἀπο)λούμαι*	bathe, wash (off) oneself
ἀπομάσσω	wipe off, clean	*ἀπομάσσομαι*	wipe off oneself
(ἀπο)νίπτω	wash (off)	*(ἀπο)νίπτομαι*	wash (off) part of the body
περικλύζω	wash all around	*περικλύζομαι*	bathe all around
Taking off			
ἀποβάλλω	throw off	*ἀποβάλλομαι*	throw away from oneself
ἐκδύω	strip off	*ἐκδύομαι*	strip off oneself[153]
ἐκτινάσσω	shake off, expel	*ἐκτινάσσομαι*	shake off oneself
περιαιρέω	strip off, remove	*περιαιρέομαι*	take off oneself
Putting on			
ἀμφιέννυμι	clothe, dress s.o.	*ἀμφιέννυμαι*	dress, get dressed
ἐνδιδύσκω	clothe s.o.	*ἐνδιδύσκομαι*	dress, wear
ἐνδύω dress	clothe s.o.	*ἐνδύομαι*	wear, put on[154]
ἐπισκευάζω	equip, repair	*ἐπισκευάζομαι*	get ready, equip oneself
κατακαλύπτω	cover s.t./s.o.	*κατακαλύπτομαι*	wear a veil, cover one's head
περιβάλλω	encompass, clothe	*περιβάλλομαι*	clothe oneself, put on
περιδέω	bind, wrap around	*περιδέομαι*	wrap around oneself

[152] Also: *ἀναπαύω* 'cause to rest' vs. *ἀναπαύομαι* 'take one's rest, rest, cease an activity'.
[153] Also: *ἀποδύω* 'strip off' vs. *ἀποδύομαι* 'strip off oneself'.
[154] Also: *ἐπενδύ(ν)ω* 'put on over' vs. *ἐπενδύομαι* 'put on, wear an outer garment'.

(περι)ζώννυμι	gird about	*(περι)ζώννυμαι*	gird oneself, put on one's belt[155]
ὑποδέω	fasten under, bind	*ὑποδέομαι*	strap on one's shoes
Cutting hair			
κείρω	sheer, cut	*κείρομαι*	get a haircut, have one's hair cut[156]
ξυράω	shave s.o.	*ξυράομαι*	shave, get shaved (e.g. head/beard)
Violent activities			
(ἀπ)άγχω	strangle, choke s.o.	*(ἀπ)άγχομαι*	hang oneself, strangle oneself[157]
σπάω	drag, pull, draw	*σπάομαι*	draw one's sword

(4.71) **Media tantum – Cyclic**

ἀπεκδύομαι	strip off oneself	*ἐγκρατεύομαι*	control oneself, abstain
ἐγκομβόομαι	wear, put on	*περίκειμαι*	put around oneself, wear[158]

The middle form, as noted in §4.5.1, is semantically constrained. It is used to mark regular grooming actions, those that typically involve an agent acting on himself. Source and endpoint roles are expected to be filled by the same referent. The reflexive pronoun *ἑαυτὸν* is then used among acyclic actions to signal a reflexive interpretation with symmetrical energy rather than the default asymmetrical force. The pronominal form occurs with a wider set of verbs, any events that are not typically reflexive in nature (Kemmer 1993, 71; Allan 2003, 90).[159]

In this way, suggesting that the two forms are mere alternatives of one another with the same semantic content ignores differences in their distribution. Such patterns are substantiated both cross-linguistically among middle systems and intralinguistically in Greek. Even among verbs of washing there are different semantic expectations that lead to differences in formal

[155] Also: *ἀναζώννυμι* 'gird up again' vs. *ἀναζώννυμαι* 'gird oneself for work/battle'; *διαζώννυμι* 'gird round, encircle' vs. *διαζώννυμαι* 'tie around oneself'; *συζώννυμι* 'gird s.o.' vs. *συζώννυμαι* 'gird oneself'.

[156] Also: *περικείρω* 'cut around' vs. *περικείρομαι* 'clip one's hair'.

[157] Actions like hanging oneself or stranging oneself, note that these involve ways that a person would be able to kill themselves – actions that are unlikely to be performed on the self do not occur among direct reflexive middles – these include torture, crucifixion, etc.

[158] From *κεῖμαι* 'be in a place, lie': *περί* + *κειμαι* 'be positioned around' > 'put s.t. around, wear s.t.'

[159] One of the functions of the reflexive pronoun *ἑαυτὸν* is to signal contrastive stress, denoting that the object explicitly refers to the same referent as the subject and not some other potential referent in the discourse (Kemmer 1993, 63). In doing so, the reflexive pronoun can and does occur with middle-marked grooming verbs. In such cases, source/endpoint roles are already expected to be filled by the same referent. The addition of the reflexive pronoun signals the speaker's emphasis on this fact, explicitly marking the identity of relations, especially in cases where there may be some ambiguity about other potiential referents in the discourse context.

expression. A verb like *ἐκκαθαίρω* ‘cleanse’ is most often used for purging a house or other vessel of unclean elements. It represents a ritual cleansing directed at a distinct endpoint figure and is not regularly used in relation to one’s own body. In (a), the active form occurs with a reflexive pronoun, to signal an unexpected coreference of participants, based on an analogical extension: A person’s body is like a house or vessel that can be purged of unclean things.

(4.72) (a) *ἐὰν τις ἐκκαθάρῃ ἑαυτὸν ἀπὸ τούτων, ἔσται σκεῦος εἰς τιμήν*
If someone cleanses himself of these, he will be a vessel of honor (2 Timothy 2:21)

(b) *ἐὰν μὴ πυγμῇ νίψωνται τὰς χεῖρας οὐκ ἐσθίουσιν*
they do not eat unless they thoroughly wash their hands (Mark 7:3)

Example (a), marked with a reflexive pronoun, represents a case in which a normally acyclic event is marked as a cyclic action. On the other hand, a ritual washing in (b) that is regularly directed toward one’s own body is expressed with middle morphology, signaling the expected identity of source and endpoint roles. The Pharisees and Jews wash their hands before eating.

4.5.3 Self-benefactive/Indirect reflexive

Direct and indirect reflexives share a similar relational structure. Both depict self-oriented construals: A primary figure instigates an event, as the head of an action chain, and is also affected by it, as the tail of a relational arc. The primary figure is thus an affected agent, a participant who volitionally instigates an action but is also construed as being affected in some way by the outcome of the event (Næss 2007, 82). For direct reflexives, an agent acts on his own body. If a second argument is realized in the clause, it is coreferential with the first.[160] For indirect reflexives, an agent acts on a secondary figure but does so as a recipient or beneficiary of the event. Unlike direct reflexives, the indirect type involves a distinct patient that is acted on by the primary figure, hence its two-argument realization in the clause (Croft 2012, 240).

[160] Or: something that covers the body, or a possession worn on the body.

