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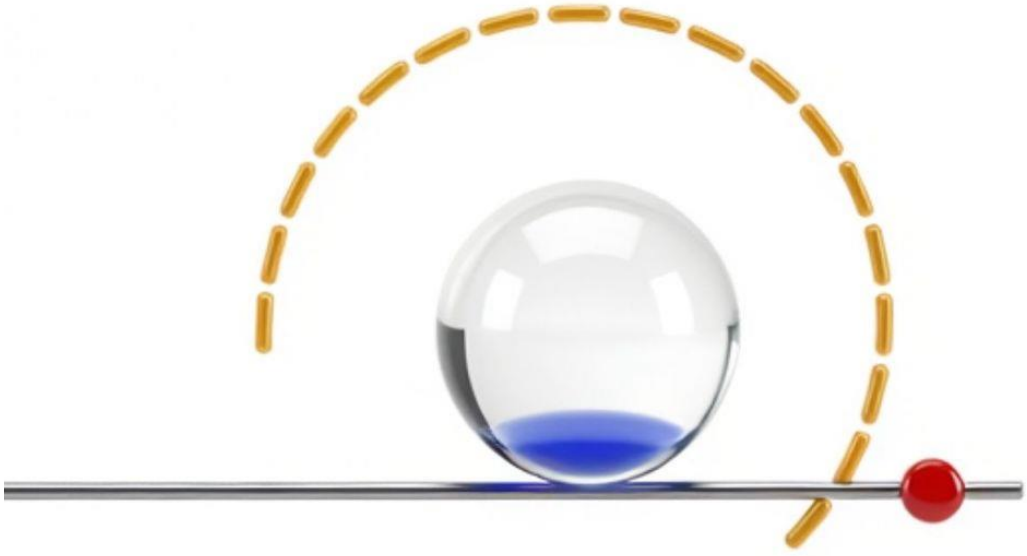
TURKISH ASPECT THROUGH COGNITIVE GRAMMAR

Fatih Ünal Bozdağ



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Turkish Aspect through Cognitive Grammar

Abstract

Turkish Aspect through Cognitive Grammar develops the source-domain retention hypothesis, the claim that grammaticalization schematizes rather than erases the cognitive structure of a source construction, so that the synchronic extension profile of a grammaticalized marker remains predictable from the structural properties of its etymological source. The hypothesis is tested against the complete tense-aspect system of Turkish, whose five core markers, -(I)yor, -(A)r, -mAktA, -DI, and -mIş, derive from etymologically diverse and well-attested sources. Three retain transparent links to their lexical origins; two have eroded sufficiently to obscure theirs, providing a built-in contrast for evaluating the claim.

Working within Langacker's Cognitive Grammar, the book analyses each marker through construal operations such as sequential and summary scanning, subjectification, and the trajector-landmark asymmetry, then models the system as a whole along dimensions of scanning mode, epistemic stance, and temporal boundedness, before extending the account across the Turkic family from Oghuz to Siberian varieties.

The result is a unified cognitive-semantic explanation of why Turkish aspectual markers behave as they do, and a generalisable mechanism linking diachronic source to synchronic construal.

Keywords: Cognitive Grammar; tense and aspect; grammaticalization; source-domain retention; construal; subjectification; Turkish; Turkic languages; evidentiality

Önsöz

Zaman-görünüş-kiplik biçimbiriminin gramatikleşmesi, tipolojik dilbilimin en ayrıntılı biçimde belgelenmiş olgularından biridir; buna karşın bu olgunun bilişsel temelleri büyük ölçüde belirsiz kalmıştır. Belirli kaynak yapıların, yani hareket eylemleri, duruş eylemleri, bulunma yüklemleri ve sonuçsal ortaçların, diller arasında neden bu denli düzenli biçimde belirli görünüşsel profiller doğurduğu, açıklanmayı bekleyen bir sorundur. Var olan çözümlemeler gramatikleşme yollarını ayrıntısıyla betimlemekte, ancak kaynağın yapısal özelliklerinin hedef biçimin görüntüleme (construal) özelliklerini neden kısıtladığını seyrek olarak açıklamaktadır.

Bu kitap, söz konusu soruya kaynak alan koruma savı (source-domain retention) aracılığıyla yanıt aramaktadır. Sava göre gramatikleşme, kaynak alanın bilişsel yapısını silmek yerine onu şematikleştirir; böylece gramatikleşmiş bir biçimin eşzamanlı yayılma profili, etimolojik kaynağının yapısal özelliklerinden önceden kestirilebilir duruma gelir. Sav, Türkçenin zaman-görünüş dizgesi üzerinden geliştirilmektedir. Türkçe bu açıdan özellikle aydınlatıcı bir örnek sunar; çünkü dizgenin beş temel biçimi olan -(I)yor, -(A)r, -mAktA, -DI ve -mIş, artzamanlı tarihçeleri iyi belgelenmiş ve etimolojik bakımdan birbirinden farklı kaynaklardan türemiştir. Bu beş biçimin üçü sözlüksel kökenleriyle saydam bağını korurken, kalan ikisi bu bağı bulanıklaştıracak ölçüde sesbilgisel ve anlamsal aşınmaya uğramıştır. Bu bakışımsızlık, savı bütün bir zaman-görünüş dizgesi karşısında sınamaya olanak tanıyan görgül bir zemin sağlamaktadır.

Çözümleme, Langacker'ın (1987, 2008a) Bilişsel Dilbilgisi çerçevesinde yürütülmektedir. Ardışık tarama ile özetleyici tarama, öznelleşme, görüntüleme işlemleri, profilleme ve trajector-landmark bakışımsızlığı gibi temel çözümleme araçları İkinci Bölümde tanıtılmakta, Üçüncü Bölümden Yedinci Bölüme değin her biçime ayrı ayrı uygulanmaktadır. Sürerlilik biçimi -(I)yor, Eski Türkçedeki yörü- "yürümek" kaynağının uzamsal hareket profilini devralan ve yörüngeye dayalı ardışık tarama kodlayan bir biçim olarak çözümlenmektedir. Biçimsel bitmemişlik -mAktA, -mAk ile -DA'dan oluşan bulunma-içerme yapısının uzamsal içermesini yansıtan gözlemsel uzaklaşmayı kodlamaktadır. Kanıtsal -mIş ise eski sonuçsallık anlamını koruyarak olay sonrası bir bilgisel bakış noktası kodlamaktadır. Etimolojik kaynakları saydam olmayan geniş zaman -(A)r ile görülen geçmiş -DI ise, görüntüleme profilleri kaynak alan kalıtımından değil dizgesel karşıtlıktan belirlenen, azami ölçüde genel biçimler olarak ortaya konmaktadır.

Sekizinci Bölüm dizgeyi bir bütün olarak ele almakta ve beş biçimin tarama kipi, bilgisel duruş ile zamansal sınırlılık boyutlarında birbirini bütünleyen

konumlar edindiği, görüntüleme temelli bir mimari önermektedir. Dokuzuncu Bölüm, kaynak alan koruma savını gramatikleşme kuramına bir katkı olarak geliştirmekte ve bir biçimin sergilediği görüntüleme özgüllüğünün etimolojik kaynağının saydamlığından kestirilebilir olduğunu savunmaktadır. Onuncu Bölüm çözümlemeyi Türk dilleri ailesine genişletmekte ve kavramsal metafor, imge şemasal yapı ile sıklık güdümlü pekişme gibi aynı bilişsel düzeneklerin Oğuzcadan Sibirya Türkçesine değin tipolojik bakımdan çeşitlilik gösteren görünüş dizgelerinde işlediğini göstermektedir. On Birinci Bölüm bulguları birleştirmekte ve ileri araştırma doğrultularını belirlemektedir.

Kitap, Türkçe dilbilgisi ya da Bilişsel Dilbilgisi konusunda önbilgi gerektirmemekte, her ikisini de ilgili bölümlerde temelden tanıtmaktadır. Türkçe dilbilgisi üzerine var olan başlıca çalışmalar, özellikle Kornfilt (1997), Lewis (2000) ile Göksel ve Kerslake (2005), zaman-görünüş dizgesinin kapsamlı betimsel çözümlemesini sunmakla birlikte biçimlerin neden bu biçimde davrandığına ilişkin birleşik bir bilişsel-anlamsal açıklama getirmemektedir. Bu çalışma, anılan çalışmaların görgül temelleri üzerine kurulurken betimsel çözümlemelerinin örtük bıraktığı açıklayıcı düzeneği ortaya koymayı amaçlamaktadır. Bu düzenek, her biçimin gramatikleştiği kaynak alanın yaşayan dildeki işlevsel profilini biçimlendirmeyi sürdürmesinde yatmaktadır. Kitap, bilişsel dilbilim, dilbilimsel tipoloji, gramatikleşme kuramı ve Türklük bilimi alanlarındaki araştırmacılarla ileri düzey öğrenciler için tasarlanmıştır.

Teşekkür

Bu kitabın hazırlanması sürecinde değerli görüş ve önerileriyle yol gösteren, katkılarını esirgemeyen kıymetli hocalarım Prof. Dr. Ömer Tuğrul Kara ve Prof. Dr. Mesut Gün'e en içten teşekkürlerimi sunarım.

Fatih Ünal Bozdağ

Preface

The grammaticalization of tense-aspect-mood morphology is among the most extensively documented phenomena in typological linguistics, yet its cognitive foundations remain underspecified. Why do particular source constructions, namely motion verbs, posture verbs, locative predicates, and resultative participles, yield particular aspectual profiles with such cross-linguistic regularity? Existing accounts describe the pathways in detail but rarely explain why the structural properties of the source should constrain the construal properties of the target.

This book addresses that question by advancing the source-domain retention hypothesis, which holds that grammaticalization schematizes rather than erases the cognitive structure of the source domain, so that the synchronic extension profile of a grammaticalized marker remains predictable from the structural properties of its etymological source. The hypothesis is developed through a systematic analysis of the Turkish tense-aspect system. Turkish is a particularly instructive case because its five core markers, -(I)yor, -(A)r, -mAktA, -DI, and -mIş, derive from etymologically diverse and well-attested sources. Three of the five retain transparent connections to their lexical origins, while the remaining two have undergone sufficient phonological and semantic erosion to obscure theirs. This asymmetry provides an empirical testing ground for the hypothesis, one that has not, to date, been evaluated against a complete tense-aspect system.

The analysis proceeds within the framework of Langacker's (1987, 2008a) Cognitive Grammar. The central analytical apparatus, namely sequential and summary scanning, subjectification, construal operations, profiling, and the trajector-landmark asymmetry, is introduced in Chapter 2 and applied to each marker individually in Chapters 3 through 7. The progressive -(I)yor is analysed as encoding trajectory-based sequential scanning, inheriting the spatial motion profile of its Old Turkic source yörü- 'walk'. The formal imperfective -mAktA is analysed as encoding observational detachment, reflecting the locative containment of the infinitive-locative construction -mAk plus -DA. The evidential -mIş is analysed as encoding a post-event epistemic vantage point, retaining the resultative semantics of the old perfect. The aorist -(A)r and the perfective -DI, whose etymological sources are opaque, function as maximally general markers whose construal profiles are determined by systemic opposition rather than source-domain inheritance.

Chapter 8 examines the system as a whole, proposing a construal-based architecture in which the five markers occupy complementary positions along dimensions of scanning mode, epistemic stance, and temporal boundedness.

Chapter 9 develops the source-domain retention hypothesis as a contribution to grammaticalization theory, arguing that the degree of construal specificity a marker exhibits is predictable from the transparency of its etymological source. Chapter 10 extends the analysis across the Turkic language family, showing that the same cognitive mechanisms, namely conceptual metaphor, image-schematic structure, and frequency-driven entrenchment, operate in typologically diverse aspectual systems from Oghuz to Siberian Turkic. Chapter 11 synthesises the findings and identifies directions for further research.

The book presupposes no prior knowledge of Turkish grammar or Cognitive Grammar, introducing both from the ground up in the relevant chapters. Existing monographs on Turkish grammar, notably Kornfilt (1997), Lewis (2000), and Göksel and Kerslake (2005), provide comprehensive descriptive coverage of the tense-aspect system but do not offer a unified cognitive-semantic account of why the markers behave as they do. The present work builds on their empirical foundations while supplying the explanatory mechanism that their descriptive accounts leave implicit, namely that the source domain from which each marker was grammaticalized continues to shape its functional profile in the living language. It is intended for researchers and advanced students in cognitive linguistics, linguistic typology, grammaticalization theory, and Turkic linguistics.

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Fatih Ünal Bozdağ

İstanbul, 2026

Turkish Aspect through Cognitive Grammar

Fatih Ünal Bozdağ

To Sultan, who made the time possible,
and to Deniz and Uraz, who filled it with meaning.

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Chapter 1. Introduction: Why Turkish, Why Aspect, Why Cognitive Grammar

1.1 The Puzzle: Same Grammatical Category, Different Cognitive Profiles

Most languages have one or two ways to express an ongoing or habitual event. Turkish has three. The suffixes -(I)yor, -(A)r, and -mAktA all fall within the imperfective domain, all attach to the same verb stems, and all can describe the same objective situation. Yet no Turkish speaker treats them as interchangeable. The choice among them is not free variation, not register alone, and not reducible to a temporal distinction. It is a choice about how the speaker construes the event. These construal differences, this book argues, trace directly back to the cognitive architecture of each marker's etymological source. Consider a Turkish speaker describing someone who reads every morning:

(1) a. Ali her sabah kitap oku-yor.

Ali every morning book read-PROG

'Ali reads a book every morning.' (experiential, observed)

b. Ali her sabah kitap oku-r.

Ali every morning book read-AOR

'Ali reads a book every morning.' (dispositional, characterizing)

c. Ali her sabah kitap oku-maktadır.

Ali every morning book read-INF.LOC.COP

'Ali reads a book every morning.' (formal, institutional)

All three sentences are grammatically well-formed. All three can be glossed into English as 'Ali reads a book every morning.' Yet no Turkish speaker would use them interchangeably. Sentence (1a) conveys that the speaker has personally observed or experienced Ali's reading habit — the speaker has witnessed the routine. Sentence (1b) characterizes Ali as the type of person who reads in the morning — a dispositional attribution that may or may not rest on direct observation. Sentence (1c) reports the same habit from

a detached, institutional vantage point, as one might encounter in a biographical note or a news report.

The standard descriptive treatment of this three-way contrast is unsatisfying. The difference between -(I)yor and -mAktA has been characterized as primarily a matter of formality, with -(I)yor being the unmarked conversational choice (Göksel & Kerslake, 2005), but this characterization obscures more than it reveals. Kornfilt (1997) notes that tense markers in Turkish typically carry aspectual functions as well, and that some additionally serve as mood markers, but her descriptive framework does not provide a unified mechanism for why these particular polyfunctionalities cluster the way they do. Lewis (2000, p. 116) captures something closer to the cognitive difference when he writes that the aorist *yaparım* means "I am a doer" — a characterization of the subject — while the progressive *yapıyorum* means "I have undertaken, and am now engaged in, the job of doing" — a characterization of the event at the moment of speaking.

The puzzle is not merely that the three markers convey different nuances in habitual contexts. It is that they diverge systematically across the full range of aspectual functions. Kornfilt (1997, p. 357) observes that -(I)yor is better labeled "continuous" than "progressive," since the suffix combines freely with both stative and nonstative verbs, making "progressive" something of a misnomer for a marker whose range is considerably broader. By contrast, -mAktA ranges from ungrammatical to markedly infelicitous with stative verbs such as *bil-* 'know' (Kornfilt, 1997, p. 357), while *bil-iyor-du* 'knew' is fully grammatical. Caro (2012) independently confirms this pattern, noting that stative verbs in Turkish show a clear preference for the progressive over the aorist — a striking departure from the crosslinguistic generalization that stative verbs resist progressive marking. Why should statives pattern with -(I)yor but not with -mAktA, if the two markers are merely stylistic variants of the same imperfective category?

The functional divergence extends well beyond stative compatibility. The suffix -(I)yor extends to futurate, historical present, exclamative, complaint, and near-miss readings. The aorist -(A)r extends to modal readings (willingness, prediction, capacity) and gnomic assertions. The suffix -mAktA extends to virtually none of these — its functional range is strikingly narrow, confined largely to progressive uses in formal registers. If these markers were merely register-conditioned variants of a single imperfective category, we

would expect their extension patterns to be roughly parallel — yet they are not.

Göksel and Kerslake (2005) capture one dimension of this asymmetry in their discussion of generic and specific reference. When the aorist is replaced by -(I)yor with a bare noun subject, the reference shifts from generic to specific:

(2) a. Kaplumbağa yavaş yürü-r.

tortoise slow walk-AOR

'A tortoise walks slowly.' (generic, species-level)

b. Kaplumbağa yavaş yürü-yor.

tortoise slow walk-PROG

'The tortoise is walking slowly.' (specific, observed)

The aorist abstracts away from particular instances; the progressive anchors the event to a specific trajectory observed in real time.

Akaslan (2011) pushes this analysis further, arguing that the -(I)yor / -mAktA opposition is not aspectual, temporal, or stylistic at all, but *enunciative*: the contrast concerns the utterer's subjective construal of the content and her relationship with the interlocutor. Both markers share the same invariant aspectual value — imperfectivity — but they differ in how the speaker positions herself with respect to the event and to the addressee. This is, in essence, a construal-based analysis avant la lettre, though Akaslan does not use Cognitive Grammar terminology.

Lewis (2000, p. 117) captures the epistemic depth of the -(I)yor / -(A)r contrast in a single example: *Başka memleketlerde kazara ölürler; biz kazara yaşıyoruz* ('In other countries they die by accident; we live by accident'). The aorist generalizes; the progressive tracks — a distinction that is not temporal but construal-based (see Chapter 3, §3.4.1 and Chapter 4, §4.2 for full analysis).

Jendraschek (2011b) sharpens this point by arguing that the progressive -(I)yor foregrounds properties of the unfolding situation itself, while the aorist foregrounds properties of the subject referent. Caro (2012) converges on the same analysis from a formal-semantic direction, arguing that the aorist attributes a time-independent property to an individual, whereas the

progressive reports properties bound to a specific interval that includes the moment of utterance. Temürcü (2011) adds an epistemic dimension, arguing that -(I)yor is more reliably linked to epistemic contingency — signaling certain, new information — than to present time reference per se.

This book takes these observations as its starting point. The Turkish aspectual system presents a puzzle that cannot be solved by treating its markers as abstract grammatical slots filled by arbitrary morphological material. The markers differ not in temporal reference or register alone, but in the *cognitive operation* they impose on the situations they describe.

1.2 The Source-Domain Retention Hypothesis

The central thesis of this book is that each aspectual marker in Turkish retains structural properties of its etymological source domain, and that these retained properties determine the marker's synchronic construal profile, its extension patterns, and its limits.

The suffix -(I)yor descends from the Old Turkic verb *yörü- ~ yüri-*, a manner-of-motion verb meaning 'to walk, to proceed' (Lewis, 2000; Schiering, 2006). The periphrastic construction [V-converb + *yüri-*] — attested in Old Turkic as *geli yur-* 'to be coming' — gradually univerbated into a single bound suffix. Schiering demonstrates that -(I)yor is now fully desemanticized, forming an uninterruptible morphological unit with its base verb, and the suffix's resistance to vowel harmony is a synchronic fossil of the univerbation pathway. As Hopper and Traugott (2003, p. 155) observe, -yor is the only Turkish grammatical suffix containing the non-alternating vowel [o] — a phonological relic of its former status as an autonomous verb that has only recently fused into bound morphology. The suffix wears its history on its sleeve.

Yet "completely desemanticized" is precisely the characterization this book challenges. If desemanticization were complete, we would expect -(I)yor to behave like any other imperfective marker — functionally interchangeable with -mAktA wherever register permits, yet it extends to experiential and trajectory-based functions that the locative-source imperfective -mAktA cannot access. This asymmetry — same broad imperfective function, different extension profiles — is the empirical signature of source-domain retention.

Bybee et al. (1994, p. 138) established as a crosslinguistic generalization that "grams have inherent semantic content which is a

continuation of the original semantics conveyed by the lexical item or periphrasis from which the gram has evolved." Hopper and Traugott (2003) formalized this as the Persistence Principle: as a lexical form grammaticalizes, traces of its original meaning tend to persist, and aspects of its lexical history may surface as constraints on its grammatical distribution. This book takes persistence seriously — not as a residual curiosity observable in a few canonical cases, but as the primary mechanism shaping the synchronic architecture of the Turkish aspectual system.

Bybee et al. (1994, p. 136) propose that the original meaning of a progressive construction contains several semantic components: (a) an agent, (b) located spatially, (c) in the midst of, (d) an activity, (e) at reference time. As these components weaken through grammaticalization, the construction extends to new contexts. Movement-verb sources, they note, constitute a secondary pathway for progressives: such constructions encode information about the subject's location and activity — either being situated somewhere doing something, or moving about while doing it (Bybee et al., 1994, pp. 132–133). Turkish -(I)yor is cited as a case in point: deriving from a verb meaning 'to walk, go,' the suffix originally marked progressive meaning only (as it still does in the written language) but has expanded in spoken usage to cover habitual contexts as well (Bybee et al., 1994, p. 141). What Bybee et al. describe as gradual erosion, this book reinterprets as selective schematization: certain structural properties of the source persist while others attenuate, and the pattern of persistence is not random but determined by the source domain's cognitive organization.

The Turkish system is particularly instructive because it contains markers from *different* source domains occupying overlapping functional territories. The three imperfective markers do not merely coexist; they offer three different construals of imperfectivity itself. If source-domain retention is real, the cognitive properties of walking (-(I)yor), spatial containment (-mAktA), and summary apprehension (-(A)r) should predict both the construal profiles that the markers exhibit and the construal profiles they cannot exhibit. This book tests this prediction marker by marker.

The claim is not that grammaticalized forms are somehow lexical items in disguise. Hopper and Traugott (2003) emphasize that the initial phase of grammaticalization involves a redistribution or shift of meaning rather than outright loss, and Langacker (2011a, p. 81) describes grammaticalization as a

"multi-faceted reductive process" in which "reducing the allocation of time, attention, and bandwidth brings about not just the compressed manifestation of semantic and phonological content but its actual erosion." What remains after this erosion is not the full lexical meaning of the source verb, but its structural skeleton — the schematic organization of the cognitive operations it imposed. The aspectual system is, in this sense, a system of *construals inherited from source domains*, not a system of abstract grammatical categories.

1.3 Why Turkish

Turkish is not the only language with multiple imperfective markers, nor the only language with well-documented grammaticalization histories. But it offers a combination of properties that makes it an unusually favorable testing ground for the source-domain retention hypothesis.

Turkish is an agglutinative language whose morpheme boundaries are sharply delineated and whose allomorphic variation follows transparent phonological rules (Csató & Johanson, 1998). The language essentially lacks conjugational classes, irregular verbs, and suppletive forms (Csató & Johanson, 1998). This transparency means that aspectual markers can be isolated and recombined — contrasted in near-minimal pairs — with negligible confounding from fusional morphophonology. When a Turkish speaker shifts from gel-iyor to gel-ir to gel-mekte, the only variable is the TAM suffix itself. There is no auxiliary change, no word-order restructuring, no suppletion. The contrast is as close to a morphological minimal pair as natural language allows.

Turkish presents three imperfective markers that compete for partially overlapping functional territories. This within-language multiplicity is typologically significant: most languages that have undergone the progressive-to-imperfective shift end up with a single dominant imperfective marker. The trajectory is illustrated across the Celtic languages: in Irish, the present tense still distinguishes progressive from non-progressive; in Welsh, the etymologically cognate progressive form has expanded to cover habitual and stative meanings; and in Scots Gaelic, this originally progressive form has become the only present tense for nearly all verbs. Turkish is somewhere between Irish and Scots Gaelic on this cline — the progressive -(I)yor has expanded far beyond core progressive function, but has not yet displaced the

aorist. Dahl's (1985) crosslinguistic classification of both Turkish and Azerbaijani as imperfective is consistent with a progressive-to-imperfective expansion underway in both languages, meaning the Turkish system is not a stable end-state but an ongoing diachronic process that can be studied in real time.

Csató and Johanson (1998) confirm that the coexistence of multiple present-tense forms is a Turkic-wide phenomenon: modern Turkic languages typically possess numerous past tenses and more than one present tense, though rarely genuine future markers. Within these present-tense inventories, they identify a consistent split between more focal markers — those that narrow attention to what is currently underway at the orientation point, sometimes paralleling English progressives — and less focal markers, which cover events viewed as ongoing across a broader timeframe, including protracted, habitual, or general situations. The Turkish -(I)yor / -(A)r distinction is one instantiation of a contrast that replicates across the entire Turkic language family.

The etymological sources of the Turkish TAM markers are known with varying degrees of certainty. The motion-verb origin of -(I)yor is well attested. The locative-infinitive composition of -mAktA is morphologically transparent. The Old Turkic ancestry of -DI and -mIş is documented in historical grammars. As Csató and Johanson (1998) note, converb constructions are pervasive across the Turkic family, providing comparative data from sister languages that can serve as external controls.

Despite the richness of the Turkish aspectual system, Turkish aspect has received virtually no sustained CG treatment. The extensive CG literature on aspect has focused overwhelmingly on English (De Wit & Brisard, 2014; Langacker, 2008a, 2011b), with occasional excursions into Dutch (Okabe, 2023) and Germanic comparisons (Ebert, 2000). Dahl's (1985) crosslinguistic survey classified Turkish -(I)yor under the IPFV (imperfective) category, but this was based on questionnaire distribution rather than detailed semantic analysis. Bybee and Dahl (1989) noted that the Turkish suffix -yor, deriving from a motion verb meaning 'to go, to walk,' already displayed an imperfective distribution in Dahl's questionnaire and had presumably developed from a progressive, but the cognitive mechanisms behind this development were not explored. Caro (2012) observed that the Turkish progressive has broadened from a core progressive function to near-

imperfective coverage, converging with Dahl's classification, but again without a CG-internal account. Turkish, with its structurally transparent morphology and its multiple competing imperfective markers, is precisely the kind of language that can push CG's analytical apparatus beyond the Germanic comfort zone and test whether the framework's construal-based tools generalize to typologically different aspectual systems.

1.4 Why Cognitive Grammar

This book adopts Cognitive Grammar (Langacker, 1987, 2008a) as its analytical framework. The choice is not arbitrary; CG offers four resources that are necessary for the analysis this book pursues.

CG treats the way a situation is cognitively processed — its construal — as a fundamental dimension of linguistic meaning. As Langacker (2008a, pp. 60–61) puts it, "a meaning consists of both conceptual content and a particular way of construing that content... the meaning of many linguistic elements — especially those considered 'grammatical' — consists primarily in the construal they impose, rather than any specific content." This principle is essential for the Turkish puzzle. The three imperfective markers do not differ primarily in their truth-conditional content; they differ in the cognitive operation they impose on the same event. A framework that treats construal as secondary or epiphenomenal cannot do justice to this difference. Verhagen (2007) reinforces this point, arguing that perspective is not peripheral but central to the full spectrum of construal relations — indeed, definitional for prototypical cases of construal.

CG's most distinctive contribution to aspectual analysis is the distinction between sequential scanning — where the component states are accessed sequentially through processing time, so that at any instant T_i the only state in focus is the one obtaining at the corresponding instant t_i — and summary scanning, where the states are still accessed in their natural sequence but undergo summation, so that the component states are mentally superimposed and simultaneously activated (Langacker, 2008a). This distinction maps directly onto the Turkish -(I)yor / -(A)r contrast: -(I)yor imposes sequential scanning (tracking the event as it unfolds), while -(A)r imposes summary scanning (apprehending the event — or the subject's disposition — as a unified whole). No feature-based framework (±progressive, ±habitual) can capture this distinction with comparable

cognitive specificity. The scanning distinction is graded rather than binary (see Chapter 2, §2.2), and this gradience is compatible with the Turkish data: -(I)yor's range from core progressive to habitual to futurate suggests a marker that occupies a broad region on the scanning continuum rather than a discrete point.

CG provides a mechanism for linking diachronic source meaning to synchronic grammatical function: subjectification. Langacker (1999, p. 298) defines this as a process in which "this subjective component is there all along, being immanent in the objective conception, and simply remains behind when the latter fades away." Crucially, subjectification is not metaphor: "there is no transfer from the spatial to the temporal domain, but merely the retention of a temporal relationship that was there all along" (Langacker, 1999, fn. 3). Langacker (2008a, p. 471) illustrates this with the English *go* > future path: "In following the subject's movement through space, which unfolds through time, the conceptualizer implicitly traces a mental path through time — the same path which stands alone on the future interpretation." The temporal trajectory is not mapped *onto* the spatial motion; it is *extracted from* it. The parallel to Turkish is direct: in tracking the subject's walking (*yörü-*), the conceptualizer implicitly traces the temporal unfolding of the event — and it is this temporal tracking that survives when the walking content fades.

For -(I)yor, the immanence formulation means that the temporal scanning inherent in physically tracking a walking motion does not *transfer* to temporal aspectual scanning through metaphorical mapping; it *remains* as the spatial content attenuates. Langacker (1999, pp. 301–302) identifies four parameters along which attenuation proceeds: (1) change in status, from actual to potential to generic; (2) change in focus, from profiled to unprofiled to eliminated; (3) shift in domain, from physical to social; and (4) change in locus of activity, from an onstage participant to the offstage conceptualizer. The grammaticalization of *yörü-* to -(I)yor involves all four parameters at once, since the walking is no longer actual (parameter 1), no longer profiled (parameter 2), and no longer physical (parameter 3), while the locus of scanning activity shifts from the walking subject to the conceptualizer who tracks the event through time (parameter 4). Yet the *structure* of the scanning operation — sequential, atelic, bidirectionally open, incremental — persists.

The immanence formulation is what makes CG's version of subjectification compatible with the source-domain retention hypothesis,

because what persists is not a metaphorical echo but a structural property that was present in the source from the beginning. As Langacker (2011a, p. 80) specifies, subjectification in CG is "the operation of basic mental capacities independently of the domain or conceptual content in which they are initially manifested." Verhagen (2007) notes that this formulation and Traugott's version — in which meanings become progressively anchored to the speaker's belief state — converge in practice, since the extensions of both notions coincide for semasiological change. Verhagen further suggests that the diachronic cline is better characterized in terms of decreasing objectivity than increasing subjectivity, a framing that captures the -(I)yor trajectory well by showing that what changes is not the addition of something subjective but the recession of the objective spatial content, which leaves the subjective scanning operation exposed.

CG is a usage-based framework: grammatical structures emerge from and are shaped by patterns of use (Langacker, 2008a). This orientation provides natural continuity between synchronic analysis and diachronic evidence. As Langacker (2011a, p. 79) puts it, "since a language is continually adapted through usage, its structure at any moment being the product of ongoing change, there is no sharp distinction between synchrony and diachrony." For a book that argues that synchronic construal profiles are shaped by diachronic source domains, this continuity is not a convenience but a theoretical necessity.

1.5 Method and Scope

The method of this book is abductive. It begins with an observed regularity — that aspectual markers from different source domains display different construal profiles and different extension patterns — and reasons backward to the mechanism that best explains this regularity. The proposed mechanism is source-domain retention through subjectification, whereby the structural properties of the source verb persist through grammaticalization as schematic cognitive operations that determine the marker's synchronic range.

The proposed analysis is evaluated against two criteria: *explanatory coherence* and *predictive specificity*. Explanatory coherence asks whether the proposed mechanism accounts for the full range of facts about a given marker — its core uses, its extensions, its constraints — from a single unified source. Predictive specificity asks whether the mechanism generates testable

predictions about what a marker from a particular source domain should and should not do. The strongest test comes from within-language contrasts: if -(I)yor and -mAktA share the broad imperfective function but derive from different source domains (motion vs. location), the source-domain retention hypothesis predicts that their extension profiles should differ in ways that track the structural differences between motion and location. Chapter 5 of this book tests this prediction in detail.

The data come from three sources. First, the standard descriptive and reference grammars of Turkish: Kornfilt (1997), Lewis (2000), and Göksel and Kerslake (2005). Second, the existing theoretical and empirical literature on Turkish aspect, including Jendraschek (2011a, 2011b), Temürcü (2011), Caro (2012), Akaslan (2011), and Nakipoğlu and Gedik (2020). Third, attested examples from the descriptive literature, supplemented by the author's native-speaker intuitions for contrasts not covered in existing descriptions. Throughout, the analysis is grounded in diachronic evidence from historical Turkic linguistics (Erdal, 2004, 2017; Csató & Johanson, 1998; Schiering, 2006) and crosslinguistic typological data (Bybee et al., 1994; Bybee & Dahl, 1989; Comrie, 1976; Dahl, 1985; Smith, 1997; Croft, 2012).

The unit of analysis throughout is what Bybee and Dahl (1989) call the *gram* — the individual grammatical marker viewed as an entity with inherent semantic substance shaped as much by the history of its development as by the paradigmatic slot it occupies in the synchronic system. This gram-based approach treats each Turkish TAM marker as a historically grown entity whose meaning is not exhausted by its paradigmatic oppositions but is shaped by its own developmental trajectory. The marker -(I)yor means what it means not only because it contrasts with -(A)r and -mAktA in the synchronic system, but also because it grew from a specific source verb with specific cognitive properties. Both dimensions — paradigmatic and developmental — are necessary; neither alone is sufficient.

The scope of the analysis is the five core TAM markers of Modern Turkish: the progressive -(I)yor, the aorist -(A)r, the locative imperfective -mAktA, the perfective -DI, and the evidential-resultative -mIş. These five markers constitute the central temporal-aspectual-modal system of the language. Other TAM-related elements — the future -(y)AcAk, the necessitative -mAlI, periphrastic constructions with *ol-* — are discussed where they interact with the core five but are not analyzed in the same depth.

The book does not attempt a formal semantic analysis in the tradition of Smith (1997) or Croft (2012), though it engages with their proposals extensively. Smith's two-component theory — which distinguishes situation type (the inherent temporal structure of the event) from viewpoint aspect (the perspective imposed on it) — provides a useful descriptive vocabulary. Her metaphor of viewpoint aspect as a camera lens — presenting situations with a particular focus or perspective, much as a lens frames a visual scene (Smith, 1997, p. 3) — captures the intuition that Turkish markers impose different perspectives on the same situation, and her insistence that it is the speaker, not the situation itself, who determines aspectual choice (Smith, 1997, p. 7) is fully compatible with CG's construal-based approach. Croft's (2012) more radical argument — that predicates do not inherently belong to a single aspectual type but can be construed in multiple aspectual types — converges directly with the CG position adopted here. Croft's multidimensional scaling analysis of Dahl's 64-language tense-aspect data reveals a clear separation between a tense dimension and an aspect dimension in the spatial model (Croft, 2012), providing quantitative crosslinguistic support for treating tense and aspect as orthogonal construal dimensions rather than fused categories. Where this book departs from both Smith and Croft is in its insistence that the construal operations associated with grammatical markers are not abstract universals but cognitively specific operations inherited from particular source domains.

The crosslinguistic dimension of the analysis is informed primarily by De Wit and Brisard (2014), who argue that the core meaning of the English progressive is epistemic contingency within the speaker's immediate reality rather than temporal aspect per se, and who demonstrate that each of its uses can be derived from this basic contingency meaning through a set of principled conceptual branching operations. This network approach — deriving a marker's full range of uses from a single core meaning through principled conceptual branching — provides a template for the Turkish analysis. The question this book asks is whether the branching principles themselves are universal (as De Wit and Brisard's account implies for English) or whether they are constrained by the marker's source domain (as the Turkish evidence suggests). If the latter, then the English progressive and the Turkish progressive should branch along different paths — not because aspect works differently in the two languages, but because the source domains that feed their respective progressive markers have different structural properties.

1.6 Outline of the Book

The book is organized in three parts, moving from theoretical foundations through marker-by-marker analysis to system-level synthesis and crosslinguistic testing.

Part I: Foundations comprises this introduction and Chapter 2, which presents the Cognitive Grammar apparatus used throughout the book. Chapter 2 is not a CG textbook; it introduces only the concepts that the subsequent analysis requires — construal, sequential and summary scanning, trajector-landmark organization, subjectification, and schematization — and illustrates each with preliminary Turkish examples.

Part II: The Markers is the empirical core of the book. Each of the five chapters in Part II analyzes one Turkish TAM marker by following a uniform structure in which it traces the marker's etymological source, identifies the structural properties of that source, illustrates how those properties persist through grammaticalization via subjectification, and demonstrates that the marker's synchronic construal profile — uses, extensions, and the limits on both — follows from those retained source-domain properties.

Chapter 3 treats -(I)yor, the walking progressive, and argues that the five structural properties of the source verb *yörü-* — sequential scanning, atelicity, bidirectional openness, incrementality, and manner specification — survive as schematic cognitive operations and predict the marker's seven attested use types (progressive, futurate, historical present, habitual, exclamative, complaint, near-miss). Chapter 4 treats -(A)r, the aorist, as the mirror image of -(I)yor, arguing that where -(I)yor imposes sequential scanning along a trajectory, -(A)r imposes summary scanning over the event as a whole, yielding dispositional, gnomic, and modal construals. Chapter 5 treats -mAktA, the locative imperfective, and provides the critical test case for source-domain retention: -mAktA derives from a locative-infinitive construction (*-mAk* + *-DA* 'being at the activity of V-ing'), and its functional profile is exactly what a containment source predicts — static, observational, non-directional, with no trajectory-based extensions. Every extension available to -(I)yor is unavailable to -mAktA, and every restriction on -mAktA traces to the absence of the structural properties that the walking source domain contributed to -(I)yor. Chapter 6 treats -DI, the perfective, as a boundary-profiling marker that positions the conceptualizer outside the event

and construes it as a completed whole. Chapter 7 treats -mIş, the evidential-resultative, and reveals that -mIş subjectifies along a different axis from -(I)yor: where -(I)yor moves toward experiential engagement (the conceptualizer is on the trajectory), -mIş moves toward epistemic stance (the conceptualizer encounters the event's aftermath and infers backward).

Part III: The System steps back from individual markers to examine the Turkish aspectual system as a whole. Chapter 8 maps the five markers onto a construal space defined by two axes — sequential vs. summary scanning, and objective vs. subjective construal — and demonstrates that the system's architecture is emergent, assembled from independently grammaticalized markers rather than designed as a coherent paradigm. Chapter 9 develops the theoretical argument for source-domain retention as a general principle, not merely a Turkish-specific observation, articulating a falsifiable prediction (motion-source → trajectory extensions; locative-source → containment extensions; posture-source → duration extensions) and tests it against crosslinguistic evidence from English, Dutch, Spanish, and other Turkic languages. Chapter 9 also engages with alternative accounts — Eckardt's (2006) semantic reanalysis model, Bybee's frequency-based approach, and Deo's (2015) universal progressive semantics — and argues that none of these alternatives can explain why markers from different source domains in the same language exhibit different extension profiles. Chapter 10 extends the analysis to aspect across the Turkic language family, using comparative data from cognate markers in sister languages to test whether the same source-domain types produce the same construal profiles in independent grammaticalization events. Chapter 11 concludes by drawing implications for Cognitive Grammar, for grammaticalization theory (the source is not erased but schematized), and for language typology (predicting progressive profiles from source-domain types constitutes a research program, not a closed account).

Chapter 2. Cognitive Grammar: The Apparatus

Aspect is not a feature of events; it is something speakers do to events — a cognitive operation that selects, arranges, and foregrounds particular facets of a situation while backgrounding others. Cognitive Grammar (Langacker, 1987, 2008a) provides the analytical vocabulary for characterizing these operations with precision. Five tools are essential for the analysis that follows: construal, scanning, trajector/landmark alignment, subjectification, and schematization. Each is introduced here with its general definition and immediately connected to the aspectual domain, so that by the chapter's end the reader has a toolkit calibrated for the Turkish tense-aspect-mood system. Readers already familiar with CG may proceed to Chapter 3; those seeking the full framework should consult Langacker (2008a) or Taylor (2002).

2.1 Construal and the Conceptualizer

The foundational commitment of Cognitive Grammar is that linguistic meaning consists of both conceptual content and the particular way that content is construed. Langacker (2008a, p. 60) makes this explicit: "Most broadly, a meaning consists of both conceptual content and a particular way of construing that content. The term construal refers to our manifest ability to conceive and portray the same situation in alternate ways." Two speakers may be looking at exactly the same scene — a man crossing a street — and yet encode it differently: *He crossed the street*, *He went across the street*, *He's on the other side now*. What changes is not the situation but the cognitive operation the speaker performs on it: what is selected for attention, how finely it is resolved, from what vantage point it is observed, and how its participants are arranged in prominence.

This is not a peripheral feature of language. Langacker (2008a, p. 61) argues that "the meaning of many linguistic elements — especially those considered 'grammatical' — consists primarily in the construal they impose, rather than any specific content." If this is right, then the meaning of a tense-aspect suffix like Turkish -(I)yor is not exhausted by specifying a temporal interval or a set of truth conditions. It resides equally — perhaps primarily — in the cognitive operation the suffix asks the speaker and hearer to perform, such as tracking an event as it unfolds, to adopt an internal perspective on a

bounded process, to position oneself as an engaged observer rather than a detached reporter.