Despite its two-argument construal, the indirect reflexive still supplies a contrast in event termination, or how an event comes to an end. In a typical agent-patient relation, asymmetrical force terminates in a final endpoint that is distinct from the source. Acyclic action is not the only way to construe event development. Symmetrical force in indirect reflexives yields an alternate endpoint. Rather than terminating in a distinct patient, the action accrues back to the agent, as source and indirect endpoint of the same event. The spotlight is drawn to the primary figure who is affected by his own action (Kemmer 1993, 78; Langacker 2006, 130; Croft 2012, 236).

Alternate construals in event development lead to cross-linguistic differences in formal expression. In middle systems, conflation of source and endpoint roles is signaled grammatically via middle morphology. Argument realization encodes one direction of force (source to endpoint). Middle morphology encodes the reverse relation (endpoint to source), explicitly marking the cyclic nature of the action, as in Figure 10 (Croft 2012, 235-40).

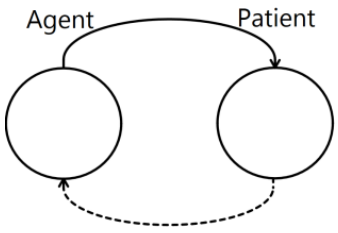

Figure 10 Indirect reflexive

Lexical semantics and event development play a major role in the distribution of the middle form. Middle morphology is semantically constrained to events that are typically or necessarily performed with the agent as a recipient or beneficiary of the action. That is, the conflation of participant roles – agent (source) and recipient/beneficiary (indirect endpoint) – is an expected part of the meaning of the verb. This includes events in which the primary figure is a recipient (4.73) as well as a beneficiary (4.74). In both cases, the middle form is used for events in which the primary figure is the intended endpoint.

For middle-only verbs in (4.73), the primary figure is a natural recipient of the action. The subject receives or brings s.o./s.t. toward himself, highlighting the energy transfer from endpoint to source. This may apply to physical relations (take into one's arms) or to possession/acceptance (receive, acquire, use) (Kemmer 1993, 78-81).

(4.73)

δέχομαι	accept, receive, take[161]	*ἐπιλαμβάνομαι*	take hold of, grasp, catch
δράσσομαι	grasp by the hand, seize	*κτάομαι*	acquire, get, possess
ἐναγκαλίζομαι	take in one's arms	*χράομαι*	use, treat, deal with[162]

In (4.74), the middle form denotes self-benefactives – events in which a typical part of the meaning of the verb is that the effects of the action accrue to the agent as a beneficiary. In Greek, this includes commerce and business – buy, trade, work, earn – as well as trickery and deception, allowing the primary figure to take advantage of the secondary participant.

(4.74)

διαπραγμᾰτεύομαι	gain by trading, earn
ἐργάζομαι	work, earn, trade[163]
πραγματεύομαι	busy oneself, do business, trade
ὠνέομαι	buy
κατασοφίζομαι	take advantage of by trickery
παραλογίζομαι	defraud s.o., take advantage of, mislead
ὑποκρίνομαι	pretend, act hypocritically, play a part

For events in (4.73) and (4.74), there is an expectation of participant coreference, in which source and endpoint roles are conflated onto the primary figure, as an affected agent. If such events constitute the semantic core of the indirect reflexive type, then events in (4.75) may be considered extensions of that core, including verbs of pillaging, disarming, and overpowering (often in battle) as well as verbs of giving, healing, and saving. In (a), the primary figure gains advantage/authority over his foe, by plundering, attacking, or conquering the enemy. For some,

[161] Derivatives: *ἀναδέχομαι*, *ἀπεκδέχομαι*, *ἀποδέχομαι*, διαδέχομαι, *εἰσδέχομαι*, *ἐκδέχομαι*, *ἐπιδέχομαι*, *παραδέχομαι*, *προσδέχομαι*, *ὑποδέχομαι*.

[162] Derivative: *καταχράομαι* 'use up, make full use of, misuse'.

[163] Derivatives: *ἀπεργάζομαι*, *κατεργάζομαι*, *περιεργάζομαι*, *προσεργάζομαι*.

the primary figure is also a recipient, as with *ἀπεκδύομαι* when he disarms his enemy, strips him of his weapon, and gains possession of it. In (b), the primary figure is more positively disposed toward the secondary participant. From a position of relative advantage, the subject may use his position to show pity on the secondary figure, grant a request, show favor, or spare from loss.

(4.75)

(a) Ill-disposed		(b) Well-disposed	
αἰκίζομαι	torture, persecute	*ἀκέομαι*	heal, cure, heal an offense
ἀπεκδύομαι	disarm[164]	*ἰάομαι*	treat, heal, repair[165]
ἐπίκειμαι	press upon, attack, urge[166]	*φῐλοφρονέομαι*	show favour to, embrace
ληΐζομαι	plunder, carry off booty	*δωρέομαι*	grant, bestow
καταγωνίζομαι	conquer, overcome	*χαρίζομαι*	show favor, give freely[167]
βιάζομαι	gain by force, overpower	*φείδομαι*	spare from loss, have pity on
χειρόομαι	overpower, subdue	*ῥύομαι*	rescue, save from danger

Alternations in (4.76) involve a contrast in energy transfer. In the active, an acyclic action transfers energy away from the primary figure toward a distinct endpoint participant. The middle offers an alternative construal. Energy is transferred toward the primary figure as a recipient or beneficiary of the action. Source and endpoint roles are conflated onto the affected agent.

(4.76)

Active/Acyclic		**Middle/Cyclic**	
αἱρέω	overpower, kill	*αἱρέομαι*	choose, prefer[168]
ἀναβάλλω	throw s.t. up/off	*ἀναβάλλομαι*	put off for oneself, delay[169]
ἀποδίδωμι	give up, give back, pay	*ἀποδίδωμαι*	sell
δανείζω	lend	*δανείζομαι*	borrow

[164] Also, with a direct reflexive sense, ‘strip off clothing’.

[165] A difference in meaning is reflected in a difference in form: sigmatic middle is agentive ‘heal’, with the *-(θ)η-* form as a non-agentive, physical spontaneous process: ‘become well, recover’.

[166] From *κεῖμαι* ‘be in a place, lie’: *ἐπί* + *κειμαι* ‘lie upon’ > attack with force > urge to do’.

[167] Different lexemes occur with different semantic associations and cultural connotations. Contrast active *δίδωμι* ‘give’ with middle *χαρίζομαι* ‘give graciously’, a verb that is traditionally treated as ‘active in meaning’ despite its middle morphology. Both verbs involve acts of giving, but it is *χαρίζομαι* that is used with a specific connotation. In Classical texts, it is often used with regard to making oneself amenable or agreeable to others (e.g. *χαριζόμενος τάδ’ ἀείδει* ‘he obliges with this song’ Homer, *Odyssey* 8.536). In Hellenistic, the verb is often used to convey something about the nature or beneficence of the giver. The giver shows himself to be gracious or civic minded by his act of giving. In this way, its middle expression is motivated by its verbal use, often in contexts of ascribing honor to the giver (e.g. *οὗτος ὑμῖν τούτους χαρίζεται τοὺς λόγους δι’ ἑρμηνέως ἐμοῦ* ‘it is he (the Lord) who bestows these instructions upon you through me as interpreter’ Josephus, *Antiquities* 3.87).