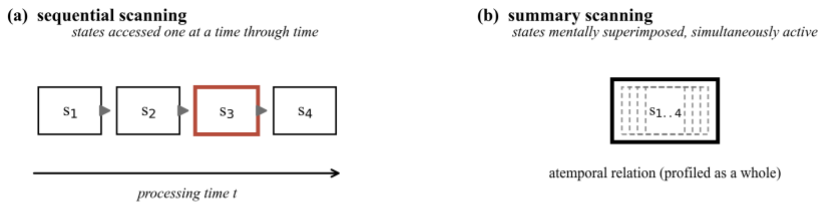
Croft (2012, p. 13) converges on the same insight from a typological-functional direction: "A conceptualization or construal is simply a semantic structure for an experience." Crucially, he argues that construal is not truth-conditional in the standard sense, since the choice of participants, the aspectual character of the situation, and properties such as whether the situation is stative or dynamic are all products of construal rather than fixed, inherent properties of real-world experience (Croft, 2012). The same event — a pot of water heating on a stove — can be construed as a state (*The water is hot*), a process (*The water is heating*), or an accomplishment (*The water boiled*). The aspectual type is not in the world; it is in the construal.

Three constraints limit how freely speakers construe a given situation. Croft (2012, pp. 17–18) identifies discourse goals (what the speaker is trying to accomplish), the nature of reality (some construals are more natural than others for a given experience), and cultural conventions of the speech community. This last constraint is particularly important for the Turkish case because the three-way imperfective system (-(I)yor, -(A)r, -mAktA) does not exist in English or in most of the languages from which CG has drawn its examples. The conventions that Turkish speakers have developed for distributing aspectual labor across these three markers are community-specific. The CG apparatus must be sensitive to this.

The conceptualizer — the person who performs the construal — is not an external observer in a control room, but an integral part of the scene. Langacker (2002, p. 15) formalizes this through the canonical viewing arrangement: "Suppose, now, that the respective roles of V and P as the subject and object of perception are maximally asymmetrical. This is so when (i) V and P are wholly distinct; (ii) P is sharply delimited and perceived with full acuity; and (iii) V's attention is directed outward, so that he does not perceive himself in any way — V is exclusively the subject of perception, not at all its object." The conceptualizer, in the canonical case, is maximally subjective — present as the source of construal but not itself construed. As we will see in §2.4, grammaticalization systematically increases the subjectivity of the conceptualizer's role, and this is the mechanism that transforms a motion verb into an aspect marker.

The centrality of construal to the present study cannot be overstated. If aspectual meaning were simply a matter of temporal reference — whether the event is past, present, or future, bounded or unbounded — then the three-way imperfective contrast in Turkish would be unexplainable, because all three markers can describe the same temporal configuration. What distinguishes them is not the temporal configuration but the construal imposed on it, encompassing the cognitive vantage point from which the event is accessed, the degree of speaker engagement, the scope of the viewing frame, and the prominence relations among the participants. The rest of this chapter develops the specific construal operations that the marker chapters will deploy.

2.2 Sequential Scanning and Summary Scanning



Sequentiality and summation coexist in event conceptions as two aspects of processing activity (Langacker 2008b).

Figure 2.1. Sequential and summary scanning. (a) Sequential scanning: component states are accessed one at a time through processing time. (b) Summary scanning: the same states are mentally superimposed, simultaneously active, and profiled as a single atemporal relation — following Langacker's multiple-exposure metaphor. The two modes are not a hard binary but coexist as aspects of processing activity.

The single most important CG concept for the analysis of aspect is the distinction between sequential scanning and summary scanning. Langacker (2008a, p. 117) defines sequential scanning as the cognitive operation in which "the component states are sequentially accessed through processing time such that, at a given instant T*i*, the only state in focus is the one obtaining at the corresponding instant t*i*. This amounts to mentally tracking an event as it unfolds through time, that is, scanning sequentially through it along the

temporal axis." In less technical terms: sequential scanning is what you do when you watch a ball roll down an incline. At each moment, you are focused on the ball's current position. You track it through time. The positions are accessed one by one, in the order they occur.

In his reply to Broccias and Hollmann (2007), Langacker (2008b, p. 572) further clarifies that sequential scanning "is nothing more than this fundamental aspect of dynamic experience" — it is not an exotic theoretical construct but the primary mode of event apprehension in real-time observation. We do it whenever we watch an event unfold, remember an event unfolding, or imagine an event unfolding. The crucial point is that sequential scanning is not limited to visual perception; it is a general cognitive capacity applicable to any domain involving temporal development.

Summary scanning, by contrast, involves a different kind of mental access. In summary scanning, "the states are still accessed in their natural sequence" — there is an underlying directionality — but "they undergo summation: that is, they are mentally superimposed, resulting in their simultaneous activation" (Langacker, 2008a, p. 117). The metaphor Langacker uses is helpful: sequential scanning is watching a film, while summary scanning is looking at a multiple-exposure photograph. In the photograph, all the positions the object has occupied are co-present; none is individually focused. The result is a gestalt — a holistic impression of the entire trajectory.

Langacker (2008b, p. 572) further refines this characterization by identifying two phases in summary scanning: "a 'growth' or 'build-up' phase, which captures directionality and temporal sequencing; and the final, persistent stage that results, in which the successive configurations are compressed into a single, simultaneously available gestalt." This two-phase characterization is important for the Turkish aorist -(A)r: when a Turkish speaker uses the aorist to express a habitual generalization (*Ali her sabah kitap okur* 'Ali reads every morning'), the individual reading events are not erased from the conception — the build-up phase preserves their directionality — but they are compressed into a single characterization of Ali's disposition.

The distinction between the two scanning modes defines the most basic grammatical categories. Langacker (2008a, p. 118) proposes that "the term process is adopted for a complex relationship that develops through conceived time and is scanned sequentially along this axis... A basic proposal of CG is

that a verb profiles a process. Sequential scanning is thus implied by categorization as a verb." A verb, in CG, is not defined by inflection or by occupying a particular syntactic slot. It is defined by the cognitive operation it imposes: sequential access to component states through processing time. The progressive marker -(I)yor, by this account, does not simply add temporal information to a verb; it constrains the sequential scanning that the verb already implies, specifying that only an internal portion of the process is in focus.

Two temporal distinctions underlie the scanning modes. Langacker (2008a, p. 115) distinguishes conceived time (t) — "time as an object of conception" — from processing time (T) — "time functioning as the medium of conception." Sequential scanning aligns these two dimensions: processing time tracks conceived time. In summary scanning, this alignment is suspended. The t/T distinction will prove crucial in §2.4: as a marker grammaticalizes, its temporal semantics may shift from specifying where in the event timeline the observer is located (conceived time) to specifying how the conceptualizer accesses the event (processing time). The progressive -(I)yor, on this view, develops from a marker of conceived temporal location toward a marker of processing-time configuration — the conceptualizer tracking the event sequentially, regardless of when it is actually occurring.

The two scanning modes are not mutually exclusive. Langacker (2008b, p. 573) acknowledges that "sequentiality and summation coexist in event conceptions as two aspects or levels of processing activity, their relative salience depending on the higher-level task." The scanning distinction is graded, not binary. This gradience is important for understanding how -(I)yor and -(A)r occupy different positions on a continuum of sequentiality preservation rather than standing as polar opposites.

The scanning distinction has drawn criticism. Broccias and Hollmann (2007, p. 234) argued that it "lacks independent cognitive evidence" and questioned the plausibility of cyclical scanning oscillation in complex verb groups. Langacker's reply (2008b) rejects the compositional assumptions behind these objections: composite structures are accessed as wholes, not built bottom-up by toggling scanning modes at each morphological layer. This is particularly relevant for Turkish agglutinative morphology, where forms like *yap-tır-ıl-ıyor-du-m* ('I was being made to do') stack multiple suffixes — the scanning characterization applies to the holistic assembly. What ultimately

distinguishes the two modes is the degree to which temporal evolution is foregrounded: "foregrounding an event's evolution through time ensures that its inherent sequentiality is fully manifested... the balance thus shifts from sequentiality to summation" (Langacker, 2008b, p. 582). This is the key to the -(I)yor / -(A)r contrast: -(I)yor foregrounds temporal evolution; -(A)r compresses it into atemporal characterization.

2.3 Trajector, Landmark, and Profiling

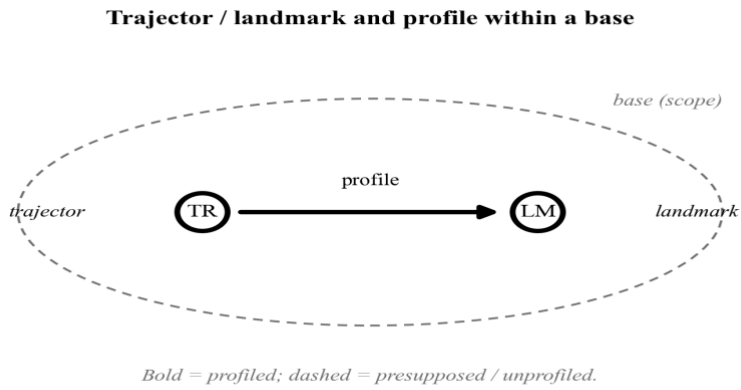


Figure 2.2. Trajector, landmark, and profile within a base. A relational expression profiles a connection between two entities: the trajector (the more prominent figure) and the landmark. The base (scope) is presupposed but not profiled. Solid = profiled; dashed = base.

Every linguistic expression selects a portion of its conceptual content for focused attention. This focused portion is the expression's profile. Langacker (2008a, Ch. 3) defines the profile as the entity an expression designates — "the focal point within the profiled relationship" — and distinguishes it from the expression's base, the background conceptual content against which the profile is understood. The word *hypotenuse* profiles a line segment, but that profile is only intelligible against the base of a right triangle. The word *Tuesday* profiles a day, but only against the base of the weekly cycle.

Within a profiled relationship, participants are arranged by prominence. Langacker (2008a, p. 82) defines the trajector (tr) as "the entity construed as being located, evaluated, or described," characterizing it impressionistically

as “the primary focus within the profiled relationship.” The landmark (lm) is a secondary focal participant, providing the reference frame against which the trajector is assessed. In *The ball is on the table*, the ball is the trajector and the table is the landmark. Reverse the prominence — *The table is under the ball* — and the meaning changes, even though the spatial configuration is identical.

Crucially, trajector and landmark are matters of construal, not semantic role. Langacker (1999, Ch. 1) emphasizes that “trajector status is characterized in terms of primary focal prominence, not in terms of any particular semantic role. The ‘spotlight’ of focal prominence can in principle be directed wherever desired.” The subject of a passive sentence (*The letter was sent*) is the trajector not because it is the agent but because it is the primary figure. This dissociation between grammatical prominence and thematic role is important for aspect because it means that the choice of what is foregrounded in an aspectual construction is itself a construal decision.

Langacker (1999, Ch. 12) further develops this by characterizing trajector and landmark as successive foci in a reference-point chain: “The focal participants and the relationship overall constitute a focus chain in which the trajector is F1, the landmark F2, and the relationship F3.” The conceptualizer accesses the scene through a series of attentional steps: first the primary figure, then the secondary figure, then the relationship between them. This sequential attentional structure connects profiling to the scanning modes discussed in §2.2, since the focus chain is itself a form of mental scanning through the conceptual structure.

The concepts of scope and profiling interact to produce the CG analysis of aspect. Langacker (2008a, p. 78) distinguishes maximal scope — “the full extent of its coverage” in a given domain — from immediate scope — “the portion directly relevant for a particular purpose. The immediate scope is thus foregrounded vis-à-vis the maximal scope. Metaphorically, we can describe it as the ‘onstage region’, the general region of viewing attention.” The progressive operates precisely by manipulating this scope distinction. Langacker (2008a, p. 79) argues that the progressive “‘zooms in’ and imposes a limited immediate scope that excludes the endpoints of the bounded event. The composite expression be V-ing therefore has both a maximal and an immediate scope in the temporal domain: its maximal scope encompasses the entire bounded event, of which only some internal portion falls within the immediate scope.”

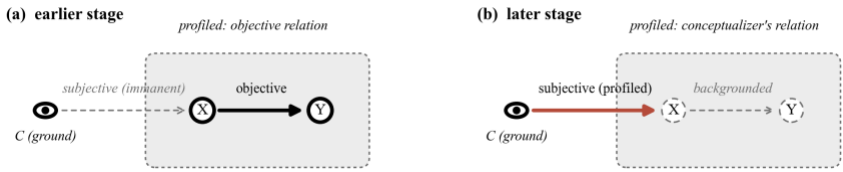
This analysis of profiling and scope is directly applicable to the Turkish markers. When -(I)yor is added to a verb, the immediate temporal scope is restricted to an internal portion of the process, excluding its beginning and end. The full bounded event remains as maximal scope — it is presupposed, not erased. The effect, as Langacker (2008a, p. 157) puts it, is that "the overall effect of a progressive is thus to convert a perfective process into an imperfective one... The bounded occurrence profiled by the former functions as conceptual base for the latter, which profiles an internal portion that excludes the endpoints." The homogeneity of the profiled segment is itself a construal effect: "-ing imposes an immediate temporal scope delimiting some internal portion of the overall relationship and selecting it for focused viewing... the profiled relationship is construed as homogeneous. This is so even when the verb that -ing attaches to describes a change" (Langacker, 2008a, p. 156). Any internal slice of the event, viewed at a sufficient level of abstraction, looks the same as any other. This is why the progressive is compatible with both activity verbs and achievement verbs: it homogenizes whatever it scopes over.

The perfective/imperfective distinction in CG is thus a matter of scope and profiling, not of temporal reference per se. Langacker (2008a, p. 147) defines the contrast: "The terms reflect the conceptual characterization of perfectives as being bounded in time, whereas imperfectives are not specifically bounded. Moreover, perfectives construe the profiled relationship as internally heterogeneous, involving some kind of change through time, while imperfectives construe it as homogeneous, the continuation through time of a stable situation." Langacker (1999, Ch. 7) draws a parallel with the count/mass distinction for nouns: "A perfective process is construed as being bounded within the immediate temporal scope... while an imperfective makes no intrinsic reference to bounding... with the consequence that any subpart, considered individually, constitutes a valid instance of the process in question." Just as a mass noun (*water*) designates a substance of which any portion is still water, an imperfective process designates a situation of which any temporal slice is a valid instance.

The Turkish data will show that the five markers distribute across this landscape in principled ways. The progressive -(I)yor restricts immediate scope to exclude endpoints, converting perfective to imperfective. The perfective -DI profiles the full bounded event including its endpoints. The evidential-resultative -mIş profiles the current relevance of a completed event.

The aorist -(A)r imposes summary scanning on a process, profiling the resulting holistic characterization. And -mAktA profiles an ongoing process from a detached, formally bounded vantage point. Each marker occupies a different position in the space defined by scope, profiling, and scanning.

2.4 Subjectification



Subjectification as redistribution of profile; the subjective component is immanent throughout (Langacker 1999, 2006).

Figure 2.3. Subjectification (immanence view). In the earlier stage the conceptualizer's relation to the onstage content is unprofiled, yet already immanent. In the later stage the subjective relation between C and the content becomes profiled while the objective relation recedes. Subjectification is a redistribution of profile, not the creation of a new ingredient (Langacker 1999, 2006).

Of all the CG concepts in this chapter, subjectification is the one most directly responsible for explaining why grammatical markers retain traces of their lexical origins. Langacker (2008a, p. 467) defines it as the process in which "mental operations inherent in a certain kind of experience are applied to situations with respect to which their occurrence is extrinsic. This is called subjectification, indicating that the operations come to be independent of the objective circumstances where they initially occur and whose apprehension they partially constitute." The key phrase here is "come to be independent of the objective circumstances," because the mental operations do not disappear but persist. What changes is their status, which shifts from being part of the objective content (onstage, focused, available for scrutiny) to being part of the subjective construal (offstage, implicit, constitutive of the viewing arrangement itself).

Langacker's account of subjectification has undergone an important revision. In his earlier formulations (1990, 1991), he characterized subjectification as a realignment in which an objective relationship was replaced by a comparable subjective one. In his revised account (Langacker, 1999, 2006), he adopts an immanence view in which the subjective component is there all along, immanent in the objective conception, and simply remains behind when the latter fades away. The subjective component was always present — it just becomes visible when the objective content that once masked it erodes.

The canonical example is the preposition *across*. In *The child hurried across the street*, the trajector (the child) physically traverses a path. But the conceptualizer also mentally traces that path — tracking the child's movement through space as it unfolds through time. In *There is a mailbox right across the street*, no one is moving — the mailbox is static — yet the conceptualizer still mentally scans across the spatial path to locate the mailbox. Langacker (2006, p. 23) makes the crucial observation: "The conceptualizer does still invoke a path which traverses the landmark (the street). But here there is no onstage participant who moves along it. Instead, the conceptualizing subject scans mentally along the same path by way of computing the trajector's (static) location." The mental scanning was always there, immanent in the act of conceptualizing a moving child. When the moving child is removed, the scanning remains.

The grammaticalization of motion verbs into temporal markers follows exactly this pattern. Langacker (1999, Ch. 10) analyzes the English *be going to* construction: in the motion sense (*Sam is going to mail the letter* = Sam is walking toward a destination where he will mail the letter), the subject moves through space with intention, and the conceptualizer tracks this movement through time. In the future sense (*Sam is gonna mail the letter* = Sam will mail the letter), "the conceptualizer traces a mental path along the temporal axis and situates the infinitival event downstream in the flow of time relative to some reference point" (Langacker, 1999, Ch. 10, pp. 302–303). The spatial motion has faded. What remains is the temporal scanning that was immanent in the original conception: "The conceptualizer's subjective motion through time is immanent in the conception of the subject's objective motion through space, and remains behind when the latter fades away" (Langacker, 1999, Ch. 10, p. 303).

Langacker (2006, p. 24) is emphatic that this is not metaphor: "As I define it, subjectification is not the same as metaphor. I do not claim, for instance, that the subject of *gonna* is conceived metaphorically as moving through time." The distinction is important. A metaphorical account would posit a cross-domain mapping from the spatial domain to the temporal domain. The subjectification account makes a more specific claim, namely that the temporal scanning was already part of the original spatial conception and persists after the spatial content is bleached. There is no new mapping. There is retention of what was already there.

The process is gradual. Langacker (1999, Ch. 10, p. 302) insists that "I do not envisage attenuation and eventual full subjectification as occurring in a single step. It is more likely a gradual evolutionary process involving small steps along a number of possible parameters." He identifies at least four parameters of attenuation: change in status (actual to potential, specific to generic), change in focus (profiled to unprofiled to eliminated), shift in domain (physical to social or experiential), and change in the locus of activity (from focused onstage participant to offstage or generalized one) (Langacker, 1999, Ch. 10, pp. 301–302).

Langacker's subjectification must be distinguished from Traugott's. Traugott (2010, p. 30) defines subjectification as "the diachronic process of semanticization" by which "meanings are recruited by the speaker to encode and regulate attitudes and beliefs." For Traugott, the change is in the content domain: meanings shift from ideational to speaker-oriented to addressee-oriented, yielding the cline "non-/less subjective > subjective > intersubjective" (Traugott, 2010, p. 34). For Langacker, the change is in the construal dimension: elements shift from onstage (objective) to offstage (subjective) status. Langacker (2006, p. 18) himself marks the distinction: "For me, on the other hand, the terms pertain to vantage point (a matter of construal). In my usage it makes no sense to talk about the extent to which an expression or its meaning is subjective — we can only talk about the status of a particular element within the overall situation."

This book uses Langacker's version centrally because the source-domain retention thesis is a claim about what persists at the construal level after objective content fades. However, Traugott's version plays a complementary role. Her insistence that pragmatic strengthening of subjective meanings constitutes a necessary precondition for subjectification (Traugott,

2010) aids in explaining the diachronic pathway by which pragmatic inferences — arising from the repeated use of -(I)yor in contexts of speaker engagement — become conventionalized as coded semantic properties. Her observation that subjectification is more characteristic of primary grammaticalization — the shift from lexical or constructional to grammatical status — than of secondary grammaticalization (Traugott, 2010) applies directly: -(I)yor's development from the motion verb *yörü-* is primary grammaticalization.

The parallel between English *be going to* and Turkish -(I)yor from *yörü-* 'walk' is striking but not exact. Both involve motion verbs grammaticalizing into temporal markers. Both involve subjectification of spatial scanning into temporal scanning. Yet the Turkish case is more radical: *yörü-* has become a bound suffix, phonologically reduced and morphologically fused, while *going to* retains periphrastic structure. The degree of attenuation is greater in Turkish, and the range of functions more extensive. The marker chapters will show that the cognitive fingerprints of the source domain persist despite this greater degree of formal erosion.

A methodological caveat is in order. Subjectification, in its Langackerian formulation, should be understood as describing rather than causing semantic change — it characterizes a particular kind of relationship between original and extended meanings. The end result — disappearance of the objectively construed entity with retention of immanent mental operations — may be produced by a complex diachronic process involving phonological reduction, frequency-driven entrenchment, paradigmatic integration, and pragmatic conventionalization. Subjectification describes the relationship between source and target, not the mechanism that produced it.

2.5 Schematization and Extension

The fifth tool in our CG apparatus is the mechanism by which grammatical constructions generalize beyond their original contexts. Langacker (2011a, p. 80) characterizes grammaticalization as involving "the operation of basic mental capacities independently of the domain or conceptual content in which they are initially manifested." This is schematization, the extraction of a common pattern from a set of specific instances that yields an abstract representation applicable to new instances.

Usage-based theory provides the mechanism for this generalization. Grammar, in the usage-based view, emerges from specific instances of use that pair lexical items with constructions; it becomes routinized through repetition and generalized through the categorization of exemplars (Bybee, 2006). Two complementary processes are at work: entrenchment (strengthening through repeated use) and schematization (abstraction across exemplars). The motion verb *yörü-* would initially appear in a specific periphrasis: [V-A yörü-], where V is an activity verb. Through repeated use with an expanding range of verbs, the construction's open slot becomes increasingly schematic — it no longer specifies 'ongoing locomotion' but 'ongoing process.' Type frequency drives this generalization: patterns or constructions that are attested with a large number of distinct lexical items tend to extend more readily to novel items (Bybee & Beckner, 2010). Turkish -(I)yor has reached full grammaticalization as a bound suffix with its own aspectual semantics, no longer analyzable as containing a motion verb.

The semantic change that accompanies schematization is not simple bleaching. Hopper and Traugott (2003) argue that the semantic change involved is initially a redistribution rather than a loss of meaning. The specific content of the source domain (spatial motion, locomotion, directionality) is demoted, while the more abstract temporal-aspectual content that was always immanent in it (ongoingness, sequential unfolding, process tracking) is promoted. Hopper and Traugott (2003) formalize this through the concept of persistence: when a form grammaticalizes from a lexical to a grammatical item, traces of its original lexical meaning tend to persist, and aspects of its lexical history may constrain its grammatical distribution.

Persistence is the diachronic counterpart of what this book calls source-domain retention. The CG apparatus, comprising subjectification plus schematization, provides a mechanism for persistence whereby the mental operations that were immanent in the source domain (sequential scanning of a moving entity through space and time) survive as the schematic meaning of the grammaticalized construction. They are not residual quirks or historical accidents. They are the construction's meaning, accessed by speakers every time they use the form.

Langacker (2011a, pp. 81–82) describes the multi-dimensional nature of the conceptual attenuation that accompanies schematization. Beyond the loss of specific content, attenuation involves "diffusion in the locus of

activity" (the source of agency becomes more diffuse), "shift from actual to potential occurrences," and "transfer to a non-physical domain." In the go-to-future path, the impetus toward an event's occurrence undergoes diffusion "in regard to both its source and its nature" (Langacker, 2011a, p. 83): from the specific intention of a volitional agent walking toward a goal, to the diffuse expectation that circumstances will lead to an event, to the pure temporal location of a future process. Each step involves attenuation of a different dimension, and at each step the progressive's cognitive profile becomes more schematic.

Extension is the mechanism by which a schema licenses new instances. Once a schema has been abstracted from a set of exemplars, it can be applied to new cases that are similar enough to the existing ones. Bybee (2013) models this through exemplar-based analogy: new items are processed by comparison with stored exemplars, making analogy the basis for constructional extension to new lexical items, morphological and syntactic productivity, and the application of established patterns to novel situations. The most frequent and central exemplars serve as the primary basis for analogical extension. In the case of -(I)yor, the high-frequency progressive uses with activity verbs anchor the category; stative verbs and extended uses are admitted by analogy to these central exemplars.

Langacker (2008a, p. 472) connects extension to subjectification through the concept of the conceptual archetype: "The schematic meaning resides in a domain-independent cognitive ability, initially manifested in the archetype and later extended to other domains of experience. Clearly, this relation between the prototype and the schema is nothing other than subjectification: mental operations immanent in the archetypal conception come to be used in abstraction from its content and applied to other circumstances." The archetype for -(I)yor is the observation of an ongoing locomotion event — watching someone walk. The schema is the domain-general operation of sequential tracking through a process. The extension of -(I)yor to habitual, futurate, and evaluative functions is the application of this schema to situations that share the sequential-tracking structure but lack the locomotion content.

Grammaticalized forms typically coexist with older forms expressing similar functions, a phenomenon Hopper and Traugott (2003) term layering. Turkish exemplifies this: -(I)yor, -(A)r, and -mAktA all express imperfective

meaning in some contexts, reflecting different historical layers. The further properties of grammaticalization paths — decategorialization, specialization, divergence, and renewal (Hopper & Traugott, 2003) — will be documented for each marker in the chapters that follow. One phonological detail deserves mention here because it encapsulates the book's argument in miniature: Turkish vowel harmony normally prohibits the marked vowel [o] in non-initial syllables, yet -(I)yor retains it — the only grammatical suffix to do so — because its reduction to suffix status is relatively recent (Hopper & Traugott, 2003, p. 155). The non-harmonic vowel is a phonological trace of the source verb's lexical autonomy — the same kind of source-domain trace that this book argues extends to the semantic and cognitive dimensions.

The crosslinguistic recurrence of similar grammaticalization paths provides one final piece of support for the CG framework. Bybee and Beckner (2010) observe that strikingly similar grammaticalization pathways recur across unrelated languages; for instance, Bybee et al. (1994) documented future markers derived from movement verbs in seventeen out of seventy-six genetically diverse languages. The convergence arises not from shared ancestry but from shared cognitive processes: the same domain-general mechanisms (chunking, categorization, inference) operating on similar conceptual source material (spatial motion, physical posture, possession) yield convergent outcomes. De Wit et al. (2020) push this further by showing that progressives derived from motion and posture verbs in typologically unrelated languages — English, Dutch, French, Western Armenian, Albanian, Igbo — all exhibit "extravagant" uses (complaint, intensification, surprise) that cannot be attributed to contact or shared ancestry. They propose that these expressive extensions are an inherent consequence of progressive semantics (De Wit et al., 2020), arising from the progressive's core meaning of epistemic contingency. If correct, Turkish -(I)yor's complaint and exclamative functions are not anomalies but expected consequences of the progressive category's cognitive architecture — the same architecture described in this chapter.

2.6 Scope and Delimitations

This chapter has introduced five CG concepts — construal, scanning, trajector/landmark alignment, subjectification, and schematization — and calibrated each for the analysis of Turkish tense-aspect morphology. It has not attempted to provide a comprehensive introduction to Cognitive Grammar. Much of what Cognitive Grammar encompasses lies beyond the present

scope: conceptual metaphor and mental-space integration, reference-point and clause-combining constructions, and the treatment of information structure and phonology. Readers seeking the full picture should consult Langacker (2008a) for the most authoritative overview, and Taylor (2002) for a pedagogically oriented introduction.

Several deliberate omissions should be noted. First, this chapter has not discussed Croft's (2012) two-dimensional (t/q) geometric model of aspect in full, although it has drawn on his construal framework. Croft's model offers a powerful formalization of aspectual types, but this book's argument is cast primarily in Langacker's terms (scanning, scope, profiling), and introducing a second formal apparatus would multiply notation without proportional analytical gain. Second, the chapter has not engaged with the debate between Langacker and Traugott over the definition of subjectification beyond the minimal clarification in §2.4. The two accounts are compatible for the purposes of this book. Langacker provides the synchronic construal analysis, Traugott provides the diachronic pragmatic pathway, and the marker chapters use both. Third, the chapter has not developed the force-dynamic framework (Talmy, 2000a) that other CG-adjacent work on modality employs. While force dynamics is relevant to the modal extensions of some Turkish markers (notably the aorist -(A)r), the present analysis accounts for those extensions through summary scanning and subjectification (Chapter 4, §4.3.3) without requiring the full force-dynamic apparatus.

Finally, a methodological note. The CG concepts in this chapter are motivated by English data — the language on which Langacker developed the framework. The Turkish data in the chapters that follow will serve as an independent test: if the apparatus works for a typologically distant, agglutinative, head-final language with a rich tense-aspect-mood paradigm, then the CG claim to cognitive universality is strengthened. If adjustments are needed, they will be made transparently, and the nature of those adjustments will itself be informative about where the framework's universal claims hold and where they require refinement.

With these theoretical tools calibrated, the next five chapters apply them to the individual markers of the Turkish aspectual system, beginning with -(I)yor.

Chapter 3. -(I)yor: The Walking Progressive

3.1 The Source and Diachrony

The Turkish progressive marker -(I)yor is, among the five aspectual markers examined in this book, the one whose grammaticalization history most vividly illustrates the thesis of source-domain retention. Its etymological source is a motion verb meaning 'to walk, go, proceed,' and the cognitive fingerprints of that source — sequential scanning, atelicity, bidirectional openness, incrementality, and manner specification — remain detectable in the marker's synchronic construal profile. This chapter traces the path from the source verb to the modern suffix, identifies the cognitive operations that survived the grammaticalization process, and demonstrates how those surviving operations predict the marker's seven attested use types.

The etymology is well established across the Turkological tradition. Lewis (2000) traces -yor to an invariable element originating as an independent verb *yom*, the aorist of the Old Turkic *yorımak* 'to go, walk.' Caro (2012) provides a more transparent version of the reconstruction, deriving -(I)yor from the old verb *yori-* 'walk, go' (cf. modern Turkish *yürü-*) and attributing the suffix's failure to undergo expected vowel harmony in the second vowel precisely to this derivation. Göksel and Kerslake (2005, Section 8.2.3) register the same fact in purely synchronic terms, noting that the imperfective suffix -(I)yor contains the obsolete verb stem yor-, which remains invariable. These varying formulations — *yorımak*, *yori-*, *yor-* — all point to the same Old Turkic verb, attested as *yörü-* or *yorı-* in the earliest Turkic inscriptions, whose semantic domain centrally involves locomotive motion: walking, proceeding, travelling on foot.

Johanson (2000b) places the Turkish construction within a broader Turkic typological pattern, tracing Turkish alıyor 'is taking' back to an actional periphrasis consisting of a converb followed by yorır 'moves.' The converb construction — in which a lexical verb is linked by a non-finite converb marker to an auxiliary verb that carries the finite morphology — is the productive template from which -(I)yor emerged. Schiering (2006) documents this template in its Old Turkic form, citing geli yur- 'to be coming' (from yuri- 'to go') as a two-word periphrastic expression in which the converb-marked lexical verb geli- 'come' is followed by the motion verb yuri- bearing the finite morphology. The same constructional template produced

multiple aspectual markers in Turkic. Schiering illustrates three Old Turkic converb constructions in which the locomotive yuri- 'to go' yields the progressive, bil- 'to know' yields the potential -(y)Abil, and tur- 'to stand' yields the continuative -A dur-. Of these, -(I)yor represents the most advanced stage of grammaticalization — a degree of advancement that can be diagnosed empirically. Schiering (2006) argues that both -Iyor and -(y)Abil "can now be considered disyllabic suffixes, since they are completely desemanticized and form an uninterruptible coherent and cohesive morphological word with their base." His interruptibility test yields a cline along which the clitic =dA can be inserted between the converb marker and the auxiliary in -A dur- (the least grammaticalized member), becomes less acceptable with -Abil-, and is presumably ungrammatical with -Iyor-. This ordering — -A dur- (interruptible) > -(y)Abil (marginal) > -(I)yor (uninterruptible) — constitutes direct morphological evidence that -(I)yor has completed the transition from periphrastic construction to bound suffix.

The phonological evidence is equally decisive, and it is here that the notion of a "phonological fossil" becomes most concrete. The second vowel of -(I)yor is an invariable /o/ that does not participate in the front-back vowel harmony that governs virtually every other suffix in Turkish. As Göksel and Kerslake (2005, Section 1.1) observe, in words of native origin /o/ and /ö/ are restricted to the first syllable, with the sole exception of words containing the imperfective suffix -Iyor. The /o/ is a phonological fossil — a relic of the source verb's independent status, preserved precisely because the morphologization pathway did not integrate the suffix into the vowel harmony domain. Schiering (2006) explains that in this instance, ongoing grammaticalization was not accompanied by integration into the vowel harmony domain, so the morphologically complex forms that evolved through morphologization constitute irregular domains with respect to vowel harmony. The pathway was univerbation (compounding of two words into one), not cliticization, and because compounding — unlike cliticization — does not entail prosodic integration into the vowel harmony domain, the suffix retained its original vowel quality. Cliticized elements integrate into vowel harmony; univerbated elements do not. The invariant /o/ of -(I)yor is therefore a diagnostic signature of its grammaticalization pathway — a phonological fossil that marks it as a former independent word rather than a former clitic.

The phonological history of -(I)yor challenges the standard grammaticalization-theory expectation that semantic bleaching is

accompanied by phonological erosion. Schiering (2006) argues explicitly that the only noteworthy phonological process involved in the development of the progressive suffix is haplology, a regular process in Old Turkic. Crucially, he insists that the loss of the second syllable should not be attributed to ongoing grammaticalization but rather to the regular application of haplology at that diachronic stage of the language. The source verb yorır (aoristic form of yori-) underwent haplology — the deletion of one of two adjacent identical syllables — just as the simplex forms yur-ur > yur and dur-ur > dur did. This is a regular phonological rule, not grammaticalization-driven erosion. The broader typological principle, Schiering argues, is that the syllable-based rhythm of Turkish inhibits the erosion of grammaticalized elements, ultimately leading to the accretion of morphological markers. In stress-based languages like English, grammaticalization produces monosegmental or subsyllabic affixes (-s, -ed, -ing); in syllable-based languages like Turkish, it produces disyllabic suffixes that retain their phonological substance. The disyllabicity of -(I)yor is not a coincidence but a typological prediction.

The prosodic behaviour of the suffix further reflects its source-domain status. Lewis (2000) notes that the accent falls on the vowel preceding -yor, and Göksel and Kerslake (2005, Section 8.2.3) specify that, except where the negative marker is present, yor- assigns stress to the preceding vowel, whether that vowel is -(I) or the final vowel of the stem. Schiering (2006) interprets this irregular stress pattern as a relic of the original phrasal prosody: if the source construction consisted of two phonological words receiving regular phrasal stress on the first word, then that stress was subsequently reduced and reinterpreted as irregular word stress on the first vowel of the disyllabic suffix. The stress, like the /o/, is a phonological fossil — a trace of the source construction's two-word prosody preserved within the morphologized suffix.

The cumulative force of the evidence — etymological (motion verb source), morphological (completed univerbation, uninterruptible), phonological (invariant /o/, pre-suffix stress, syllable preservation) — establishes -(I)yor as a fully grammaticalized bound morpheme whose phonological substance retains clear traces of its former life as an independent motion verb. But the survival of the source domain is not limited to phonological fossils. As the remainder of this chapter will argue, the cognitive-semantic properties of the walking source — its sequential directionality, its atelicity, its experiential engagement — survive as

schematic cognitive operations that structure the marker's synchronic construal profile.

3.2 Sequential Scanning as the Core Operation

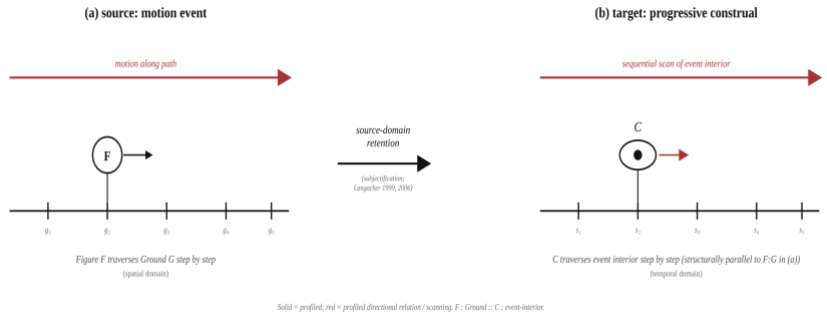


Figure 3.1. -(I)yor: the motion schema projected onto the progressive. The progressive construal of -(I)yor inherits the structure of its motion-event source. In (a) the figure F is on the ground line at a specific point; in (b) the conceptualizer C is on the event-interior line at a specific point, with a step-arrow indicating forward movement. The diagram visually enforces the F : G :: C : event-interior analogy — C traverses the event interior from within, not as an external observer.

The cognitive framework introduced in Chapter 2 provides the theoretical vocabulary for characterizing what survives from the walking source. Langacker (2008b, p. 572) defines the fundamental cognitive operation as follows:

> *Sequential scanning is our primary mode of experience in the real-time observation of events. As we watch an event unfold, e.g., a ball rolling down an incline, we observe it at just a single position at a given point in time. In terms of what is directly and immediately apprehended, the component spatial configurations are accessible and available only in the temporal sequence of their occurrence. Sequential scanning is nothing more than this fundamental aspect of dynamic experience.*

This is the mode of processing that -(I)yor imposes on its complement. When a speaker says Ali çalışıyor 'Ali is working,' the suffix instructs the conceptualizer to track the working through its temporal course — to access the component states of the event one by one, in the temporal sequence of their occurrence, just as an observer watches a process unfold in real time. This

instruction is what distinguishes -(I)yor from -(A)r, which imposes summary scanning as the holistic apprehension of a compressed gestalt (see Chapter 4), and from -mAktA, which locates the subject within the event as a spatial relation (see Chapter 5).

The critical theoretical insight here is that sequential scanning is not merely an abstract cognitive category imposed on -(I)yor by the linguist. Rather, it is a cognitive operation rooted in the concrete experiential source of step-by-step tracking of one's own locomotion through space. Walking involves monitoring one's progress through an environment one step at a time: each step brings a new spatial configuration into focus while the previous configuration recedes, and the walker's attention moves forward along the trajectory. This is sequential scanning at its most embodied. What this book proposes is that the embodied sequential scanning inherent in walking was schematized into the abstract sequential scanning that characterizes progressive aspect when yörü- 'walk' was grammaticalized into the progressive marker -(I)yor. This proposal extends Langacker's standard CG account of sequential scanning, which does not itself link the operation to any particular source-domain experience, by grounding it in the specific cognitive architecture of locomotive motion. The grammaticalization process did not erase the source semantics; it extracted their cognitive architecture and redeployed it at a higher level of abstraction (a claim developed formally in Chapter 9).

This formulation brings us to the five structural properties of the walking source that survive as schematic cognitive operations in the grammaticalized suffix. Before presenting these properties, a methodological point must be addressed. The properties must be independently motivated characterizations of walking as a cognitive domain, not post-hoc abstractions from -(I)yor's attested functions. Independent motivation comes from three converging lines of research. Talmy's (2000b) motion-event typology establishes that motion events are universally structured around a Figure moving along a Path with respect to a Ground, with Manner as a co-event — providing the structural basis for the sequential, directional, manner-specified character of locomotion independent of any particular grammaticalization. Johnson's (1987) foundational work on image schemas identifies the SOURCE-PATH-GOAL schema as one of the most fundamental structures of embodied cognition, arising from the bodily experience of moving through space before being projected onto abstract domains. Mandler (2004)

demonstrates that infants extract PATH and MANNER as distinct primitives from motion events in the first year of life, well before language acquisition begins, confirming that the cognitive decomposition of locomotion into sequential progression, directionality, and manner specification is a prelinguistic cognitive capacity rather than a linguistic artifact. The five properties identified below are thus grounded in the independently established cognitive architecture of motion, not derived from -(I)yor's synchronic behavior. The argument is that grammaticalization preserves this independently motivated structure rather than inventing it.

Each property corresponds to an inherent feature of locomotive motion that, when abstracted away from the spatial domain, yields a specific aspect of progressive construal.

1. Sequential scanning. Walking inherently involves step-by-step tracking through space, with the walker apprehending each phase of the terrain as it comes into view and the phases being accessed in temporal succession. Schematized, this becomes the temporal tracking of an event through conceived time — the core progressive operation. The -(I)yor form gel-iyor-um 'I am coming' does not report a holistic state of affairs; it invites the addressee to track the coming as it unfolds, phase by phase. Langacker (2008b, p. 582) articulates the connection between foregrounding temporal evolution and sequential scanning: "to the extent that meanings are based on simulations of such experience, foregrounding an event's evolution through time ensures that its inherent sequentiality is fully manifested."

2. Atelicity. Walking has no inherent endpoint. One can walk for five minutes or five hours; the activity is homogeneous and can be discontinued at any point without the sense that an intrinsic goal has been reached or missed. Schematized, this yields the imperfective construal that -(I)yor imposes, under which the event is presented as ongoing, without commitment to its completion. A statement like Mektup yazıyor 'He is writing a letter' presents the writing as in progress; whether the letter will be completed is left open. The atelic source contributes this open-endedness directly.