[168] Derivatives: *ἀναιρέω* ‘take up, get rid’ vs. *ἀναιρέομαι* ‘adopt, claim’; *ἀφαιρέω* ‘separate’ vs. *ἀφαιρέομαι* ‘take away’; *ἐξαιρέω* ‘tear out’ vs. *ἐξαιρέομαι* ‘select out, save’; *προαιρέω* ‘produce’ vs. *προαιρέομαι* ‘prefer, choose’.

[169] As a legal term ‘adjourn trial, delay a hearing’; also, body care sense: ‘throw over the shoulder > wear.’

ἐκδίδωμι	give out, pay	*ἐκδίδωμαι*	lease, rent out
ἐκλέγω	point out	*ἐκλέγομαι*	choose, select for oneself[170]
ἐνδείκνυμι	mark, indicate	*ἐνδείκνυμαι*	display oneself, exhibit[171]
ἐπισπάω	drag, pull, draw	*ἐπισπάομαι*	draw to oneself, entice s.o.[172]
κομίζω	bring, carry off	*κομίζομαι*	receive, get back
μερίζω	divide, separate	*μερίζομαι*	divvy up with others[173]
μισθόω	let out for hire, lease out	*μισθούμαι*	hire, employ s.o.
νέμω	pasture, graze a flock	*νέμομαι*	feed, graze (of cattle)
νοσφίζω	set apart, separate s.t.	*νοσφίζομαι*	hold back for oneself, steal
ὀνίνημι	profit, benefit, help s.o.	*ὀνίνημαι*	have benefit of, profit from
προσλαμβάνω	add, increase	*προσλαμβάνομαι*	take in/along/aside
προχειρίζω	hand over (rare)	*προχειρίζομαι*	choose, select
συμβουλεύω	give advice, advise	*συμβουλεύομαι*	ask advice, consult, plot with
τίθημι	lay, put/set in a place	*τίθημαι*	make for oneself, establish[174]
ὠφελέω	provide benefit to	*ὠφελέομαι*	derive profit, gain, benefit from

The middle form in (4.76) is used to denote events in which the primary figure is typically the intended endpoint, as with *νοσφίζομαι* ‘put aside for oneself, pilfer, skim off’.

(4.77) *καὶ <u>ἐνοσφίσατο</u> ἀπὸ τῆς τιμῆς, συνειδυίης καὶ τῆς γυναικός, καὶ ἐνέγκας μέρος τι παρὰ τοὺς πόδας τῶν ἀποστόλων ἔθηκεν*
He <u>purloined</u> some of the proceeds, and with the knowledge of his wife, he brought only part [of the money] and laid it at the apostles’ feet (Acts 5:2)

Because of this, the middle form represents a more basic or unemphatic way of expressing self-benefactives. The reflexive pronoun is then used with a wider set of verbs (including those that are *not* typically self-benefactive) to provide contrastive stress or emphasis on the fact that the agent and beneficiary/recipient are coreferential, i.e. that the event should be interpreted with symmetrical energy rather than asymmetrical force, as in (4.78) with active *ἐπισωρεύω* ‘pile s.t. up’ and a reflexive pronoun (Kemmer 1993, 74-81; Allan 2003, 114).

[170] Additional: *ἐπιλέγω* ‘identify, name’ vs. *ἐπιλέγομαι* ‘choose, select’.

[171] Additional: *ἐπιδείκνυμι* ‘display, show’ vs. *ἐπιδείκνυμαι* ‘show off, give prove, reveal oneself’.

[172] Also extends to medical term in which the action is performed directly on a body part as a direct reflexive: ‘draw toward oneself’ > ‘pull over the foreskin over the penis’, as in 1 Cor. 7:18.

[173] Also: *διαμερίζομαι* ‘divvy up, divide in a group, share in’; *συμμερίζομαι* ‘take a share in with’

[174] Derivatives: *ἀποτίθημι* ‘take off, lay down’ vs. *ἀποτίθημαι* ‘put away from oneself, avoid, stow away’; *ἀντιδιατίθημι* ‘retaliate’ vs. *ἀντιδιατίθημαι* ‘offer resistance’.

(4.78) *κατὰ τὰς ἰδίας ἐπιθυμίας ἑαυτοῖς ἐπισωρεύσουσιν διδασκάλους*
they will heap up *for themselves* teachers according to their own desires (2 Timothy 4:3)

The use of the middle form in the cyclic domain represents a shared formal coding for a similar relational structure. Middle morphology occurs with those events that typically or at least frequently denote symmetrical energy, as in naturally reciprocal events (*fight*, *embrace*), typical grooming verbs (*put on*, *take off*), and actions that are normally done with oneself as a recipient or beneficiary (*receive*, *choose*, *gain*). Among these more agent-like middle types, the primary figure is an affected agent, providing an alternate energy endpoint for event conception. Rather than terminating in a distinct endpoint, the action accrues back to the primary figure, as source/endpoint of a bidirectional transmission of force. The middle marks events that deviate from the typical agent-patient interaction, thus highlighting the cyclic nature of the event and profiling the direction of force that terminates with the primary figure.

4.6 Synthesis

The semantic analysis in §4.2-4.5 has implications for the description of the Greek middle. Syntactic accounts of voice focus on describing voice as distinct from syntactic transitivity, but from a semantic perspective, voice and transitivity, are interrelated phenomena and cannot be considered in isolation without curtailing essential functions of each (Kemmer 1993, 247; Shibatani 2006, 220). Discussions of voice fully rely on notions that only make sense given the overall phenomenon of semantic transitivity in grammar, i.e. participant relations, agency, causation, affectedness, changes of state, and salience of participants (Hopper and Thompson 1980; Mathewson and Emig 2016, 144-151; Emde Boas et al. 2019, 447-60).

By tying voice alternations to various meaning-oriented distinctions in transitivity, we bind voice to patterns of action and interaction among participants. Viewed in this way, transitivity represents a continuum, or gradient scale, for various semantic event types. Voice

relations become substantively grounded in this semantic continuum, illustrating how voice is ultimately concerned with distinctions in event conception, or how actions unfold.

In a typical agent-patient relation, the event begins with an initiating force that is then transferred via asymmetrical energy toward a secondary figure that goes through a process of change. This kind of semantic event structure provides a cognitive frame for making sense of a variety of voice alternations. Distinctions in voice represent departures from the basic transitive, allowing for various oppositions in event structure that pertain to facets of event development and furnish alternate ways of construing how a process may unfold. Human interactions and their consequences provide good reason for making such distinctions in event structure.

Grammatical voice provides form-meaning relationships in language, allowing speakers to communicate conceptual distinctions in event development, particularly in regard to their origin, progress, and termination. The variety of middle expressions in Greek – traditionally viewed as disparate and ill-defined – are readily organized relative to one another when framed in terms of the developmental stages of actions. Figure 11 demonstrates a schematic depiction of middle event types in Greek with respect to their contrast in origin, progress, and termination from event development in the prototypical transitive.