3. Bidirectional openness. When one observes a person walking, the natural inference is that they were walking before the observation began and will continue after it ends. The observation window captures a segment of a temporally extended activity that stretches in both directions beyond the observer's vantage point. Schematized, this produces the characteristic

"temporal open-endedness" of the progressive, in which -(I)yor presents the event as extending both before and after the reference time, without profiling either boundary. This bidirectional openness distinguishes -(I)yor from -DI (which profiles a bounded, completed event; see Chapter 6) and from -mAktA (whose locative containment schema implies a definite entry point into the event; see Chapter 5, §5.2.3).

4. Incrementality. Each step in walking adds a small, internally similar increment of spatial displacement. The progress is smooth, continuous, and composed of qualitatively homogeneous subevents. Schematized, this yields the incremental quality of progressive aspect, whereby the event is construed as advancing gradually, each successive phase resembling its predecessor. This property is what enables the futurate extension of -(I)yor (§3.5.1), where a planned future event is construed as incrementally approaching, as a destination approaches a walker step by step.

5. Manner specification. Walking, unlike other forms of locomotion, involves a specific felt quality — the rhythmic engagement of the body with the terrain, the kinaesthetic experience of bipedal movement. This manner specification distinguishes walking from flying, driving, or being carried, since it is an activity one does from within, with one's body. Schematized, manner specification survives in -(I)yor as an immersive construal — a construal in which the speaker positions herself within the unfolding event rather than observing it from outside (cf. Bozdağ, 2025, who analyses the same phenomenon under the rubric of a restricted viewing frame). This immersive quality is a retained property of the source domain, as yörü- 'walk' originally placed the subject physically within the activity of locomotion, and the grammaticalized -(I)yor preserves this "within-ness" as an aspectual construal of temporal immersion. The immersive quality is most clearly visible in the exclamative and complaint functions of -(I)yor (§3.5.4), where affective engagement with the ongoing event is foregrounded.

It is important to distinguish these five properties from the general properties of atelic activities. Any atelic activity — running, swimming, reading — shares atelicity, temporal openness, and incrementality. What is specific to the walking source is the *manner* component: bipedal, step-by-step, ground-level locomotion with the body oriented in the direction of travel and the pace self-regulated by the walker. This manner specification is not incidental. It contributes (a) a granularity of sequential scanning — step-by-

step rather than continuous flow — that produces the marked internal segmentation visible in -(I)yor's compatibility with iterative adverbials; (b) a ground-level experiential perspective — the walker is immersed in the terrain, not observing from above — that survives as the experiential engagement quality of the progressive construal; and (c) a self-paced directionality — the walker controls the pace and direction — that survives as the volitional and projective quality visible in the futurate extension. A marker derived from a swimming verb or a reading verb would share the general atelic properties but would lack these manner-specific characteristics, and the resulting progressive would be predicted to differ in its extension profile accordingly.

As discussed in Chapter 2 (§2.2), the scanning distinction is graded rather than binary. This gradience has consequences for understanding -(I)yor's extension patterns. In its core progressive use, sequential scanning is maximally salient; in its habitual extension, sequentiality is partially attenuated by the iteration of events across a time span; in its futurate use, sequentiality is preserved but directed forward. The five structural properties of the walking source do not operate as all-or-nothing switches but as parameters whose relative prominence varies across use types, generating the polysemy network documented in §3.3 and §3.5. The Turkish TAM system provides within-language evidence for the scanning framework, with three imperfective markers with different source domains showing systematically different functional profiles that align with its predictions.

3.3 The Construal Profile of -(I)yor

3.3.1 The Progressive Core

The prototypical function of -(I)yor is progressive aspect, understood as the tracking of an ongoing event through its temporal course at or around the time of speech. Lewis (2000) characterizes this core function with directness, describing the suffix as covering actions either currently in progress or envisaged by the speaker. The bipartite description is significant: -(I)yor covers not only what is happening now but also what the speaker sees as being "in hand" — actions that are committed to, planned for, or projected forward from the present. This extended reach, already visible in the core characterization, distinguishes -(I)yor from narrower progressive markers and foreshadows its extension patterns.

Kornfilt (1997, p. 357) argues that "progressive" may be a misnomer for the suffix:

> *The continuous aspect is expressed by the suffix -(I)yor, which is usually referred to as the progressive marker. If the progressive aspect is defined as the continuous aspect of a nonstative (dynamic) verb, the term continuous aspect would be the more inclusive term, including stative and nonstative verbs alike. As a matter of fact, the suffix -(I)yor can indeed be used with both types of verbs. Therefore, the label 'progressive' might well be a misnomer for the suffix in question, and 'continuous' a more apt one.*

Kornfilt's observation is distributionally correct: -(I)yor readily combines with stative verbs (bil-iyor-du 'knew,' gör-üyor-um 'I see') where English progressive marking is ungrammatical. However, the CG analysis proposed here suggests that the broad compatibility is not evidence against progressivity but evidence of the source domain's schematic power. The sequential-scanning operation derived from walking can be applied to any temporal content, whether dynamic or stative: bil-iyor-um 'I know' tracks the state of knowing through conceived time, just as koş-uyor-um 'I am running' tracks the event of running. The walking source contributes the mode of scanning, not a restriction on the type of content scanned. Kornfilt's "continuous" and our "sequential-scanning progressive" converge on the same empirical coverage while differing in what they take to be the construal's organizing principle.

Göksel and Kerslake (2005, Section 21.3.2) confirm the dual aspectual profile, observing that among the three imperfective markers in Turkish, -(I)yor functions with both progressive and habitual meaning. The marker is thus not only broader than a strict progressive (it accommodates statives) but also broader than a strict continuous (it accommodates habituals). This polyfunctionality is precisely what the source-domain analysis predicts, given that the five structural properties of the walking source — sequential scanning, atelicity, bidirectional openness, incrementality, and manner specification — collectively generate a construal space broad enough to encompass progressive, habitual, futurate, and several other use types while remaining unified by the common cognitive architecture inherited from locomotive motion. Acquisition data reinforce the progressive core. Aksu-Koç (1988, p. 177) demonstrates that children's earliest uses of -(I)yor mark duration with activity verbs, confirming that the sequential-scanning construal — tracking

an ongoing process through time — is the developmental foundation from which the marker's broader functions subsequently emerge.

3.3.2 Seven Use Types

The book identifies seven conventionalized use types for -(I)yor, each derivable from one or more of the five source properties:

1. **Progressive** — tracking an ongoing event at or around speech time:

Ali çalış-ıyor.

Ali work-PROG

'Ali is working.'

The core function; all five properties are active, with sequential scanning maximally prominent.

2. **Futurate** — expressing a planned or scheduled future event:

Yarın gid-iyor-uz.

tomorrow go-PROG-1PL

'We're going tomorrow.'

Incrementality provides the sense of an event approaching step by step; the trajectory schema projects forward.

3. **Historical present** — narrating past events with vivid immediacy:

Bir gün kapı-yı çal-ıyor, gir-iyor, otur-uyor.

one day door-ACC ring-PROG enter-PROG sit-PROG

'One day he knocks on the door, comes in, sits down.'

Sequential scanning enables temporal re-immersion; manner specification contributes experiential engagement.

4. **Habitual** — expressing a recurrent pattern:

Fatma genellikle Ankara'ya otobüs-le gid-iyor.

Fatma usually Ankara-DAT bus-INS go-PROG

'Fatma usually goes to Ankara by bus.'

(Göksel & Kerslake, 2005, Section 21.3.2). Bidirectional openness extends the observation across a time period; atelicity construes the repetition as unbounded.

5. **Exclamative** — foregrounding processual scanning for affective impact:

Hep ar-ıyor-sun!

always call-PROG-2SG

'You keep calling!'

Manner specification amplifies the felt quality; sequential scanning foregrounds the ongoing irritant.

6. **Complaint** — evaluative stance toward an ongoing situation perceived as problematic:

Sürekli şikayet ed-iyor-sun.

constantly complaint do-PROG-2SG

'You're constantly complaining.'

The immersive construal places the speaker within the field of the ongoing process, amplifying its affective salience.

7. **Near-miss** — expressing a narrowly averted event:

Neredeyse düş-üyor-du-m.

almost fall-PROG-PST-1SG

'I almost fell.'

The trajectory schema provides a path that is initiated but interrupted before reaching its endpoint. This extension is uniquely available to motion-verb-source progressives and constitutes one of the strongest diagnostics for source-domain retention (see §3.5.5 and Chapter 9).

These seven types do not form a random list but a structured network unified by the walking source's cognitive architecture. The semantic network branches along the dimensions provided by the five structural properties: sequential scanning generates the progressive core and its immediate extensions (historical present, exclamative); atelicity and bidirectional openness enable the habitual and continuous extensions; incrementality

enables the futurate; and manner specification enables the affective extensions (exclamative, complaint) and the trajectory-based near-miss. Chapter 9 will compare this network point by point with the semantic networks of motion-verb progressives in other languages and with the more restricted networks of locative-source (-mAktA) and posture-verb-source progressives.

3.4 -(I)yor in Contrast

3.4.1 -(I)yor versus -(A)r

The contrast between -(I)yor and -(A)r (the aorist) is the primary opposition within the Turkish non-past TAM system. It is analyzed in detail in Chapter 4; here we present the contrast from -(I)yor's perspective to clarify what the progressive marker contributes that the aorist does not.

Lewis (2000, pp. 116–117) provides the canonical formulation:

> *yaparım means 'I am a doer' and according to context it may represent: 'I habitually do'; 'by and large I am the sort of person who does'; 'I am ready, willing, and able to do'; 'I shall do'. yapıyorum means: 'I have undertaken, and am now engaged in, the job of doing'; 'I am doing now'; 'I am doing in the future', i.e. 'I have the job in hand'.*

Lewis's paraphrases vividly reveal this fundamental asymmetry. The aorist *yaparım* does not describe an ongoing event; it compresses the process of doing into a holistic characterization of the subject as a doer, a type of person. The temporal evolution of the doing is backgrounded, and what remains is a dispositional property. The progressive *yapıyorum*, by contrast, foregrounds the temporal engagement of a subject who has undertaken the doing, is tracking through it, and has it "in hand." In CG terms, -(A)r performs summary scanning (the event is compressed into a simultaneously available gestalt), while -(I)yor performs sequential scanning (the event is tracked through its temporal course). This is the core formal distinction.

Caro (2012) formalizes the contrast in terms of what the markers predicate, observing that whereas the aorist denotes a property of an individual irrespective of time, the progressive can only report the properties of a specific period of time that includes the moment of utterance. The aorist predicates over individuals; the progressive predicates over time periods. Lewis's (2000) contrast between yazarım 'I am a writer; in principle I write (though I may not yet have put pen to paper)' and yazıyorum 'I am writing now; as a matter of fact I do write' illustrates this precisely, since the aorist can be true even if no

instance of writing has ever occurred (because it characterizes a disposition), whereas the progressive requires temporal engagement, an actual or committed-to process of writing anchored to the present.

Temürcü (2011) captures the contrast in epistemic terms. -(I)yor is associated with "epistemic contingency" — information that is incidental to a given knowledge state, reflecting personal certainty or newly acquired information (Section 3.2). The aorist -(A)r, by contrast, is associated with "epistemic generality" — well-established, objective knowledge that is not bound to a particular knowledge state. The progressive's epistemic contingency follows from its sequential-scanning construal: tracking a situation through time produces knowledge that is immediate, personal, and tied to the observation window. The aorist's epistemic generality follows from summary scanning: compressing temporal instances into a characterizing gestalt produces knowledge that is detached from any particular observation, with the status of established fact.

Johanson (2000b) situates the contrast within his focality framework. Turkish -(I)yor and -(A)r represent what he terms a "relatively low focality" opposition: -(I)yor is a low-focal intraterminal (INTRALF) that covers both ongoing and habitual situations, while -(A)r is a nonfocal intraterminal (INTRANF) pushed into modal and general functions by -(I)yor's expansion. The key diachronic claim is that -(I)yor has undergone defocalization from INTRAHF to INTRALF — it began as a high-focal progressive (the periphrastic converb + yori- construction) and expanded its scope to encompass habitual and continuous functions, displacing the aorist in the process. Johanson explicitly argues that high-focal intraterminals tend to develop into less focal items, progressively acquiring more general and ultimately modal functions along the cline INTRAHF > INTRALF > INTRANF > MOD. Turkish -(I)yor is currently at the INTRALF position; -(A)r has been pushed to INTRANF/MOD.

Kanık (2015) provides corpus evidence quantifying this displacement. In his analysis of the Spoken Turkish Corpus, the progressive was roughly three times more common than the aorist (628 vs. 206 tokens). More strikingly, when interchangeable functions were compared — contexts where either marker could in principle be used — the progressive was used far more frequently than the aorist for expressing repetitive or habitual characteristics of people or groups (Kanık, 2015), with 76.19% of tokens occurring in the

progressive versus only 23.80% in the aorist. This is a domain — habituality — that is conventionally associated with the aorist rather than the progressive (Kanık, 2015). The corpus data confirm that -(I)yor has not merely entered -(A)r's habitual territory but dominates it in spoken Turkish.

Lewis (2000) provides an extended example that deserves careful attention in the cynical remark başka memleketlerde kazara ölürler; biz kazara yaşıyoruz 'in other countries they die by accident; we live by accident.' Lewis glosses the contrast as follows: the force of the aorist ölürler is that the speaker cannot claim anyone abroad is in fact dying at this precise instant but is aware that people abroad are liable to die — kazara — as the result of accident; the progressive yaşıyoruz, by contrast, conveys that the speaker is in fact living at this moment, but kazara, more by luck than by judgement. The aorist attributes a disposition (liability to die by accident) without temporal anchoring; the progressive reports a temporally situated fact (we are living right now) with experiential immediacy. The two modes of scanning produce two fundamentally different epistemological stances, with the aorist generalizing across situations to characterize a world while the progressive tracks through a situation to report an experience.

3.4.2 -(I)yor versus -mAktA

The contrast with -mAktA is treated in full in Chapter 5; here we note the essential asymmetry that motivates the source-domain analysis. Lewis (2000) captures the distributional key: -mAktA differs from the progressive in -yor in being restricted to actions currently in progress, never extending to actions envisaged. The locative-containment source of -mAktA (from -mAk + -DA 'at the act of V-ing') positions the subject at an activity as a spatial relation; this construal is inherently non-directional and cannot project forward. -(I)yor's motion-verb source provides the trajectory that enables forward projection — the futurate, the planned future, the "actions envisaged" that Lewis identifies.

A further diagnostic, widely noted in the descriptive literature, is that -mAktA's combination with stative verbs is either ungrammatical or quite infelicitous, while -(I)yor readily accommodates both stative and dynamic predicates. The locative-containment schema requires dynamic content to serve as the container; states lack the internal dynamism necessary for spatial containment. -(I)yor's trajectory-based scanning, by contrast, does not require

dynamic content because it can track any temporal profile, including the temporally extended but internally undifferentiated profile of a state.

Akaslan (2011) argues that the -(I)yor/-mAktA opposition is not stylistic (formal vs. informal) but "enunciative" (sözcelemsel) — it concerns the speaker's mode of engagement with the event. With -(I)yor, the speaker reports from within the experience, drawing on directly observed or lived phenomena. With -mAktA, the speaker reports from outside, describing what is taking place without the engaged tracking that characterizes -(I)yor's trajectory-based scanning. Göksel and Kerslake (2005, Section 21.4.1) support this characterization independently, noting that -(I)yor forms convey that the utterance is grounded in the speaker's own experience. The contrast is, in CG terms, a difference in the viewing arrangement: -(I)yor's trajectory positions the conceptualizer alongside the event, tracking its development from an engaged vantage point; -mAktA's locative containment positions the event as an observed state, with the conceptualizer outside it. The full implications of this contrast for extension patterns — why -(I)yor extends to seven functions while -mAktA remains confined to a narrow band — are developed in Chapter 5.

3.5 Extension Patterns

Each of -(I)yor's extensions beyond the progressive core preserves what Chapter 4 (§4.5) terms a "residual sequential dimension" — a trace of temporal unfolding, engagement, or tracking that derives from the motion-verb source. This section examines each extension in turn, identifying which source-domain properties enable it.

3.5.1 Futurate

The futurate use of -(I)yor — expressing a planned or scheduled future event — is one of its most distinctive functions. Göksel and Kerslake (2005, Section 21.2.3) describe it as a regular function, noting that -(I)yor is routinely employed with future reference when the events in question are scheduled or fixed. They add a significant pragmatic observation: using -(I)yor for planned future events signals strong speaker confidence that events will proceed according to the schedule. Lewis (2000) captures the same nuance in his paraphrase of yapıyorum as conveying both a future commitment and a sense that the speaker already has the job in hand.

Caro (2012) provides the formal mechanism. He invokes Copley's (2009) notion of a bouletic director, arguing that the progressive in both English and Turkish is acceptable only when there is a director — an individual or group committed to bringing about the event's occurrence. The futurate requires a plan — a present state of commitment that projects forward toward a future outcome. The trajectory schema of -(I)yor is what makes this projection possible. A plan is not a static state; it is an incrementally approaching eventuality. Each moment brings the planned event closer, just as each step brings a destination closer to a walker. The incrementality property of the walking source directly enables this extension, allowing the future event to be construed as approaching step by step along a temporal trajectory. The futurate is therefore not a metaphorical extension of the progressive but a natural projection of the trajectory schema: if you are walking toward something, the destination is "coming" whether you have arrived or not.

3.5.2 Historical Present

Kornfilt (1997) notes that for heightened immediacy, the present progressive can also be recruited to express past actions or events in narrative contexts. The historical-present use of -(I)yor mentally transports the narrator (and the audience) into the temporal frame of the past event, presenting it as if it were unfolding in real time. This is temporal re-immersion, in which the narrator walks through the past events, scanning them sequentially as they occur. The manner-specification property of the walking source contributes the experiential engagement that makes the narration vivid — the narrator is not observing the past from a distance but re-experiencing it from within.

The historical-present extension requires the directional, trajectory-based scanning that the walking source provides. The narrator traces a temporal path through the past, and the -(I)yor form invites the audience to follow along that path. The immediacy that Kornfilt identifies is precisely the experiential within-ness contributed by the manner-specification property, whereby the narrator is not observing the past from a safe temporal distance but re-traversing it, step by step, as a walker traverses terrain. This is why -mAktA, with its locative-containment schema, cannot serve the historical-present function in spontaneous speech (as noted in Chapter 5, §5.3): locative containment positions the event as an observed state, but the historical present requires the temporal traversal that trajectory-based scanning provides. When

-mAktA appears in literary narration — as in stage directions or novelistic scene-setting — it describes what is simultaneously happening at a given point in the story world, not what the narrator is re-experiencing as if for the first time.

3.5.3 Habitual

The habitual function of -(I)yor has expanded significantly over the documented history of Turkish. Caro (2012) reports that in Yavaş's (1982) description, any temporally bounded habit required the progressive while the aorist was disallowed. However, Caro documents a subsequent change: in the three decades between Yavaş's study and his own, the requirement that an event be temporally bounded in order to license the progressive appears to have been lost. Kanık's (2015) corpus data confirm the magnitude of the expansion: 76.19% of interchangeable habitual tokens in the Spoken Turkish Corpus appeared in the progressive, versus only 23.80% in the aorist.

This expansion is precisely what Deo (2015) terms the "progressive-to-imperfective shift" — a crosslinguistically attested diachronic pattern whereby expressions primarily employed to describe events in progress at one temporal stage extend to habitual and generalizing functions at a later stage. Deo identifies four stages in the cycle: zero-prog (no progressive marker), emergent-prog (optional progressive), categorical-prog (progressive obligatory in some contexts), and generalized-prog (progressive extended to imperfective). Turkish -(I)yor is currently transitioning from categorical-prog toward generalized-prog, having become the dominant marker for habitual meaning in spoken Turkish without yet fully displacing -(A)r from generic and dispositional functions.

Caro (2012) further notes that the stative domain has also been absorbed by the progressive, noting that in Turkish, stative verbs show a clear preference for the progressive over the aorist. He observes that although Vendler (1957) predicts that stative verbs should resist progressive aspect, in Turkish they are expressed almost exclusively with the progressive. This constitutes an additional dimension of -(I)yor's encroachment, as it has expanded not only from progressive to habitual but also from dynamic to stative predicates, producing a marker whose functional scope approximates Deo's (2015) "imperfective."

The CG analysis explains why habitual meaning is available to -(I)yor but not to -mAktA. The habitual construes a pattern of repeated events across a time period. -(I)yor's bidirectional openness and atelicity enable this extension by stretching the observation window across the time period and allowing the atelic character of the source schema to construe the repetition as an unbounded process. Göksel and Kerslake (2005, Section 21.3.2) capture the semantic distinction between habitual -(I)yor and habitual -(A)r, observing that the difference between the past habitual forms -(I)yordu and -(A/I)rdI reflects a dichotomy between general rules and observed facts. The -(I)yor habitual presents observed facts — a pattern the speaker has witnessed or experienced. The -(A)r habitual presents a general rule — a characterization abstracted from observed behavior. The former tracks the pattern through time (sequential scanning over iterated instances); the latter compresses the pattern into a timeless characterization (summary scanning).

3.5.4 Exclamative and Complaint

The exclamative and complaint functions are treated together here because they constitute subtypes of a single affective-evaluative extension: both exploit the manner-specification property to foreground the speaker's emotional response to an ongoing situation. What distinguishes them is the valence of the affect (surprise or admiration in the exclamative; irritation or frustration in the complaint) rather than the underlying construal mechanism, which is identical — immersive engagement with a process that the speaker presents as real but not necessary. They could, on a more parsimonious taxonomy, be collapsed into a single "affective-evaluative" use type with contextually determined subtypes; the present analysis retains the distinction to capture the range of pragmatic functions that the manner-specification property enables.

The affective extensions of -(I)yor — the exclamative (Hep arıyorsun! 'You keep calling!') and the complaint (Sürekli şikayet ediyorsun 'You're constantly complaining') — exploit the manner-specification property of the walking source. These uses foreground the processual scanning of an ongoing situation to express speaker affect: surprise, irritation, frustration, or empathic engagement. The speaker is not merely reporting that a process is occurring; the speaker is reporting being within it, affected by it, experientially immersed in its continuation — just as a walker is immersed in the physical terrain they traverse.

De Wit et al. (2020) identify a crosslinguistic pattern: synchronic data from English, Dutch, and French show that progressives in all three languages continue to serve expressive, extravagant purposes, suggesting something inherent in progressive aspect that predisposes it to such usage. They trace this predisposition to the progressive's schematic meaning of epistemic contingency, arguing that the progressive is frequently recruited to construe situations as real — actually occurring — but not necessary, in the sense that they do not instantiate a structural property of the world and are not in principle predictable. A situation that is real but not necessary is precisely the kind of situation that evokes affective response. The speaker knows it need not be occurring, yet it is, and that felt contingency is itself the expressive payload. The manner-specification property of the walking source amplifies this contingency into felt experience, so that the speaker does not just know that the situation is occurring but feels its occurrence, as one feels the ground underfoot while walking.

The parallel with Dutch posture-verb progressives is instructive. De Wit et al. (2020) note that the Dutch lopen te + V-inf construction appears to be especially prone to expressions of irritation. The lopen te construction derives from the motion verb lopen 'to walk' — the Dutch cognate of the locomotive source that produced Turkish -(I)yor. That two motion-verb-source progressives in genetically unrelated languages should both specialize in affective-evaluative functions supports the claim that the motion-verb source domain contributes a specific experiential quality — a felt engagement with process — that locative and posture-verb sources do not provide.

3.5.5 Near-Miss

The near-miss construction — Neredeyse düşüyordum 'I almost fell' — is the most diagnostically revealing of -(I)yor's extensions. It requires a trajectory that is initiated, progresses toward an endpoint, and is interrupted before reaching it. The conceptualizer is invited to mentally traverse the path up to the point of interruption, experiencing the directional momentum that was arrested at the last moment.

This extension exploits the trajectory schema of the walking source with particular directness. A path has been initiated; progress has been made along it; but the endpoint — the catastrophic result of the fall — has not been reached. The spatial logic of walking is preserved intact, since one can walk toward a destination and stop short of it, and the near-miss construction

applies this same logic to temporal events. The trajectory is arrested at the penultimate phase, producing the counterfactual inference that the endpoint was close to being attained. What makes the near-miss phenomenologically compelling is the sense of directionality preserved in the construal, in which the situation was heading somewhere, whether toward a fall, a collision, or a catastrophe, and the -(I)yor form invites the hearer to mentally travel along that trajectory, experiencing the momentum that was building before it was arrested. This is sequential scanning deployed not for temporal tracking but for counterfactual projection, with the hearer scanning through the phases that did occur and inferring the phase that would have followed.

The near-miss function also reveals the incrementality property at work. The near-miss is not a sudden, unpredicted event but an event that was approaching incrementally — each successive moment brought the catastrophic outcome closer, just as each step brings a walker closer to a destination. The construal depends on the hearer's ability to recognize the incremental approach and mentally project the arrival that did not occur. This incremental approach is available because the walking source encodes it: walking is composed of individually small, additive steps, and the near-miss construction exploits this compositional structure to construe the averted event as something that was being approached step by step.

The near-miss function is unavailable to -mAktA (see Chapter 5, §5.3). The locative-containment schema has no trajectory to interrupt, since one is either 'at' the activity or not. There is no halfway position analogous to 'almost arrived at the endpoint of a trajectory.' Containment is a binary relation — one is in the container or outside it — and there is no spatial analog for the progressive approximation to a destination that the near-miss construal requires. This asymmetry constitutes one of the strongest within-language arguments for source-domain retention. If -(I)yor and -mAktA differed only in register or formality, we would expect them to be functionally interchangeable (modulo stylistic preference). Instead, they differ in precisely the ways that their respective source domains predict, with -(I)yor extending to functions that require directionality and -mAktA failing to extend to them. The near-miss function isolates directionality as the specific cognitive ingredient that distinguishes the two source domains.

3.6 Subjectification and Epistemic Contingency

The diachronic trajectory of -(I)yor is not only a grammaticalization story (from lexical verb to bound suffix) but also a subjectification story (from objective motion to subjective temporal scanning). Langacker (2008b, p. 583) characterizes this trajectory in general terms: "an overall approach viewing grammar as a product of subjectification, whereby mental operations inherent in concrete experience come to be applied in abstraction from such experience as the basis for grammatical phenomena." The mental operation of sequential scanning was originally grounded in the concrete experience of walking through space; through grammaticalization, it was abstracted from this spatial experience and applied to the temporal domain, where it serves as the basis for progressive aspect. The subjectification is the abstraction itself, consisting of the shift from tracking one's progress through a physical environment (an objective, bodily experience) to tracking the progress of any event through conceived time (a subjective, cognitive operation).

Temürcü (2011) documents a further stage of subjectification — the development of epistemic associations. He demonstrates that -(I)yor is associated with "epistemic contingency" — information incidental to a given knowledge state, characterized by personal certainty and new information (Section 3.2). This epistemic association follows from the progressive construal through what Temürcü identifies as a metonymic bridge, in which the conditions of use for certain and new information frequently overlap with the conditions of use for simultaneity, so that epistemic contingency is often, though not always, triggered by perceptual access to a state of affairs ongoing at the time of utterance (Section 3.2). Present-time perceptual access is the prototypical source of personally certain, newly apprehended information; and -(I)yor's progressive core — tracking an ongoing situation through time — naturally coincides with this epistemological profile. The metonymic slide from temporal simultaneity to epistemic immediacy is the mechanism that produced the subjectified reading.

Temürcü (2011, Section 3.2) traces the diachronic path with precision, arguing that -(I)yor, having begun its TAM career as a marker of progressive aspect, must have acquired wider semantic applicability through a loosening of its more objective temporal associations and a corresponding strengthening of its more subjective epistemic ones. The term "partial bleaching" is significant because Temürcü does not claim full semantic erasure but a

rebalancing in which the temporal component of the meaning is attenuated and the epistemic component is amplified. This is consistent with the CG analysis, under which the sequential-scanning operation persists (it is not bleached) but shifts its application scope from the temporal tracking of a single event to the epistemic characterization of information as immediate, personal, and contingent. Eventually, Temürcü argues, epistemic contingency became a sufficient condition for the use of -(I)yor even when the temporal component was persistive, perfect, future, or habitual-gnomic (Section 3.2). As a result, the marker can now be used in contexts where no event is in progress, provided the speaker's epistemic stance is one of contingent, personally grounded knowledge.

De Wit et al. (2020) propose epistemic contingency as the most schematic meaning of progressive constructions across languages — one that is directly instantiated in prototypical temporal uses but also motivates extended uses that do not concern temporal development. On this view, the schematic meaning that unifies -(I)yor's seven use types is not temporal simultaneity but the construal of a situation as real but not necessary — actually occurring but not structurally entailed by the world's inherent properties. This characterization connects the progressive's aspectual function (tracking what is happening now) to its epistemic function (marking information as contingent rather than established) and to its affective function (expressing surprise, irritation, or engagement at a situation that did not have to occur but is occurring nonetheless).

The subjectification trajectory of -(I)yor — from objective walking to subjective temporal scanning to epistemic contingency — thus recapitulates at the level of a single morpheme the general cognitive-linguistic principle that grammar emerges from the schematization of embodied experience. The walking source contributes not only the sequential-scanning operation that defines progressive aspect but also the experiential immediacy that underlies -(I)yor's epistemic and affective extensions. What began as walking through space has become walking through time, and walking through time has become a way of knowing — personally, contingently, from within the experience.

The connection between manner specification and epistemic contingency deserves emphasis, for it is here that the source-domain analysis most clearly departs from purely structural accounts. Lewis (2000) contrasts

seni seviyorum and seni severim for 'I love you,' observing that the aorist severim would sound far too vague and lacking in immediacy, corresponding more closely to 'I like you.' The progressive form is chosen for love declarations not because love is an ongoing process (it is not, in any temporally bounded sense) but because the progressive's manner specification — its experiential within-ness — conveys the immediacy of the speaker's emotional engagement. The aorist form, with its summary-scanning compression, produces a characterization too general and too detached for the communicative purpose. The speaker is not characterizing oneself as the type of person who loves the addressee but reporting being within the experience of loving the addressee at this moment, from inside. The walking source's manner specification — the felt, embodied quality of locomotive engagement — has been schematized into a communicative tool for marking experiential immediacy.

This analysis generates a three-way falsifiable prediction that Chapter 9 will evaluate using crosslinguistic evidence. If source-domain retention is real, then progressive markers derived from different source domains should show systematically different extension profiles. Motion-verb sources — Turkish -(I)yor, Dutch *lopen te* — should extend to futurate, near-miss, historical present, exclamative and complaint, and habitual functions, all of which require or benefit from directionality, incrementality, and experiential engagement. Locative sources — Turkish -mAktA, *be at* / *in* constructions — should resist these same extensions, since all of them presuppose directionality that a static containment schema cannot provide. Posture-verb sources — Dutch *zitten / staan / liggen te* — should show an intermediate profile, extending to some functions that locative sources resist (owing to their greater dynamism) but not to all functions that motion-verb sources support (owing to their stationarity).

The prediction is falsifiable in principle, since if a locative-source progressive were found to support near-miss or trajectory-based futurate extensions, or if a motion-verb progressive were found to lack exclamative and complaint functions despite adequate grammaticalization, the source-domain retention hypothesis would require revision. Okabe (2023) provides supporting evidence from Dutch, showing that posture-verb progressives retain source-domain constraints, as the Modern Dutch posture-verb construction remains closely tied to the verb's stative and locational character (cf. Lemmens, 2005), so that the postural meaning is largely preserved and the

complement verb must be compatible with the posture encoded by the main verb. The complement-verb restrictions in Dutch posture-verb progressives are a direct reflex of source-domain retention — the same principle that restricts Turkish -mAktA's extensions while leaving -(I)yor's extensions unconstrained.

This chapter has argued that the five structural properties of the walking source — sequential scanning, atelicity, bidirectional openness, incrementality, and manner specification — survive in -(I)yor as schematic cognitive operations that collectively generate its seven attested use types. The semantic network that results is not a collection of arbitrary polysemous extensions but a structured space whose dimensions are defined by the source domain's cognitive architecture. The next chapter will demonstrate that -(A)r, the aorist, presents the complementary case, a marker whose source domain (now largely opaque) yields a single cognitive operation — summary scanning — that generates a different but equally coherent set of functions. The argument of the book as a whole rests on the claim that these source-domain structures are not etymological curiosities but active cognitive constraints that continue to shape the functional profiles of Turkish aspectual markers in the living language.

Chapter 4. -(A)r: The Aorist as Summary Scanning

4.1 The Source and Diachrony

The Turkish suffix commonly known as the "aorist" carries a borrowed label whose original referent bears almost no resemblance to the Turkish morpheme it designates. Lewis (2000) notes that the term was borrowed from Greek grammar, where it means 'unbounded,' and observes that it aptly describes what the Turks call *geniş zaman* 'the broad tense,' a label denoting continuing activity. The Greek etymology captures something genuine about the marker's semantic breadth — its capacity to range across habitual, generic, gnomic, modal, and even narrative uses without anchoring a situation to a particular moment in time. However, as Jendraschek (2011a) emphasizes, the crosslinguistic pedigree of the term creates a fundamental mismatch: from a comparative standpoint, the label aorist is not warranted and should be reserved for languages in which it corresponds to Comrie's (1976) definition of a simple past or past perfective (Jendraschek, 2011a). The Greek aorist denotes bounded, completed past events — precisely the opposite of the Turkish suffix. Where the Ancient Greek aorist is perfective and past-oriented, the Turkish -(A)r is imperfective and temporally unbounded. Despite this incongruence, the label has become so entrenched in Turkish grammatical tradition that dislodging it entirely would require more terminological disruption than the gain in clarity would justify. We will retain it here as a conventional designation while keeping the mismatch in view, and we will also use Jendraschek's (2011a, 2011b) alternative designation "dispositive" when it illuminates the marker's semantics more precisely.

The Turkish native tradition captures the marker's character more accurately. *Geniş zaman* — literally 'broad tense' or 'wide tense' — evokes the expansive temporal scope that sets -(A)r apart from the more anchored markers in the system. Where -(I)yor focuses on what is happening at or around the moment of speech, and -DI reports what happened at a specific past moment, -(A)r surveys a landscape without temporal boundaries. Its breadth is precisely what makes it suitable for dispositional characterizations, generic statements, and modal extensions — functions we will examine in detail in §4.3.

The diachronic origins of -(A)r are less transparently recoverable than those of -(I)yor, which retains a phonological fossil from its motion-verb

source (see Chapter 3). The aorist suffix does not carry an obvious etymological trail in the same way. What the historical record does reveal, however, is the marker's former territorial dominance. Caro (2012) summarizes the situation succinctly: historically, the aorist functioned as a present tense that subsumed the categories of habitual, progressive, and bouletic future — domains that have since been absorbed by the progressive marker. This account is consistent with Johanson's (2000b) characterization of the aorist as a defocalized intraterminal that has been progressively displaced from its original territory by newer focal forms. Before the grammaticalization of -(I)yor in the seventeenth and eighteenth centuries (Johanson, 1971; Schiering, 2006), the aorist served as the general present tense of Turkish — the unmarked verbal form for any situation construed as extending through or holding at the time of speech. It was, in effect, the imperfective marker of the earlier system.

The subsequent encroachment of -(I)yor reshaped the Turkish TAM landscape profoundly. As the progressive marker expanded along the well-documented progressive-to-imperfective cline, it progressively absorbed functions that had previously been the aorist's territory: progressive aspect first, then habitual aspect with temporally bounded iterations, and most recently — as documented by Caro (2012), comparing his data with Yavaş's (1982) descriptions — even temporally unbounded habitual-characteristic meanings. The aorist's semantic territory has therefore been shrinking historically, compressed into functions that the progressive marker has not (yet) colonized. The residual territory, as we will see in §4.3, is not random but constitutes a coherent functional domain unified by the single cognitive operation of summary scanning.

A methodological point must be stated explicitly. The opacity of -(A)r's etymological source is not a weakness of the source-domain retention hypothesis advanced in this book but a prediction of it. If the hypothesis holds that markers with transparent source domains retain source-specific construal profiles, then markers whose source domains have been fully eroded should exhibit maximally general, paradigmatically determined profiles — construal operations derivable from systemic opposition rather than from inherited lexical content. This is precisely what -(A)r exhibits, since its summary-scanning profile is the functional complement of -(I)yor's sequential scanning, and its extension patterns are defined not by what a particular source domain affords but by what the progressive has not (yet) colonized. The aorist thus

serves as a control case — a marker that demonstrates what aspect looks like when source-domain retention has run its course and only the schematic scanning operation remains. Chapter 9 (§9.3.1) develops this argument formally through the transparency gradient, showing that the degree of construal specificity a marker exhibits correlates with the recoverability of its etymological source.

Jendraschek (2011a) situates -(A)r within a broader morphological architecture that challenges traditional descriptions. He argues that forms such as *okuyor*, *okur*, *okuyacak*, and *okumuş* are participles carrying aspectual rather than temporal marking, and that the failure to recognize present tense as zero-marked has led to the misanalysis of what are fundamentally aspectual morphemes as tense markers (Jendraschek, 2011a). On this view, the aorist form *okur* is not a "present tense" form but a participial form marked for dispositive aspect, which receives present tense interpretation through the zero-marking that also characterizes non-verbal predicates (*Bodrum'da-Ø-yım* 'I am in Bodrum', parallel to *okur-Ø-um* 'I read/am a reader'). Jendraschek draws the parallel explicitly: just as the adjective *yorgun* 'tired,' the noun *uzman* 'expert,' or the adverbial *Bodrum'da* 'in Bodrum' carry no tense marking, neither does the participle *okuyor*, which enters into a paradigmatic relation with these non-verbal predicates (Jendraschek, 2011a). This participial analysis has consequences for understanding the aorist's cognitive semantics, in that if -(A)r produces a participial form, then its primary contribution is a construal operation (dispositive aspect) rather than temporal reference, and its apparent temporal neutrality follows from the zero-exponence of tense.

The morphophonological shape of -(A)r is itself unusually complex for Turkish, a language whose agglutinative morphology typically features transparent and predictable suffixation. As Kornfilt (1997) notes, its most general representation is -(A)r, but the suffix exhibits a set of well-defined allomorphic deviations affecting the vowel. The suffix surfaces as three allomorphic variants: -r after vowel-final stems (ye-r 'eats', uyu-r 'sleeps'), -Ar (with A-type vowel harmony: -ar/-er) with the majority of monosyllabic consonant-final stems, and -Ir (with I-type vowel harmony: -ır/-ir/-ur/-ür) with all polysyllabic stems and thirteen irregular monosyllabic stems. Nakipoğlu and Gedik (2020) investigate this allomorphic competition experimentally and report that the vast majority of monosyllabic items tested — 5,468 out of 6,391 — were conjugated with -Ar, yielding a rate of 85.6%, while only 923

received -Ir, establishing -Ar as the clear default for monosyllabic stems. The thirteen irregular monosyllabic verbs that take -Ir (including al-ır 'takes', bil-ir 'knows', gel-ir 'comes', gör-ür 'sees') all end in sonorants (/l/, /r/, /n/), but sonority alone does not predict the allomorph, since numerous sonorant-ending monosyllabics take -Ar (e.g., *sar-ar* 'wraps').

This allomorphic complexity, combined with the irregular subset of monosyllabic verbs, makes the aorist the most morphophonologically opaque member of the Turkish TAM paradigm. Nakipoğlu and Gedik's experimental results reveal that adult speakers treat -Ar as a productive default rule for monosyllabics — a symbolic abstraction that blocks the otherwise more frequent -Ir pattern — while a minor analogical residual (14.4%) is driven by sub-lexical phonological chunk frequencies rather than morphological similarity. The dual-mechanism interpretation they propose — a dominant rule coexisting with a minor analogical component — positions the aorist as a quasi-regular pattern whose very irregularity may reflect its deep antiquity in the Turkish verbal system.

4.2 Summary Scanning as the Core Operation

The theoretical apparatus introduced in Chapter 2 provides the means to characterize -(A)r's core semantic contribution with precision. Where -(I)yor imposes sequential scanning — tracking a process through conceived time with each successive state in momentary focus — -(A)r imposes summary scanning, in which the temporal evolution of an event is backgrounded and the resulting configuration is apprehended as a single, simultaneously available gestalt.

Langacker (2008a, p. 117) defines the two modes in complementary terms:

> *In [summary] scanning, it is no longer the case that only one component state is focused at a given moment of processing time. While the states are still accessed in their natural sequence, they undergo summation: that is, they are mentally superimposed, resulting in their simultaneous activation.*

In his more detailed elaboration, Langacker (2008b, p. 572) emphasizes that summary scanning is not simply the absence of sequentiality but a two-phase cognitive operation: "Two phases or levels of organization are thus involved: a 'growth' or 'build-up' phase, which captures directionality and

temporal sequencing; and the final, persistent stage that results, in which the successive configurations are compressed into a single, simultaneously available gestalt." The build-up phase preserves the internal ordering of the process — we still recognize that eating, for instance, involves picking up food, chewing, swallowing — but the final stage collapses this sequence into a holistic characterization. The temporal skeleton is not erased; it is compressed to the point where it no longer organizes the viewing experience as a serial tracking of states through time.

This compression is precisely what distinguishes the aorist from the progressive. Consider:

Ali çalış-ır.

Ali work-AOR

'Ali works / Ali is a worker.'

Ali çalış-ıyor.

Ali work-PROG

'Ali is working.'