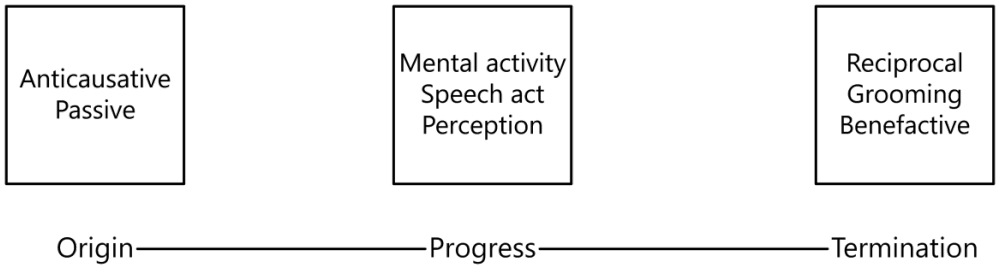

Figure 11 Developmental stages of actions and Greek middle voice alternations[175]

[175] Adapted from Shibatani 2006, 221.

Oppositions in voice embody alternative ways of viewing various facets of event development. Passive and anticausative events illustrate a contrast in even origin, shifting the starting point for the action, and the focus of attention, from an external, unaffected participant to a participant internal to the process of change. Both event types involve a low-to-vanishing saliency of an external source of energy (Kemmer 1993, 205).

For events in the cognitive domain, a contrast exists in event progress, shifting from asymmetrical force in the active to a bidirectional transmission of force in the middle. The experiencer is the energy source in whose mind the event originates as well as the energy endpoint as the participant who is cognitively changed. In contrast to the active, the profiled change occurs with the primary figure rather than the secondary participant.

Events in the cyclic domain contrast in event termination. Middle marking signals that the source is also the endpoint of a symmetrical relation. Rather than terminating in a final distinct participant, the event terminates where it began with an affected primary figure. On the continuum, moving from left to right, the various middle event types are organized from those with a more patient-like primary figure to those with a more agent-like primary figure.[176]

[176] For a detailed semantic map of the various Hellenistic Greek middle event types, see Aubrey (2015).

5. Conclusion

A number of themes in our discussion of voice are worth drawing out. The first is the semantic nature of voice alternations. One of the challenges of the middle is to understand how a variety of different expressions are related. Historically, analysis has focused on syntactic relationships, especially as they pertain to the role of the subject in relation to the verb. Alternations in voice are traditionally framed as encodings of choices in clausal subject, i.e. whether or not the subject is affected by the action. But this analytical frame is too narrow a view of event conception. It overlooks semantic shifts in how actions unfold and allows for just one kind of contrast from the basic active, i.e. altering the role of the subject. The present analysis frames voice in terms of semantic transitivity, involving both semantic shifts in the type of action as well as shifts in attentional focus regarding various facets in an event frame. Because voice resides in choices in *energy flow* and *attentional focus*, it encompasses a range of phenomena, wherein a marked choice in subject becomes just one type of contrast among others (Langacker 2006, 129-30). The first has to do with changes in semantic event type with respect to how energy is transferred in an event, particularly energy source, progress, and endpoint. The second relies on a visual metaphor to address how cognitive attention can shift to different facets of event construal. A natural consequence of shifting attention is a change in the relative salience of event participants.

Situating voice within event conception, especially in relation to event development and semantic transitivity, (1) captures a variety of middle expressions in a motivated way. This allows for voice categories like the middle to form a family of related structures, all bearing some resemblance to one another, while also displaying different contrasts in event construal. And (2), it points to differences in the organization of voice systems across languages. Middle systems are largely organized around semantic distinctions in event types, whereas derived

passive systems rely more heavily on the role of the subject, shifting attention to the patient for pragmatic purposes (Shibatani 2006). A middle system, like the one in Greek that subsumes both the passive and reflexive functions in the middle-marking domain, embraces aspects of both, with semantic and pragmatic motivations giving rise to voice alternations.

This observation about similarity and difference among voice systems brings us to the second theme, pertaining to voice typology. The behavior of the Greek middle, and especially the presence of middle-only verbs in the Greek voice system, may seem erratic or illogical if considered in isolation. But when brought into the context of voice typology (chapter 2), a number of semantic regularities are revealed that illustrate the semantic basis of middle voice systems. Two typological patterns are central to this claim.

The first is the shared formal and semantic connections between anticausatives and passives (§2.2.1). In Greek and other middle-marking languages, voice alternations form a grammatical continuum of various semantic event types, subsuming the passive function and reflexive semantics within the scope of a single form. The anticausative plays a central role as an intervening semantic type between two extremes. It is semantically connected to the passive through more patient-like events (e.g. *σήπομαι* 'rot') in which a patient undergoes a change of state. It also connects to more agent-like middles through bodily actions in which an agentive figure changes location/posture through internal energy (e.g. *στρέφομαι* 'turn around', compare body motions to grooming middles like *ἀμφιέννυμαι* 'get dressed').

The second typological pattern is the remarkable consistency in the distribution of middle forms across a wide variety of middle-marking languages. Middle systems are characterized by (1) an inventory of similar semantic event types that receive middle expression, and (2) the pervasive inclusion of non-alternating, middle-only verbs. From a primarily syntactic view of

voice, middle-only verbs may seem incongruous with the rest of the voice system, but there is nothing mismatched about them once a typologically informed perspective is adopted. Greek middle-only verbs are formally and semantically consistent with Greek as a middle voice system.

Typological patterns like these shed light on the behavior of the Greek middle by painting a wider picture of how middle systems behave across the world's languages. The third theme in our discussion of voice helps to do much the same. Exploring diachronic processes (chapter 3), contextualizes and provides motivation for particular sticking points that arise in traditional treatments of Greek voice. Two patterns that commonly arise among middle systems occur in Greek. Among labile alternations, the same form (active morphology), expresses both alternants. A change in meaning occurs without a change in form: *βλαστάνω* 'cause to grow' (causative) vs. *βλαστάνω* 'bud, sprout' (anticausative). Semantic doublets represent the opposite pattern. Synonymous pairs (*πειράω* ~ *πειράομαι* 'try, experience') illustrate a change in form without a change in meaning. Identifying lexical idiosyncrasies recognizes how such patterns arise and where they fit within diachronic and typological patterns among middle voice systems.

In addition, processes like grammaticalization help make sense of the variety of uses that occur with *-(θ)η-* morphology in Hellenistic Greek. Traditionally, *-(θ)η-* is treated as uniquely passive in function, but this belies its synchronic usage and diachronic development. As in §3.2, the integration of *-(θ)η-* into the Greek voice system is the result of a grammaticalization process; a lexical-derivational form develops into a larger meaning-class via lexical expansion. Over time, it loses specificity and expands its marking domain, culminating in a more inflectional affix, expressing voice (middle-passive) and aspect (perfective) in the verbal system.

The development of *-(θ)η-* morphology from an originally change-of-state/anticausative source, illustrates the central role of the anticausative type, not just for the rise of the *-(θ)η-* form,

but also its importance in the semantic network of middle event types. This is especially true for ancient IE languages, e.g. Greek, Latin, and Sanskrit. Yet the anticausative use of the middle tends to receive less attention in voice typology in comparison to the prominence given to the more reflexive-like uses of the middle (Kemmer 1993). The anticausative is a persistent and productive pattern in Greek voice. It warrants attention, both in regard to the diachronic origin and rise of middle markers among languages and in regard to the semantic profile of anticausatives in connection with the larger semantic middle domain.

Finally, chapter 4 provides a descriptive account of various semantic event types that receive middle marking in Hellenistic Greek. These types form a semantic continuum that adopts the scale of transitivity as a conceptual underpinning for alternations in voice (Kemmer 1993, 247). Drawing on semantic transitivity weaves voice parameters together as different facets of the same fabric. Voice and transitivity are based in the human cognition of events and are rooted in some of our most basic experiences of transferring action from one participant to another. Such experiences provide the basic patterns for understanding different kinds of action. Within event conception, these patterns pertain to developmental phases of action – how events are brought about, how energy is transferred, and how participants are affected by the action.

Though the Greek middle may be multifunctional, it is the meaningful experiential connections among these functions that motivate their shared formal expression, as well as their cross-linguistic cohesion with other voice systems. It is fitting in this regard to conceive of voice categories as a family of related structures. A set of forms in a language are used for a cluster of related functions that then form a coherent slice of a larger network of semantic types that languages tend to group together, based on shared conceptual distinctions in the nature of event development and how actions unfold.

References

Aikhenvald, Alexandra. 2007. Typological dimensions in word formation. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. 3: Grammatical categories and the lexicon*, 1-65. Cambridge: Cambridge University Press.

Alexiadou, Artemis. 2010. On the morphosyntax of (anti-)causative verbs. In Malka Rappaport Hovav, Edit Doron & Ivy Sichel (eds.), *Syntax, lexical semantics and event structure*, 177-203. Oxford: Oxford University Press.

Allan, Rutger J. 2003. *The middle voice in Ancient Greek: a study in polysemy*. Amsterdam: J.C. Gieben.

Amberber, Mengistu. 2000. Valency-changing and valency-encoding devices in Amharic. In R.M.W. Dixon & Alexandra Y. Aikhenvald (eds.), *Changing valency: Cases studies in transitivity*, 312-32. Cambridge: Cambridge University Press.

Arnott, D.W. 1970. *The nominal and verbal systems of Fula*. Oxford: Oxford University Press.

Aubrey, Rachel E. 2015. Motivated categories, middle voice, and passive morphology. In Steven E. Runge & Christopher J. Fresch (eds.), *The Greek verb revisited: A fresh approach for biblical exegesis*, 563-635. Bellingham, WA: Lexham Press.

Bache, Carl. 1997. *The study of aspect, tense, and action: towards a theory of the semantics of grammatical categories* (Rev. ed.). New York: Peter Lang.

Baerman, Matthew. 2007. Morphological typology of deponency. In Matthew Baerman, Greville G. Corbett, Dunstan Brown, & Andrew Hippisley (eds.), *Deponency and morphological mismatches*, 1-20 (Proceedings of the British Academy 145). Oxford: Oxford University.

Bauer, Laura. 2003. *Morphological productivity* (Cambridge Studies in Linguistics). Cambridge: Cambridge University Press.

Beavers, John. 2011. On affectedness. *Natural Language & Linguistic Theory* 29(2). 335-370.

Beck, David. 2000. Unitariness of participant and event in the Bella Coola (Nuxalk) middle voice. *International Journal of American Linguistics* 66(2). 218-256.

Beekes, Robert. 2010. *Etymological dictionary of Greek*, Vols. 1-2 (Leiden Indo-European Etymological Dictionary Series 10/1). Leiden & Boston: Brill.

Beekes, Robert. 2011. *Comparative Indo-European linguistics: An introduction* (2nd ed) (Revised by Michiel de Vaan). Amsterdam: John Benjamins.

Brinton, Laurel J. & Elizabeth C. Traugott. 2005. *Lexicalization and language change* (Research Surveys in Linguistics). Cambridge: Cambridge University Press.

Bybee, Joan. 1985. *Morphology: A study of the relation between meaning and form* (Typological Studies in Language 9). Amsterdam: John Benjamins.

Bybee, Joan. 2007. *Frequency of use and the organization of language*. Oxford: Oxford UP.

Bybee, Joan. 2010. *Language, usage, and cognition*. New York: Cambridge UP.

Campbell, Constantine R. 2015. *Advances in the study of Greek: new insights for reading the New Testament*. Grand Rapids: Zondervan.

Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.

Corbett, Greville G. 2007. Deponency, syncretism, and what lies between. In Matthew Baerman, Greville G. Corbett, Dunstan Brown, & Andrew Hippisley (eds.), *Deponency and morphological mismatches*, 21-44 (Proceedings of the British Academy 145). Oxford: Oxford University Press.

Croft, William. 1993. Case marking and the semantics of mental verbs. In James Pustejovsky (ed.), *Semantics and the lexicon*, 55-72. Dordrecht: Kluwer Academic.

Croft, William. 2012. *Verbs: Aspect and causal structure*. Oxford, UK: Oxford University Press.

Croft, William, Hava Bat-Zeev Shyldkrot, & Suzanne Kemmer. 1987. Diachronic semantic processes in the middle voice. In Anna Giacolone Ramat, Onofrio Carruba, & Guiliano Bernini (eds.), *Papers from the 7th international conference on historical linguistics*, 179-92. Amsterdam: John Benjamins.

Croft, William and D. Alan Cruse. 2004. *Cognitive linguistics*. Cambridge: Cambridge UP.

Crystal, David. 2003. *An encyclopedia of linguistics and phonetics* (5th ed.). Oxford: Blackwell.

Dana, H.E. & Julius R. Mantey. 1927. *A manual of the Greek New Testament.* New York: Macmillan.

Decker, Rodney J. 2014. *Reading koine Greek: an introduction and integrated workbook*. Grand Rapids: Baker Academic.

Dench, Alan. 2013. Possession in Martuthunira. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *Possession and ownership: A cross-linguistic typology*. Oxford: Oxford UP.

Dixon, R.M.W. & Alexandra Y. Aikhenvald (eds.). 2000. *Changing valency: Cases studies in transitivity*. Cambridge: Cambridge University Press.

Ellis, Nicholas J. 2016. Aspect-prominence, morpho-syntax, and a cognitive-linguistic framework for the Greek verb. In Steven E. Runge & Christopher J. Fresch (eds.), *The Greek verb revisited: A fresh approach for biblical exegesis*, 122-60. Bellingham, WA: Lexham Press.

Emde Boas, Evert van, Albert Rijksbaron, Luuk Huitink, & Mathieu de Bakker 2019. *Cambridge grammar of Classical Greek*. Cambridge: Cambridge University Press.

Faltz, Leonard M. 1977. *Reflexivization: a study in universal syntax*. Doctoral dissertation, University of California, Berkeley (Reprinted 2017 by Routledge, London).

Farrell, Patrick. 2005. *Grammatical relations*. Oxford: Oxford University Press.

Foley, William A. & Robert D. Van Valin, Jr. 1984. *Functional syntax and universal grammar*. Cambridge: Cambridge University Press.