Both sentences involve the same conceptual content: Ali engaged in the process of working. But they construe this content through different scanning modes. With -(I)yor, we mentally track the working as it unfolds — the sequential scanning preserves the temporality inherent in the process, making the ongoing activity the figure against the temporal ground. With -(A)r, we apprehend the working holistically, as a compressed characterization of Ali. The temporal evolution of the working is not in focus; what is in focus is the dispositional property that multiple instances of working confer on the subject.

Lewis (2000, p. 116) captures this distinction with characteristic precision in his treatment of the aorist-present contrast:

> *yaparım means 'I am a doer' and according to context it may represent: 'I habitually do'; 'by and large I am the sort of person who does'; 'I am ready, willing, and able to do'; 'I shall do'. yapıyorum means: 'I have undertaken, and am now engaged in, the job of doing'; 'I am doing now'; 'I am doing in the future', i.e. 'I have the job in hand'.*

Lewis's paraphrases reveal the fundamental asymmetry. The aorist yaparım does not describe an ongoing event — it describes a type of person. The speaker is not reporting a situation anchored to the present moment but

making a claim about what kind of agent they are. The progressive yapıyorum, by contrast, reports engagement in an activity that has been undertaken and is being tracked through its temporal course. In CG terms, the aorist backgrounds the temporal evolution of the process and foregrounds the dispositional characterization that results from compressing multiple instances of that process into a single holistic construal. The progressive foregrounds the temporal evolution itself.

Jendraschek (2011a, 2011b) arrives at a compatible characterization through different analytical vocabulary. His term "dispositive" highlights the key functional contrast:

> *The term 'dispositive' highlights the fact that by using this form we are usually focusing on a disposition of the subject referent. Ersen-Rasch (2004: 140-141) describes well how the dispositive contrasts with the progressive aspect. The latter focuses on the situation described by the verb, i.e. it highlights properties of the dynamic situation core, whereas the dispositive highlights properties of the subject referent. (2011b, Section 4.2)*

This is the same distinction, rephrased. Sequential scanning (the progressive) puts the situation itself in focus — the dynamic event unfolding through time is the object of attention. Summary scanning (the dispositive/aorist) shifts focus from the situation to the subject — the relevant information is what the compressed situations reveal about the entity performing them. *Ali çalışır* is not fundamentally about working; it is about Ali. The working has been compressed into a characterizing property attributed to the subject referent.

Langacker (2008b, p. 582) provides the theoretical mechanism underlying this shift:

> *So to the extent that meanings are based on simulations of such experience, foregrounding an event's evolution through time ensures that its inherent sequentiality is fully manifested. By the same token, it tends to be diminished or suppressed when time is relegated to the background. In that case there is greater emphasis on the component configurations per se, viewed in abstraction from their temporal evolution. The balance thus shifts from sequentiality to summation.*

This "shift from sequentiality to summation" is the core cognitive operation that -(A)r performs. The marker takes a process — an event with

internal temporal structure — and converts it into a characterization that abstracts away from that temporal structure. The event is not denied; it is compressed. The result is a construal that is closer to an adjective than to a clause describing ongoing activity. Indeed, Jendraschek's (2011a) analysis of Turkish aspectual forms as participles makes this connection explicit by showing that the aorist form *çalışır* is, conceptually, closer to a predicative adjective (*çalışkan* 'hardworking') than to a progressive verb form (*çalışıyor* 'is working'), even though morphosyntactically the aorist remains a fully verbal inflection.

Langacker (2008b, p. 573) explicitly characterizes the relationship between sequential and summary scanning as graded rather than binary: "It is not implausible to suppose that sequentiality and summation coexist in event conceptions as two aspects or levels of processing activity, their relative salience depending on the higher-level task." The aorist does not abolish sequentiality; it diminishes its salience below the threshold of conscious organization. The underlying process retains its internal temporal structure — we can still recognize that a habitual activity like çalışır involves repeated instances of working, each with its own temporal course — but this structure is no longer foregrounded as the primary dimension of the construal. The balance has shifted toward summation.

This gradience has consequences for understanding the aorist's various functions. In some uses such as gnomic statements and generic characterizations, the summation is near-complete, with the temporal dimension almost entirely suppressed and the construal approaching a timeless characterization. In others (promises, predictions, vivid narrative), some sequential scaffolding remains, lending the construal a residual processual quality that keeps it within the verbal domain. The gradient nature of summary scanning thus provides the cognitive basis for the aorist's remarkable polysemy, which we examine in the next section.

4.3 The Construal Profile of -(A)r

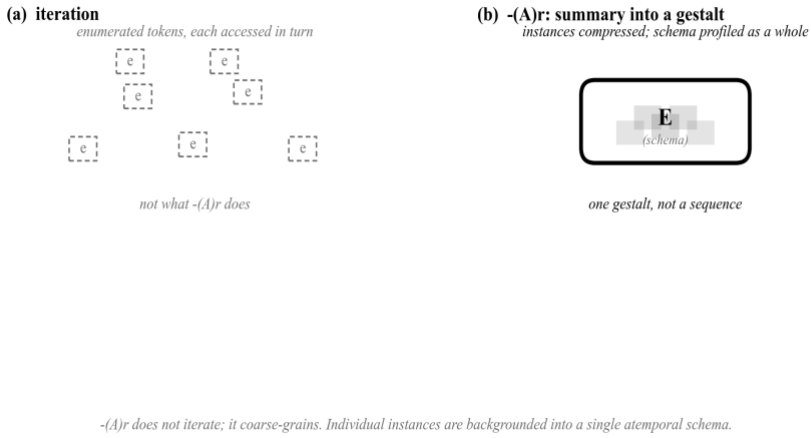


Figure 4.1. -(A)r: compression into a gestalt, not iteration. (a) Iteration enumerates tokens one at a time — this is not what -(A)r does. (b) Summary scanning compresses the instances into a single superimposed silhouette, and the profiled unit is the schema covering them. The figure distinguishes the aoristic/habitual/generic reading (coarse-grained gestalt) from mere iterativity.

4.3.1 Generalization and Atemporality

The most immediately apparent property of -(A)r is its capacity for generalization — its ability to make statements whose validity is not restricted to any particular moment in time. Kornfilt (1997) characterizes it as a general present tense whose scope encompasses habitual actions and general events, approaching what might be called a universal tense. The phrase "universal tense" is telling, suggesting a marker whose temporal scope is so broad as to approach temporal vacuity. The aorist's temporal reference is not vague or underspecified but genuinely unbounded. Consider:

Su yüz derece-de kayna-r.

water hundred degree-LOC boil-AOR

'Water boils at 100 degrees.'

This sentence does not claim that water is boiling at the moment of speech, nor that it boiled at some past moment, nor that it will boil at some future moment. It states a property of water that holds across all times. The

temporal dimension has been fully compressed; what remains is a characterization of the subject's nature.

Caro (2012) formalizes this observation as the central principle of the aorist's semantics, holding that the aorist ascribes a property to an individual without temporal restriction whereas the progressive is confined to reporting properties of a specific time period encompassing the moment of utterance. Jendraschek (2011b) arrives at a convergent characterization from a different analytical tradition, terming the aorist "dispositive" and arguing that it foregrounds properties of the subject referent rather than properties of the unfolding situation. This individual-level characterization is the diagnostic signature of summary scanning, because when a process is compressed into a simultaneously available gestalt, what emerges is not a temporal description but a property attribution. The temporal dimension — the internal sequencing that distinguishes process from state — has been absorbed into the compressed characterization. The result is a construal that is fundamentally atemporal in the sense that its truth conditions do not depend on any particular time of evaluation.

Lewis's (2000, p. 116) paraphrase "by and large I am the sort of person who does" captures this atemporality idiomatically. The aorist-marked predicate does not describe what the subject is doing; it describes what kind of entity the subject is. The relationship between -(A)r and individual-level predication is not accidental but arises directly from the construal operation, since summary scanning compresses temporal instances into a gestalt and a temporal gestalt over a process yields a dispositional characterization, a statement about what the entity is disposed to do rather than what it is doing at any particular moment.

4.3.2 Habituality as Dispositional Property

The habitual function of -(A)r is perhaps its most widely recognized use in descriptive grammars. Kornfilt (1997) observes that habitual aspect characterizes a situation extending over a considerable stretch of time, and that in Turkish the primary marker for this aspect is the suffix -(A)r, the so-called aorist. Yet the CG analysis reveals that -(A)r's habituality is a specific variety — dispositional habituality — that must be distinguished from the experiential habituality that -(I)yor can also express.

The distinction is captured precisely by Göksel and Kerslake (2005):

> *The difference in meaning between the two past habitual forms -(I)yordu and -(A/I)rdı reflects the 'general rule'/'observed facts' dichotomy between the aorist and other finite forms [...] -(A/I)rdı usually refers to a long-term pattern of behaviour, which in the case of a human subject is viewed as an inherent characteristic of that person. (Section 21.3.2)*

The "general rule" paraphrase captures what summary scanning does to habitual meaning. When repeated instances of an activity are compressed into a holistic gestalt, the result is not a report of observed repetitions but an abstraction from them — a rule, a norm, a characteristic. The -(A)r habitual says: "this is the kind of thing X does." The -(I)yor habitual, by contrast, says: "here is what X has been observed doing." The former characterizes the individual; the latter reports a pattern in the world anchored to an observation window.

Lewis's (2000, pp. 116-117) contrast between yazarım and yazıyorum makes this concrete:

> *yazarım 'I am a writer; in principle I write (though I may not yet have put pen to paper)'. yazıyorum 'I am writing now'; 'as a matter of fact I do write'; 'I write, for example, for four hours every morning'.*

The parenthetical in Lewis's gloss of yazarım — "though I may not yet have put pen to paper" — is revelatory. Crucially, the aorist habitual does not require any actual instance of the activity to be ongoing, or even to have ever occurred; rather, it attributes a disposition. Someone can truthfully say yazarım without ever having written, if they conceive of themselves as having the disposition, the capacity, or the vocation of a writer. This is pure dispositional predication, whereby the compressed gestalt of writing has been detached from any temporal instantiation and applied as a property of the subject. The progressive yapıyorum, by contrast, requires at minimum a commitment to actual engagement — a temporal instantiation, observed or experienced, that anchors the claim to the world.

Temürcü (2011) captures the same contrast in epistemic terms: -(A)r conveys what he terms epistemic generality — well-established, objective knowledge not contingent on any particular knowledge state — while -(I)yor conveys epistemic contingency, reflecting information tied to a specific knowledge state, whether personal certainty or newly discovered information. The aorist's epistemic generality follows from its summary-scanning

construal, because once the temporal instances have been compressed, the resulting characterization is no longer tied to any particular observation. It has the status of established, general knowledge — the kind of knowledge that does not depend on being newly discovered or personally verified. The progressive's epistemic contingency, conversely, follows from its sequential-scanning construal, in which the ongoing tracking of a situation through time naturally produces knowledge that is immediate, personal, and tied to the observation window.

Temürcü (2011) further demonstrates that the epistemic contrast extends into the domain of persisting perfects — situations begun in the past and continuing into the present. Both -(A)r and -(I)yor can convey this meaning, but they diverge solely in their epistemic values, with -(A)r presenting the proposition as a well-established objective fact while -(I)yor reflects either the speaker's certainty grounded in personal knowledge or a newly acquired piece of information (Temürcü, 2011; in Temürcü's notation, -Xr# and -Iyor#, respectively). The diagnostic adverbial bildiğim kadarıyla 'as far as I know' selects for -(I)yor because it explicitly signals personal, contingent knowledge — the kind that sequential scanning's temporal tracking naturally produces. The same adverbial is infelicitous with -(A)r because the aorist's summary scanning yields knowledge claims that purport to be general and established, not personal and qualified. This distributional asymmetry confirms that the epistemic opposition between the two markers is not an artifact of their temporal semantics but an independent dimension that follows from the mode of scanning.

Caro (2012) documents the consequences of this contrast with a minimal pair that illustrates how the -(A)r / -(I)yor alternation maps onto the individual-level / stage-level distinction:

> *the Aorist has a CHARACTERISTIC reading, that the father is the type of person who goes to bed early, while the Progressive has a HABITUAL reading, that the period of these past two years is marked by the fact that the father has been going to bed late. (p. 15)*

The same predicate — going to bed at a certain hour — receives two fundamentally different construals depending on the scanning mode. With -(A)r, it is a stable individual-level property, identifying the kind of person the father is. With -(I)yor, it is a stage-level observation about a particular time period, capturing what has been going on during these two years. The CG

analysis grounds this distinction in the mode of scanning, with summary scanning compressing temporal instances into a characterizing gestalt (individual-level) while sequential scanning tracks them through time (stage-level).

Corpus evidence from spoken Turkish confirms that this dispositional-habitual territory is precisely where -(A)r has lost the most ground to -(I)yor. Kanık (2015) analyzed the Spoken Turkish Corpus (44,962 words) and determined that when aorist and progressive functions are interchangeable — that is, in the habitual-characterizing zone where both markers are grammatically available — 76% of tokens appear in the progressive and only 24% in the aorist. As Kanık observes, this finding is notable precisely because the aorist, not the progressive, is the marker traditionally associated with habitual-characterizing meaning — and the one most commonly likened to the English simple present tense (Kanık, 2015). The implication for the CG analysis is that while -(A)r retains the dispositional construal as its cognitive core, speakers increasingly prefer -(I)yor's sequential-scanning construal even for habitual-characterizing meanings — extending the experiential, observation-anchored quality of the progressive into territory that was formerly the exclusive domain of summary scanning. What remains exclusively with -(A)r, as we will see in §4.3.3, is the modal and gnomic territory that sequential scanning cannot reach. Kanık's data also reveal an intriguing asymmetry in verb semantics: of the verbs used exclusively in aorist within interchangeable functions, six out of fifteen are mental state predicates (*bilmek* 'know,' *çekinmek* 'be shy,' *düşünmek* 'think,' *istemek* 'want,' *sevmek* 'like/love,' *sıkılmak* 'be bored'), while only one of thirty-nine progressive-exclusive verbs is a mental state predicate (*güvenmek* 'trust'). This clustering suggests an affinity between summary scanning and stative-mental predicates: characterizing what one knows, wants, or feels is prototypically a dispositional property attribution rather than a report of ongoing behavior, and the aorist's summary scanning is the natural construal mode for such attributions.

4.3.3 Modal Extensions

One of the most striking features of -(A)r is its capacity for modal meaning — a capacity that -(I)yor conspicuously lacks. Jendraschek (2011a) identifies four semantic domains of the dispositive:

> *First, the -er exponent can express generic statements, including generalized, habitual, repeated actions or events, as well as universal*

> *truths. Second, it expresses properties of the subject referent [...] Third, it is used for less actual, in other words more virtual situations, such as ability, and imaginable or possible events. [...] And fourth, it expresses intentions, commitment or promise, indicating that the subject acts voluntarily in the future. It expresses that events are not envisaged as planned or predetermined. (Section 4.2)*

The third and fourth domains are explicitly modal. The aorist can express ability (Bu anahtarla kapıyı açar 'This key opens the door'), willingness (Sana yardım ederim 'I'll help you'), possibility (Böyle bir şey olur mu? 'Can such a thing happen?'), and promise (Yarın gelirim 'I'll come tomorrow'). These functions are systematic, not marginal; Lewis (2000) documents several in detail. In requests, the aorist serves as the standard form — oturur musunuz 'will you sit down?' In promises, yarın gelirim 'I shall come tomorrow' conveys stronger conviction than either the progressive yarın geliyorum or the future yarın geleceğim. In the domain of permission and possibility, the aorist of ol- 'to become, happen, be' is the conventional vehicle for asking permission — olur mu 'is it all right?' (literally 'does it happen?') — with the affirmative olur 'all right' and the negative olmaz 'certainly not' functioning as formulaic responses.

Kornfilt (1997) notes that the aorist can also function as a future tense, particularly in promises, though in this usage it commits the speaker less firmly than the dedicated future suffix. This is initially puzzling — a promise should carry strong commitment, yet the commitment is different in kind, since the future suffix -(y)AcAK commits the speaker to a plan that is already in place while the aorist commits the speaker to a disposition. Gelirim says "I am the kind of person who comes" — the promise follows from a characterization of the self, not from a pre-existing plan. This is why Lewis says it "carries more conviction than the present or the future," since the commitment is not to a specific future event but to a dispositional property of the speaker.

Corpus evidence confirms that the modal-dispositional functions are not marginal but constitute the dominant use of -(A)r in spoken Turkish. Kanık's (2015) analysis of 206 aorist tokens in the Spoken Turkish Corpus reveals that the two most frequent functions are assumptions (39.32%) and commitments (16.50%), which together account for 56% of all aorist usage — and both carry indefinite future meaning. Adding requests (6.31%), permissions (2.42%), and hypotheticals (1.45%) raises the modal-future share

to approximately 66%. By contrast, purely aspectual-habitual functions — individual behavior (9.70%), class behavior (2.91%), general truths (6.79%), and proverbs (0.97%) — account for only about 20%. What appears as future meaning is more accurately characterized as epistemic modality rather than temporal futurity. This distributional profile aligns precisely with the CG analysis, because if -(A)r's core operation is summary scanning that produces dispositional characterizations, then the marker's modal functions are not extensions from a temporal base but are natural expressions of the same construal operation, and their frequency in spoken Turkish reflects the marker's gravitational center. Acquisition data converge on the same conclusion. Aksu-Koç (1988) notes that children's earliest uses of -(A)r tend to encode deontic modality (intention, desire) rather than habituality, suggesting that the modal dimension is not a late pragmatic development but part of the marker's cognitive core from the onset of acquisition.

The CG analysis of summary scanning explains why modal extensions are natural for -(A)r and unnatural for -(I)yor. Summary scanning compresses the temporal dimension of a process, yielding a construal that abstracts away from particular temporal instantiations. This abstraction creates the semantic space for modal readings. When we say Bu anahtar kapıyı açar, we are not tracking an ongoing event of opening (sequential scanning) or reporting a specific instance of opening (perfective). We are attributing a dispositional property to the key — a compressed characterization of its capacity that holds across potential instances, whether or not any particular instance is actualized. Dispositional properties are inherently modal: they characterize what an entity can do, tends to do, or would do, rather than what it is doing at a particular moment.

Jendraschek (2011b) highlights the contrast between the dispositive and the prospective (-ecek) in future time reference: because the dispositive is used for imaginable events, it is naturally compatible with situations that are not envisaged as planned or predetermined — that is, with assumptions or expectations about the future rather than predictions. The dispositive future is unplanned and assumption-based; the prospective future is planned and prediction-based. This maps onto the scanning-mode distinction, with the summary-scanned dispositive characterizing a general disposition toward future action (an assumption about what kind of thing will happen) while the prospective profiles a specific plan with its own temporal trajectory.

Caro (2012) provides a formal semantic analysis of this contrast, drawing on Copley's (2009) framework of modal orderings: -(A)r in future contexts requires an inertial ordering — a future that would obtain given the properties of the world — while -(I)yor requires a bouletic ordering — a future that is directed by an agent committed to the event's occurrence. This distinction formalizes the intuition captured descriptively by Kornfilt (1997), who notes that the aorist future conveys willingness or readiness rather than definite intention, which is best characterized as epistemic modality rather than temporal futurity. The diagnostic is telling:

> *An additional proof of the lack of a director in Aorist utterances is the presence of the phrase 'İnşallah' in sentences with the Aorist with Future Time Reference. 'İnşallah' implies lack of human control over the situation, a scenario very closely linked to lack of bouletic direction. (p. 18)*

İnşallah co-occurs naturally with -(A)r futures but not with -(I)yor futures, because the aorist's summary scanning compresses the future event into a world-property rather than an agentive plan. The event will happen (or may happen) because the world is the kind of place where such things happen — not because someone has committed to making it happen.

4.3.4 Gnomic and Generic Uses

At the far end of the summary-scanning continuum, where temporal compression is near-complete, we find the gnomic and generic uses of -(A)r. Lewis (2000) documents the aorist across several gnomic and performative contexts. In proverbs, the aorist is the canonical form, as in it ürür kervan yürür 'the dogs howl, the caravan moves on.' In stage directions, it serves as the default narrative marker, as in Esma girer, oturur. Osman yerinden kalkar 'Esma enters, sits. Osman rises from his place.' And as a vivid present, it collapses temporal distance, as in bir akşam kapı hızla çalınır 'one evening there is a violent ringing at the door.'

Proverbs represent the most fully compressed end of the summary-scanning continuum. A proverbial aorist makes no reference to any particular time, any particular instance, or even any particular set of instances. The temporal dimension is entirely suppressed; what remains is a schematic characterization of how the world works. The gnomic aorist in it ürür kervan yürür does not describe dogs barking at a particular caravan — it distills the

compressed gestalt of all such scenarios into a world-property with no temporal anchorage whatsoever.

Göksel and Kerslake (2005) demonstrate that this gnomic-generic function interacts with referential properties of the subject NP: replacing the aorist with -(I)yor in sentences where the subject is a bare noun phrase shifts the reference of that NP from generic to specific. Thus Kaplumbağa yavaş yürür (aorist) yields generic reference: 'A tortoise walks slowly' (tortoises in general). Kaplumbağa yavaş yürüyor (progressive) yields specific reference: 'The tortoise walks/is walking slowly' (a particular tortoise being tracked through its walking). The generic reference is a direct consequence of summary scanning, because once the temporal instances are compressed into a gestalt, the subject too is generalized from a particular individual to a type. Specific reference requires the temporal anchoring of tracking a particular entity through a particular event, which is the province of sequential scanning.

4.4 -(A)r in Contrast

4.4.1 -(A)r versus -(I)yor: Summary versus Sequential Scanning

The opposition between -(A)r and -(I)yor constitutes the central axis of the Turkish nonpast system and provides the clearest illustration of how scanning modes organize grammatical meaning. Every major source on Turkish TAM recognizes this opposition, though they frame it in different theoretical vocabularies. The CG framework reveals that these diverse characterizations converge on the single underlying distinction of the mode of scanning.

Lewis (2000, pp. 116-117) offers the most extensive set of contrastive pairs. Beyond the yazarım / yazıyorum pair discussed above, he provides a contrast that reveals the emotional dimension of the distinction:

> *For 'I love you' the Turk says seni seviyorum; seni severim would sound far too vague and without immediacy, corresponding rather to 'I like you'. (p. 117)*

The progressive *seviyorum* foregrounds the temporal immediacy of the emotion, presenting the love as being experienced now and tracked through its ongoing occurrence. Conversely, the aorist *severim* compresses the emotion into a dispositional characterization — one that is far too detached and generalized to serve as a declaration of love. It characterizes the speaker

as the kind of person who is favorably disposed toward the addressee, which is closer to 'liking' than to 'loving.' The immediacy that love declarations require is the immediacy of sequential scanning — the sense that the emotion is unfolding in real time, not compressed into an atemporal property.

Lewis's (2000, p. 117) most instructive example is the traffic-hazard remark, which illustrates the epistemic profiles of the two markers:

> *başka memleketlerde kazara ölürler; biz kazara yaşıyoruz 'in other countries they die by accident; we live by accident'. The force of the aorist ölürler is 'I cannot say confidently that anyone abroad is in fact dying at this precise instant, but I am aware that people abroad are liable to die — kazara — as the result of accident'. The present yaşıyoruz means 'we are in fact living at this moment but — kazara — it's more by luck than judgement'.*

The aorist ölürler expresses a general property of life abroad — a compressed, summary characterization of what people in other countries are liable to do. No specific instance of dying is being tracked; the claim operates at the level of world-properties. The progressive yaşıyoruz, by contrast, anchors the claim to the ongoing situation — we are living right now, and we are tracking this living through time, noting with grim humor that it continues only by accident. The temporal dimension is fully foregrounded by sequential scanning, making the living feel precarious and immediate in a way that the aorist's summary characterization cannot achieve.

Temürcü (2011) captures the same opposition in epistemic terms: -(I)yor signals what he calls "epistemic contingency" — knowledge that is personal, immediate, and tied to a particular vantage point — while -(A)r signals "epistemic generality" — knowledge that is established, objective, and independent of any particular observation. He further demonstrates that this epistemic contrast holds even in domains where the temporal reference is identical, since when both markers express habitual-gnomic meaning, only -(I)yor is congruent with adverbials indicating immediate epistemic apprehension such as anlaşılan 'evidently' or galiba 'apparently' (Section 3.1). The epistemic opposition is not a by-product of temporal reference; it is an independent dimension of meaning that follows from the scanning mode.

Lewis (2000, p. 143) provides an illuminating three-way contrast that reveals how the epistemic profiles of different TAM combinations interact:

> *arkadaşım beni bekliyor [fact; I can see him there at the corner]; arkadaşım beni bekliyormuş [hearsay; someone has seen him waiting and told me so]; arkadaşım beni bekliyordur [supposition — 'I'm sure he is waiting' — based on the knowledge that my friend is always punctual, that he said he would wait from five o'clock, and that it is now five past five].*

The first form (bekliyor) is the bare progressive — sequential scanning of an ongoing event directly observed by the speaker. The second (bekliyormuş) adds evidential -mIş, signaling that the information is reported rather than directly witnessed. The third (bekliyordur) adds the epistemic copula -DIr, yielding a suppositional reading based on general knowledge of the friend's character. What is striking about the third form is that it arrives at something close to the aorist's dispositional construal — "my friend is the kind of person who would be waiting" — but through the compositional combination of progressive aspect with an epistemic modifier, rather than through summary scanning directly. The aorist achieves the same epistemic profile of established knowledge about dispositional properties through a single, lexically encoded scanning mode, without requiring compositional support from additional morphemes.

Caro (2012) demonstrates that the -(A)r / -(I)yor contrast is robust across syntactic contexts:

> *The distinction between the Aorist and Progressive holds even when these grams are used in combination with other morphemes, such as the negative, interrogative, and abilitative infixes. (p. 20)*

In negation, Ali Ankara'ya gitmez (aorist) means 'It is a characteristic of Ali that he doesn't go to Ankara,' while Ali Ankara'ya gitmiyor (progressive) means 'At the time NOW, Ali is not going to Ankara.' In interrogation, Ali itiraz eder mi? (aorist) asks 'Is it a characteristic of Ali that he would protest?', while Ali itiraz ediyor mu? (progressive) asks 'At the time NOW, is Ali protesting?' The compositionality of the contrast — its persistence across negation, interrogation, and modality — confirms that the scanning-mode distinction is a fundamental semantic property of the markers, not a contextually derived implicature.

The quantitative asymmetry between the two markers in spoken Turkish underscores the ongoing redistribution of functional territory. Kanık (2015) observed that the Spoken Turkish Corpus yields roughly three times as

many progressive tokens (628) as aorist tokens (206). This raw frequency difference reflects the progressive-to-imperfective expansion documented by Deo (2015) and Caro (2012): -(I)yor has colonized not only the progressive core but much of the habitual-characterizing periphery, leaving -(A)r with a shrinking but semantically coherent residual territory. Kanık further notes that 63% of progressive tokens in the corpus would be best rendered in English as simple present rather than progressive — a warning against the tempting but misleading equation of -(I)yor with English *be V-ing*. In spoken Turkish, -(I)yor has become the default non-past marker for both ongoing events and habitual characterizations, while -(A)r's functional center of gravity has shifted toward the modal-dispositional domain (see §4.3.3). This quantitative redistribution is the synchronic reflex of the diachronic defocalization drift that Johanson (2000b) predicts for progressive markers expanding along the INTRAHF > INTRALF > INTRANF cline.

4.4.2 -(A)r versus -mAktA: Non-Trajectory but Different Construals

Both -(A)r and -mAktA lack the trajectory semantics that characterize -(I)yor (see Chapter 3 for the motion-verb source of the trajectory schema). Nevertheless, they achieve their non-trajectory construals through different cognitive operations. The aorist compresses temporal instances into a simultaneously available gestalt (summary scanning); -mAktA locates the subject within an activity conceived as a container (locative semantics: -mAktA = infinitive + locative case). Chapter 5 will examine -mAktA in detail; here we note the contrast insofar as it illuminates -(A)r's distinctive profile.

Göksel and Kerslake (2005) characterize the difference between -(I)yor and -mAktA as primarily one of register, with -mAktA being more formal. Yet Kornfilt (1997) notes a semantic asymmetry: -mAktA is more distributionally restricted than -(I)yor, since its combination with stative verbs ranges from ungrammatical to markedly infelicitous. The locative construal of -mAktA requires a container that contains an activity — a dynamic process the subject is 'in.' Stative predicates resist this construal because states do not naturally fill a container in the same way activities do. The aorist, by contrast, faces no such restriction: Ahmet bilir 'Ahmet knows' is perfectly natural, because the summary-scanning operation does not require a dynamic process to compress. It can compress any process-like content, including states, into a characterizing gestalt.

The interaction between -(A)r and -mAktA is most visible in formal and scientific registers. Temürcü (2011) demonstrates that -mAktA-DIr occupies the "general fact" epistemic niche in present-continuous contexts, displacing -(I)yor when strong, well-established factuality is required: Ekolojik denge hızla bozulmaktadır 'The ecological balance is being destroyed rapidly.' This formal locative-progressive marker fills a distributional gap left by the -(A)r / -(I)yor opposition: it provides a progressive-like construal (ongoing, in-process) combined with the epistemic generality that -(I)yor cannot achieve (because -(I)yor's sequential scanning is inherently tied to epistemic contingency) and that -(A)r cannot provide in progressive contexts (because -(A)r's summary scanning suppresses the progressive dimension).

4.4.3 -(A)r versus -DI: Unbounded versus Bounded

The -(A)r / -DI contrast maps onto the imperfective / perfective opposition that is fundamental to aspectual systems crosslinguistically. The aorist construes events as temporally unbounded and internally undifferentiated (summary scanning compresses the temporal dimension); the definite past -DI construes events as temporally bounded and internally heterogeneous (the event is viewed as a completed whole with beginning, middle, and end).

Following Kornfilt (1997), the aorist past -(A)rdI produces habitual readings ('used to V'), while the definite past -DI produces perfective readings ('V-ed'). *Hasan piyano çalardı* 'Hasan used to play the piano' compresses multiple instances of piano-playing into a characterizing property that held over a past period; *Hasan piyano çaldı* 'Hasan played the piano' reports a specific, bounded event of piano-playing.

Lewis (2000) adds the counterfactual dimension: beyond its habitual-past reading ('I used to do'), the aorist past also appears in the apodosis of conditional sentences with the force of 'I would do' or 'I would have done.' The counterfactual use of the aorist past is not a separate function but an extension of the same summary-scanning operation: the compressed, atemporal characterization is projected into a hypothetical world, yielding the construal "in worlds where X, I would be the kind of person who does Y." The dispositional core of the aorist — its emphasis on subject characterization rather than event reporting — makes it naturally available for counterfactual reasoning, which operates over stable properties of entities and worlds rather than over particular temporal instances.

The interaction between -(A)r and -DI also emerges in periphrastic constructions. Kornfilt (1997) explicitly distinguishes the two in future-relative tenses: *gider olacağım* 'I will be going (regularly)' combines aorist with future, yielding a habitual-in-the-future reading, while *gidiyor olacağım* 'I will be going' combines progressive with future, yielding a progressive-in-the-future reading. She observes that the Turkish examples mark a clear distinction in which a narrow point in time in focus selects the progressive marker as the most appropriate choice, whereas the aorist most aptly conveys that the speaker will be performing the act of going to the university in a regular, habitual manner (Kornfilt, 1997). The scanning-mode distinction persists even under embedding, since the compressed, dispositional construal of -(A)r produces habitual readings regardless of the temporal frame in which it is embedded.

4.5 Extension Patterns

The functional extensions of -(A)r are constrained by the cognitive operation that defines it. Summary scanning compresses temporal instances into an atemporal, dispositional characterization. Extensions from this core naturally follow the logic of abstraction and property-attribution; they cannot follow the logic of trajectory, engagement, or temporal tracking, which belong to the sequential-scanning domain of -(I)yor.

This constraint explains a striking asymmetry in the extension profiles of the two markers. -(I)yor, as detailed in Chapter 3, extends from progressive to futurate (via present plan), to habitual (via iterated observation), to near-miss (via frustrated trajectory), to exclamative (via foregrounded processual scanning). All of these extensions preserve a residual sequential dimension — the sense of temporal unfolding, engagement, or tracking that derives from the motion-verb source. -(A)r extends from habitual to modal (willingness, capacity, prediction), to gnomic (world-properties), to performative (speech acts), and to vivid narrative. None of these extensions involve trajectory or temporal tracking; they all involve the attribution of properties — to individuals, to the world, or to a narrative schema.

Caro (2012) provides the most systematic mapping of -(A)r's residual territory after -(I)yor's progressive-to-imperfective expansion:

> *Historically, the Aorist was a present tense which subsumed the categories of HABITUAL, PROGRESSIVE, and BOULETIC FUTURE,*

> *which have been taken over by the Progressive. The semantic areas with which it can still be used are outlined in this section. (p. 16)*

The remaining areas — CHARACTERISTIC/GENERIC, INERTIAL FUTURE, CONDITIONAL, HISTORICAL PRESENT, PRECATIVE, PERFORMATIVE — share what Caro calls "world-property-based reasoning." Each function involves making a claim about how the world is constituted, what entities are disposed to do, or what would happen given certain world-properties. None involves tracking a situation as it unfolds at a particular moment.

The performative use of -(A)r — its capacity to effect speech acts rather than merely describe events — deserves special attention. Lewis (2000) documents the aorist in stage directions and in the vivid present (see §4.3.4 above). Caro (2012) offers a diachronic explanation under which the performative use of the aorist is a remnant of its earlier history as the general present tense, a relic of the pre-progressive era. This constitutes a clear case of Hopper's (1991) principle of persistence, whereby the older function (general present, including performative) survives as a marginal use of the marker even after the newer marker (-(I)yor) has colonized most of its territory.

The historical present / vivid narrative use is structurally similar. When a past event is narrated with the aorist (kapı çalınır 'the door rings'), the effect is a compressed, schematic presentation of the narrative action — as if the events are types being instantiated rather than unique occurrences being tracked. Kornfilt (1997) notes that the present tense can serve to express a past event or action, a usage that lends the narration a measure of vividness. The vividness paradox — how a marker associated with summary compression can produce a sense of narrative immediacy — resolves when we recognize that the compression strips away the temporal distance that normally separates narrator from narrated event. The event is not tracked through past time (as with -DI) but presented as a directly accessible type-property, collapsing the temporal gap between telling and told.

Caro (2012) identifies a further extension that reinforces the world-property analysis. The aorist's conditional use (Ali olsa bunu yapardı 'If Ali were here, he would do this') involves the same dispositional construal projected into a counterfactual world. As Caro notes:

> *This semantic category, which I will call CONDITIONAL, has much in common with the INERTIAL FUTURE. The INERTIAL FUTURE has a structure which, given the properties of the world, holds that an event will take place as long as those properties continue to hold. The CONDITIONAL, on the other hand, states that, given a certain set of properties of an individual in both this world and closely related possible worlds, an event would take place. (p. 30)*

Both the inertial future and the conditional are grounded in properties — of the world and of individuals — rather than in temporal tracking. The conditional asks: "Given what we know about this entity's dispositions, what would happen under different circumstances?" This question presupposes the kind of compressed, summary characterization that the aorist provides. A marker anchored to temporal tracking (-(I)yor) cannot naturally serve this function, because counterfactual reasoning requires abstraction from particular temporal instantiations — precisely the abstraction that summary scanning achieves.

The source-domain constraint operates in the other direction as well. -(A)r does not extend to experiential or trajectory-based uses because summary scanning cannot produce the temporal tracking that these functions require. The near-miss construction (Neredeyse düşüyordum 'I almost fell') requires the sense of a trajectory being interrupted — an extension naturally available to a marker whose source domain involves motion along a path. The exclamative (Hep arıyorsun! 'You keep calling!') requires foregrounded processual scanning that makes the repeated intrusion vivid. The futurate with pre-existing plan (Yarın gidiyoruz 'We're going tomorrow') requires a present state of commitment whose trajectory projects into the future. None of these functions is compatible with summary scanning's compression of temporal instances into a gestalt. The extension patterns of -(A)r and -(I)yor are therefore complementary, each constrained by the cognitive operation that constitutes its core.

4.6 The Negative Aorist

The negative form of the aorist exhibits a morphological peculiarity that is unique in the Turkish TAM system. As Lewis (2000) observes, the aorist stands alone among Turkish TAM markers in that its negative is not formed by the regular insertion of -me before the positive suffix; instead, it takes its own characteristic negative allomorph, -mez, which reduces to -me in the first

persons. Where other tense-aspect markers form their negatives transparently (gel-mi-yor ‘is not coming,’ gel-me-di ‘did not come,’ gel-me-yecek ‘will not come’), the aorist replaces the positive suffix entirely: gel-ir → gel-mez, yapar → yap-maz. The result is a suppletive negative that is segmentally unrelated to the positive — a morphological opacity that sets the negative aorist apart from the rest of the paradigm.

This morphological peculiarity has semantic consequences. The negative aorist -mAz has developed modal shadings that go beyond simple negation. While *yapmaz* can mean ‘does not do’ (habitual negative), it readily extends to ‘would not do’ (refusal) and ‘cannot do’ (incapacity). Lewis documents several specialized functions. The negative aorist as characterization:

Ali sigara iç-mez.

Ali cigarette drink-NEG.AOR

‘Ali doesn’t smoke / Ali is not a smoker.’

The negated dispositional property becomes a negative characterization of the subject. As refusal: *Gelmez* ‘He won’t come / He refuses to come’ — the compressed negative disposition is interpreted as active unwillingness. As incapacity: in periphrastic constructions with ol-, *bunu yapmaz oldu* ‘he became incapable of doing this’ (literally ‘he became not-doing’) produces an inchoative reading of a negative disposition (Lewis, 2000).

Lewis (2000) identifies a particularly vivid specialized use of the negative-interrogative aorist: in colloquial speech, this form serves as a vivid present, as in *terbiyesiz herif ayağıma basmaz mı* ‘the mannerless fellow goes and steps on my foot’ — literally ‘does he not step on...?’, that is, ‘is he the sort of man who would not step on...?’, a rhetorical question expecting the answer ‘no.’ This construction takes the dispositional characterization of the aorist, negates it, and places it in a rhetorical question frame, producing a vivid narrative effect that expresses both surprise and indignation. The speaker presents the event not as something that happened at a particular moment but as a dispositional property that the offender unacceptably possesses: “Is he not the kind of person who steps on feet?”

Jendraschek (2011a) adds that the negative aorist interacts with periphrastic negation through değil, which further demonstrates the participial nature of the form: aspectually marked participles can be negated

periphrastically with *değil* (like predicative adjectives), and in such cases tense is hosted by *değil* rather than the verb. The negative aorist *yapmaz* 'does not do' and the periphrastic negation *yapar değil* 'is not one who does' occupy overlapping but distinct semantic space, with the former emphasizing the negative dispositional characterization and the latter emphasizing the denial of the positive dispositional property. (Note that *yapmaz* (*yap-ma-z*, do-NEG-AOR) is the negative aorist proper, distinct from the abilitative negative *yapamaz* (*yap-a-ma-z*, do-ABIL-NEG-AOR) 'cannot do,' which involves the additional abilitative suffix -A.)

The modal extensions of the negative aorist — refusal, incapacity, rhetorical indignation — follow naturally from the summary-scanning analysis. When a negative dispositional property is attributed to a subject (X yap-maz 'X is not a doer'), the compressed characterization is available for interpretation either as a factual generalization (habitual negative), as a dispositional refusal (the subject chooses not to be a doer), or as a dispositional incapacity (the subject lacks the capacity to be a doer). These readings are not distinct senses but contextually licensed instantiations of the same compressed negative characterization. The suppletive morphology -mAz, by severing the formal connection to the positive -(A)r, may itself contribute to the modal salience of the negative aorist: the morphological opacity invites a reading of the negative as a qualitatively different kind of predication — not merely the absence of a positive disposition but a negative disposition in its own right.

4.7 Summary: The Aorist as Compressed Gestalt

This chapter has argued that the diverse functions of -(A)r, including the habitual, generic, gnomic, modal, performative, and vivid-narrative uses, are unified by the single cognitive operation of summary scanning. The marker takes a process and compresses its temporal dimension into a simultaneously available gestalt, yielding a construal that characterizes subjects rather than tracks events. The resulting atemporal, dispositional characterization is what Lewis intuits when he glosses yaparım as 'I am a doer,' what Jendraschek captures with the term "dispositive," and what Caro formalizes as a temporally unrestricted property of an individual.

The historical trajectory of -(A)r — from general present tense to functionally restricted marker — reflects the progressive expansion of -(I)yor along the progressive-to-imperfective cline. As -(I)yor colonized habitual,

futurate, and (increasingly) characteristic-generic territory, the aorist was compressed into the functions that sequential scanning cannot serve: world-property characterizations, dispositional attributions, modal readings, and gnomic truths. The resulting functional profile is not a random residue but a coherent domain defined by the absence of temporal tracking and the presence of summary compression.

The source-domain retention hypothesis (Chapter 9) predicts exactly this outcome. If -(I)yor retains the trajectory semantics of its motion-verb source, then the functions it colonizes are precisely those where temporal tracking is most natural: progressive, habitual-with-observation, futurate-with-plan. The functions it cannot colonize — dispositional characterization, modal attribution, gnomic truth — are those where temporal tracking is semantically inappropriate. -(A)r survives in these functions not because it possesses them as inherent semantic features but because summary scanning, unlike sequential scanning, is compatible with the atemporal, property-attributing construals that these functions require. The two markers' functional profiles are therefore complementary projections of their respective scanning modes, shaped by historical competition and constrained by cognitive operations that neither marker has shed.