Fox, Barbara & Paul J. Hopper (eds.). 1994. *Voice form and function* (Typological Studies in Language 27). Amsterdam & Philadelphia: John Benjamins.

Frazer, Jennifer. 2015. *Dying trees can send food to neighbors of different species*. https://blogs.scientificamerican.com/artful-amoeba/dying-trees-can-send-food-to-neighbors-of-different-species (9 June 2018).

García Ramón, José Luis. 2014. From Aktionsart to aspect and voice: On the morphosyntax of the Greek aorists in *-η-* and *-(θ)η-*. In Annamaria Bartolotta (ed.), *The Greek verb: Morphology, syntax, and semantics: Proceedings of the 8th international meeting of Greek linguistics* (Agrigento, October 1-2, 2009) [Bibliothèque des Cahiers de Linguistique de Louvain (BCLL) 128], 149-82. Leuven: Peeters.

Geniušienė, Emma. 1987. *The typology of reflexives* (Empirical Approaches to Language Typology 2). Berlin: Mouton de Gruyter.

Gerdts, Donna B. & Thomas E. Hukari. 2006. The Halkomelem middle: A complex network of constructions. *Anthropological Linguistics* 48(1). 44-81.

Gildersleeve, Basil Lanneau. 1900. *Syntax of classical Greek from Homer to Demosthenes*. New York: American Book Company.

Givón, Talmy. 1984. *Syntax: a functional-typological introduction*. Vol. 1. Amsterdam: John Benjamins.

Givón, Talmy. 2002. *Bio-linguistics: The Santa Barbara lectures*. Amsterdam: John Benjamins.

Goodwin, W. Watson. 1895. *Greek reader: consisting of selections from Xenophon, Plato, Herodotus, and Thucydides, with notes adapted to the revised and enlarged edition of Goodwin's Greek grammar, and copperplate maps* (Rev. ed.). Boston: Ginn & Company.

Harris, Roy. 1998. Making sense of communicative competence. In Roy Harris & George Wolf (eds.), *Integrational linguistics: a first reader*, 27-45 (Language & Communication Library 18). Oxford: Pergamon.

Harris, Roy & George Wolf (eds.). 1998. Introduction to *Integrational linguistics: a first reader* (Language & Communication Library 18). Oxford: Pergamon.

Haspelmath, Martin. 1987. Transitivity alternations of the anticausative type. Institut für Sprachwissenschaft Arbeitspapier NS 5. Cologne: Universität zu Köln.

Haspelmath, Martin. 1990. The grammaticization of passive morphology. *Studies in Language* 14(1). 25-72.

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations. In Bernard Comrie & Maria Polinksy (eds.), *Causatives and transitivity*, 87-120. Amsterdam: John Benjamins.

Haspelmath, Martin. 2003. The geometry of grammatical meaning: semantic maps and cross-linguistic comparison. In Michael Tomasello (ed.), *The new psychology of language: cognitive and functional approaches to language structure*, vol. 2, 211-42. Mahwah, NJ: Lawrence Erlbaum.

Haspelmath, Martin. 2016. Universals of the causative and anticausative verb formation and the spontaneity scale. *Lingua Posnaniensis* 58(2). 33-63.

Haspelmath, Martin & Thomas Müller-Bardey. 2004. Valency change. In Geert Booij, Christian Lehmann, Joachim Mugdan, & Stavros Skopeteas (eds.), *Morphology: An international handbook on inflection and word-formation*, Vol. 2, 1130-44. Berlin: Walter de Gruyter.

Hinge, George. 2007. The PIE essive and fientive in Greek (handout), Greek and Latin from an Indo-European Perspective II, University of Oslo, 5-7 July 2007. http://www.glossa.dk/lingu/essiv.pdf (11 November 2019).

Hock, Hans Henrich. 2003. Analogical change. In Brian D. Joseph & Richard D. Janda (eds.), *The handbook of historical linguistics*, 441–460. Oxford: Blackwell.

Hopper, Paul J. 1998. Emergent Grammar. In Michael Tomasello (ed.), *The new psychology of language: cognitive and functional approaches to language structure*, vol. 1, 155-75. Mahwah, NJ: Lawrence Erlbaum.

Hopper, Paul J. & Sandra A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56(2): 251–299.

Jassanoff, Jay. 2002/2003. Stative *-ē-revisited. *Die Sprache* 43. 127-70.

Junčytė, Giedrė. 2018. Lithuanian anticausative verb triads: Form, semantics and functions. In: Andra Kalnača and Ilze Lokmane (eds.), *Language: Meaning and Form 9, Grammar and pragmatics*, 80-95. Latvijas Universitāte.

Keenan, Edward L. & Matthew S. Dryer. 2007. Passive in the world's languages. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. 1: Clause structure* (2nd ed.), 325-61. Cambridge: Cambridge University Press.

Kemmer, Suzanne. 1993. *The middle voice* (Typological Studies in Language 23). Amsterdam & Philadelphia: John Benjamins.

Kemmer, Suzanne. 2003. Human cognition and the elaboration of Events: some universal conceptual categories. In Michael Tomasello (ed.), *The new psychology of language: cognitive and functional approaches to language structure*, vol. 2, 89-118. Mahwah, NJ: Lawrence Erlbaum.

Kemmer, Suzanne & Arie Verhagen. 1994. The grammar of causatives and the conceptual structure of events. *Cognitive Linguistics* 5(2). 115-56.

Kiefer, Ferenc. 2000. Regularity. In Geert Booij, Christian Lehmann, Joachim Mugdan, & Stavros Skopeteas (eds.), *Morphology: An international handbook on inflection and word-formation*, Vol. 1, 296-302. Berlin: Walter de Gruyter.

Klaiman, M.H. 1991. *Grammatical voice*. New York: Cambridge University Press.

Krasukhin, Konstantin G. 2006. Typology and comparative linguistics: Jakobson revisited. In Terttu Nevalainen, Juhani Klemola, & Mikko Laitinen (eds.), *Types of variation: Diachronic, dialectal and typological interfaces* (Studies in Language Companion Series 76), 81-97. Amsterdam & Philadelphia: John Benjamins.

Kretzschmar, William A, Jr. 2015. *Language and complex systems*. Cambridge: Cambridge UP.

Kulikov, Leonid. 1998. Passive, anticausative and classification of verbs: The case of Vedic. In Leonid Kulikov & Heinz Vater (eds.), *Typology of verbal categories: Papers presented to Vladimir Nedjalkov on the occasion of his 70th birthday*, 139-54. Tübingen: Niemeyer.

Kulikov, Leonid. 2006. Passive and middle in Indo-European: Reconstructing the early Vedic passive paradigm. In Werner Abraham and Larisa Leisiö (eds.), *Passivization and typology: Form and function*, 62-81. Amsterdam: John Benjamins.

Kulikov, Leonid. 2010. Bridging typology and diachrony: A preliminary questionnaire for a diachronic typological study of voice and valency-changing categories. In Valentin Vydrin et al. (eds.), *Problemy grammatiki i tipologii: sbornik statej pamjati Vladimira Petroviča Nedjalkova* (1928–2009) [*Issues in Grammar and Typology: A Memorial Volume for Vladimir Nedjalkov*], 139-63. Moscow: Znak.