Chapter 5. -mAktA: The Locative Imperfective

5.1 The Source: Locative Containment

Of all five Turkish aspectual markers examined in this book, -mAktA is the one whose etymological source is most transparently visible in its synchronic form. The suffix is a compositional compound of two morphemes: -mAk, the infinitival suffix that nominalizes a verb stem (gel-mek 'to come, coming'), and -DA, the locative case marker that indicates spatial containment or location ('at, in, on'). The resulting form *gel-mek-te* literally means 'at coming' or 'in the act of coming.' Lewis (2000, p. 110) makes the locative composition explicit, noting that the form is built on the locative case of the -mek infinitive, to which the copular endings of 'to be' are attached: *gelmekteyim* 'I am (in the act of) coming'; *almaktasın* 'you are (in the act of) taking.' The parenthetical paraphrase "in the act of" captures the locative semantics precisely: the subject is located within an activity, spatially (and therefore temporally) contained by it.

This morphological transparency sets -mAktA apart from -(I)yor, whose etymological connection to the motion verb yoru- 'to walk' has been obscured by phonological erosion and morphological reanalysis (see Chapter 3). Where -(I)yor's source domain is recoverable only through historical reconstruction, -mAktA's source domain is visible on the surface of the synchronic form. Any competent speaker of Turkish can parse *gel-mek-te* into its components: the verb stem *gel-*, the infinitival nominalizer -mAk, and the locative case -DA. The locative containment schema — 'being at the activity of V-ing' — is not an archaeological discovery but a living structural analysis.

Johanson (2000b, p. 80) places -mAktA explicitly within the broader European typology of intraterminal markers, noting that "the relation between the viewpoint and the cursus is often expressed by locative metaphors of inessive or adessive nature ('be in', 'be at'), e.g., [...] Turkish çalışmakta[dır] 'is working.'" In his framework, intraterminal markers — those that envisage an event within its limits, *intra terminos* — typically emerge from grammaticalized statal expressions, and the most common source models are precisely the locative metaphors that -mAktA instantiates: inessive ('be in') and adessive ('be at') constructions. What makes -mAktA typologically notable is that while most European languages have obscured the locative

origin of their progressive markers through centuries of phonological erosion, Turkish preserves the locative morphology intact.

Bertinetto et al. (2000) observe that most progressive devices appear to have originated as stative constructions conveying the notion of being situated in a particular state. They propose a five-stage developmental path for progressive markers, comprising (i) pure locativity (stative, durative), (ii) progressivity I (residually locative, durative), (iii) progressivity II (durative, no locative residue), (iv) progressivity III (focalized, strictly imperfective), and (v) pure imperfectivity (loss of progressive character). On this developmental cline, -mAktA occupies a position between stages (i) and (ii), retaining clear locative semantics (the locative case -DA is morphologically intact) while functioning as an imperfective/progressive marker. It has not progressed to stages (iii)–(v), where the locative source is fully bleached and the marker develops focalized or general imperfective functions. This arrested development, as we will argue in §5.3 and §5.6, is not an intrinsic property of locative sources but a consequence of paradigmatic competition with -(I)yor.

Kornfilt (1997) describes the construction from a morphosyntactic perspective as a copular predication in which the complement of the copula is the main verb's infinitive in the locative case. On this analysis, -mAktA is not a simple suffix but a copular construction in which the subject is predicated as being 'at' the infinitival activity, with the copular endings of the verb 'to be' providing person and tense marking. This copular analysis positions -mAktA structurally closer to a nominal predication (X is at Y) than to a verbal inflection (X is V-ing), a difference from -(I)yor that has consequences for both register distribution and semantic profile.

Akaslan (2011), however, argues against treating -mAktA as a mere nominal construction. Despite its compositional etymology, he contends that the distributional and functional behavior of -mAktA establishes it as a compound verbal suffix belonging to the Turkish verb paradigm as a unitary element. He explicitly resists decomposing the form: "-mAktA birimi -DA halinde bir mastar, fiil + -mAk + DA olarak ayrıştırılması gereken iki ayrı ek değildir" ('the -mAktA unit is not an infinitive in the -DA case, i.e., two separate suffixes that should be decomposed as verb + -mAk + DA'). His position is that while -mAktA originated as a nominal construction (and retains nominal morphological structure), it has been reanalyzed as a single verbal unit within the paradigm. This reanalysis is partial, however, since the

transparency of the locative composition remains available to speakers and, as we will argue, continues to shape the marker's semantic profile and functional restrictions. The tension between morphological compositionality and paradigmatic unity, that is, between -mAktA as a decomposable construction and -mAktA as a single verbal unit, is itself theoretically productive in demonstrating that reanalysis does not erase source-domain structure but layers new analyses over it.

Cross-linguistically, the locative origin of -mAktA places it squarely within the dominant typological pathway for progressive marker formation. Bybee et al. (1994) demonstrate that the majority of progressive forms in their crosslinguistic database derive from expressions involving locative elements, noting the worldwide tendency for progressives to develop from constructions meaning 'be at/in/on + activity.' The Heine and Kuteva (2019) World Lexicon of Grammaticalization documents this pathway across dozens of languages: Godié ku 'be at' > progressive, Thai juu 'be at' > progressive, Chinese zai 'be at' > progressive, Basque dago 'be in' > progressive. The locative-to-progressive pathway is so pervasive that Bybee et al. (1994) advance the strong hypothesis that any progressive construction built on a stative auxiliary ultimately derives from a source construction that originally contained a locative element.

Turkish -mAktA conforms to this typological pattern with striking fidelity. Its locative source is not merely historically recoverable but synchronically transparent. Yet, unlike its crosslinguistic counterparts — such as English *be V-ing* (from earlier *be on/at V-ing*), Spanish *estar V-ndo*, or Basque *V-tzen ari* — Turkish -mAktA has not developed the broad functional range characteristic of well-established locative-source progressives. This restriction is not accidental. As we will argue in §5.3 and §5.4, it follows directly from the coexistence of -mAktA with -(I)yor — a motion-verb-source progressive that has colonized most of the functional territory that locative-source progressives typically occupy elsewhere.

5.2 The Construal Profile of -mAktA

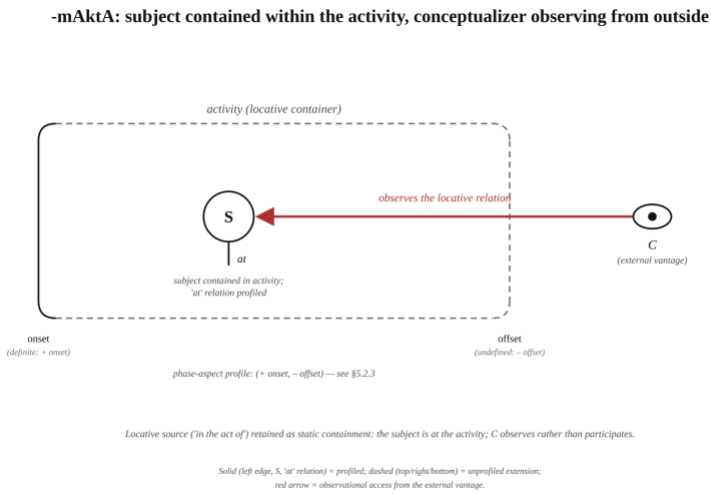


Figure 5.1. -mAktA: static containment with phase-aspect asymmetry. The locative etymology 'in the act of' is retained as static containment: the subject S is located within the activity (the rounded container), while the conceptualizer C occupies a fixed external vantage point from which this configuration is observed. The solid left edge marks a definite onset; the dashed top, right, and bottom edges mark the undefined offset — the phase-aspect profile (+onset, −offset) described in §5.2.3. The solid locative 'at' relation is profiled; C observes rather than participates.

5.2.1 Static Containment versus Dynamic Trajectory

The cognitive-semantic profile of -mAktA is defined by the locative schema that constitutes its source domain. When a speaker uses the -mAktA form, they construe themselves as located within the activity. Consider:

Gel-mek-te-yim.

come-INF-LOC-1SG

'I am (in the act of) coming.'

The speaker construes themselves as located within the activity of coming — occupying a spatial region defined by the activity, contained by it, as one might be 'at' a task or 'in' a process. This is fundamentally a static construal. The subject is not moving through the activity along a temporal

trajectory (as with -(I)yor's sequential scanning derived from the 'walking' source); they are positioned at it, located within its boundaries.

The distinction between static containment and dynamic trajectory is the cognitive key to the -mAktA / -(I)yor contrast. With -(I)yor, the source domain of walking contributes a sense of directed movement through the event's temporal course: the conceptualizer tracks the event as it unfolds, scanning sequentially through its component states (see Chapter 3). With -mAktA, the source domain of locative containment contributes a sense of stationary occupation, in which the subject is positioned at the activity but the activity is not being tracked through its temporal course. The event's internal temporal structure is acknowledged — the subject is in it — but it is not foregrounded as a directional process unfolding through time.

This construal distinction maps onto Johanson's (2000b) focality framework with revealing precision. Johanson distinguishes three degrees of focal intensity for intraterminal markers: high-focal (INTRAHF, roughly corresponding to 'progressives'), low-focal (INTRALF, corresponding to 'continuous' and 'habitual' items), and nonfocal (INTRANF, corresponding to more general items). He classifies Turkish -(I)yor as a low-focal intraterminal that has defocalized from an earlier high-focal stage, and the Turkish aorist -(A)r as a nonfocal intraterminal pushed into modal and general functions by -(I)yor's expansion (see Chapter 4). -mAktA's position within this scalar framework is instructive, since while it retains high-focal progressive semantics (it is most naturally used for ongoing events observed at a specific moment), it lacks the low-focal extensions (habitual, characterizing) that -(I)yor has developed through defocalization. In other words, -mAktA is frozen at the high-focal stage while -(I)yor has moved through it. The locative containment schema, with its spatial boundedness, resists the defocalization drift that would broaden its scope — a drift that the trajectory-based schema of -(I)yor has readily undergone.

This construal difference has an important perceptual correlate. The locative-containment schema positions the conceptualizer as an observer who notes the subject's location within an activity. The observation is, in a sense, from the outside, since the conceptualizer registers that the activity is taking place and that the subject is engaged in it but does not track the activity's temporal progress step by step. The trajectory schema of -(I)yor, by contrast, positions the conceptualizer alongside the process, following its temporal

development from within. In CG terms, the difference is one of vantage point within the viewing arrangement, whereby with -mAktA the conceptualizer occupies a fixed vantage point from which the event is observed as a spatial relation (subject at activity), while with -(I)yor the conceptualizer's vantage point moves through the event's temporal course, following the sequential development of each component state. This difference in vantage-point dynamics — static for -mAktA, dynamic for -(I)yor — generates divergent implications for the range of speech acts each marker can support.

Lewis (2000, p. 111) captures this difference distributionally: -mAktA "differs from the present in -yor in being used only of actions in progress and never of actions envisaged." The locative containment schema can indicate that someone is currently 'at' an activity but cannot project forward, because containment is a state whose only positions are 'in the container' or 'outside it', while trajectory is inherently directional and projectable. The asymmetry is sharpened by Lewis's observation that -(I)yor freely extends to 'actions envisaged' — planned futures, anticipated developments, projected outcomes — all of which require the directional momentum that the walking source provides and the locative source lacks.

5.2.2 Register and Person Restrictions

The most frequently noted property of -mAktA is its restriction to formal, written, and institutional registers. Göksel and Kerslake (2005, Section 21.3.2) characterize the distinction between -(I)yor and -mAktA as primarily one of register, with -(I)yor being the less formal option and consequently far more frequent in conversation. Kornfilt (1997) similarly describes -mAktA as a more restricted alternative to -(I)yor for progressive aspect. Akaslan (2011) provides the most detailed distributional profile available — and, to date, the only systematic corpus-based study dedicated to the -(I)yor / -mAktA contrast — showing that -mAktA is effectively absent from everyday colloquial speech and cannot appear in commands, exclamations, or casual questions. It does not appear in face-to-face interpersonal exchanges — the domain where -(I)yor is most naturally at home.

However, Akaslan (2011) cautions against reducing the contrast to a simple formal/informal dichotomy. While -mAktA is excluded from spontaneous conversational speech, it is not confined to official or institutional prose, since it also appears in literary fiction, fairy tales, poetry, film synopses,

and stage directions. The common thread across these genres is not formality per se but mode of discourse, with -mAktA being associated with narration, exposition, and scene-setting rather than with face-to-face interaction. This distributional pattern follows from the locative-containment construal. Locating a subject 'at' an activity is a descriptive, observational act of the kind performed by a narrator describing a scene, an institution reporting a state of affairs, or a scientist documenting an ongoing process. It is not the kind of act performed by a speaker engaged in real-time interpersonal interaction, where temporal tracking, engagement, and immediacy, the province of -(I)yor's trajectory-based sequential scanning, are pragmatically paramount.

Akaslan (2011) further documents a striking person restriction, namely that -mAktA occurs overwhelmingly with third-person subjects, both singular and plural, and only rarely with first or second person. This restriction is not grammatically absolute — gel-mek-te-yim 'I am coming' (1SG) is morphologically well-formed — but it is pragmatically marked. First and second person predication typically involves speakers reporting on their own or their interlocutor's activities, situations that naturally call for the engaged, immediate construal that -(I)yor provides. Third-person predication, by contrast, is compatible with the observational distance that -mAktA's locative containment encodes. The 3rd-person preference is thus not an arbitrary distributional fact but a reflex of the cognitive construal, since locating someone else 'at' an activity is a natural descriptive operation, while locating oneself 'at' an activity, when one could instead report being engaged in it, requires special pragmatic motivation (formality, institutional authority, deliberate detachment).

5.2.3 Phase Aspect: Definite Start, Undefined End

Bagcevan (2023) introduces a phase-aspect distinction that provides a further diagnostic for the -mAktA / -(I)yor contrast. Drawing on Benzer (2012) and Johanson (2016), he argues that the three Turkish present tense markers can be distinguished by their start/end point definiteness profiles, with -(I)yor having an undefined start and undefined end (−,−), -mAktA having a definite start and undefined end (+,−), and -mAdA having a definite start and definite end (+,+). (Bagcevan's -mAdA notation refers to the verbal noun in -mA plus the locative suffix -DA, an archaic variant of the -mAktA construction.) He argues that the phase-aspect dimension makes it possible to

differentiate the three present tense suffixes -(I)yor, -mAktA, and -mAdA in ways that grammatical aspect alone cannot achieve.

This phase-aspect profile illuminates the locative-containment construal from a different angle. The (+,−) profile of -mAktA means that the onset of the activity is construed as a definite boundary marking the moment at which the subject enters the container of the activity, while the endpoint remains undefined. The subject is unambiguously 'inside' the activity, having crossed the threshold into the container and not yet exited it. The (−,−) profile of -(I)yor, by contrast, means that neither boundary is construed as definite, since the sequential scanning operation tracks the event as it unfolds without committing to a specific inception or culmination point. This boundary profile captures why -mAktA sounds more natural than -(I)yor in contexts where an activity has a clearly identifiable onset, such as institutional processes that were initiated at a specific point, investigations that were opened on a particular date, or operations that are 'currently underway', whereas -(I)yor is more natural in contexts where temporal boundaries are irrelevant and the focus is on the ongoing process itself.

Bagcevan (2023) makes a further claim with significant implications for the construal analysis, contending that "-mAktA and -mAdA are the only strictly evidence-based markers in Turkish. A speaker who prefers to use these forms can provide evidence if required. If they cannot provide evidence, they cannot use these forms and can only use the -(I)yor suffix instead." This claim, that -mAktA requires evidential grounding while -(I)yor does not, is compatible with the CG analysis proposed here. The locative-containment schema positions the conceptualizer as an observer who registers that the activity is taking place and that the subject is engaged in it. Observation presupposes evidence, since one can only report that someone is 'at' an activity if one has observed or can verify this locative relationship. The trajectory-based scanning of -(I)yor, by contrast, involves engaged tracking that does not require the same observational warrant, allowing the speaker to simply know or feel that the activity is in progress without requiring the external evidence that locative containment demands. The "evidence-based" character of -mAktA is thus not an arbitrary pragmatic restriction but a cognitive consequence of the observational construal encoded by the locative source domain.

5.2.4 Restrictions with Stative Verbs

Kornfilt (1997) identifies a further semantic restriction: -mAktA is more limited than -(I)yor in that its combination with stative verbs is either ungrammatical or highly infelicitous. She provides diagnostic examples: \bil-mek-te *'knowing' is completely ungrammatical with the stative verb* bil- *'know,' and ??*anla-mak-ta* 'understanding' is only marginally acceptable under an inchoative reading (where the stative is coerced into a dynamic reading of 'coming to understand'). This restriction follows directly from the locative-containment schema. Being 'at' an activity presupposes that the activity has the character of an event — a bounded, dynamic process that one can be located within. States lack this character: knowing, believing, wanting are not activities one can be 'at' in the same spatial-metaphorical sense that one can be 'at' cooking, walking, or reading. The container requires content that fills it dynamically.

-(I)yor faces no such restriction. As Kornfilt (1997) notes, -(I)yor can be used with both stative and dynamic verbs, which is why she prefers the label "continuous" over "progressive" for the suffix. The motion-verb source of -(I)yor contributes a sequential-scanning operation that can be applied to any temporal content, whether dynamic or stative: biliyorum 'I know' tracks the state of knowing through conceived time just as koşuyorum 'I am running' tracks the event of running. The locative-containment source of -mAktA lacks this flexibility because its construal is spatial-containment-based rather than temporal-scanning-based, and spatial containment requires a dynamic process to serve as the container.

This restriction interacts revealingly with Johanson's (2000b) actionality classification. Johanson distinguishes nontransformatives (actions with no required boundary, e.g., içmek 'drink,' yazmak 'write') from initiotransformatives (actions requiring a boundary-crossing to start, e.g., oturmak 'sit down / sit') and finitransformatives (actions incomplete until reaching an endpoint, e.g., ölmek 'die'). States like bilmek 'know' and sevmek 'love' are static nontransformatives: they lack internal dynamism entirely. -mAktA's locative schema requires the subject to be 'at' an activity — an event with some internal dynamism that fills the spatial container. Static nontransformatives lack the dynamic content necessary to define a container that the subject could be 'at.' -(I)yor's trajectory-based scanning, by contrast, does not require dynamic content because it can track any temporal profile,

including the temporally extended but internally undifferentiated profile of a state. The differential sensitivity to stative verbs is therefore not an arbitrary lexical restriction but a direct consequence of the spatial-containment versus temporal-trajectory construal: containers need filling; trajectories need only extension.

5.3 Why -mAktA Cannot Extend

The most theoretically significant property of -mAktA is not what it can do but what it cannot. While -(I)yor extends from progressive to futurate, habitual, historical present, exclamative, complaint, and near-miss functions (see Chapter 3), -mAktA remains confined to a narrow band of progressive meaning — ongoing events observed and reported from a descriptive vantage point. This restriction is not a historical accident or a register effect. It follows from the source-domain constraints that the locative containment schema imposes on the marker's functional profile.

-(I)yor can express planned future events: Yarın gidiyoruz 'We're going tomorrow.' The futurate use depends on the trajectory component of the source schema: a plan is a present state of commitment that projects forward along a temporal path toward a future outcome (see Caro, 2012; Göksel & Kerslake, 2005). -mAktA cannot serve this function because locative containment is non-directional. One cannot be 'at' a future activity in the same way one can be 'on the way toward' one. Lewis (2000, p. 111) captures this precisely: -mAktA is "used only of actions in progress and never of actions envisaged." The locative schema confines the marker to situations that are already in progress — already being occupied — and cannot project beyond the boundaries of current containment. This restriction follows from the Langackerian distinction between sequential and summary scanning at the level of the immediate scope: -(I)yor's sequential scanning naturally admits forward projection because the scanning operation is inherently directional — the next state in the sequence is 'ahead' on the trajectory. -mAktA's locative construal has no inherent directionality: containment is a spatial relation, and spatial containment has no forward momentum that could carry the construal into the future.

-(I)yor can express habitual meaning with temporal boundedness: Fatma genellikle Ankara'ya otobüsle gidiyor 'Fatma usually goes to Ankara by bus' (Göksel & Kerslake, 2005, Section 21.3.2). While -mAktA can

marginally occur in habitual contexts in formal prose, Akaslan (2011) demonstrates that it has not grammaticalized habitual meaning as a conventional function. The locative containment schema is event-bound: it locates the subject at a particular event token, not at a generalized pattern of recurring events. Habituality requires abstracting over multiple instances — compressing them into a characterizing pattern — which exceeds the conceptual scope of static containment. In Langackerian terms, habituality involves a summary scanning operation over repeated event instances, producing a type-level characterization (see Chapter 4, §4.3.2). This is precisely the kind of operation that -(A)r performs natively and that -(I)yor can perform through its low-focal extensions — but that -mAktA's locative schema resists because containment is a token-level relation. One is contained in this event, not in the abstract pattern of recurring events.

Kornfilt (1997, p. 339) notes that -(I)yor can be used for narrative vividness, presenting past events as if they were unfolding before the speaker's eyes. -mAktA cannot serve this vivid-narrative function in spontaneous speech (though it appears in literary narration, where its detached, descriptive quality serves a different narrative purpose — scene-setting rather than temporal displacement). The historical-present function requires the temporal-projection capacity that trajectory-based scanning provides: the narrator mentally 'walks through' past events, re-experiencing their temporal unfolding. The locative schema offers observation of a current state, not temporal re-traversal. The distinction here is between temporal re-immersion (-(I)yor's trajectory places the narrator alongside the past event, tracking its unfolding as if present) and spatial description (-mAktA's containment positions a character 'at' an activity within a narrated scene, but the narrator remains external to it). When -mAktA appears in literary narration — as in stage directions or novelistic scene-setting — it describes what is simultaneously happening ('at this point, the protagonist is sitting at the table'), not what the narrator is re-experiencing as if for the first time. The rhetorical effect is cinematic description, not experiential displacement.

-(I)yor's exclamative use (Hep arıyorsun! 'You keep calling!') foregrounds the processual scanning of an ongoing situation to express speaker affect — surprise, irritation, or engagement. -mAktA's detached, observational construal is incompatible with this affective foregrounding. Akaslan (2011) explicitly notes that -mAktA is excluded from commands, exclamations, and casual questions. The emotional immediacy that the

exclamative function requires is the immediacy of trajectory-based engagement, not locative observation. This restriction illuminates a deeper principle, in that the exclamative and complaint functions involve the speaker's subjective orientation toward the event, what Langacker (2006) would analyze as enhanced subjectification, where the construal relationship between speaker and event becomes the communicative foreground. -(I)yor's trajectory-based scanning naturally supports this subjectification because the scanning operation positions the speaker alongside the event, tracking its progress from an engaged vantage point. -mAktA's locative containment positions the event as an observed state, and observation is inherently more objective (more detached from the speaker's subjective stance) than engaged tracking. Exclamation requires the speaker to be 'in' the experience; -mAktA places the speaker 'outside' the event, looking at it.

The near-miss construction (Neredeyse düşüyordum 'I almost fell') requires a trajectory that is interrupted before reaching its endpoint — an extension naturally available to the motion-verb source of -(I)yor, where the conceptualizer traces a path that stops short. The locative schema has no trajectory to interrupt; one is either 'at' the activity or not. There is no notion of being 'almost at' an activity in the sense required for near-miss semantics. The near-miss construction exploits the spatial properties of the trajectory schema with particular directness, in that a path has been initiated and progress made along it, but the final point, the catastrophic endpoint of the fall, has not been reached. The conceptualizer is invited to mentally traverse the path up to the point of interruption, experiencing the directional momentum that was arrested. The locative-containment schema has no analog to this experience. Containment is a binary relation — one is in the container or outside it — and there is no halfway position analogous to 'almost arrived at the endpoint of a trajectory.' The near-miss extension is thus perhaps the most directly revealing of all the extensions that -mAktA lacks, because it isolates the specific cognitive ingredient that distinguishes the two source domains: directionality.

The common thread across all these restrictions is the absence of directionality. The locative containment schema is fundamentally non-directional, positioning the subject at a fixed point within the activity, without the temporal trajectory that enables forward projection (futurate), abstract repetition (habitual), temporal displacement (historical present), affective foregrounding (exclamative), or interrupted path (near-miss). Every extension

that -(I)yor achieves relies on the directional, trajectory-based scanning inherited from the yoru- 'walk' source domain. Every extension that -mAktA lacks is one that requires directionality. The functional asymmetry between the two markers is therefore not accidental but systematic, and it follows directly from the cognitive properties of their respective source domains.

This systematicity is itself a form of evidence. If the restrictions on -mAktA were arbitrary — historical accidents, register conventions, or frequency effects — we would expect them to be piecemeal and inconsistent, with some directional extensions available and others not. Instead, the restrictions form a coherent class in which every extension that requires directionality, temporal projection, or subjective engagement is blocked, and every function that is compatible with static observation and spatial containment is available. The coherence of the restriction set is a diagnostic signature of source-domain retention. The locative containment schema does not merely provide the etymological origin of -mAktA; it continues to define the boundaries of its functional potential. Source-domain retention is not a residue that gradually fades through grammaticalization; in the case of -mAktA, it is a structuring principle that actively constrains the marker's synchronic profile.

5.4 -mAktA versus -(I)yor: The Critical Minimal Pair

The coexistence of -mAktA and -(I)yor within the same language constitutes the strongest within-language evidence for source-domain retention in grammaticalized aspect markers. Cross-linguistic comparison — between Turkish -(I)yor and, say, English be V-ing or Basque V-tzen ari — is always subject to the objection that differences in functional profile reflect independent language-specific developments rather than source-domain effects. But within Turkish, two markers that share the same imperfective aspectual domain, operate within the same morphosyntactic paradigm, and coexist in the same synchronic system show radically different functional profiles. The most parsimonious explanation for this asymmetry is that their respective source domains — locative containment for -mAktA, motion trajectory for -(I)yor — actively constrain their extension paths.

Akaslan (2011) provides the crucial empirical observation that undermines purely aspectual accounts of the contrast. He demonstrates that both -mAktA and -(I)yor share the same invariant aspectual value: "non-

expression of perfectivity" (bitmemişlik). Both are imperfective aspect markers. Since both encode imperfective aspect, "the fundamental functional difference between them cannot be aspectual." This rules out the standard aspectual typology (progressive vs. durative, or progressive vs. imperfective) as the basis for their opposition. If both markers are imperfective, their different functional profiles must be attributed to a dimension other than aspect.

Göksel and Kerslake (2005, Section 21.3.2) characterize the difference as "largely stylistic," but Akaslan (2011) argues convincingly that register difference is a surface effect, not the underlying principle. -(I)yor appears freely in all registers, including formal and institutional prose; -mAktA is restricted to non-conversational genres. If the opposition were purely stylistic, we would expect functional equivalence with register variation — the same meanings expressed in different social registers. Yet the markers are not functionally equivalent: -(I)yor can express futurate, habitual, exclamative, and complaint meanings that -mAktA cannot, regardless of register. The register association is real but derivative: -mAktA gravitates toward formal/institutional contexts because its detached, observational construal (from the locative containment source) is congruent with the communicative requirements of those contexts, not because formality is its defining semantic feature.

The Cognitive Grammar analysis provides the missing explanatory dimension, since the two markers impose different construal operations on the same conceptual content. -(I)yor imposes sequential scanning via trajectory-based tracking, in which the event is mentally traversed through time and each successive state comes into momentary focus; its source domain (*yoru-* 'walk') contributes directionality, engagement, and the sense of temporal unfolding. -mAktA imposes a locative-containment construal, in which the subject is positioned 'at' the activity and observed from a fixed vantage point; its source domain (-mAk + -DA, infinitive plus locative) contributes spatial containment, stasis, and observational detachment.

These different construals produce different extension profiles because extensions must be consistent with the source-domain schema. A trajectory can be projected forward (futurate), iterated (habitual), interrupted (near-miss), or affectively foregrounded (exclamative). A container can only be occupied or not. The result is the striking functional asymmetry documented

in §5.3, whereby every extension that -(I)yor achieves is one that requires directionality or temporal tracking, while every extension that -mAktA lacks is one that presupposes these properties.

Akaslan (2011) frames the contrast in enunciative terms: -(I)yor marks events "directly observed/witnessed by the utterer, where the utterer positions themselves as the source of the content," while -mAktA marks events "not directly observed but reported from or attributed to another source." While this evidential-like characterization does not capture all the data (as Akaslan himself acknowledges), it is compatible with the CG analysis: -(I)yor's trajectory-based scanning inherently involves direct engagement with the temporal unfolding of the event (hence the "witnessed" quality), while -mAktA's locative containment involves observation from a fixed position (hence the "reported" quality). The witnessed/reported distinction is not an independent semantic feature but a consequence of the mode of conceptual access — trajectory-based tracking versus locative observation.

The theoretical import of this within-language comparison is considerable. If two markers occupying the same aspectual domain show systematically different extension patterns, and if those patterns correlate precisely with the cognitive properties of their respective source domains, then the source domains must be doing explanatory work. The alternative — that the functional differences are arbitrary or driven by social convention alone — fails to account for the systematicity of the restrictions. -mAktA does not lack futurate meaning because speakers have conventionally decided to exclude it from that function; it lacks futurate meaning because its locative-containment schema cannot generate the directional projection that futurate meaning requires. Source-domain retention is not a historical curiosity but an active constraint on synchronic functional profiles.

Kutsarova (2025) offers a complementary perspective from compositional aspect theory. She argues that Turkish is a compositional-aspect language in which imperfectivity is encoded through dedicated forms, with some markers such as -(I)yor, -mAktA, -(A/I)r, and -(y)DI realizing aspectual meanings more robustly than others. On this view, both -(I)yor and -mAktA are genuine imperfective aspect markers — neither reduces to a 'tense shift' or a register variant of the other. The compositional framework corroborates the CG analysis: both markers contribute imperfective viewpoint aspect to the sentence, but they do so through different construal mechanisms

(trajectory-based tracking versus locative containment), and these different mechanisms produce different interactions with sentence-level compositional factors such as NP quantification, case marking, and adverbial modification. The compositional approach thus reinforces the CG claim that the functional difference between -(I)yor and -mAktA lies not in their aspectual value (both are imperfective) but in the mode of conceptual access that each marker imposes on the event — a mode that is ultimately traceable to the cognitive properties of the respective source domains.

The construal properties of -mAktA established so far — locative containment, observational detachment, restricted extension — become particularly visible when -mAktA combines with the copular particle -DIr, which adds an epistemic dimension that further differentiates the locative imperfective from its trajectory-based counterpart.

5.5 -mAktA with Copular -DIr

The combination of -mAktA with the copular particle -DIr produces a construction — -mAktA-DIr — that is functionally and epistemically distinct from bare -mAktA. This construction occupies a specialized niche within the Turkish TAM system, appearing primarily in formal, institutional, and scientific discourse. Understanding -mAktA-DIr is essential for two reasons, in that it demonstrates how -mAktA's locative-containment construal interacts compositionally with other morphological elements, and it reveals an epistemic dimension that emerges specifically from the interaction of -mAktA's observational detachment with -DIr's assertive force, a combination that neither element alone could produce.

Temürcü (2011, Section 3.1) identifies -mAktA-DIr as the marker of "general fact" in present-continuous contexts, replacing -(I)yor "in expressions of strong, well-established factuality." His example, Ekolojik denge hızla bozulmaktadır 'The ecological balance is being destroyed rapidly,' illustrates the construction's epistemic profile, in which the ongoing process is presented not as a contingent observation but as an established, authoritative fact. The combination of -mAktA's locative containment (the process is currently occupied) with -DIr's assertive force (the proposition has the status of established knowledge) produces a construal that is simultaneously progressive in aspect and authoritative in epistemicity.

A crucial observation about the epistemic contribution of -DIr across different TAM markers is that -DIr combined with -mAktA always adds a meaning of certainty, unlike -DIr with -(I)yor (which produces a suppositional reading — bekliyordur 'is probably waiting') or -DIr with -mIş/-AcAk (which can be ambiguous between certainty and probability). This asymmetry follows from the construal profiles of the base markers. -(I)yor's trajectory-based scanning inherently involves epistemic contingency — the event is being tracked in real time, and its outcome is not yet fully known (De Wit & Brisard, 2014). Adding -DIr to a contingent base produces a suppositional reading, as the speaker is projecting certainty onto an inherently uncertain observation. -mAktA's locative containment, by contrast, involves a more detached, observational construal that is epistemically neutral regarding the speaker's engagement. Adding -DIr to this neutral base produces a straightforward assertion of factuality, with the speaker authoritatively reporting that the situation is ongoing.

Göksel and Kerslake (2005, Section 21.4.1) confirm that in formal writing, -mAktAdIr serves as the counterpart to -(I)yor or -mAktA in informal registers, expressing present tense with either progressive or habitual aspect. However, the correspondence is distributional, not semantic. -mAktA-DIr occupies a functional niche that neither -(I)yor nor bare -mAktA can fill, providing an ongoing-process construal (from -mAktA) combined with institutional assertive force (from -DIr), producing the authoritative progressive voice characteristic of news broadcasts, scientific reports, and official statements. The construction's specialization reflects the interaction of two compositional elements, each contributing its own construal dimension.

Kornfilt (1997) adds that -DIr in formal and official style serves to convey definiteness and authority, while in scientific language it marks definitional truths, as in balina memeli bir hayvandır 'The whale is a mammal.' When combined with -mAktA in scientific discourse, -DIr shifts the construal from simple progressive observation to established factual report — a speech act that requires the speaker to be positioned as an authority rather than a casual observer or engaged participant. The locative-containment schema of -mAktA, with its inherent observational detachment, is the natural base for this authoritative function; -(I)yor's engaged, immediate construal would be semantically incongruent with the institutional detachment that -DIr encodes in this combination.

A further specialized function of -mAktA emerges in universal perfect constructions. Arslan-Kechriotis (2006) demonstrates that Turkish sentences with a universal perfect interpretation employ zero marking on non-verbal predicates, the imperfective suffix -(I)yor on verbs, or the locative form -mAk-tA on verbs, together with temporal adverbials formed by *beri* 'since' and -*DIr* 'for.' That is, when Turkish expresses the meaning that a situation has held continuously from a past point up to the present — the universal perfect — it employs -mAktA (or -(I)yor) rather than -mIş. This is significant for two reasons. First, it confirms that -mAktA retains a genuine imperfective aspectual value, since the universal perfect requires an ongoing-state interpretation, which -mAktA's locative containment naturally provides ('being at the activity since time X'). Second, it indicates that -mAktA can appear in temporal constructions beyond simple present progressivity, but only when the adverbial framework explicitly provides the temporal boundaries that the locative schema itself cannot generate. Without the *beri* 'since' adverbial, the same -mAktA sentence reverts to a simple present progressive reading; the universal perfect interpretation requires compositional support from the adverbial.

Kutsarova's (2025) compositional-aspect analysis adds a further layer: -mAktA and -(I)yor, as dedicated imperfective markers, realize aspectual meanings to a higher degree than the aspectually ambivalent preterit forms -DI and -mIş. The universal perfect construction thus represents not an extension of -mAktA's semantics but a compositional exploitation of its core imperfective value, since the locative containment schema ('being at X') naturally maps onto a situation that has been continuously occupied since a specified point in the past.

5.6 Cross-Linguistic Parallels: Locative-Source Progressives

The locative-to-progressive pathway that -mAktA exemplifies is the most productive source for progressive markers worldwide, and the crosslinguistic data provide a revealing contrast with -mAktA's restricted functional profile.

Bybee et al. (1994) propose that the progressive's original function was to identify the location of an agent as situated in the middle of an activity, and that this locational function persists even in well-developed progressives such as the English one. The English progressive be V-ing historically derives from

locative constructions: Old English he was on/at huntunge 'he was at hunting' > Modern English he was hunting. The locative preposition (on/at) eroded over centuries, but the construction retained and expanded its functional range from strict progressive to habitual, futurate, interpretive, and even purely modal uses (De Wit & Brisard, 2014).

Why, then, has English be V-ing developed a broad functional range from its locative source while Turkish -mAktA has not? The answer lies in the presence or absence of a competing marker. English be V-ing is the sole progressive construction in its paradigm; it faces no competition from a motion-verb-source progressive that could restrict its territory. Turkish -mAktA, by contrast, coexists with -(I)yor — a motion-verb-source progressive that has aggressively colonized the functional territory that locative-source progressives typically develop into crosslinguistically. The extensions that English be V-ing has achieved (futurate, habitual, exclamative, interpretive) are precisely the extensions that Turkish -(I)yor has achieved. -mAktA has not failed to extend because locative sources are inherently limited; it has failed to extend because another marker has already occupied the functional space that its extensions would have filled.

This competition-based account explains a further crosslinguistic pattern. Bybee et al. (1994) document that grammatically expressed meaning categories need not form maximal contrasts; instead, newer constructions gradually encroach on the functions of older ones, producing considerable overlap. In Turkish, -(I)yor is the newer construction (grammaticalized in the sixteenth to eighteenth centuries), and -mAktA is the older locative formation. Following the general principle, the newer construction has gradually colonized the older one's territory, leaving -mAktA with only the core progressive function that the two markers share and the specialized formal-register niche where -mAktA's detached, observational construal is pragmatically valued.

De Wit and Brisard (2014) provide the theoretical framework for understanding what the English progressive has developed that -mAktA has not. They argue that "the core meaning of the English present progressive is to indicate epistemic contingency in the speaker's immediate reality" and that its various uses — Current Ongoingness, Historical Present, Futurate, Habitual, and purely Modal — are "systematically related to one another and to the schematic meaning of contingency via branching principles" (Section

5.3). The epistemic-contingency analysis applies to English be V-ing because its locative source has been bleached to the point where the construction functions as a general-purpose epistemic device for marking situations as non-structural parts of immediate reality. Turkish -mAktA has not undergone this bleaching precisely because -(I)yor already occupies the epistemic-contingency niche: Temürcü (2011) demonstrates that -(I)yor, not -mAktA, is the Turkish marker associated with epistemic contingency — "personal certainty" and "new information" — while -mAktA is relegated to the "general fact" niche in combination with -DIr.

Bertinetto et al. (2000) make a crucial observation about how different source constructions enter the developmental cline at different stages: progressive constructions derived from motion verbs presumably join the evolutionary path directly at stage (ii), since the purely stative meaning characteristic of stage (i) is incompatible with the inherent dynamic semantics of such verbs. Locative-source constructions, by contrast, begin at stage (i) — the purely stative, locative stage. This entry-point difference has consequences for the functional profiles of the resulting markers. A motion-verb-source progressive enters the grammaticalization pathway already carrying dynamic semantics; a locative-source progressive must first develop dynamic readings before it can extend to focalized, habitual, or general imperfective functions. Turkish -mAktA entered at stage (i) and has not progressed beyond stage (ii), whereas Turkish -(I)yor entered at stage (ii) and has successfully advanced through stages (iii)–(v). The different entry points, determined by the different source-domain types, set the two markers on divergent developmental trajectories from the outset.

Bertinetto et al. (2000, p. 521) further note that "Turkish is the only language of Europe which expresses PROG by means of an affix, the suffix -yor." The fully affixal status of -(I)yor — in contrast to the periphrastic or semi-analytical progressive constructions found in all other European languages — reflects its advanced stage of grammaticalization. -mAktA, while synthetic in form, retains the compositional transparency of a copular predication (infinitive + locative + copular endings), positioning it closer to the analytical end of the grammaticalization continuum. The degree of morphosyntactic transparency thus correlates with the degree of functional expansion, in that the more bleached and opaque -(I)yor has developed a broader functional range than the more transparent and compositional -mAktA.

The cross-Turkic perspective strengthens this analysis considerably. Nevskaya (2014) documents how tense-aspect-mood forms across South Siberian Turkic languages — including Chalkan and Shor — derive from the same structural template as Turkish -(I)yor and -mAktA: biverbal constructions where a lexical verb appears in a converb or infinitive form and an auxiliary verb of existence, location, posture, or motion carries finite TAM morphology. The grammaticalization pathway is consistent: virtually all modern present tense forms, imperfective past participles, indirective past tense forms, and a broad array of prospective (near-future) forms in South Siberian Turkic languages originate as biverbal actional constructions (Nevskaya, 2014). What varies across languages is the specific locational/postural/motional auxiliary that has been grammaticalized.

The Chalkan data are particularly revealing for the source-domain retention argument. Nevskaya (2014) demonstrates that when different auxiliary verbs combine with the same converb type and the same aorist marker, they produce categorically different TAM forms. The auxiliary t'at- 'lie, live' combined with the converb -(X)p and the aorist -(X)r yields the Chalkan present tense form -(p)t'(it), functioning as a focal intraterminal (progressive/actual present). The auxiliary tur- 'stand, be located' combined with the same converb and aorist yields a completely different form — the indirective -(p)tXr — with postterminal (perfect/evidential) semantics. In Nevskaya's words, "the original lexical semantics of auxiliary verbs predetermines their grammatical semantics to a certain extent." The 'lie/live' auxiliary, encoding a locational state of repose, produces an imperfective/present marker; the 'stand/exist' auxiliary, encoding a visible resultant state, produces an evidential/perfect marker. The same structural template yields different TAM categories because the source-domain semantics of the auxiliary shapes the resulting grammatical function.

This Chalkan pattern directly parallels the Turkish situation. Turkish -mAktA (from a locative construction 'being at the activity') produces imperfective/progressive semantics — as predicted by the locational source domain. Turkish -(I)yor (from the motion verb yoru- 'walk') produces focal intraterminal semantics with engagement and trajectory — as predicted by the motional source domain. In Shor, the present tense form -(p)ca derives from the auxiliary cat- 'lie, live' in the aorist, "having started as a highly focal intraterminal present tense form (Johanson, 1971), i.e., as an actual presence form" before broadening to express both actual and general present tense

through defocalization. The Shor trajectory — from focal progressive to defocalized general present — mirrors the trajectory of Turkish -(I)yor, while the source-domain type (locational/postural rather than motional) aligns with -mAktA.

Nevskaya (2014) further documents a cyclic renewal process in which a progressive form that has lost its focality and broadened into a general present tense marker is replaced by a freshly grammaticalized locational or postural biverbal construction that restores focal (actual) present meaning. This cyclic pattern — where an older locative-source marker broadens and a newer marker renews focal progressivity — is exactly what we observe in Turkish: -mAktA is the older locative formation that has been displaced into restricted (formal, descriptive) functions, while -(I)yor is the newer motion-verb marker that has colonized the core progressive territory and subsequently broadened.

De Wit and Brisard (2020, p. 475) add a crucial observation about the relationship between progressive extension and grammaticalization timing: "non-temporal 'extravagance' uses appear at the earliest stages of grammaticalization rather than emerging as later pragmatic extensions." This suggests that the capacity for non-temporal extension is not a late development but is present in a progressive marker from its earliest stages — provided the marker is not preempted by competition. English be V-ing developed its non-temporal extensions because no competing marker blocked them. Turkish -(I)yor developed its non-temporal extensions (futurate, complaint, exclamative) because it was the newer, more semantically rich marker entering a paradigmatic space where the older locative formation could be displaced. -mAktA's restricted profile is therefore not a reflection of locative sources being inherently limited but of paradigmatic competition, since when a motion-verb-source progressive coexists with a locative-source progressive, the motion-verb marker's trajectory-based directionality gives it a competitive advantage in extending to functions that require temporal projection, engagement, and affect.

The Turkish case thus provides evidence for a principle that crosslinguistic comparison alone cannot demonstrate: that source-domain properties constrain extension paths even when two markers share the same aspectual domain. The evidence is strongest precisely because it is within-language. The functional asymmetry between -(I)yor and -mAktA cannot be

attributed to typological difference, language contact, or independent language-specific developments. It arises from the cognitive properties of two source domains — motion trajectory versus locative containment — operating within a single grammatical system, competing for the same functional territory, and producing systematically different extension profiles as a consequence. The cross-Turkic evidence from Chalkan and Shor confirms that this is not an isolated Turkish phenomenon but a systematic instantiation of a family-wide pattern in which locational source semantics shapes the functional profiles of the resulting TAM markers.

5.7 Summary: -mAktA as the Locative Imperfective

This chapter has argued that -mAktA's functional profile — its restriction to progressive meaning, its formal-register association, its person restrictions, its phase-aspect properties (definite onset, undefined endpoint), its evidential-observational character, its incompatibility with statives, and its inability to extend to futurate, habitual, exclamative, or near-miss functions — follows from the cognitive properties of its locative-containment source domain. The marker positions the subject 'at' an activity, construing the relationship between agent and event as spatial containment rather than temporal traversal. This static, non-directional construal is well suited for observational description (the core function of progressive aspect) but ill suited for the directional, engagement-based, or temporally projectable functions that -(I)yor achieves through its trajectory-based scanning. Its position on Bertinetto et al.'s (2000) developmental cline — frozen between stages (i) and (ii), retaining locative transparency — confirms that its restricted functional range is not an accident of grammaticalization timing but a direct consequence of its source-domain properties interacting with paradigmatic competition from -(I)yor.

The -mAktA / -(I)yor contrast constitutes the book's strongest evidence for source-domain retention. Two markers in the same language, sharing the same imperfective aspectual value, show systematically different extension profiles that correlate precisely with the cognitive properties of their respective source domains. The trajectory source extends to functions requiring directionality; the locative source does not. The motion source produces engaged, immediate construals; the containment source produces detached, observational construals. The cross-Turkic evidence from Chalkan and Shor (Nevskaya, 2014) confirms that this pattern is not a Turkish

idiosyncrasy but a systematic outcome of the Turkic family's productive exploitation of locational, postural, and motional source constructions for TAM marking — with different source-domain semantics consistently producing different grammatical functions. These are not arbitrary conventions but cognitive consequences of source-domain properties that persist through grammaticalization, shaping the synchronic functional profiles of markers whose etymological origins remain — in -mAktA's case transparently, and in -(I)yor's case more subtly — active in the contemporary language.

Chapter 6. -DI: The Perfective

6.1 The Source and Diachrony

Of the five Turkish aspectual markers examined in this book, -DI is the one whose source domain is the most resistant to recovery. Unlike -(I)yor, whose etymological connection to the motion verb yoru- 'walk' is well documented; unlike -mAktA, whose locative composition (-mAk + -DA) is synchronically transparent; and unlike -mIş, whose postterminal semantics can be traced through Turkic evidential systems (see Chapter 7), -DI presents itself as an opaque, maximally grammaticalized suffix whose formal simplicity — a single dental stop plus a vowel — reflects a long and deep history within the Turkic family. While Johanson (2000b) regards the -(A)r aorist as the earliest attested intraterminal form in the Turkic family, -DI's history extends even further back: in Old Turkic, -DI already functioned as the primary marker for asserting witnessed past events. The suffix's source domain, in other words, is not a lexical source of the kind documented for -(I)yor (motion verb) or -mAktA (locative construction) but a grammatical source, namely the Old Turkic definite past, a marker whose function was to locate events firmly in the realm of the speaker's direct experience.

Kornfilt (1997, p. 332) describes -DI as the "definite" past, contrasting it with -mIş as the "reported" or "inferential" past. The terminological choice is significant because "definite" implies epistemic certainty and direct knowledge, positioning -DI not merely as a temporal marker but as an evidential-epistemic one. Lewis (2000) captures this dimension vividly, characterizing -DI as the tense speakers use when relating past events of which they have positive knowledge — for instance, a speaker who has personally witnessed the arrival of a tourist ship may report the event with *bir turist vapuru geldi*. The -DI form commits the speaker to direct, witnessed knowledge of the event. This evidential property — the speaker's positioning as a direct witness — is not a secondary pragmatic implication but a fundamental component of -DI's construal profile. It determines, among other things, the vantage point from which the event is apprehended: the speaker who uses -DI views the event from the vantage point of someone who was there, who saw or experienced the event as it reached its terminal point.

The relationship between -DI and -mIş — the two simple past markers in Turkish — is paradigmatic rather than diachronic. They do not represent

successive grammaticalization stages of the same construction but rather two independent marking strategies that partition the past-tense domain along an evidential axis. Göksel and Kerslake (2005) confirm that -DI and -mIş jointly carry the expression of perfective aspect in Turkish, but the two markers differ in how the speaker relates to the event: -DI positions the speaker as a direct witness (or one who asserts direct knowledge), while -mIş positions the speaker as someone reporting indirectly — through inference, hearsay, or unexpected discovery (see Chapter 7). This evidential contrast has consequences for the aspectual profile of each marker, as we will see in §6.2 and §6.3.

For the purposes of the source-domain retention argument that structures this book, -DI represents a limiting case. Its source domain is not a content-domain concept (motion, location, posture) that projects specific cognitive schemas onto the construal of events, as with -(I)yor and -mAktA. Instead, -DI's "source" is a grammatical function — definite past, boundary-marking — that has been in place for so long that the marker's current profile is best understood as the product of deep entrenchment rather than of ongoing source-domain projection. Nevertheless, -DI's construal properties are not arbitrary. As we will argue, they follow from a principled cognitive operation — boundary profiling — that is the natural complement to the sequential scanning and locative containment operations documented for -(I)yor and -mAktA in the preceding chapters.

6.2 The Construal Profile of -DI

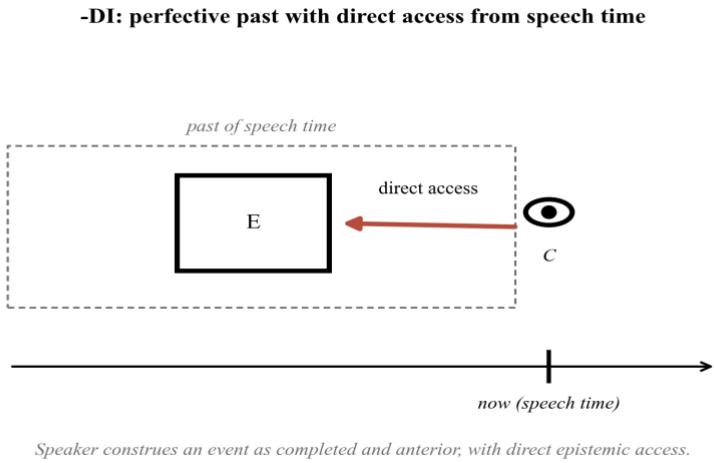


Figure 6.1. -DI: perfective past with direct access. The speaker, anchored at speech time, construes the event as completed and anterior, with direct epistemic access. The dashed frame marks the past of speech time as the scope of predication.

6.2.1 Viewing the Event as a Bounded Whole

The foundational characterization of perfective aspect comes from Comrie (1976, p. 16): "perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation; while the imperfective pays essential attention to the internal structure of the situation." The metaphor is spatial: the perfective adopts an external vantage on the situation, leaving its internal structure undifferentiated, whereas the imperfective adopts an internal vantage that foregrounds that structure (Comrie, 1976). This outside/inside opposition maps directly onto the vantage-point distinction central to Cognitive Grammar: the conceptualizer who uses -DI adopts an external vantage point from which the event is viewed as a completed whole, while the conceptualizer who uses -(I)yor adopts an internal vantage point from which the event is tracked through its temporal unfolding.

Comrie (1976, p. 18) is careful to distinguish between *completeness* and *completion*: "The perfective does indeed denote a complete situation, with

beginning, middle, and end. The use of 'completed', however, puts too much emphasis on the termination of the situation, whereas the use of the perfective puts no more emphasis, necessarily, on the end of a situation than on any other part of the situation, rather all parts of the situation are presented as a single whole." This distinction is critical for understanding Turkish -DI. When a speaker says *Ahmet koş-tu* 'Ahmet ran,' the -DI does not specifically assert that the running reached a particular endpoint or achieved a particular result. It asserts that the running event is viewed as a bounded whole — with a beginning, a middle, and an end — from the speaker's external vantage point. The boundedness is a construal operation, not an ontological claim about the event itself.

In Langacker's (2008a, p. 147) framework, the distinction between perfective and imperfective verbs maps onto the contrast between bounded-heterogeneous and unbounded-homogeneous construals: "The terms reflect the conceptual characterization of perfectives as being bounded in time, whereas imperfectives are not specifically bounded. Moreover, perfectives construe the profiled relationship as internally heterogeneous, involving some kind of change through time, while imperfectives construe it as homogeneous, the continuation through time of a stable situation." Turkish -DI construes events as bounded and internally heterogeneous: the event has a distinct shape in time, with a beginning that differs from a middle that differs from an end. This heterogeneity is precisely what -(I)yor's sequential scanning tracks from inside, following the event as it moves through its successive states. -DI, by contrast, presents the entire sequence of states as a single gestalt — a summary scanning operation applied to the event as a whole, viewed from a vantage point external to the event's temporal course.

This does not mean that -DI eliminates the event's internal complexity. Comrie (1976) is explicit on this point: perfective forms are fully compatible with internally complex situations — events that last a considerable time or comprise distinct internal phases — so long as the situation as a whole is subsumed under a single bounded construal. A sentence like *İki saat koştum* 'I ran for two hours' uses -DI to present a temporally extended, internally varied running event as a single bounded whole. The two-hour duration is not denied or compressed; it is subsumed under the boundary-profiling operation that presents the event as a completed unit. The consequence, as Smith (1997, p. 72) notes, is that the perfective presents situations as though they were punctual, regardless of whether they possess internal structure or occupy

measurable time. The punctual presentation is a cognitive effect of the viewing arrangement, not a semantic assertion about the event's duration — a distinction that is critical for understanding why -DI can felicitously combine with durative adverbials while still construing the event as bounded.

Croft (2012) provides a complementary framework that deepens this analysis. In his two-dimensional geometric model, events are represented along both a time dimension (t) and a qualitative state dimension (q). The perfective construal profiles both the inception and termination transitions on the t dimension, yielding what Croft calls t-boundedness, whereby the event occupies a bounded interval with distinct start and end points. This t-boundedness is the geometric expression of Langacker's boundary profiling, in which -DI's construal operation locates both temporal boundaries and profiles the event as the interval between them. Crucially, the choice of perfective construal is itself a cognitive operation, not a fixed property of the situation. Croft (2012, p. 14) emphasizes that "the very choice of participants and the aspectual character of the situation are subject to construal. It is this characteristic of construal that makes construal non-truth-conditional in the usual sense: the truth conditions of the semantic structure, e.g. whether the situation is stative or dynamic, is not a fixed, inherent property of the real-world experience." The speaker who chooses -DI is performing a construal operation of selecting the bounded-whole viewing arrangement, rather than describing an inherent property of the event. This construal-theoretic understanding is essential for the CG analysis, since -DI does not discover boundaries that pre-exist in the event but imposes a bounded viewing frame that construes the event as having boundaries.

Smith (1997) adds the concept of visibility to this analysis, proposing that aspectual viewpoints place all or part of a situation in focus, and that only what falls within this focus — what she terms "visible" — is actually asserted by the speaker. Under -DI's perfective viewpoint, the entire event — including both endpoints — is "visible" and therefore asserted. This contrasts with -(I)yor's imperfective viewpoint, where only the internal portion of the event is visible, and the endpoints fall outside the viewing frame. The concept of visibility captures an important pragmatic dimension of the -DI / -(I)yor contrast, whereby with -DI the speaker commits to the entire event (including its completion), while with -(I)yor the speaker commits only to the event's being in progress, leaving the question of its completion outside the scope of the assertion.

6.2.2 Terminal Viewpoint and Direct Evidence

Johanson (2000b) offers an important terminological refinement. In his framework, Turkish -DI is classified not as a "perfective" in the Slavic adterminal sense but as a "nonintraterminal," that is, a form that views the event from outside the boundaries (i.e., not intra terminos) without explicitly highlighting the attainment of a crucial limit. He refers to such forms as "pseudo-perfectives, since they differ essentially from adterminals, 'perfectives proper', but exhibit a partly similar textual behaviour" (p. 146). The distinction matters because adterminal aspect (as in Russian perfective prefixes) explicitly profiles the boundary itself — the moment of completion, the crossing of the crucial limit. Turkish -DI does not profile the boundary in this explicit, limit-oriented way. Instead, it simply presents the event from a vantage point outside its temporal extension, which implies — but does not assert — that the event has reached its terminus.

Bagcevan (2023) provides quantitative evidence for -DI's dominant aspectual profile, representing one of the few studies to offer distributional data on -DI's aspectual readings, though further corpus-based corroboration from conversational and literary registers would strengthen the picture. In his analysis of 1966 sentences from MoNE textbooks, 521 out of 559 instances of -DI (93.2%) exhibit perfective readings, with only 38 instances (6.8%) showing imperfective interpretations. Drawing on Johanson (2016), Bagcevan characterizes -DI's aspect as "terminal" in that, rather than encoding either intraterminality or postterminality, -DI reflects a third aspectual perspective, terminality, which affords direct, holistic observation of the event without foregrounding the start or end boundaries as such. The terminal perspective positions the conceptualizer outside the event's temporal course, enabling them to see the event in its totality, from start to finish, without tracking through it sequentially (as -(I)yor does) or focusing on the resultant state that follows it (as -mIş does).

The connection between -DI's terminal viewpoint and its evidential property is not accidental. Lewis (2000) characterizes -DI as the tense for "past events positively known to the speaker" — events the speaker has directly witnessed or can assert with first-person certainty. Kornfilt (1997, p. 332) uses the label "definite past" for the same reason: -DI encodes the speaker's epistemic authority over the reported event. This evidential dimension follows from the construal profile. Viewing an event as a bounded

whole from an external vantage point is precisely the perceptual stance of a witness, that is, of someone who was present for the entire event, who saw it begin and end, and who can therefore report it with certainty. The internal vantage point of -(I)yor, by contrast, positions the speaker inside the event's temporal course, tracking its unfolding without necessarily having seen its conclusion, a stance compatible with ongoing observation but not with the retrospective certainty that -DI encodes.

Temürcü (2011, Section 3.1) confirms this epistemic association, identifying -DI with "direct experience and definiteness." The -DI form signals that the speaker has epistemically grounded access to the event, in the sense that they were there, they perceived it, and they can vouch for it. This grounding is what distinguishes -DI from -mIş (indirect access: inference, hearsay, unexpected discovery) and from -(I)yor (engaged tracking: real-time observation of an event in progress). The three markers thus position the speaker at three different epistemic vantage points relative to the same conceptual content, namely outside and retrospective (-DI), inside and concurrent (-(I)yor), and outside and inferential (-mIş).

6.3 -DI as the Inverse of -(I)yor

The relationship between -DI and -(I)yor is one of systematic complementarity. Where -(I)yor places the conceptualizer on the trajectory, inside the event, tracking its temporal unfolding through sequential scanning, -DI places the conceptualizer off the trajectory, outside the event, viewing it as a completed bounded whole. Langacker (2008a, p. 157) captures this relationship with precision: "The overall effect of a progressive is thus to convert a perfective process into an imperfective one... The bounded occurrence profiled by the former functions as conceptual base for the latter, which profiles an internal portion that excludes the endpoints." The progressive (-(I)yor) takes a bounded event — one that would naturally be construed perfectively — and restricts the immediate scope to exclude the endpoints, producing an imperfective construal. -DI performs the inverse operation by taking an event and including both endpoints within the profiled scope, producing a bounded, perfective construal.

Smith (1997) formalizes this contrast using her two-component theory: perfective viewpoints present a situation in its entirety, spanning the initial and final endpoints and thereby closing it informationally, while imperfective

viewpoints present only a portion of the situation, leaving the endpoints unspecified and thus remaining informationally open. The closed/open distinction maps directly onto the CG analysis, with -DI profiling a closed portion of the event's temporal extent (including both endpoints), while -(I)yor profiles an open portion (excluding both endpoints). The event itself has not changed; what changes is the scope of the conceptualizer's viewing frame, what Langacker calls the immediate scope.

Smith (1997, pp. 3, 19–20) identifies five situation types — States, Activities, Accomplishments, Semelfactives, and Achievements — classified by three binary temporal features ([±Static], [±Durative], [±Telic]). Each type interacts differently with -DI's boundary-profiling operation, producing distinct interpretive patterns that collectively illuminate the nature of the perfective construal.

Activities ([-Static], [+Durative], [-Telic]) are the clearest case in which -DI imposes temporal boundaries on a process that has no inherent endpoint. *Koştum* 'I ran' presents the running as occupying a bounded interval, in which the speaker ran and then stopped, without implying that the running reached any particular goal. The boundaries are contributed by the construal, not by the predicate's inherent telicity. The event's cumulative, homogeneous part-whole structure, which Smith (1997) characterizes as each subpart sharing the nature of the whole, is overridden by the boundary-profiling operation, which carves a bounded segment from an otherwise unbounded process.

Accomplishments ([-Static], [+Durative], [+Telic]) align -DI's boundary-profiling with the predicate's inherent endpoint. *Mektubu yazdım* 'I wrote the letter' implies that the writing reached completion, and as Comrie (1976, p. 46) formulates the generalization, "a perfective form referring to a telic situation implies attainment of the terminal point of that situation." The alignment between -DI's t-boundedness and the predicate's q-boundedness (Croft, 2012) produces the strongest perfective reading, bounding the event on both dimensions simultaneously.

Achievements ([-Static], [-Durative], [+Telic]) are instantaneous changes of state, naturally compatible with -DI. *Düştü* 'She fell' profiles the transition from not-having-fallen to having-fallen as a bounded whole. Since the event already occupies a minimal temporal interval, -DI's boundary-profiling adds little beyond its epistemic dimension (the speaker witnessed the fall).

Semelfactives ([-Static], [-Durative], [-Telic]) are single-stage events without a result and receive a punctual reading with -DI. *Öksürdü* 'She coughed' denotes one cough, completed. As Demirok and Sağ (2023) demonstrate, when a long reference time interval is provided, -DI coerces semelfactives into iterative readings (see §6.5), suggesting that the boundary-profiling operation requires the event to fill the reference time — a prediction of the aspectless analysis but not of a standard perfective account.

The acquisition data provides additional evidence for the cognitive naturalness of the -DI / situation-type mappings. Smith (1997, pp. xv–xvi), citing Aksu-Koç (1988), reports that Turkish children under 2 acquired the -DI perfective and the -(I)yor imperfective with sensitivity to the stative/non-stative distinction and to telicity: the children's earliest uses of -DI clustered around telic and change-of-state verbs, while -(I)yor appeared predominantly with atelic verbs, and neither marker initially occurred with statives. This early mapping of -DI onto telic/change-of-state predicates confirms the cognitive naturalness of the fit between boundary-profiling and bounded event types: children gravitate toward the prototypical association before extending the markers to less canonical combinations.

This complementarity, far from a merely logical opposition, reflects different construal strategies for the same event. The following pair illustrates the contrast:

Ahmet koş-tu.

Ahmet run-PST

'Ahmet ran.'

(-DI: bounded, complete, endpoints included)

Ahmet koş-uyor-du.

Ahmet run-PROG-PST

'Ahmet was running.'

(-(I)yor + past: unbounded, in-progress, endpoints excluded)

In the -DI sentence, the speaker views the running event from outside its temporal boundaries, presenting it as a completed unit. In the -(I)yor-du sentence, the speaker views the running event from inside, positioned at some point within the event's temporal course, tracking its unfolding without

asserting either its beginning or its end. The speaker's relationship to the event, whether external retrospection or internal engagement, is the construal difference that the two markers encode.

Kornfilt (1997) captures the distributional reflex of this construal difference: with -DI, a situation is treated as a complete event lacking temporal subdivisions, while with -(I)yor, the situation is presented as having internal temporal structure that the speaker is tracking through. This distributional pattern extends to the interaction with Aktionsart. When -DI combines with telic predicates, it implies attainment of the telic endpoint, in line with Comrie's (1976, p. 46) generalization that "a perfective form referring to a telic situation implies attainment of the terminal point of that situation." When -(I)yor combines with the same telic predicate, the implication of endpoint attainment is suspended: the event is in progress, and its completion is not asserted. The aspectual opposition between -DI and -(I)yor thus generates different conversational implicatures depending on the Aktionsart of the predicate, but the underlying construal principle is constant, with -DI including endpoints and -(I)yor excluding them.

The interaction with stative predicates provides the sharpest diagnostic. Comrie (1976, pp. 19–20) observes a crosslinguistic tendency for perfective forms of stative verbs to receive ingressive readings, signaling entry into a state rather than continuation within it. Turkish follows this pattern precisely. Meriçli (2016) demonstrates that when -DI attaches directly to a stative predicate, the stative reading is blocked and an inchoative (ingressive) reading is coerced:

Doktor ol-du.

doctor become-PST

'She became a doctor.' (NOT: '*She was a doctor.')

The copular construction is required for the stative reading:

Doktor-du. (< doktor i-di)

doctor-PST.COP

'She was a doctor.'

Meriçli uses this diagnostic to argue that post-verbal -DI is perfective (stative predicates are incompatible with perfective viewpoint, forcing

inchoative coercion), while post-copular -DI is imperfective (the copula contributes imperfective aspect, licensing the stative reading).

This stative-coercion pattern is precisely what the CG construal analysis predicts. -DI's boundary-profiling operation requires the event to have distinct boundaries — a beginning and an end. States, by their nature, are internally homogeneous and lack the dynamic internal structure that creates distinct endpoints, since, as Comrie (1976) observes, a state persists indefinitely until some external force intervenes to alter it. When -DI attempts to impose boundary-profiling on a state, the construal operation cannot find boundaries to profile, so it coerces the state into a dynamic event, namely the entering-into-the-state event, which does have boundaries (the moment before the state began and the moment at which it began). The ingressive reading (ol-du 'became') is thus not a separate meaning of -DI but a consequence of the boundary-profiling operation encountering a predicate type that lacks the required internal heterogeneity.

Meriçli (2016) provides a further diagnostic that confirms the aspectual distinction between post-verbal and post-copular -DI: completive (in X time) adverbials. Following Bhatt and Pancheva (2005), completive adverbials are a standard perfective diagnostic — they are felicitous in perfective contexts and degraded in imperfective ones. Meriçli demonstrates that this diagnostic cleanly separates the two -DI environments:

- Beş senede hemşire oldum. 'I became a nurse in five years.' (post-verbal -DI: perfective, felicitous)

- ??Beş senede hemşireydim. (Intended: 'I became a nurse in five years.' — post-copular -DI: imperfective, degraded)

The unacceptability of the completive adverbial with post-copular -DI confirms that the copula contributes imperfective aspect, blocking the boundary-profiling operation. The diagnostic reveals that the -DI / -(I)yor opposition is not the only locus of the perfective/imperfective contrast in Turkish, since the post-verbal / post-copular contrast within -DI itself replicates the same construal distinction, bounded whole versus unbounded state, at a different structural level.

Smith (1997, p. 70) identifies three crosslinguistic patterns for the interaction between perfective viewpoint and stative predicates, namely (a) perfective includes endpoints of states (French), (b) perfective presents open

stative situations (English), and (c) perfective does not apply to statives at all (Russian, Chinese, Navajo). Turkish fits pattern (c), with the important refinement that perfective -DI does not simply reject statives but actively coerces them into inchoative readings. This places Turkish alongside Russian and Chinese in treating statives as fundamentally incompatible with the perfective viewpoint, a pattern that follows from the boundary-profiling analysis, since states lack the internal heterogeneity that boundaries delimit.

6.4 -DI in Narrative

One of the most characteristic functions of -DI is its role in advancing narrative time. As Forsyth (1970, pp. 9–10, cited in Smith, 1997, p. 91) observes, presenting a sequence of discrete actions is among the most characteristic discourse functions of perfective verbs in extended contexts. Each -DI clause in a narrative sequence presents a completed event and, by virtue of its boundedness, creates a temporal anchor for the next event. The listener naturally infers temporal succession, with Event A (marked with -DI) completed before Event B (also marked with -DI) begins. This sequentiality is an implicature of the bounded construal: because each -DI event is presented as a completed whole, the next -DI event is naturally understood as following it in time.

Smith (1997, p. 91) further observes that imperfective sentences typically supply descriptive or circumstantial information, presenting situations as temporally simultaneous with the main narrative events. In Turkish narrative, this pattern is fully operative. -DI advances the plot; -(I)yor provides background:

- Ali kapıyı açtı. (-DI: plot-advancing — ‘Ali opened the door.’)

- Dışarıda yağmur yağıyordu. (-(I)yor-du: background — ‘Outside, it was raining.’)

- İçeri girdi. (-DI: plot-advancing — ‘He went inside.’)

The first and third clauses, marked with -DI, advance the narrative timeline: they present bounded events whose completion moves the story forward. The second clause, marked with -(I)yor-du (imperfective past), provides a simultaneous background state — rain was falling at the same time as the plot events. The two markers thus distribute discourse functions between them, with -DI serving the foreground as sequential, bounded, and

temporally advancing, and -(I)yor serving the background as simultaneous, unbounded, and temporally static.

This distributional pattern is not a convention imposed on the markers from outside. It follows from their respective construal properties. A bounded event viewed from outside (-DI) naturally occupies a point on the narrative timeline: it has a beginning, a middle, and an end, and once it ends, narrative time can advance to the next event. An unbounded event viewed from inside (-(I)yor) has no inherent endpoint, so it does not advance narrative time — it simply characterizes the state of affairs that holds at the narrative's current temporal position. The narrative function is a consequence of the aspectual construal, not an independent feature.

Göksel and Kerslake (2005, Section 21.6) note that the interaction between -DI and -(I)yor in narrative extends beyond simple foreground/background alternation. In complex narratives, speakers may shift from -DI to -(I)yor-du to re-enter an event in progress — moving from external retrospection to internal engagement. This shift enacts a change in the narrator's vantage point, moving from looking at events from outside (the historian's stance) to looking at events from inside (the experiencer's stance). The ability to shift between these vantage points, namely between -DI's external viewing and -(I)yor's internal scanning, gives Turkish narrative a perceptual dynamism that mirrors the conceptualizer's cognitive relationship to the narrated events.

The CG analysis of this narrative alternation draws on the figure/ground distinction. In a narrative sequence, -DI clauses function as figure, presenting bounded, salient, sequentially ordered events that form the temporal skeleton of the story. -(I)yor clauses function as ground, presenting unbounded, temporally static situations that provide the spatial, psychological, or circumstantial context within which the figural events occur. This figure/ground distribution is not a discourse convention applied from outside the aspectual system, since it emerges directly from the construal properties of the markers. A bounded event viewed from outside (-DI) is cognitively salient and temporally discrete, making it a natural figure. An unbounded situation viewed from inside (-(I)yor) is cognitively diffuse and temporally continuous, making it a natural ground. The narrative function is, in CG terms, an instance of profile/base alignment, in which -DI's profile (bounded whole)

aligns with narrative figurehood and -(I)yor's profile (unbounded process) aligns with narrative groundhood.

The narrative alternation extends beyond -DI and -(I)yor to include -mIş, producing a three-way distribution of narrative functions. Where -DI marks events the narrator directly witnessed or asserts with personal authority (the primary narrative mode), and -(I)yor marks situations the narrator presents as ongoing background, -mIş can mark events the narrator presents as reported, inferred, or unexpectedly discovered, an indirect-evidence narrative mode that introduces epistemic distance between the narrator and the narrated event. Consider:

- Ahmet eve geldi. (-DI: 'Ahmet came home.' — narrator witnessed/asserts)

- Ahmet eve gelmiş. (-mIş: 'Ahmet [apparently] came home.' — narrator infers/was told)

In narrative contexts, the alternation between -DI and -mIş creates a layered evidential texture in which events in the narrator's direct experience are told with -DI, events known only through inference or report are told with -mIş, and ongoing states and background conditions are told with -(I)yor-du. This three-way distribution demonstrates that the Turkish narrative system does not merely partition events into foreground and background but further differentiates foreground events by the narrator's epistemic access, a dimension of narrative perspective that is directly encoded in the aspectual-evidential morphology.

Smith (1997, p. 91) frames this narrative function in terms of her conventions of use: the narrative advancement convention establishes that perfective clauses move narrative time forward while imperfective clauses supply descriptive material temporally coextensive with the main events. She further emphasizes that aspectual choice is speaker-based — it is the speaker, not the situation itself, who determines which viewpoint to adopt (Smith, 1997, p. 7). In narrative, this means that the speaker's decision to present an event with -DI versus -(I)yor versus -mIş reflects not the event's inherent temporal structure but the narrator's perspective on it, whether to present it as a completed unit (foreground), an ongoing background, or an indirectly known report. The same event can, in principle, be narrated with any of the three markers; the choice reflects the narrator's construal of their epistemic and temporal relationship to the event.

6.5 -DI and Temporal Reference

While -DI's prototypical use is past-time reference, the marker is not inherently temporal. Comrie (1976, p. 82) documents a deep crosslinguistic affinity between perfectivity and past-time reference, noting that in several West African languages imperfective forms default to present-time interpretation while perfective forms default to past-time interpretation. The affinity is cognitive rather than semantic, in that viewing an event as a bounded whole (with endpoints included) is most naturally associated with events that are already completed, that is, events in the past. Viewing an event from inside (with endpoints excluded) is most naturally associated with events that are currently in progress, that is, events in the present. The temporal interpretations are pragmatic defaults that follow from the aspectual construals, not semantic content encoded in the morphemes themselves.

Turkish -DI demonstrates this pragmatic-default character through its non-past uses. Bagcevan (2023) documents that -DI can reference present and future time frames through contextual or pragmatic mechanisms. The most striking non-past use is the surprise present, as in *Vay canına! Adam birden düştü!* 'Wow! The guy suddenly fell!' (*düş-tü*, fall-PST), where -DI marks a present-time event that the speaker witnesses with surprise. The surprise present exploits -DI's evidential property (direct witness) and its boundary-profiling construal (the event is viewed as a completed unit, even though it has just occurred). The speaker's astonishment produces a cognitive compression: the event's temporal unfolding is collapsed into a single bounded moment of perception.

A second non-past use is the near-future -DI, documented by Bagcevan (2023), as in *Alo, ben iki dakikaya geldim, oradayım* 'Hello, I'm two minutes away, I'll be there', where geldim (lit. 'I came') refers to a future arrival. This use exploits the certainty dimension of -DI's construal, since the speaker presents the future arrival as already accomplished, as bounded and complete, because they are so certain of its occurrence that they construe it as a fait accompli. The boundary-profiling operation applies not to a past event but to a future one, with the speaker's epistemic certainty licensing the retrospective construal.

A third non-past use is the conditional -DI. In conditional protases, -DI can mark a hypothetical event without past-time reference, as in Geldiyse konuşuruz 'If she came/has come, we'll talk.' Here, -DI's boundary-profiling

operation applies to a hypothetical event — one that may or may not have occurred — and the temporal reference is determined by the matrix clause rather than by -DI itself. The conditional use further confirms that -DI's core contribution is the construal operation of boundary-profiling rather than a temporal specification of past tense. The past-time interpretation is a pragmatic default that can be suspended in syntactic environments that provide alternative temporal anchoring.

Demirok and Sağ (2023) push the analysis further, arguing that -DI is not merely aspectually underspecified but genuinely "aspectless" in certain structural configurations. Their proposal is that when -DI attaches directly to a verb without any intervening aspect morphology or copula, the resulting clause lacks an aspect projection (AspP) entirely. Two morphosyntactic diagnostics support this structural claim, namely (a) the overt copula i- cannot surface with V-DI forms (*Temizle-y/i-di is ungrammatical), unlike V-ASP-COP-DI forms (Temizle-miş i-di-m is grammatical); and (b) suspended affixation, that is, coordination of participial forms under shared tense morphology, is impossible with V-DI forms but possible with aspectually marked forms. These diagnostics confirm that V-DI forms are structurally distinct from V-ASP-COP-DI forms, in that the former lack both an aspect projection and a copula.

The apparent perfective interpretation arises not from a covert perfective head but from the identity relation between the event's run-time and the reference time: "the aspectless derivation we proposed predicts an identity relation between the run-time of the event and the time interval that the sentence is talking about." Under this analysis, -DI contributes only tense (PAST) and the perfective-like reading is an epiphenomenon of the structural absence of aspect.

Demirok and Sağ provide independent structural evidence for their analysis through a novel functional head: Temp(oral). Positioned between VP and AspP, the Temp head existentially closes the event variable and maps predicates of events to predicates of times. The evidence comes from modification facts. Turkish postpositional phrases like saat 10'dan 11'e kadar ('from 10 to 11') can only modify the run-time of the event, not the reference time, indicating that there is a structural level that denotes a set of event run-times below the aspectual projection. When no AspP is projected, as in the aspectless case, TempP feeds directly into T, producing the identity relation

in which event time equals reference time. When AspP is present (as with -(I)yor or -mIş), Asp intervenes between TempP and T, specifying a containment or precedence relation instead.

A striking piece of evidence for the identity semantics of the aspectless analysis involves semelfactive predicates. Demirok and Sağ demonstrate that when an aspectless -DI verb combines with a long reference time interval, for example *Emre saat 10 ile 11 arasında zıpladı* ('Emre jumped between 10 and 11'), the event is naturally interpreted as a one-hour iterative jumping event, not as a single jump located somewhere within the interval. This iterative coercion is predicted by the identity relation, since the event must fill the entire reference interval, so a single instantaneous jump cannot satisfy the identity requirement, and the event is coerced into an iterated series that spans the full hour. A standard perfective analysis, which posits a containment relation where event time is a subset of reference time, would not predict this coercion, since a single jump could simply be contained within the larger interval. The iterative coercion thus provides suggestive evidence favoring the aspectless account over a covert-perfective alternative.

Demirok and Sağ also identify an interesting speaker variation, whereby for some speakers aspectless -DI forms receive an inceptive reading, where the event is interpreted as having started at the reference time rather than spanning it. They hypothesize that this derives from an alternative functional head, InitBound, which maps to the initial boundary of the event rather than its full run-time. This speaker variation is itself informative for the CG analysis because it suggests that -DI's construal is not rigidly fixed but admits of minor parametric variation in how the boundary-profiling operation targets the event, whether it targets the full temporal extent (Temp) or the initial boundary (InitBound).

This aspectless analysis is compatible with the CG approach developed in this book, provided we recognize that the "structural absence of aspect" corresponds to a specific construal operation, namely the default viewing arrangement in which the conceptualizer does not impose any particular scanning pattern on the event but simply presents it as a bounded entity in conceived time. Meriçli (2016) frames this as "perfective by default," holding that "bare verbs (ASP/COP = Ø) are perfective," in that when no overt aspectual morphology restricts the scope or modifies the scanning pattern, the default construal is to view the event as a bounded whole. This default is not

a stipulation but a cognitive consequence, since without an explicit instruction to track the event from inside (-(I)yor), to locate the subject within it (-mAktA), or to compress its instances into an atemporal characterization (-(A)r), the event is naturally apprehended as a complete unit — a bounded gestalt viewed from outside.

Meriçli supports this default-perfective analysis with crosslinguistic evidence from imperatives, observing (following Kaufmann, 2012) that imperatives, which typically surface as bare verb forms, carry perfective aspect as a crosslinguistic default. Turkish imperatives (gel! 'come!', yaz! 'write!') are bare verb roots, and they exhibit bounded, completive interpretations consistent with the default perfective. The resulting system creates what Meriçli calls "a fundamental morphosyntactic/semantic opposition," whereby unmarked aspect is perfective and marked aspect, via the copula, is imperfective. The copula occupies the locus of viewpoint aspect in the verbal spine, with the ASP position reserved for other TAM content such as progressive -(I)yor, aorist -(A)r, and prospective -(y)AcAk. This layered architecture positions -DI as a tense marker that receives its aspectual interpretation from the structural context, being perfective by default when no aspect or copula intervenes and imperfective when the copula contributes IMPF. The architecture is elegant precisely because it does not require positing -DI as ambiguous between perfective and imperfective readings; a single -DI, contributing only PAST, interacts with the presence or absence of intervening functional structure to produce different aspectual construals.

Jendraschek (2011a) offers a compatible perspective from a different framework, proposing that Turkish has four aspects — progressive (-(I)yor), dispositive (-(A)r), prospective (-(y)AcAk), and perfective (-DI/-mIş) — and that "Turkish aspect markers have no temporal properties; tense is zero-marked in present." The temporal values associated with each aspect are pragmatic correlates, not semantic content. This aligns with the CG analysis, in which -DI's construal is boundary-profiling (viewing the event as a bounded whole), and its temporal default is past-time reference (because completed events are naturally past), but the boundary-profiling operation itself is temporal-reference-neutral and can apply to present or future events under appropriate epistemic conditions.

6.6 Extension Patterns

The extension profile of -DI contrasts sharply with those of -(I)yor and -(A)r. Where -(I)yor extends to futurate, habitual, historical present, exclamative, complaint, and near-miss functions (Chapter 3), and where -(A)r extends to habitual, gnomic, generic, dispositional, and modal functions (Chapter 4), -DI's extensions are limited and constrained. This restricted extension profile follows from the nature of -DI's construal operation: boundary-profiling produces bounded, completed, grounded events, and bounded events resist the kind of semantic abstraction and temporal displacement that enables broader functional extension.

Croft (2012) provides a useful framework for understanding why -DI's extensions are so constrained. In his usage-based model, predicates have "aspectual potential" — the range of aspectual construals available to them in different grammatical and discourse contexts. The aspectual potential of a predicate depends on the construal operations that can be applied to it: selection/metonymy (profiling a different phase of the aspectual contour), structural schematization (reconceptualizing discrete events as continuous processes via Gestalt good continuation), and scalar adjustment (changing the granularity of the t and q dimensions). Each of these operations produces a different aspectual type — a different construal of the same experiential content. The question for -DI is: which of these construal operations does its boundary-profiling semantics permit?

-DI does not grammaticalize habitual meaning. A sentence like Ali her gün koştu is interpreted as a series of specific past running events — 'Ali ran every day (in that period)' — not as a characterization of Ali as a habitual runner. Croft (2012, p. 101) analyzes habitual construal as the product of coarse-grained scalar adjustment plus good continuation: "If a person regularly and repeatedly performs an action or enters into a state, then a coarse-grained, low-magnification construal will reduce the individual actions/states to points on both *q* and *t* and also change the granularity of *t*. Again, if the points are repeated regularly over the person's lifetime...then via good continuation the string of points will be reconceptualized as an extended line, that is, an inherent state." This reconceptualization requires the conceptualizer to zoom out from individual event tokens to a pattern of repetition — precisely the kind of temporal abstraction that -DI's boundary-profiling blocks. -DI anchors each event to a specific token occurrence, and

its boundary-profiling operation profiles the boundaries of that individual token. The coarse-grained scalar adjustment that habituality requires is incompatible with the fine-grained, token-level boundary tracking that -DI imposes. The habitual reading is instead the domain of -(A)r's summary scanning (Chapter 4) and, in some contexts, -(I)yor's low-focal imperfective extension. Bagcevan (2023) confirms this quantitatively: -DI shows imperfective (including habitual) readings in only 6.8% of his corpus instances.