Kulikov, Leonid. 2011. Voice typology. In Jae Jung Song (ed.), *The oxford handbook of linguistic typology*, 368-98. Oxford: Oxford University Press.

Kulikov, Leonid. 2013. Middle and reflexive. In Silvia Luraghi & Claudia Parodi (eds.), *The bloomsbury companion to syntax*, 261-280. New York: Bloomsbury.

Kozinsky, Isaac and Vladimir Nedjalkov, & Maria Polinskaja. 1988. Antipassive in Chukchee. In Masayoshi Shibatani (ed.), *Passive and voice*, 651-706. Amsterdam: John Benjamins.

Ladewig, Stratton L. 2010. *Defining deponency: An investigation into Greek deponency of the middle and passive voices in the koine period*. Doctoral dissertation, Dallas Theological Seminary.

Lakoff, George. 1987. *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.

Langacker, Ronald W. 1987. *Foundations of cognitive grammar: Vol. 1 Theoretical prerequisites*. Stanford, CA: Stanford University Press.

Langacker, Ronald W. 1991. *Foundations of cognitive grammar: Vol. 2 descriptive application*. Stanford, CA: Stanford University Press.

Langacker, Ronald W. 1998. Conceptualization, symbolization, and grammar. In Michael Tomasello (ed.), *The new psychology of language: cognitive and functional approaches to language structure* vol. 1, 1-39. Mahwah, NJ: Lawrence Erlbaum.

Langacker, Ronald W. 2006. Dimensions of defocusing. In Tasaku Tsunoda & Taro Kageyama (eds.), *Voice and grammatical relations In honor of Masayoshi Shibatani*, 115-37 (Typological Studies in Language 65). Amsterdam & Philadelphia: John Benjamins.

Langacker, Ronald W. 2010. How not to disagree: The emergence of structure and usage. In Kasper Boye & Elisabeth Engberg-Pedersen (eds.), *Language usage and language structure*, 107-43 (Trends in Linguistics, Studies and Monographs 213). Berlin & New York: Mouton de Gruyter.

LaPolla, Randy J. 2003. Why languages differ: variation in the conventionalization of constraints on inference. In David Bradley, Randy J. LaPolla, Boyd Michailovsky & Graham Thurgood (eds.), *Language variation: papers on variation and change in the sinosphere and in the indosphere in honour of James A. Matisoff*, 113-44 (Pacific Linguistics 555). Canberra: The Australian National University.

LaPolla, Randy J., František Kratochvíl & Alexander R. Coupe. 2011. On transitivity. *Studies in Language* 35(3). 469-491.

Lavidas, Nikolaos and Dimitra Papangeli. 2007. Deponency in the diachrony of Greek. In Matthew Baerman, Greville G. Corbett, Dunstan Brown, & Andrew Hippisley (eds.), *Deponency and morphological mismatches*, 97-126 (Proceedings of the British Academy 145). Oxford: Oxford University Press.

Lazard, Gilbert. 2003. Transitivity revisited as an example of a more strict approach in typological research. *Folia Linguistica* XXXVI(3-4). 141–190.

Levin, Beth. 1993. *English verb classes and alternations: A preliminary investigation*. Chicago: University of Chicago Press.

Levin, Beth & Malka Rappaport Hovav. 1995. Unaccusativity at the syntax-lexical semantics interface. Cambridge, Mass.: MIT Press.

Lyons, John. 1968. *Introduction to theoretical linguistics*. New York: Cambridge University.

Maldonado, Ricardo. 2007. Grammatical voice in cognitive grammar. In Dirk Geeraerts & Hubert Cuyckens (eds.), *The oxford handbook of cognitive linguistics*, 829-68. Oxford: Oxford University Press.

Maldonado, Ricardo. 2008. Spanish middle syntax. A usage-based proposal for grammar teaching. In Sabine De Knop & Teun De Rycker (eds.), *Cognitive approaches to pedagogical grammar*, 155-96. Berlin: Moutin de Gruyter.

Maldonado, Ricardo. 2009. Middle as a basic voice system. In Lilián Guerrero, Sergio Ibáñez Cerda, & Valeria A. Belloro (eds.), *Studies in role and reference grammar*, 69-109. Mexico: Instituto de Investigaciones Filológicas, UNAM.

Manney, Linda Joyce. 2000. *Middle voice in Modern Greek* (Studies in Language Companion Series 48). Amsterdam: John Benjamins.

Manzini, M. Rita, Anna Roussou, & Leonardo M. Savoia. 2016. Middle-passive voice in Albanian and Greek. *Journal of linguistics* 52(1). 111-150.

Matthews, Peter H. 2007. How safe are our analyses?. In Matthew Baerman, Greville G. Corbett, Dunstan Brown, & Andrew Hippisley (eds.), *Deponency and morphological mismatches*, 297-315 (Proceedings of the British Academy 145). Oxford: Oxford University Press.

Mathewson, David L. & Elodie Ballantine Emig. 2016. *Intermediate Greek grammar: syntax for students of the new testament*. Grand Rapids: Baker Academic.

Martin, Jack B. 2000. Creek voice: beyond valency. In R.M.W. Dixon & Alexandra Y. Aikhenvald (eds.), *Changing valency: Cases studies in transitivity*, 375-402. Cambridge: Cambridge University Press.

Mithun, Marianne. 2006. Voice without subjects, objects, or obliques: Manipulating argument structure in Agent/Patient systems (Mohawk). In Tasaku Tsunoda & Taro Kageyama (eds.), *Voice and grammatical relations: in honor of Masayoshi Shibatani*, 195-216 (Typological Studies in Language 65). Amsterdam & Philadelphia: John Benjamins.

Mounce, William D. 2009. *Basics of Biblical Greek grammar* (3rd ed.). Grand Rapids: Zondervan.

Næss, Åshild. 2007. *Prototypical transitivity* (Typological Studies in Language 72). Amsterdam & Philadelphia: John Benjamins.

Nedjalkov, Vladimir P. 2007a. Encoding of the reciprocal meaning. In Vladimir P. Nedjalkov, Emma Š. Geniušienė, & Zlatka Guentchéva (eds.), *Reciprocal constructions*, 147-207 (Typological Studies in Language 71). Amsterdam & Philadelphia: John Benjamins.

Nedjalkov, Vladimir P. 2007b. Polysemy of reciprocal markers. In Vladimir P. Nedjalkov, Emma Š. Geniušienė, & Zlatka Guentchéva (eds.), *Reciprocal constructions*, 231-334 (Typological Studies in Language 71). Amsterdam & Philadelphia: John Benjamins.

Nedjalkov, Vladimir P. 2007c. Overview of the research. Definitions of terms, framework, and related issues. In Vladimir P. Nedjalkov, Emma Š. Geniušienė, & Zlatka Guentchéva (eds.), *Reciprocal constructions*, 3-114 (Typological Studies in Language 71). Amsterdam & Philadelphia: John Benjamins.