While -DI can appear in near-future contexts (as in the geldim example in §6.5), this use depends on the speaker's presentation of a future event as already accomplished — a marked rhetorical strategy, not a grammaticalized futurate function. -DI cannot serve as a neutral future marker in the way that -(I)yor does (Yarın gidiyoruz 'We're going tomorrow'). The boundary-profiling operation requires the event to be construable as bounded and complete, which conflicts with the inherent openness of future events that have not yet occurred.

Unlike English have V-ed, which can express experiential meaning ('I have visited Paris'), Turkish -DI does not grammaticalize an experiential function. Arslan-Kechriotis (2006) notes that Turkish conveys the experiential perfect primarily through -DI in combination with adverbials such as hiç 'ever,' but emphasizes that this reading is compositionally derived from the interaction of -DI with the adverbial, not from -DI's inherent semantics. The experiential reading requires presenting an event as relevant to the present — as bearing on the speaker's current state — which exceeds the boundary-profiling operation's scope. -DI profiles the event itself as a bounded past entity; it does not profile the resulting state or the event's continuing relevance.

Comrie (1976, p. 56) distinguishes four subtypes of perfect meaning — perfect of result, experiential perfect, perfect of persistent situation, and perfect of recent past — and insists that "the perfect is rather different from these aspects, since it tells us nothing directly about the situation in itself, but rather relates some state to a preceding situation." This relational character is precisely what -DI lacks: -DI tells us about the situation itself (as a bounded whole) but does not establish a relation between the event and the speaker's current state. The experiential, resultative, and persistent-situation readings all require such a relation, which in Turkish is the domain of -mIş (Chapter 7).

The contrast between -DI and -mIş in this regard is not merely distributional but construal-theoretic: -DI's construal operation profiles the event within its temporal boundaries, while -mIş's construal operation profiles the post-terminal state — the state that obtains after the event has been completed. Croft (2012, p. 142) documents the well-known grammaticalization path "resultative > perfect of result > experiential perfect > perfect of recent past > perfective," in which markers move from profiling the resultant state (perfect) to profiling the event as a whole (perfective). Turkish -DI and -mIş are positioned at opposite ends of this path: -DI as a boundary-profiling marker (perfective end) and -mIş as a resultative-evidential marker (perfect end), with no productive extensions bridging between them.

As documented by Meriçli (2016), -DI systematically coerces stative predicates into inchoative readings. This coercion is not an extension of -DI's meaning but a consequence of its boundary-profiling operation encountering predicates that lack the required internal heterogeneity. This coercion is revealing precisely because it is obligatory: *bil-di* can only mean 'came to know,' not *'knew';* ol-du* can only mean 'became,' not 'was.' The systematic obligatory nature of the coercion confirms that boundary-profiling is an inviolable component of -DI's construal — one that cannot be suspended or overridden even when the lexical semantics of the predicate would make a stative reading more natural.

Croft (2012) provides a useful framework for understanding this constraint. He distinguishes between q-boundedness (telicity: the presence of a natural endpoint on the qualitative-state dimension) and t-boundedness (temporal completion: the event occupying a bounded interval on the time dimension). -DI imposes t-boundedness: the event must occupy a bounded temporal interval with distinct start and end points. States, which extend indefinitely on the time dimension without change on the qualitative-state dimension, resist t-boundedness — they have no natural temporal boundaries for -DI to profile. The coercion into inchoative readings introduces a change on the qualitative-state dimension (from not-being-in-the-state to being-in-the-state), which provides the temporal boundary (the moment of entry into the state) that -DI requires.

Demirok and Sağ (2023) add a further nuance to the extension profile by arguing that -DI is not merely limited in its extensions but may be genuinely devoid of aspectual content. Under their analysis, -DI contributes

only tense (PAST), and the perfective-like interpretation is a structural default rather than a positive semantic specification. This analysis, if correct, would mean that -DI's restricted extension profile is not a constraint imposed by boundary-profiling semantics but a consequence of the marker's semantic emptiness, leaving it with no aspectual content to extend. The CG analysis developed here can accommodate either position, since the "default boundary-profiling" construal and the "structural absence of aspect" analysis both predict the same empirical patterns: bounded, completed interpretations with no productive extensions beyond the core past-time function.

What the two analyses share — and what matters for the source-domain retention argument — is that -DI does not project a cognitive schema from a content-domain source in the way that -(I)yor projects trajectory-based scanning from the 'walk' source or -mAktA projects locative containment from the infinitive + locative construction. -DI's construal is a formal-grammatical operation (boundary-profiling / default boundedness) rather than a conceptual-metaphorical one (trajectory / containment). This makes -DI the aspectual marker in Turkish whose synchronic profile is least transparently shaped by a recognizable source domain, and it provides the necessary contrast against which the source-domain retention of -(I)yor, -mAktA, and -mIş can be most clearly evaluated. The argument for source-domain retention is strongest when it can show that markers with content-domain sources (-(I)yor, -mAktA) exhibit source-domain-shaped constraints on their extension profiles, while markers without such sources (-DI) show only the constraints predicted by their formal-grammatical properties.

6.7 Summary: -DI as the Boundary Marker

This chapter has argued that -DI's functional profile — its construal of events as bounded wholes, its evidential association with direct witness, its narrative-advancing function, its default past-time reference, its stative coercion, and its restricted extension patterns — follows from a boundary-profiling operation that positions the conceptualizer outside the event's temporal extension. Unlike -(I)yor's sequential scanning (which tracks the event from inside) or -mAktA's locative containment (which positions the subject within the event), -DI presents the event as a completed gestalt viewed from an external vantage point. This external vantage point enables the speaker to assert the event with the epistemic certainty that comes from having witnessed its full temporal extent — from beginning through middle to end.

-DI occupies a unique position within the book's source-domain retention framework. Its source domain is not a lexical concept (motion, location) but a grammatical function (definite past) that has been deeply entrenched in Turkic since at least Old Turkic. Because it lacks a content-domain source, -DI does not exhibit the source-domain-shaped extension constraints that characterize -(I)yor and -mAktA. Its restricted extension profile — no habitual, no futurate, no experiential extensions — is a consequence of its boundary-profiling construal rather than of a persistent source-domain schema, as the analysis of Croft's construal operations (scalar adjustment, good continuation) in §6.6 demonstrated. This contrast is itself theoretically informative: it reveals that source-domain retention is a property of markers with identifiable content-domain sources, not a universal property of all grammaticalized markers. The functional asymmetries between -(I)yor (trajectory-based, broadly extending), -mAktA (containment-based, narrowly restricted), and -DI (boundary-based, extension-resistant) are precisely the asymmetries predicted by the source-domain retention hypothesis, in that content-domain sources shape extension profiles while formal-grammatical sources do not.

The formal-semantic analyses of Meriçli (2016) and Demirok and Sağ (2023) add an important dimension to this characterization. Whether -DI is analyzed as "perfective by default" (Meriçli) or as "genuinely aspectless" (Demirok and Sağ), the result converges with the CG account in treating -DI's construal as the absence of a positive aspectual specification — the default viewing arrangement that obtains when no explicit construal operation (sequential scanning, locative containment, summary scanning) is imposed on the event. The boundary-profiling interpretation arises not from a positive semantic feature but from the cognitive default: an event apprehended without explicit aspectual instruction is naturally viewed as a bounded whole from outside. The copula provides the structural locus for overriding this default with an imperfective construal, creating the elegant architectural opposition between unmarked PERF and marked IMPF that structures the -DI domain of Turkish tense-aspect morphology.

The perfective construal encoded by -DI also provides the necessary conceptual foil for the imperfective markers. Without the boundary-profiling operation that -DI makes available, the Turkish aspectual system would lack the means to present events as completed wholes — and without completed wholes, the contrast between "inside the event" (-(I)yor) and "at the event" (-

mAktA) would lose its defining boundary. -DI, in other words, provides the outer frame within which the imperfective markers define their interior perspectives. The boundary is the constant, while the imperfective markers specify different ways of being inside it.

Chapter 7. -mIş: Evidentiality and the Subjective Axis

7.1 The Source and Diachrony

The fifth and final marker examined in this book, -mIş, occupies a unique position in the Turkish aspectual-evidential system. The other four markers derive from source domains that are purely aspectual: -(I)yor from a motion verb (producing a progressive trajectory construal), -(A)r from an opaque source (producing summary scanning), -mAktA from a locative construction (producing containment-based imperfective meaning), and -DI from an equally opaque source (producing default boundary-profiling). By contrast, -mIş traces to a source domain that straddles the boundary between aspect and epistemology: the resultative perfect.

Its grammaticalization pathway — from resultative to evidential — represents not a movement from one content domain to another (as with -(I)yor's motion-to-time mapping), but rather a movement from event structure to speaker stance: from profiling the result state of a completed event to profiling the speaker's epistemic relationship to that event. This pathway is a form of subjectification, but one that moves in a fundamentally different direction from -(I)yor's. Where -(I)yor subjectifies toward experiential engagement (the speaker immerses themselves in the unfolding event), -mIş subjectifies toward epistemic distancing (the speaker encounters the event indirectly, through its traces, results, or reports).

Aksu-Koç (1988, p. 21) identifies the core meaning at the base of -mIş's semantic network as "end state resultant from a process or event," expressed most transparently by the past participle: *ölmüş adam* 'dead man' (lit. 'died-mIş man'), where -mIş presents the event in terms of the state achieved by the participant. She adopts the term resultative perfect on the grounds that the enduring resultant state, rather than the antecedent process, constitutes the marker's fundamental semantic contribution, and its primary function is to indicate stativity (Aksu-Koç, 1988). The temporal specification of -mIş — its past-time reference — arises naturally from this aspectual meaning: because an event must be located at a prior point on the time line for it to have produced a resultant state, -mIş acquires its past-tense reading by default, as a consequence of its aspectual semantics rather than as an independently coded feature (Aksu-Koç, 1988). The past tense reading is not a coded feature of -

mIş but a pragmatic consequence of the resultative perfect semantics, since results exist now because events occurred then.

Johanson (2000a) places this resultative meaning within his broader framework of viewpoint operators, classifying the Turkic MIs marker as a postterminal — a form that presents events in relation to their completed boundaries, foregrounding the relevance of a past event at the present vantage point. The development from postterminal to indirective (evidential) is, in Johanson's analysis, a natural semantic extension via conventionalized implicature: postterminals with high focal prominence tend to develop indirective readings because, even when the event itself falls outside the speaker's perceptual range, traces, results, or other forms of present knowledge may be available at the aspectual vantage point, and these secondary pragmatic effects can function as evidential strategies (Johanson, 2000a). The pathway is transparent because a form that profiles the result state of a completed event naturally invites the inference that the speaker was not present for the event itself but encountered only its aftermath. When this inference is conventionalized — when the hearer expects the speaker to use -mIş whenever they are reporting on the basis of results, traces, or reports rather than direct witnessing — the marker acquires a stable evidential function.

This grammaticalization pathway — perfect > evidential — is widely documented crosslinguistically. Aksu-Koç (1988) observes that the inferential function is a natural development for a perfect-aspect marker, since the existence of a resultant state, while it necessarily implies that some antecedent process took place, carries no implication that the speaker witnessed that process. Comrie (1976, p. 52) provides the typological frame: "The perfect is rather different from these aspects, since it tells us nothing directly about the situation in itself, but rather relates some state to a preceding situation." This relational character — connecting a present state to an antecedent event — is what enables the shift from aspectual to evidential meaning. The present state serves as evidence for the antecedent event; the speaker who profiles the present state rather than the antecedent event is, by construal, positioning themselves as someone who encountered the result rather than the process. Croft (2012, p. 142) documents the broader grammaticalization path: "resultative > perfect of result > experiential perfect > perfect of recent past > perfective," in which markers move from profiling the resultant state (resultative) to profiling the event as a whole (perfective). Turkish -mIş has traveled a different branch of this path: from resultative through perfect to

evidential, bypassing the perfective endpoint entirely. This divergent trajectory is precisely what makes -mIş theoretically interesting from the source-domain retention perspective: the resultative source shapes the marker's evidential function in ways that a perfective source would not.

The path from perfect to evidential has been documented formally in Bulgarian, Georgian, Estonian, Lhasa Tibetan, and Chinese Pidgin Russian, and is among the most robust grammaticalization pathways in the literature. In each case, the mechanism is the same, as a form that profiles a result state naturally invites the implicature that the speaker has access to the result but not to the process — and when this implicature is conventionalized, the form acquires stable evidential meaning.

The quotative (hearsay) function of -mIş extends the grammaticalization one step further. Aksu-Koç (1988, p. 196) characterizes this extension as purely modal, noting that when -mIş functions as a mood marker it is freed from the temporal and aspectual constraints that govern its other uses — it is no longer restricted to past time or to stative, completive, or continuous aspect. In inferential uses, assertions are limited to accomplished events (necessarily perfect in aspect and past in tense); in quotative uses, any kind of event regardless of temporal or aspectual characteristics can be reported. This asymmetry reveals that the hearsay function has become fully detached from the original resultative semantics — it retains only the epistemic component (indirect access) without the aspectual component (result state). The semantic thread that connects all uses of -mIş is what Slobin and Aksu (1982, p. 195) characterize as "situations for which the speaker is not somehow prepared — situations on the fringe of consciousness, learned of indirectly or not immediately assimilable to mental sets of the moment."

The connection between the perfect and the inferential reading is cognitively motivated. When a speaker encounters a wet floor and utters the following:

Yağmur yağ-mış.

rain fall-EVID

'It has (evidently) rained.'

they are performing two simultaneous cognitive operations: (a) profiling the resultant state (the wet floor, the completed rain event) and (b) positioning themselves as someone who infers the event from its traces rather

than witnessing it directly. The CG analysis captures this as a construal in which the speaker's vantage point is located at the result state, looking backward toward the event — the inverse of the progressive construal, where the speaker's vantage point is located within the event, looking forward through its unfolding. The resultative-evidential link is, in other words, a vantage-point operation: -mIş places the conceptualizer after the event, at the point where only its traces are available; -(I)yor places the conceptualizer during the event, at the point where its process is perceptually accessible.

7.2 The Construal Profile of -mIş

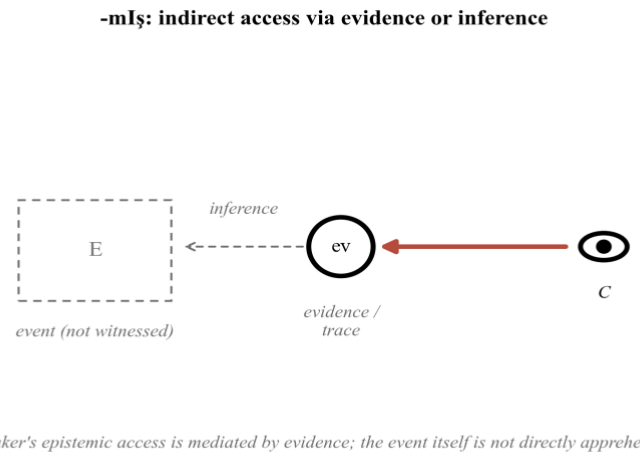


Figure 7.1. -mIş: indirect access via evidence or inference. Access to the event is mediated by evidence or inference: the solid link runs from C to the evidence; the dashed link runs from the evidence to the event, which is not directly apprehended. This is the cognitive signature shared by the evidential and perfect-of-result uses of -mIş.

7.2.1 Indirect Evidence: The Conceptualizer Encounters the Result

As established in Section 7.1, -mIş grammaticalized from a resultative perfect into an indirect evidential through the conventionalization of a natural implicature: encountering a result state implies non-witnessing of the event that produced it. The two-layered structure that Johanson (2000a) identifies is critical to understanding how this evidential function is realized in practice, since -mIş does not merely assert that an event occurred but asserts that the

speaker has received information about the event, whether through inference, through the senses, or through report. The reception itself is part of the assertion.

Corçu Gül (2008, Section 2) provides a more fine-grained taxonomy using Plungian's (2001) typological classification of evidential values. Under this framework, -mIş's indirect evidence divides into two major types, reflected and mediated.

Reflected (or personal) evidence obtains when the speaker has direct perceptual access to the evidence, whether traces, signs, or logical premises, but not to the event itself. Corçu Gül identifies three subtypes within this category. *Retrospective evidence involves events that occurred before the utterance time and left observable traces, from which the speaker infers the event, as in Ali gelmiş 'Ali has (evidently) come,' uttered upon seeing Ali's coat on the hook without having witnessed his arrival.* Corçu Gül emphasizes that the speaker perceives the evidence (the coat) directly; what is indirect is the event (Ali's coming). *Synchronous* evidence makes the evidence and the evident situation both available at the utterance time; the speaker observes a state directly but has not witnessed its coming-about, as in:

Ne kadar büyü-müş-sün!

what amount grow-EVID-2SG

'How much you've grown!'

uttered upon encountering a child after a long absence — the speaker sees the current state (tallness) and infers the change (growing) without having tracked it. *Reasoning, finally, involves neither perceptual access to the event nor perceptual access to its traces, but inference from background knowledge and logical deduction, as in Ali evde olmalı; arabası dışarıda, o zaman gelmiş 'Ali must be at home; his car is outside, so he has (evidently) come.'*

Mediated (or impersonal) evidence interposes a "barrier" of another conscious mind between the speaker and the event. The speaker has received the information through report, hearsay, or tradition, as in *Ali gelmiş* (reportedly) 'Ali has come (I was told).' Corçu Gül argues that this impersonal status explains the "psychological distance" often associated with -mIş, since the speaker does not merely lack direct evidence but is separated from the event by another consciousness, which blocks personal commitment.

The reflected/mediated distinction maps onto a commitment gradient. With reflected evidence, the speaker is personally anchored to the evidence, having seen the traces or observed the state, whereas with mediated evidence, the speaker is epistemically detached, having received a report from someone else. Corçu Gül proposes the güya ('supposedly') diagnostic, noting that the adverb güya, which implies speaker denial of the proposition's truth, is compatible only with mediated (quotative) readings of -mIş, not with reflected (inferential) readings. If güya is felicitous, the reading is mediated, whereas if it forces an unnatural interpretation, the reading is reflected. This diagnostic provides a morphosyntactic probe for distinguishing the two major evidence types.

Critically, Corçu Gül argues that the perfectivity sometimes attributed to -mIş, that is, the sense that the event is completed, is a "side-meaning" that arises pragmatically from the resultative perfect source, not a core semantic feature. The inferential reading requires that the event be completed (one infers from results that something happened), but the completedness is a precondition for the inference, not a semantic primitive of the marker itself. This analysis aligns with Aksu-Koç's (1988) observation that -mIş acquires its temporal specification as a by-product of its aspectual meaning, since both the past-time reference and the completive aspect are inherited from the resultative source rather than independently encoded. When -mIş extends to quotative uses, the completive aspect is shed entirely — one can report ongoing or future events with quotative -mIş — confirming that perfectivity is not part of -mIş's core semantic structure. The CG analysis captures this by treating the resultative perfect as the prototype of the -mIş network, with the retrospective reading, where perfectivity is strongest, sitting closest to the prototype, the synchronous and reasoning readings occupying intermediate positions, and the quotative reading, where perfectivity is absent, occupying the periphery of the network. The network is held together not by perfectivity but by the construal of indirect epistemic access.

The synchronous evidence type deserves special attention because it bridges the evidential and mirative functions. When a speaker utters *Ne kadar büyümüşsün!* ('How much you've grown!'), they have direct perceptual access to the child's current state but not to the process of growing. The evidence is synchronous — the evident situation (the child's height) is present at the utterance time — but the event that produced it (the gradual growth) was not witnessed. This configuration places the speaker in a paradoxical

epistemic position, being simultaneously a direct perceiver (of the state) and an indirect knower (of the process). The mirative quality — the element of surprise — arises naturally from this paradox, as the speaker expected one state (the child's former height) and encountered another (the child's current height), and the discrepancy between expectation and perception registers as new, unassimilated information. Synchronous evidence thus provides the cognitive bridge between the evidential core of -mIş and its mirative extensions, as both involve a mismatch between the speaker's prior epistemic model and their current perceptual input.

7.2.2 Two -mIş Forms or One?

Şener (2011) pushes the semantic analysis further by arguing that the single surface morpheme -mIş actually corresponds to two semantically distinct forms, namely [-mIş$_1$] (inferential + present perfect) and [-mIş$_2$] (reportative + past/anterior). The evidence comes from temporal adverb compatibility: a sentence modified by a specific past-denoting adverb such as *dün* ('yesterday') cannot receive an inferential reading, which indicates that the marker is sensitive to the temporal value of the adverbs it co-occurs with (Şener, 2011, p. 21). Inferential -mIş$_1$ carries a present-perfect meaning and is incompatible with specific past-time adverbs (paralleling the English Present Perfect Puzzle), while reportative -mIş$_2$ carries an anterior/past meaning and freely combines with past-time adverbs. The decomposition yields two distinct feature bundles, with [-mIş$_1$] encoding inferential evidence and present perfect, and [-mIş$_2$] encoding reportative evidence and anteriority.

Şener further argues that Turkish evidentials are presuppositional operators rather than epistemic modals, treating them as triggers of presuppositions rather than carriers of modal force in the assertion (Şener, 2011). Under this analysis, the indirect evidence requirement of -mIş survives under negation and in embedded clauses — it is a truth-conditional presupposition, not a pragmatic implication. The presuppositional analysis predicts that denying the truth of a -mIş statement does not cancel the evidential component: saying "That's not true" challenges the proposition but not the speaker's claim to have received indirect evidence.

The assertability properties of -mIş further illuminate its epistemic profile. Şener demonstrates that the inferential and reportative readings differ in speaker commitment: asserting a proposition with inferential -mIş and then denying it produces a contradiction, which indicates that the inferential

reading entails speaker commitment to the truth of the proposition (Şener, 2011). In contrast, the reportative -mIş permits the assertion of p-Rep + not-p without contradiction — the speaker can report something they don't believe. This generates a pragmatic hierarchy of commitment, ranked direct evidential (-DI) > inferential (-mIş$_1$) > reportative (-mIş$_2$), where the inferential retains speaker commitment, since the speaker's own inference is at stake, while the reportative does not, since the speaker merely relays another's assertion.

Corçu Gül's single-morpheme analysis and Şener's two-morpheme analysis are not necessarily incompatible within the CG framework developed in this book. The CG approach treats them as two poles of a polysemy network in which the retrospective and synchronous readings (Corçu Gül's "reflected" evidence) correspond to Şener's [-mIş$_1$] (inferential-present perfect), while the quotative reading (Corçu Gül's "mediated" evidence) corresponds to Şener's [-mIş$_2$] (reportative-past). The question of whether these are two discrete morphemes or one morpheme with a radial polysemy structure is, in CG terms, a question about the degree of entrenchment and schematization: if speakers extract a highly abstract schema that subsumes both readings (something like "evidence-based assertion"), the single-morpheme analysis is warranted; if the two readings have become sufficiently entrenched as separate units with their own distributional patterns, the two-morpheme analysis is warranted. Both analyses share the critical insight that -mIş's evidential function is inseparable from its aspectual-temporal properties.

7.3 -mIş on the Subjective Axis

The subjectification of -mIş follows a different trajectory from that of -(I)yor, and the contrast between the two trajectories illuminates the full range of subjectification as a cognitive-linguistic process. In Langacker's framework, subjectification is the realignment of a relationship from the objective axis (where both relata are in the scope of predication, onstage) to the subjective axis (where one relatum — typically the conceptualizer — is offstage, implicit, functioning as the subject of conception rather than an object of conception). Both -(I)yor and -mIş undergo subjectification, but they move in opposite directions along the subjective axis.

-(I)yor subjectifies toward experiential engagement. Its source domain, the motion verb yörü- 'walk', originally profiled an objective spatial trajectory in which one entity moved along a path. As -(I)yor grammaticalized into a

progressive marker, the objective trajectory was reanalyzed as a subjective temporal trajectory in which the conceptualizer's vantage point, rather than an entity's physical position, moved sequentially through the event's temporal structure. The result is what De Wit and Brisard (2014, 2020) characterize as "immediacy of experience," in which the speaker is cognitively inside the event, tracking its unfolding in real time. The subjectification goes from objective motion to subjective temporal immersion, moving from being on a physical path to being in a temporal process.

-mIş subjectifies in the opposite direction, toward epistemic distancing. Its source domain, the resultative perfect, originally profiled an objective result state in which a change has occurred and the resulting state obtains. As -mIş grammaticalized into an evidential marker, the objective result state was reanalyzed as an epistemic trace whereby the conceptualizer encounters not the event but its aftermath, and the aftermath serves as evidence for an inference about what occurred. The subjectification goes from objective result to subjective epistemic stance, moving from profiling a state in the world to profiling the speaker's relationship to information about the world.

Aksu-Koç (2016, Section 2) captures this epistemic dimension with precision: "Turkish evidentials mark the speaker's perspective with respect to the assertion (speaker stance) rather than evaluating its reliability." The distinction is crucial because -mIş does not encode the speaker's degree of certainty about the proposition (that would be epistemic modality, the domain of -DIr). It encodes the speaker's mode of access to the information, whether they encountered the event directly, in which case -DI is appropriate, or indirectly, through traces, inference, or report, in which case -mIş is appropriate. The evidential meaning is stance-oriented, not truth-oriented, in that it positions the speaker relative to the information rather than evaluating the information's reliability.

This stance-orientation is precisely what distinguishes -mIş from epistemic modals. Aksu-Koç (2016) demonstrates this empirically through acquisition data: when -mIş is compounded with -DIr to yield -mIşDIr, the evidential meaning of -mIş is overridden and the statement receives an epistemic-modal interpretation instead. The compound -mIşDIr reveals that the two categories can be independently manipulated, since -DIr's epistemic scope overrides -mIş's evidential function, producing a speculative reading such as 'It must have been the case that…' rather than an evidential one such

as ‘It appears that…’. The morphosyntactic separability confirms that evidentiality and epistemic modality are distinct functional domains in Turkish, even though both involve the speaker’s relationship to information.

The contrast between -(I)yor’s and -mIş’s subjectification trajectories has a structural parallel in the aspectual system. -(I)yor, in subjectifying toward experiential engagement, moves the conceptualizer closer to the event — from observing motion objectively to tracking temporal unfolding subjectively. -mIş, in subjectifying toward epistemic distancing, moves the conceptualizer further from the event — from profiling a result state objectively to encoding indirect evidence subjectively. The two markers thus define complementary poles of the subjective axis, with -(I)yor at the engaged/immersed pole and -mIş at the distanced/inferential pole. This polarity is a fundamental organizing principle of the Turkish aspectual-evidential system, and it follows from the source-domain retention hypothesis, since the motion source of -(I)yor produces engagement, placing the conceptualizer on the trajectory and inside the event, while the resultative source of -mIş produces distancing, placing the conceptualizer at the endpoint, outside the event, looking back at its traces.

De Haan (2012, p. 1038) provides the typological frame for understanding -mIş’s subjectification within a broader crosslinguistic pattern. He argues that evidentiality is a deictic category, a form of propositional deixis in which an evidential “grounds an action or event with respect to the speaker, just as a demonstrative grounds an object with respect to the speaker.” Under this analysis, -mIş is a deictic operator that points to the speaker’s evidence as indirect, anchoring the proposition’s epistemic status to the conceptualizer’s vantage point. The deictic analysis makes a strong prediction about grammaticalization, namely that “indirect evidentials are grammaticalized before direct evidentials” (De Haan, 2012, p. 1028), a prediction that Turkish confirms, since -mIş is the grammaticalized evidential while -DI is the unmarked default. The pattern is typologically robust. De Haan documents it across “the majority of the world’s evidential languages,” including Tibetan, Quechua, and the Caucasian languages.

De Haan further argues that the most common grammaticalization source for evidential markers crosslinguistically is the tense-aspect system, and that this developmental pathway — from tense-aspect forms to evidential markers — constitutes strong evidence for treating evidentiality as a deictic

category, since it is precisely deictic elements such as tense morphemes that serve as the input to evidential grammaticalization (De Haan, 2012). Turkish -mIş follows this pathway precisely: a perfect/resultative form develops into an indirect evidential. The crosslinguistic prevalence of this pathway supports the CG analysis, confirming that the cognitive operations that support aspectual construals (vantage-point placement relative to event structure) are the same operations that support evidential construals (vantage-point placement relative to information access). Subjectification from aspect to evidentiality is not a category leap but a construal-level shift within the same cognitive apparatus, namely the apparatus of vantage-point management that Langacker's baseline/elaboration model captures.

7.4 -mIş versus -DI: The Two Pasts

The relationship between -mIş and -DI is the defining opposition of the Turkish past-tense system. The contrast is visible in a minimal pair:

(a) Ali gel-di.

Ali come-PST

'Ali came.' (I witnessed this / I claim authority over this information.)

(b) Ali gel-miş.

Ali come-EVID

'Ali came, [apparently / I'm told / I gather].' (I did not witness this / I do not claim authority.)

Traditional descriptions cast this as an evidential contrast, with -DI marking "direct experience" or "witnessed events," while -mIş marks "indirect experience" or "unwitnessed events." This characterization, while descriptively useful, is misleading in several ways that the CG analysis corrects.

First, Johanson (2000a) argues that -DI does not positively encode "direct experience": "The widespread claim that unmarked items such as Gel-di consistently signal 'direct experience' or 'visual evidence' is clearly fallacious. Clauses unmarked for evidentiality do not necessarily denote situations that are personally known to the addresser" (Section 3.2). The opposition is between marked indirectivity (-mIş) and unmarked neutrality (-DI), not between two positive evidential values. -DI is the default past marker

that carries no evidential specification; -mIş is the marked member that positively encodes indirect evidence. This asymmetry follows the near-universal pattern documented by De Haan (2012, p. 1028), under which "indirect evidentials are grammaticalized before direct evidentials," so that the marked member (indirect) is grammaticalized while the unmarked member (direct/neutral) remains the elsewhere case.

Second, Kuram (2023) — in what is, to date, the only study to reframe the Turkish evidential contrast in explicitly intersubjective terms — reanalyzes the -DI / -mIş contrast as governed not by information source but by epistemic primacy — the speaker's evaluation of their own epistemic position relative to the addressee's. Under this analysis, -DI marks the speaker's claim to epistemic primacy (the speaker presents themselves as the more knowledgeable interlocutor), while -mIş marks the speaker's abstention from such a claim. Kuram provides conversational evidence showing that speakers freely use -DI for events they did not witness when they judge themselves to be in an asymmetric epistemic position relative to the addressee. Conversely, a speaker can use -mIş even for directly witnessed events when they wish to cede epistemic primacy to a more knowledgeable addressee. The same proposition can be marked with -DI or -mIş depending on who the addressee is: a speaker reporting a historical event to a younger interlocutor would naturally use -DI to claim epistemic primacy, but when addressing someone who lived through the event — and who therefore holds epistemic authority — the speaker would shift to -mIş to signal deference to the addressee's superior knowledge (Kuram, 2023).

This intersubjective dimension, that is, the addressee's epistemic state as a factor in marker choice, is invisible to both the traditional evidential account and the mirative account. Both treat -mIş as encoding a single-perspectival relationship between the speaker and the event (information source or novelty). Kuram's analysis adds a second perspective, namely the addressee's, and demonstrates that the choice between -DI and -mIş is partly a Common Ground management strategy in which speakers use the markers to position themselves and their addressees relative to the shared epistemic landscape. The contrast between -DI and -mIş is not merely about what the speaker knows but about how the speaker wishes to present their knowing relative to the addressee.

The construal-theoretic characterization that integrates these perspectives is as follows. -DI construes the speaker as epistemically authoritative over the reported event, either because they witnessed it, because they have assimilated the information fully, or because they wish to claim primacy. -mIş construes the speaker as epistemically non-authoritative, either because they encountered only the event's traces (inferential), because they received the information from another source (reportative), because the information has not yet been assimilated (mirative), or because they wish to cede primacy to the addressee (intersubjective). The opposition is, at its deepest level, a construal of the speaker's epistemic posture rather than of the event's temporal or aspectual properties.

Kuram's analysis adds a third term to the system, -mIştI, which marks shared information, that is, propositions jointly experienced or mutually recognized by both speaker and addressee. While -DI marks the speaker's epistemic primacy and -mIş marks the speaker's abstention from primacy, -mIştI marks epistemic symmetry, signaling that the reported information is shared between speaker and addressee, and it is felicitous specifically when referring to a past event that both interlocutors jointly experienced, distinguishing it from the primacy-based contrast encoded by -DI and -mIş (Kuram, 2023). The three markers thus compose a pragmatic triad of primacy (-DI), non-primacy (-mIş), and shared ground (-mIştI). This triad is a Common Ground management system in which the speaker uses the markers not merely to report events but to position the reported events relative to the interlocutors' shared epistemic landscape.

Kuram also notes that speakers can strategically manipulate the markers to control how a situation is presented. In the "coat scenario," a speaker who sees indirect evidence of an event (a coat on the hook) can choose -DI instead of the expected -mIş when calling a worried mother, projecting an impression of full epistemic control over the situation (Kuram, 2023). The choice of marker reflects not the source of information but how the speaker wishes to present their epistemic relation, with -DI imposing authority while -mIş relinquishes it. This strategic manipulation confirms that the markers are construal devices, not information-source reports: the speaker selects the epistemic posture they wish to project, and the marker encodes that posture. Kuram's account captures the intersubjective dimension of marker selection but does not replace the information-source analysis for contexts without an addressee, such as fairy-tale narration or soliloquy.

Johanson and Csató (2021) add a further dimension with the mnemonic past {-DI-ydI}, which marks "memory-based" evidence — a distinct epistemic stance in which the speaker asserts a past event on the basis of personal memory. This mnemonic past, realized as -DIydI, is distinct from both the postterminal {-mIş-tI} and the standard pluperfect, introducing a fine-grained epistemic distinction in which the speaker was there, remembers the event, and presents it from their memory store. The mnemonic past is typologically rare and adds yet another strand to the already complex web of epistemic distinctions that Turkish encodes within its past-tense morphology.

Aksu-Koç (1988) captures this dynamic quality, observing that the point at which a speaker transitions from -mIş to -DI is governed by subjective factors — specifically, how quickly and easily the speaker assimilates indirectly acquired information as their own, which in turn reflects their psychological distance to the event. The shift from -mIş to -DI reflects not a change in information source (the source remains the same) but a change in the speaker's epistemic relationship to the information, as what was once indirect and unassimilated becomes direct and owned. Consider the earthquake scenario: a speaker in Istanbul hears news of an earthquake in Van. Initially, the event is reported with -mIş (*deprem olmuş* 'an earthquake has occurred [reportedly]'). As the speaker reads reports, watches footage, and speaks with relatives in Van, the information gradually becomes assimilated, and the speaker shifts to -DI (*deprem oldu* 'an earthquake occurred'). At no point did the information source change — the speaker never directly experienced the earthquake — but the epistemic relationship changed from non-authority to authority as the information was integrated into the speaker's epistemic model. This assimilation dynamic reveals that the -DI/-mIş contrast is gradient and temporally sensitive: a single proposition can migrate from -mIş territory to -DI territory as the speaker's psychological relationship to the information changes.

The gradient character of the opposition also explains De Haan's (2012) observation that Turkish represents the "canonical past tense split," a typological pattern in which a formerly unified past tense splits into a direct and an indirect member, with the indirect member being the innovating form. In Turkish, the historical sequence was as follows: unmarked past (-DI) > innovation of a resultative-turned-evidential (-mIş) > reanalysis of -DI as the "direct" counterpart. The "direct experience" reading of -DI is not an inherent semantic feature but a Gricean implicature generated by opposition to -mIş,

whereby if the speaker chose not to use the indirect marker, the hearer infers that the evidence is direct. This implicature-based analysis, shared by Johanson and De Haan, is precisely what the CG construal framework predicts, since -DI does not encode a positive construal of its own (as argued in Chapter 6, its source domain is opaque and its construal is boundary-profiling by default) and acquires an apparent evidential value only by contrast with the marked -mIş. The evidential distinction is, in the end, a construal distinction, that is, a choice about how to position oneself epistemically rather than a report about how one acquired the information.

7.5 -mIş and the Experiential Domain

7.5.1 Mirativity: The "Unprepared Mind"

The most debated aspect of -mIş's functional profile is its mirative use — the expression of surprise, unexpected discovery, or information new to the speaker. DeLancey (1997, p. 33) defines mirativity as "the marking of sentences which report information which is new or surprising to the Speaker, regardless of whether the information source is first- or second-hand." The classic demonstration is the Ecevit/Nixon minimal pair, in which both events (the resignations of Turkish Prime Minister Ecevit and U.S. President Nixon) were learned through the same channel (radio), yet Ecevit's unexpected resignation is reported with -mIş and Nixon's widely anticipated resignation with -DI. Since the information source is identical, the marking difference can only be attributed to the novelty/expectedness of the information.

DeLancey treats the mirative as the Grundbedeutung (basic meaning) of -mIş, writing that "Slobin and Aksu's analysis is that they treat this last mirative use as a manifestation of the Grundbedeutung of the construction, rather than as a peculiar peripheral use of a fundamentally evidential category, and interpret the evidential-like behaviors of the construction as deriving from a basic mirative sense" (p. 37). Under this analysis, the evidential readings (inference, hearsay) are pragmatic specializations of a more general "new knowledge" meaning, not the other way around.

Johanson (2000a) explicitly rejects this priority ordering: "mirativity is not their central meaning from which the other uses may be derived. Surprise, novelty and contrariness to the speaker's expectation are not necessary elements of indirectivity" (Section 6). For Johanson, the mirative readings "naturally follow from the notion of indirectivity; what the recipient turns the

mind to may come as a surprise." The mirative interpretation is a contextual effect of indirectivity, not its semantic core. He further notes that "so-called 'hot news' is typically expressed by the direct preterite marker DI," pointing out that if mirativity were the core meaning of -mIş, one would expect it to be the preferred marker for genuinely surprising news, whereas in practice the surprise of breaking news is expressed with -DI, not -mIş.

De Haan (2012) offers a mismatch analysis that provides a mechanism for how the mirative reading arises: when an indirect evidential marker is used in a context where the speaker was clearly a direct witness, the resulting clash between the marker's indirect-evidence semantics and the speaker's obvious presence at the event forces a non-evidential, mirative interpretation (De Haan, 2012). Applied to Turkish, this means that when -mIş is used to describe events the speaker directly perceives, such as discovering that someone has grown or tasting unexpectedly delicious food, the evidential reading of indirect evidence is blocked by the context, since the speaker has direct perceptual access, and the mirative reading of surprise or new awareness emerges as the only coherent interpretation.

DeLancey supports the mirative analysis with crosslinguistic parallels. In Korean, the suffix -te- marks "direct evidence" and -ney marks "new information/surprise," a system structurally parallel to Turkish -DI/-mIş, in which the unmarked past encodes speaker authority and the marked form encodes information novelty. In Tibetan, a three-way evidential distinction separates direct perceptual evidence, inferential evidence, and new-information evidentials, with the new-information category functioning as a dedicated mirative marker. In Hare (Athabaskan), the optative mood has developed a mirative extension that marks surprise at events the speaker has directly witnessed, precisely paralleling -mIş's use in contexts of direct perception such as the compliment and the growth discovery. These crosslinguistic convergences suggest that the link between indirect evidence and new information is not a language-specific quirk of Turkish but a recurring cognitive-linguistic pattern, whereby forms that encode non-canonical information access (indirect, unexpected, unassimilated) tend to extend toward surprise and new-information functions because the cognitive operations involved, namely encountering information that does not fit the current epistemic model, are structurally isomorphic.

DeLancey, drawing on Ko (1989, as cited in DeLancey, 1997), further identifies a "time-lapse constraint" on mirative -mIş: the mirative reading requires a temporal gap between the event (or the state's onset) and the speaker's awareness of it. The surprise arises from the discrepancy between the speaker's outdated model and the current reality, and this discrepancy requires elapsed time. When the speaker has been continuously tracking a situation, no discrepancy can arise, and -mIş is infelicitous. This constraint is precisely what the CG analysis predicts: -mIş's resultative source places the conceptualizer at the result state, after the event; if the speaker has been present throughout the process, the resultative construal is blocked because the speaker was never at the post-event position — they were on the trajectory all along, which is -(I)yor's domain.

The CG framework can integrate these perspectives. The construal operation underlying -mIş is epistemic non-authority, whereby the speaker positions themselves as encountering information that has not been fully integrated into their epistemic model. In inferential contexts, this means the speaker encountered traces rather than the event. In reportative contexts, this means the speaker received information from another source. In mirative contexts, this means the speaker encountered a state of affairs that exceeded their expectations — information that, despite being directly perceived, has not yet been assimilated. The "unprepared mind" (Slobin & Aksu, 1982) is the psychological correlate of epistemic non-authority, since the speaker was not cognitively prepared for the information, so it registers as new, unintegrated, and in need of processing. All three readings, inferential, reportative, and mirative, share the construal of the speaker as epistemically displaced from the event's expected course.

7.5.2 Exclamative and Evaluative Uses

The mirative function extends to several pragmatically specialized uses that reveal -mIş's experiential profile.

Compliment. DeLancey (1997, p. 38) documents the use of -mIş in compliments, as in *Ne güzel çalmış!* ('How beautifully she played!'). The -mIş signals that the speaker's direct experience exceeded expectations, as in the gloss "No matter how high my expectations might have been, what I have just heard exceeded them." This cannot be derived from an inferential or hearsay reading, since the speaker was directly present for the performance.