Nedjalkov, Vladimir P. & Emma Geniušienė. 2007. Questionnaire on reciprocals. In Vladimir P. Nedjalkov, Emma Š. Geniušienė, & Zlatka Guentchéva (eds.), *Reciprocal constructions*, 379-434 (Typological Studies in Language 71). Amsterdam: John Benjamins.

Nichols, Johanna. 2003. Diversity and stability in language. In Brian D. Joseph & Richard D. Janda (eds.), *The handbook of historical linguistics*, 283-310. Berlin: Blackwell.

Onishi, Masayuki. 2000. Transitivity and valency-changing derivations in Motuna. In R.M.W. Dixon & Alexandra Y. Aikhenvald (eds.), *Changing valency: Cases studies in transitivity*, 115-44. Cambridge: Cambridge University Press.

Palancar, Enrique L. 2004. Middle voice in Otomi. *International Journal of American Linguistics* 70(1). 52-85.

Pavey, Emma. 2010. *The structure of language*. Cambridge: Cambridge University Press.

Payne, Thomas E. 2006. *Exploring language structure: A student's guide*. Cambridge: Cambridge University Press.

Porter, Stanley E. 1994. *Idioms of the Greek new testament* (2nd ed.). Sheffield: Sheffield Academic.

Porter, Stanley E., Jeffrey T. Reed, & Matthew Brook O'Donnell. 2010. *Fundamentals of New Testament Greek*. Grand Rapids, MI: William B. Eerdmans Publishing Company.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, Jan Svartvik. 1985. A comprehensive grammar of the English language. New York: Longman Group Limited.

Richards, Jack C. & Theodore S. Rodgers. 2014. *Approaches and methods in language teaching* (3rd ed.). Cambridge: Cambridge University Press.

Rijksbaron, Albert. 2006. *The syntax and semantics of the verb in classical Greek: An introduction* (3rd ed.). Chicago: University of Chicago Press.

Robertson, Archibald T. 2006 [1919]. *Grammar of the Greek New Testament in the light of historical research*. Bellingham, WA: Faithlife.

Saeed, John I. 1995. The semantics of middle voice in Somali. *African Languages and Cultures* 8(1). 61-85.

Sansò, Andrea. 2006. 'Agent defocusing' revisited: Passive and impersonal constructions in some European languages. In Werner Abraham & Larisa Leisiö (eds.), *Passivization and typology: Form and Function* (Typological Studies in Language 68), 232-273. Amsterdam: John Benjamins.

Sauer, Hans. 2004. Lexicalization and demotivation. In Geert Booij, Christian Lehmann, Joachim Mugdan, & Stavros Skopeteas (eds.), *Morphology: An international handbook on inflection and word-formation*, Vol. 2, 1625-1635. Berlin: Walter de Gruyter.

Sausa, Eleonora. 2016. Basic valency orientation in Homeric Greek. *Folia Linguistica Historica* 37. 205-238.

Shibatani, Masayoshi. 1985. Passives and related constructions: A prototype analysis. *Language* 61, 821–848.

Shibatani, Masayoshi (ed.). 1988. *Passive and voice* (Typological Studies in Language 16). Amsterdam: John Benjamins.

Shibatani, Masayoshi. 2004. Voice. In G. Booij et al. (eds.), *Morphology: A handbook on inflection and word-formation*, Vol. 2, 1145-65. Berlin: Walter de Gruyter.

Shibatani, Masayoshi. 2006. On the conceptual framework for voice phenomena. *Linguistics* 44. 217–269.

Shibatani, Masayoshi and Ketut Artawa. 2007. The middle voice in Balinese. In Iwasaki Shoichi, Andrew Simpson, Karen Adams, & Paul Sidwell (eds.), *SEALS XIII: Papers from the 13th Annual Meeting of the Southeast Asian Linguistics Society*, 239-261. Canberra, Australia: Pacific Linguistics, Research School of Pacific and Asian Studies.

Sihler, Andrew L. 1995. *New comparative grammar of Greek and Latin*. New York: Oxford.

Simard, Suzanne W. 2018. Mycorrhizal networks facilitate tree communication, learning, and memory. In Frantisek Baluska, Monica Gagliano, & Guenther Witzany (eds.), *Memory and learning in plants*, 191-213. New York: Springer.

Smyth, Herbert Weir. 1956. *Greek grammar* (Rev. ed.). Cambridge: Harvard University Press.

Steinbach, Markus. 2002. *Middle voice: A comparative study in the syntax-semantic interface of German* (Linguistik Aktuell/Linguistics Today 50). Amsterdam: John Benjamins.

Sweetser, Eve. 1990. *From etymology to pragmatics: Metaphorical and cultural aspects of semantic structure*. Cambridge: Cambridge University Press.

Szemerényi, Oswald. 1996. *Introduction to Indo-European linguistics*. Oxford: Oxford UP.

Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In Timothy Shopen (ed.), *Language typology and syntactic description, Vol. 3: Grammatical categories and the lexicon*. Cambridge, Cambridge University Press.

Tsunoda, Tasaku & Taro Kageyama (eds.). 2006. *Voice and grammatical relations: In honor of Masayoshi Shibatani* (Typological Studies in Language 65). Amsterdam: John Benjamins.

Van Valin, Robert D., Jr. & Randy J. LaPolla. 1997. *Syntax: structure, meaning, and function*. Cambridge: Cambridge University Press.

Verhagen, Arie. 2002. From parts to wholes and back again. *Cognitive Linguistics* 13(4). 403-39.

Verhagen, Arie. 2007. Construal and perspectivization. In Dirk Geeraerts & Hubert Cuyckens (eds.), *The oxford handbook of cognitive linguistics*, 48-81. Oxford: Oxford University.

Wackernagel, Jacob. 2009. *Lectures on syntax: with special reference to Greek, Latin, and Germanic* (David R. Langslow, ed.). Oxford: Oxford University Press.

Wallace, Daniel B. 1996. *Greek grammar beyond the basics: an exegetical syntax of the new testament*. Grand Rapids: Zondervan.

Ward, Gregory, Betty Birner, & Rodney G. Huddleston. 2002. Information packaging. In Rodney D. Huddleston & Geoffrey K. Pullum (eds.), *The Cambridge grammar of the English language*, 1363-1448. New York: Cambridge University Press.

Wiemer, Björn and Vladimir P. Nedjalkov. 2007. Reciprocal and reflexive constructions in German. In Vladimir P. Nedjalkov, Emma Š. Geniušienė, & Zlatka Guentchéva (eds.), *Reciprocal constructions*, 455-512 (Typological Studies in Language 71). Amsterdam & Philadelphia: John Benjamins.

Willi, Andreas. 2018. *Origins of the Greek verbs.* Cambridge: Cambridge University Press.

Wolde, Ellen van. 2019. The Niphal as middle voice and its consequence for meaning. *Journal for the Study of the Old Testament* 43(3). 453-478.

Young, Richard A. 1994. *Intermediate New Testament Greek: A linguistic and exegetical approach*. Nashville, Tenn: Broadman & Holman.