Exclamative evaluation after the fact. Consider the contrast between Ne güzel konuşmuş! ('How beautifully [s/he] spoke!' with -mIş) and Ne güzel konuşuyor! ('How beautifully [s/he] is speaking!' with -(I)yor). Both express evaluative surprise, but they differ fundamentally in temporal perspective, with -mIş positioning the evaluation after the event as a retrospective assessment, while -(I)yor positions the evaluation during the event as a concurrent assessment. This temporal difference follows from the markers' respective source domains, since -mIş's resultative source places the conceptualizer at the result point, evaluating the completed event, while -(I)yor's trajectory source places the conceptualizer on the path, evaluating the ongoing event. The source domain determines the temporal relationship between event and evaluation.

Irony and scorn. Corçu Gül (2008) explains ironic -mIş as a pragmatic consequence of the mediated evidence value, arising when the speaker uses -mIş to signal that they are relaying another's claim while distancing themselves from it, where the denial of commitment can produce an ironic or scornful effect. The güya ('supposedly') diagnostic confirms this, since irony is restricted to mediated (quotative) contexts, where the speaker can deny the truth while attributing the claim to someone else.

Reduplicated -mIş-mIş. Şener (2011) identifies a morphologically distinct form, reduplicated -mIş-mIş, that introduces a REDUP morpheme encoding the speaker's active disbelief or distancing from the reported proposition. Unlike the simple quotative -mIş$_2$, which merely suspends speaker commitment (leaving open whether the speaker believes the report), the reduplicated -mIş-mIş positively signals that the speaker actively doubts or denies the truth of the reported content. This three-way commitment scale, ranging over inferential -mIş$_1$ (committed), quotative -mIş$_2$ (non-committed), and reduplicated -mIş-mIş (anti-committed), reveals the full pragmatic range of the -mIş network, moving from the speaker who infers and therefore believes, through the speaker who reports without commitment, to the speaker who reports and explicitly disbelieves.

Şener's analysis also introduces the concept of the evidential origo — the conceptual anchor point from which evidential evaluations are made, paralleling the spatial origo for deictic expressions. In simple assertions, the evidential origo is the speaker at the utterance time. In embedded clauses, the origo can shift to the attitude holder of the embedding predicate. This origo-

shifting property confirms that Turkish evidentials are not merely discourse-pragmatic devices but grammaticalized operators with systematic scope behavior, as -mIş can be interpreted relative to different epistemic anchors depending on the syntactic context, just as tense can be interpreted relative to different temporal anchors in sequence-of-tense constructions.

Narrative. Aksu-Koç (1988) identifies -mIş as the narrative frame for a distinctive class of non-actual events, including myths, folktales, fairy tales, jokes, and pure fantasy. Historical accounts and realistic fiction use -DI. The narrative -mIş signals the speaker's complete absence of commitment to the factual status of the narrated content, framing events as belonging to a world for which the speaker is "always in an unprepared state of mind." This narrative function extends the mediated evidence reading to its logical extreme, since the speaker not only lacks direct evidence but has no commitment to the event's reality. The fairy-tale formula *Bir varmış bir yokmuş* ('Once upon a time there was, there wasn't') uses -mIş precisely because the ontological status of the narrated world is maximally uncertain.

7.5.3 Acquisition Evidence

Aksu-Koç (2016) provides developmental evidence for the primacy of the mirative function. Longitudinal studies of Turkish children show that the mirative use of -mIş is the first to emerge, around age 2, in ostensive contexts where child and caregiver jointly attend to an object's state while in the presence of direct sensory evidence, treating what they observe as new information (Aksu-Koç, 2016). The inferential and reportative functions emerge later, suggesting that the cognitively most basic function of -mIş is not information-source marking but new-information marking. The developmental sequence, mirative > inferential > reportative > narrative, mirrors the cognitive complexity of the underlying construals, since direct perception of a new state (mirative) is simpler than reasoning from traces (inferential), which is simpler than processing another's report (reportative), which is simpler than constructing an entire fictional world (narrative). This developmental ordering — mirative before evidential — is consistent with DeLancey's priority claim and represents a challenge for analyses that treat evidentiality as primary and mirativity as derived. The CG integration proposed here accommodates both orderings by treating epistemic non-authority as a construal configuration that is developmentally accessible

through surprise reactions (mirative) before it is deployed for information-source management (evidential).

The developmental sequence is shaped by input. Aksu-Koç (1988) documents that Turkish adults characteristically use -mIş when speaking to infants and young children, commenting on existing states with the evidential form "seemingly violating their own rules" (p. 56). This baby-talk register provides children with disproportionate exposure to -mIş in stative contexts, explaining why the marker enters children's systems with a stativity function rather than a resultative-perfect function. The input-driven entry point, combined with the marker's subsequent functional differentiation through discourse interaction, produces the developmental sequence that parallels the diachronic trajectory, running stativity → new information → inferential → quotative (Aksu-Koç, 1988, p. 196).

The acquisition evidence also reveals a critical functional boundary. Aksu-Koç establishes that children's ability to use the reportative -mIş predicts their source memory — their ability to identify whether information was acquired through direct experience or linguistic report. She argues that evidential markers, by providing a linguistic format that encodes the mode of access to knowledge, are activated during the encoding process and help speakers maintain distinct representations for information acquired through different routes (Aksu-Koç, 2016). This means that -mIş is not merely a discourse device but plays a role in mental knowledge representation, linking linguistic form to episodic memory systems.

The developmental sequence — mirative > inferential > reportative > narrative — is particularly informative for the source-domain retention analysis. The earliest function to emerge, the mirative reading of direct perception of a new or unexpected state, is the one most closely tied to the resultative source, in that the child encounters a result state that does not match their expectations, and -mIş marks this discrepancy. The inferential function requires an additional cognitive step: the child must reason from perceived traces to an unperceived event, a capacity that develops later as causal reasoning matures. The reportative function requires still more: the child must represent another mind's epistemic state and recognize that information received through language differs epistemically from information acquired through perception — a capacity linked to theory of mind development, which is well-documented as emerging around age 3–4. The narrative function,

emerging last, requires the child to construct and sustain an entire fictional world under the scope of epistemic non-commitment. Each step in the developmental sequence adds a layer of cognitive complexity to the basic construal operation of epistemic non-authority that -mIş encodes.

Aksu-Koç (2016) further observes that the Turkish evidential system constitutes a "modalized evidential system" in which evidential and epistemic categories interact through morphological compounding. The existence of compound forms like -mIşDIr, combining evidential and epistemic values, and -mIştI, combining evidential and shared-ground values, demonstrates that -mIş participates in a productive combinatorial system in which the evidential base can be further specified by epistemic, temporal, and intersubjective operators. This compositionality argues against treating -mIş as a monolithic evidential marker and in favor of treating it as a construal operator, one that encodes a specific vantage-point configuration of post-event, indirect access and can be combined with other operators that further refine the speaker's epistemic posture.

7.6 Implications for L2 Transfer

The evidential dimension of -mIş creates a potential transfer domain for Turkish speakers acquiring languages without grammaticalized evidentiality. Because Turkish obligatorily partitions past-tense assertions along the -DI/-mIş axis, speakers whose L1 encodes the source and status of evidence may transfer these epistemic-marking habits to L2 English, producing patterns of hedging and epistemic qualification that reflect Turkish evidential categories rather than English pragmatic norms. The predictions generated by this structural asymmetry — and their connection to the source-domain retention framework — are developed in §11.5.3.

7.7 Summary: -mIş as the Evidential-Resultative Marker

This chapter has argued that -mIş's functional profile, including its encoding of indirect evidence, its mirative use for new or surprising information, its narrative use for non-factual worlds, and its epistemic-stance properties, follows from a subjectification pathway that moves from the resultative perfect, profiling the result state of a completed event, to the evidential, profiling the speaker's indirect epistemic access to an event. This pathway is a form of subjectification, a realignment along Langacker's

objective-subjective axis, but one that moves in the opposite direction from -(I)yor's subjectification. Where -(I)yor subjectifies toward experiential engagement, with the speaker entering the event and tracking its unfolding from inside, -mIş subjectifies toward epistemic distancing, with the speaker encountering the event's traces and inferring its occurrence from outside.

The construal operation encoded by -mIş is epistemic non-authority, whereby the speaker positions themselves as not having direct, unmediated access to the event. This construal subsumes the inferential reading (the speaker infers from traces), the reportative reading (the speaker relays another's report), the mirative reading (the speaker encounters an unexpected state), and the narrative reading (the speaker frames events as belonging to a non-actual world). The gradient from inferential to reportative tracks Corçu Gül's personal/impersonal distinction, with reflected evidence (personal, committed) at one end and mediated evidence (impersonal, non-committed) at the other.

-mIş's position within the source-domain retention framework is clear, since the resultative source domain, which profiles the result state of a completed event, shapes the marker's evidential function by determining the vantage point from which the conceptualizer encounters the event. The conceptualizer who is positioned at the result state, looking back at the event through its traces, is precisely the conceptualizer who has indirect rather than direct evidence. The evidential meaning is not an arbitrary extension of the perfect meaning but a construal consequence of the resultative source, since being at the result entails not having been at the process. The source-domain retention argument for -mIş is that this resultative vantage point persists in the marker's synchronic evidential function, constraining its distribution (it cannot mark events the speaker witnessed as they unfolded, unless a mirative mismatch obtains) and shaping its pragmatic effects (the non-authority stance follows from the post-event vantage point).

The five markers examined in this book, namely -(I)yor, -(A)r, -mAktA, -DI, and -mIş, thus define five distinct vantage points on the conceptualizer's relationship to events, as follows.

- **-(I)yor**: on the trajectory, inside the event, tracking its unfolding (source: motion)

- **-(A)r**: above the trajectory, outside the event, scanning it in summary (source: aorist/dispositional)

- **-mAktA**: at the event, contained within it, observing without tracking (source: locative)

- **-DI**: beyond the event, outside its boundaries, viewing it as a completed whole (source: boundary/default)

- **-mIş**: after the event, at its result point, encountering only its traces (source: resultative)

These five vantage points are not arbitrary, since they follow from the source domains of the markers, and their functional consequences, including the extension patterns, the discourse functions, and the epistemic implications, are predictable from the cognitive operations that each vantage point enables. The system of construals that these five markers compose, and the theoretical architecture required to model their interactions, overlaps, and oppositions, is the subject of Chapter 8.

Chapter 8. The Aspectual System as a System of Construals

8.1 Five Markers, Five Vantage Points

A Turkish speaker describing an event has five grammaticalized options, and each places the speaker in a different relationship to the situation described: on the trajectory of the event (-(I)yor), above it (-(A)r), at it (-mAktA), beyond its boundaries (-DI), or in its aftermath (-mIş). These are not stylistic alternatives. They are cognitive vantage points — grammaticalised positions from which speakers survey, track, inhabit, bound, or reconstruct the events they encode. The Turkish aspectual system is, at its core, a system of perspectives. As Verhagen (2007) argues, perspective lies at the heart of construal, constituting a defining property of its prototypical instances. If construal is fundamentally perspectival, then an aspectual system assembled from construal operations is fundamentally a system of perspectives, and each marker's functional consequences — its extension patterns, its discourse preferences, its interactions with situation types — follow from the vantage point its source domain establishes.

The five vantage points, as developed in Chapters 3–7, are:

-(I)yor: On the trajectory, inside the event. The motion-verb source (*yörü-* 'walk') places the conceptualizer on a path that traverses the event's temporal extension. The conceptualizer moves sequentially through the event, tracking its unfolding in processing time. This produces the progressive construal: the event is apprehended from within, its boundaries are out of view, and the conceptualizer is experientially engaged with the process. The subjectification trajectory moves toward immersion — what De Wit and Brisard (2014, 2020) characterize as the epistemic contingency that arises when an event is anchored to the speaker's here-and-now. Extensions to futurate, historical present, habitual, exclamative, complaint, and near-miss constructions all preserve the trajectory schema: the conceptualizer is on a path, and what lies ahead on that path (an imminent event, a vivid narrative moment, an emotional reaction) is construed as unfolding toward the speaker.

-(A)r: Above the trajectory, scanning in summary. The aorist/dispositional marker lacks a transparent content-domain source, but its construal profile is the functional inverse of -(I)yor's: where -(I)yor scans

sequentially through the event (tracking its temporal unfolding step by step), -(A)r scans the event in summary — apprehending the entire temporal profile as a single gestalt, without tracking its internal phases. The conceptualizer is positioned above or outside the event's temporal trajectory, surveying it as a whole, and this produces the dispositional/habitual reading in which the event is presented as a characteristic property of the subject, abstracted from any particular occasion. Extensions to gnomic, modal, and performative uses preserve the summary-scanning profile: the conceptualizer presents a generalized characterization rather than tracking a specific instance.

-mAktA: At the event, the subject contained within it. The locative source (mAk + locative -DA 'in the doing of') places the subject statically within the activity, while the conceptualizer occupies a fixed external vantage point from which this locative containment is observed (see §5.2.1). The containment schema produces an imperfective construal that differs from -(I)yor's progressive in a crucial way: -mAktA profiles the subject's location at the activity as a stable state of affairs, without tracking the event's sequential unfolding or implying a trajectory. The conceptualizer observes the subject-at-activity configuration from outside, describing rather than participating. Extensions to formal/written register, bureaucratic language, and durative contexts preserve the locative containment: the event is a container, and the subject is in it. The register restriction — -mAktA's confinement to formal Turkish — follows from the marker's lower frequency and higher formality associations, which prevent the defocalization that -(I)yor has undergone.

-DI: Beyond the event, outside its boundaries. As argued in Chapter 6, -DI's source domain is opaque — no transparent lexical etymology survives. Its construal profile is boundary-profiling: -DI presents the event as a bounded whole, viewed from an external vantage point that encompasses both the onset and the endpoint. The conceptualizer is positioned after the event's completion, looking at it as a closed unit. This produces the perfective/past construal, in which the event is presented as having occurred and concluded. Extensions to conditional, narrative-foregrounding, and experiential uses all preserve the bounded-whole profile. -DI represents the limiting case for the source-domain retention hypothesis: with no recoverable content-domain source, the marker's construal profile is determined by its structural position in the system (the unmarked, boundary-profiling default) rather than by etymological inheritance.

-mIş: After the event, at its result point. The resultative-perfect source places the conceptualizer at the aftermath of the event — at the point where only traces, results, or reports are available. The conceptualizer encounters the event indirectly, through its consequences rather than through the process itself. This produces the evidential construal, in which the speaker positions themselves as epistemically non-authoritative, having access to the event only through inference, report, or unexpected discovery. Extensions to mirative, narrative-fictional, and ironic uses preserve the post-event, indirect-access configuration. The subjectification trajectory moves toward epistemic distancing — the inverse of -(I)yor's movement toward experiential engagement.

8.2 The Construal Space

The five vantage points are not randomly distributed. They occupy positions in a structured construal space that can be characterized along two primary dimensions drawn from Langacker's Cognitive Grammar: (i) the scanning mode (sequential vs. summary) and (ii) the subjectivity axis (objective profiling vs. subjective stance).

8.2.1 Sequential versus Summary Scanning

Langacker (2008a, pp. 117–118) distinguishes two fundamental modes of temporal processing. In sequential scanning, the conceptualizer activates successive states of a conceived process one at a time, in sequence, so that each state replaces the previous one in the processing window — much as frames of a film replace one another to produce the experience of motion. In summary scanning, the conceptualizer activates all states simultaneously, building up a cumulative representation of the process's full temporal extent as a single, static configuration — much as a multiple-exposure photograph captures an entire trajectory in a single image.

The five Turkish markers distribute along this continuum in an order that, reading from sequential to summary, runs -(I)yor, -mAktA, -(A)r, -DI, -mIş. The progressive -(I)yor is the prototypical sequential scanner. Its motion-verb source supplies the cognitive template for sequential processing, since just as walking involves traversing a series of locations one by one, the -(I)yor construal involves tracking a series of temporal states one by one, and the progressive reading is sequential scanning applied to a bounded interval within the event.

The imperfective -mAktA occupies the next position rightward along the continuum, in what this book terms *observational scanning* — a characterization motivated by the Turkish data that expands Langacker's original framework. The locative containment schema does not inherently specify sequential or summary scanning but rather specifies location, and the conceptualizer occupies a fixed external vantage point from which the subject's location within the activity is observed, without sequential tracking of the event's temporal course. The resulting static-interior construal is neither fully sequential (it lacks step-by-step tracking) nor fully summary (it lacks a panoramic overview).

The aorist -(A)r is the prototypical summary scanner. Its dispositional or habitual reading is precisely what summary scanning produces, apprehending the event's full temporal profile as a single gestalt abstracted from sequential tracking. Where -(I)yor says "this is happening now, unfolding before you," -(A)r says "this is the kind of thing that happens, viewed in its entirety."

The perfective -DI and the evidential-resultative -mIş both occupy the summary end of the continuum, but for different reasons. Both are post-event markers whose scanning mode is determined by what happens after the event rather than during it. -DI profiles the bounded event as a completed whole, surveyed from outside its boundaries, so its summary scanning encompasses the event from onset through completion. -mIş profiles a single static result state rather than the dynamic process that produced it, so its scanning is focused on the endpoint and what remains of it. Comrie (1976, p. 3) captures the contrast with his metaphor of inside and outside the event. -DI is the prototypical "outside" viewer who sees the entire event including its boundaries; -mIş is the viewer who arrives after the event and reconstructs it from what remains. Both are outside, but -DI saw the whole shape from without, while -mIş sees only the footprints.

The scanning-mode continuum is thus not a simple binary but a gradient with at least five distinguishable positions, namely fine-grained sequential tracking (-(I)yor), static interior observation (-mAktA), holistic summary overview (-(A)r), bounded-whole apprehension (-DI), and endpoint-focused reconstruction (-mIş). Each position corresponds to a different temporal relationship between the conceptualizer's processing and the conceived event,

and each position is cognitively motivated by the source domain that established it.

8.2.2 The Subjectivity Axis

The second dimension is Verhagen's (2007) objectivity-subjectivity continuum, adapted from Langacker's on-stage/off-stage distinction. An expression is more objective to the extent that it profiles elements of the conceived situation (the "object of conceptualization") without reference to the conceptualizer's stance. An expression is more subjective to the extent that it profiles or presupposes elements of the ground — the speech event, its participants, and their epistemic relationships. Verhagen (2007) notes that most ordinary linguistic expressions occupy the middle ground of this continuum, with fully objective and fully subjective expressions representing extreme cases rather than the norm.

The five markers distribute along the subjectivity axis roughly from objective to subjective in the order -(A)r, -mAktA, -DI, -(I)yor, -mIş. The aorist -(A)r is relatively the most objective of the five. Its dispositional or habitual reading presents a property of the subject (*Ali yüzer* 'Ali swims / can swim') without foregrounding the speaker's temporal or epistemic stance, and the event is characterized as a general truth abstracted from any particular speech situation, with the speaker's role as conceptualizer maximally implicit. The imperfective -mAktA is also moderately objective when used descriptively, since the locative containment schema presents a state of affairs rather than a stance on it. It carries, however, a formal or institutional register connotation that indexes a particular social context of utterance — a weak form of subjectivity tied to register rather than epistemic stance. The register-linked connotation falls outside the CG subjectivity axis proper, since it is a sociolinguistic property rather than a construal parameter, but it contributes to the marker's overall profile.

The perfective -DI is moderately objective in its default use, presenting the event as having occurred in what reads as a factual report, but it acquires a subjective dimension through its epistemic-primacy function (Kuram, 2023), by which the speaker implicitly claims authority over the reported information and positions themselves as the more knowledgeable interlocutor. The progressive -(I)yor is moderately subjective. Its construal involves the conceptualizer tracking the event's unfolding from an interior vantage point, with the speaker experientially engaged and "inside" the event, and the

extended uses — exclamative, complaint, near-miss — further increase subjectivity by foregrounding the speaker's emotional or evaluative stance. The event itself nevertheless remains profiled, so -(I)yor is not purely a stance marker. The evidential-resultative -mIş is the most subjective marker in the system. Its evidential construal foregrounds the speaker's epistemic relationship to the proposition, placing the ground — the speaker's mode of access to information — at the center of the marker's semantic contribution, and in its mirative and ironic uses -mIş profiles virtually nothing about the event itself and everything about the speaker's cognitive relationship to the information. Aksu-Koç (2016) captures this with precision, noting that Turkish evidentials "mark the speaker's perspective with respect to the assertion (speaker stance) rather than evaluating its reliability."

Table 8.1 collects these positions across both dimensions, alongside each marker's source domain and vantage point.

Table 8.1. The five Turkish aspectual markers across scanning mode, subjectivity, source domain, and vantage point.

Marker	Scanning Mode	Subjectivity	Source Domain	Vantage Point
-(I)yor	Sequential (trajectory-tracking)	Moderate → high (engagement)	Motion verb (*yörü-* 'walk')	On the trajectory, inside the event
-mAktA	Observational (static interior)	Low (detached observation)	Locative (*-mAk + -DA*)	At the event, subject contained within it
-(A)r	Summary (holistic overview)	Low (objective characterization)	Opaque	Above the trajectory, scanning in summary
-DI	Summary (bounded-whole)	Moderate (epistemic authority)	Opaque	Beyond the event, outside its boundaries
-mIş	Summary (endpoint-focused)	High (epistemic distancing)	Resultative participle	After the event, at its result point

The two dimensions, scanning mode and subjectivity, are partially independent. A marker can be sequential and objective (early, pre-subjectified -(I)yor in its most basic progressive use), sequential and subjective (-(I)yor in its exclamative or complaint uses), summary and objective (-(A)r in its dispositional use), or summary and subjective (-mIş in its evidential use). The construal space is two-dimensional, not one-dimensional, and the five markers occupy distinct regions within it.

Croft (2012) provides additional analytical vocabulary for characterizing the construal operations that distinguish the markers. His framework identifies several construal dimensions that apply to aspectual meaning, namely scalar adjustment, the granularity at which the event's internal structure is apprehended; focusing, which phases of the event are placed in the viewing frame; and the aspectual potential of the construction, the range of event types with which the marker naturally combines. Scalar adjustment is particularly illuminating for the -(I)yor/-(A)r contrast. Sequential scanning involves fine-grained scalar adjustment, in which the event's temporal structure is tracked at a resolution fine enough to register internal phases. Summary scanning involves coarse-grained scalar adjustment, in which the event's temporal structure is apprehended at a resolution too coarse to register internal phases, so the event appears as a single, unanalyzed unit. The habitual use of -(A)r is, in Croft's terms, a coarse-grained scalar adjustment combined with what he calls "good continuation," that is, the extension of a pattern beyond its observed instances to a generalized characterization. The habitual use of -(I)yor in the same context is a fine-grained scalar adjustment applied to a representative instance, which is then taken as exemplifying the pattern. Both construals produce a habitual reading, but they do so through different cognitive operations, and the choice between them is a construal choice, that is, a decision about how to present the same situation.

The construal-space model also captures a feature of the system that linear feature lists cannot, namely the directionality of subjectification. Mortelmans (2006), extending Langacker's framework, demonstrates that subjectification should be treated as gradient rather than categorical, as a matter of degree rather than a binary on-stage/off-stage classification. The five Turkish markers are not simply "more subjective" or "less subjective"; they are subjectified in different directions. -(I)yor subjectifies toward experiential engagement, with the speaker entering the event. -(A)r subjectifies toward

abstraction, with the speaker generalizing over events. -mAktA barely subjectifies at all, since the locative schema remains relatively objective. -DI subjectifies toward epistemic authority, with the speaker claiming knowledge. -mIş subjectifies toward epistemic distancing, with the speaker disclaiming knowledge. The directionality of subjectification is determined by the source domain, since different source domains produce different subjectification trajectories, which in turn produce different synchronic profiles along the subjectivity axis.

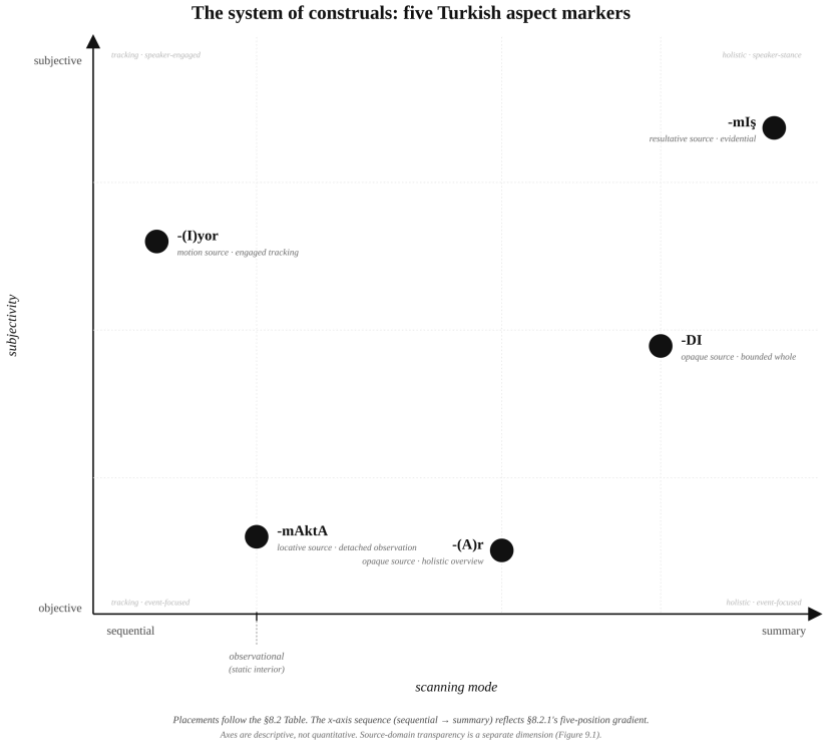


Figure 8.1. The system of construals: five Turkish aspect markers. The five markers placed in the two-dimensional construal space defined by §8.2: scanning mode (x) × subjectivity (y). Reading along the x-axis in the canonical order of §8.2.1: -(I)yor occupies the sequential end at moderate-to-high subjectivity; -mAktA sits in the 'observational' position between sequential and summary at low subjectivity; -(A)r, -DI, and -mIş cluster on the summary side, ranging from low (-(A)r) through moderate (-DI) to high subjectivity (-mIş). Axes are descriptive, not quantitative.

8.3 Overlaps and Competitions

If the five markers occupied perfectly disjoint functional territories, the system would be a simple paradigm with clear-cut distributional boundaries. In reality, the markers compete for functional territory in several zones, and the resolution of these competitions reveals the construal principles that govern marker selection.

8.3.1 -(I)yor versus -(A)r: The Progressive-Habitual Boundary

The most extensively documented competition in the Turkish aspectual system is between -(I)yor and -(A)r in habitual/characterizing contexts. Deo (2015) identifies Turkish as a language undergoing an active shift from progressive to imperfective marking, in which -(I)yor, originally restricted to event-in-progress readings, has extended to habitual and characterizing contexts formerly the exclusive domain of -(A)r. This extension is precisely what Johanson (2000b) characterizes as defocalization, whereby -(I)yor has moved from INTRAHF (high-focal intraterminal, i.e., progressive) to INTRALF (low-focal intraterminal, covering habitual and continuous uses), pushing -(A)r toward INTRANF (nonfocal intraterminal) and ultimately toward modal territory.

From the construal perspective, this competition is a boundary dispute between sequential and summary scanning. When a speaker uses -(I)yor for a habitual event (*Ali her sabah koşuyor* 'Ali runs every morning'), they are extending the sequential-scanning template to a situation that does not involve a single, ongoing event. The effect is one of cognitive concretization: the habitual event is presented as if it were an ongoing process, with the vividness and experiential immediacy that the trajectory schema provides. When the same speaker uses -(A)r (*Ali her sabah koşar* 'Ali runs every morning'), they are applying summary scanning: the habitual pattern is presented as a generalized characterization, abstracted from particular instances.

The competition is not free variation. Register, discourse context, and speaker stance modulate the choice. Colloquial speech favors -(I)yor, since the trajectory provides experiential vividness, whereas formal and written registers favor -(A)r, since summary scanning is more appropriate for abstracted characterizations. Gnomic and proverbial contexts strongly prefer -(A)r, since the timeless, context-free quality of proverbs is incompatible with -(I)yor's anchoring to a specific vantage point. Modal and predictive contexts

are the exclusive domain of -(A)r, since -(I)yor cannot express pure dispositional modality. The competition is thus asymmetric, since -(I)yor has invaded -(A)r's habitual territory, but -(A)r retains exclusive access to modal, gnomic, and predictive domains. This asymmetry follows from the source-domain retention argument, since the trajectory schema that -(I)yor retains from its motion-verb source is inherently anchored to a specific vantage point and cannot abstract away from it entirely, which blocks -(I)yor from fully gnomic or purely modal functions.

Corpus data from spoken Turkish quantify the extent of this asymmetric competition. Kanık (2015) analyzed the Spoken Turkish Corpus and established that the progressive outnumbers the aorist roughly three to one (628 vs. 206 tokens). More revealingly, when only the interchangeable functions are considered — that is, the habitual-characterizing zone where both markers are grammatically available — 76% of tokens appear in the progressive and only 24% in the aorist (Kanık, 2015, p. 111). The progressive has not merely entered the habitual territory; it has become the dominant form in it. Meanwhile, the aorist's most frequent functions in spoken Turkish are assumptions (39.32%) and commitments (16.50%), both carrying modal-future meaning, confirming that the defocalization drift has already pushed -(A)r's center of gravity from the aspectual-habitual domain toward the modal domain. Kanık (2015) cautions that the spoken-written register distinction may be consequential, noting that any claim about the progressive replacing the aorist requires corroboration from written data as well. The progressive's dominance in the habitual zone may be strongest in colloquial speech, with -(A)r retaining more habitual territory in formal written registers where -(I)yor's experiential vividness is less appropriate. This register sensitivity is itself predicted by the construal analysis: summary scanning's abstracted, atemporal quality aligns with the epistemic stance of formal discourse, while sequential scanning's experiential immediacy aligns with the engaged, personal quality of spoken interaction.

This asymmetry reveals a deeper structural principle, whereby when two markers compete for the same functional territory, the one with the richer source domain tends to expand, its complex construal profile providing cognitive purchase across a wider range of contexts, while the marker with the sparser source domain retreats into increasingly specialized functions. -(I)yor's rich trajectory schema gives it cognitive resources for inhabiting new contexts, since it can present habitual events as if they were vivid, ongoing

processes. -(A)r's opaque summary-scanning profile gives it no analogous cognitive strategy for reclaiming the progressive territory. The competition is structurally biased in favor of the motion-derived marker, not because motion-derived markers are inherently "stronger" but because the trajectory schema offers a richer set of contextual affordances than does the summary-scanning schema. This structural asymmetry accounts for the crosslinguistic robustness of the progressive-to-imperfective shift (Deo, 2015), since motion-derived progressives tend to expand because their source domains are cognitively richer than the categories they compete with.

8.3.2 -(I)yor versus -mAktA: The Progressive-Imperfective Boundary

The competition between -(I)yor and -mAktA is resolved primarily by register. In the core progressive territory (event-in-progress), both markers are available, but -(I)yor is overwhelmingly preferred in spoken Turkish and neutral written prose, while -mAktA is restricted to formal, administrative, academic, and journalistic registers. The construal difference — trajectory-based scanning (-(I)yor) vs. locative containment (-mAktA) — is real but has been largely neutralized in the progressive function, where both markers produce the reading "the event is ongoing at the reference time."

The residual construal difference surfaces in three diagnostic contexts. First, -mAktA is less natural with dynamic, agentive progressives, as in Koşmaktadır 'is running', which sounds bureaucratic, and more natural with descriptive/durative states, as in Artmaktadır 'is increasing', which is common in news. This follows from the containment schema, since being in a container is a stative configuration, and -mAktA's locative source biases it toward stative readings. Second, -mAktA lacks -(I)yor's trajectory-based extensions, since futurate, complaint, and near-miss are unavailable to -mAktA. This follows from the absence of the motion component, since without a trajectory there is no future point on the path, no emotional momentum, and no proximity to a boundary. Third, -mAktA does not subjectify in the same direction as -(I)yor, since it does not develop experiential engagement or speaker-immersion effects. The locative source produces a neutral, observational stance rather than the experientially engaged stance that the motion source produces.

8.3.3 -DI versus -mIş: The Two Pasts

The competition between -DI and -mIş in past-tense territory is resolved by epistemic construal rather than by temporal or aspectual factors. As argued in Chapter 7, the opposition is not between "direct experience" (-DI) and "indirect experience" (-mIş) but between epistemic authority (-DI) and epistemic non-authority (-mIş), with the Gricean implicature of directness arising from -DI's status as the unmarked default. Kuram (2023) demonstrates that the selection is governed by the speaker's assessment of their epistemic position relative to the addressee — a fundamentally intersubjective construal operation that involves not only the speaker's relationship to the event but the speaker's relationship to the addressee's knowledge state.

The three-way distinction that Kuram identifies, comprising epistemic primacy (-DI), non-primacy (-mIş), and shared ground (-mIştI), reveals that the past-tense system is not a two-term opposition but a triadic Common Ground management system. The pragmatic triad operates at the level of the speech event (the ground), not at the level of the event described (the object of conceptualization). This is precisely the kind of ground-level construal operation that Verhagen's (2007) two-conceptualizer model is designed to capture, in which the markers coordinate the epistemic stances of communicator and addressee, inviting the addressee to update their model of who knows what. The narrative function of -DI as foregrounding, -(I)yor as backgrounding, and -mIş as indirect-evidence mode adds a discourse-structural dimension, with the markers not only positioning the speaker epistemically but also organizing the narrative into foreground events (bounded, sequential, -DI), background situations (unbounded, ongoing, -(I)yor), and indirectly reported or inferred events (-mIş).

This competition reveals a dimension of the construal space that the sequential/summary and objective/subjective axes do not fully capture, namely the intersubjective dimension. Both -DI and -mIş are past-tense markers that profile completed events; both involve summary-like scanning of bounded events. Their construal difference lies not in how they scan the event but in how they position the speaker within the speech situation, a dimension that involves the ground, in Verhagen's two-conceptualizer model, rather than the object of conceptualization. This intersubjective dimension is orthogonal to the scanning and subjectivity dimensions mapped in §8.2 and represents a third axis of the construal space that becomes relevant specifically

for Turkish's grammaticalized evidential contrast. A full three-axis model would position all five markers along the intersubjective dimension as well; the present analysis develops this axis only for the -DI/-mIş contrast, where it is most clearly grammaticalized, leaving the extension to the other markers as a task for future work.

8.4 Source Domains and System Architecture

The analysis of the five markers reveals a fundamental insight about the Turkish aspectual system, namely that its architecture is not designed by some language-internal optimization principle but assembled from independently grammaticalized markers whose cognitive profiles are determined by their respective source domains. The system-level coherence — the fact that the five markers cover complementary regions of the construal space — is emergent rather than imposed.

Consider the two axes of the construal space. The sequential/summary axis is populated at its poles by -(I)yor and -(A)r, which define a scalar contrast between tracking-mode and overview-mode processing. This contrast is not a primitive of Universal Grammar or a typological universal; it arises from the accidental fact that Turkish recruited a motion verb for one pole and developed a morphologically opaque summary scanner for the other. Had Turkish recruited a posture verb instead of a motion verb (as Dutch did with zitten/staan/liggen), the sequential pole would have a different cognitive profile, less trajectory-oriented and more configuration-oriented, and the extension patterns would differ accordingly. Had Turkish developed an analytic locative progressive instead of grammaticalizing *yörü-*, the progressive marker might have resembled -mAktA more closely, producing an imperfective system with less internal differentiation.

Langacker (2006) provides the theoretical vocabulary for understanding this assembly process. The source verbs that feed grammaticalization are conceptual archetypes, defined as "fundamental aspects of our everyday experience that we deal with as simple gestalts," including WALK, BE-AT, HOLD, SEARCH, and their kin. Each archetype brings with it a rich package of cognitive structure, including spatial configuration, force dynamics, trajector-landmark asymmetry, and scanning directionality. When the archetype grammaticalizes, the onstage content "fades away" in Langacker's revised characterization of subjectification, but

the cognitive operations that were immanent in the conception of that content survive. The result is a grammatical marker whose abstract construal profile retains the structural signature of its source domain. The motion archetype produces a trajectory-scanning progressive, the locative archetype produces a containment-based imperfective, and the resultative archetype produces a post-event evidential.

The system architecture thus reflects the cognitive ecology of the source domains. Johanson (2000b) documents this crosslinguistically, showing that intraterminal markers typically derive from locative constructions (such as inessive and adessive forms), postural verbs, or locomotion verbs. Each source type produces a different flavor of intraterminal: locative sources yield low-trajectory, containment-based progressives; posture-verb sources yield configuration-sensitive, body-schema-based ones; and motion-verb sources yield high-trajectory, directionality-rich ones. The typological variation in progressive markers is not random but is systematically correlated with the source domain, as the source-domain retention hypothesis predicts.

This has consequences for how the system as a whole should be theorized. Feature-based accounts of aspect (e.g., [+perfective], [-bounded], [+progressive]) treat the markers as bundles of crosslinguistically valid features, predicting that any two markers with the same feature specification should behave identically, yet they do not. Turkish -(I)yor and -mAktA are both [-perfective, +progressive] on any standard feature analysis, yet they differ in register distribution, extension patterns, discourse functions, and subjectification trajectories. The feature account cannot explain these differences because features abstract away from exactly the information that matters — the source domain and the construal operations it generates. Croft (2012) captures this by treating aspectual meaning as construal rather than as truth-conditional specification, arguing that grammatical aspect categories impose a non-truth-conditional construal, a perspectival operation on the event rather than a feature of the event itself. Two markers with the same truth-conditional contribution, both saying “the event is ongoing,” can differ in construal, with one tracking the event along a trajectory while the other locates the subject within a container, and the construal difference produces different distributional and discourse-functional profiles.

The system is also shaped by its internal oppositions. Each marker acquires part of its identity from what it contrasts with. -DI’s apparent “direct

experience" value is not an inherent semantic property but a Gricean implicature generated by opposition to -mIş, whereby if the speaker chose not to use the indirect marker, the hearer infers that the evidence is direct. -(A)r's restriction to modal, gnomic, and performative contexts is partly a consequence of -(I)yor's expansion, since as -(I)yor colonized the habitual territory, -(A)r was pushed toward the nonfocal and modal domains along Johanson's defocalization drift INTRAHF > INTRALF > INTRANF > MOD. -mAktA's confinement to formal registers is partly a consequence of -(I)yor's dominance in the spoken progressive territory, since -(I)yor's higher frequency and broader distribution leave -mAktA with a marked, formal niche. These systemic pressures are not reducible to the properties of individual markers; they emerge from the interaction of markers within the system.

Johanson's (2000b) pluri-dimensional framework provides the most precise typological vocabulary for characterizing this assembled architecture. In his terms, Turkish possesses three intraterminal items of different focality, namely -(I)yor at INTRALF, -(A)r at INTRANF/MOD, and -mAktA as a residual INTRALF competitor; one nonintraterminal, -DI as NON-INTRA, a "pseudo-perfective" rather than a true adterminal; and one postterminal, -mIş at POSTLF, extending to evidential. The system lacks adterminality (the Slavic-type perfective) and lacks a dedicated high-focal intraterminal (INTRAHF, the narrow progressive). This configuration is not random but reflects the Turkic family's characteristic pattern of "relatively low focality" (Johanson, 2000b), in which the oppositions are subtle rather than categorical. The contrast between -(I)yor and -(A)r is a low-focal contrast rather than a progressive-habitual opposition in the English/Romance sense.

The resulting architecture reflects what Bybee et al. (1994) characterize as the layered effect of successive grammaticalization cycles, each wave following so closely on the last that the resulting distinctions are fine-grained and often subtle. The five markers were not recruited simultaneously to fill slots in a pre-existing template. They were recruited at different historical moments, from different source domains, through different grammaticalization pathways, and the system that emerged from their coexistence is a historical sediment, a layered structure in which each marker's functional territory is partly determined by its own source domain and partly by the pressure exerted by its neighbors. Understanding the system requires

understanding both the individual markers and the ecology of their coexistence.

8.5 Gaps and Predictions

The construal-space analysis not only accounts for the existing system but generates predictions about what the system lacks and how it might change.

8.5.1 What the System Lacks

The most conspicuous gap in the Turkish aspectual system, from a typological perspective, is the absence of a dedicated prospective marker, a form that profiles the pre-event phase, positioning the conceptualizer at a point before the event, looking forward toward its initiation. English *be about to*, French *aller* + infinitive (in its immediate-future function), and Mandarin *kuài yào* ('about to') all encode this construal. Turkish expresses prospective meaning periphrastically through üzere olmak and -mAk üzere, or through the futurate extension of -(I)yor, which is a trajectory-based, progressive-derived future rather than a dedicated prospective. The absence of a grammaticalized prospective form is not accidental but reflects the fact that none of the source domains recruited by Turkish, namely motion, locative, boundary, and resultative, inherently profiles the pre-event phase. The motion source profiles the trajectory during the event, the locative source profiles containment during the event, the boundary source profiles the event's closure, and the resultative source profiles the event's aftermath. The pre-event phase is, essentially, the system's blind spot, the single vantage-point position for which no source domain was historically recruited.

The system also lacks a dedicated experiential perfect, a form that asserts that the subject has the experience of having undergone the event at least once, without specifying when, as in English *have you ever been to Paris?* Turkish expresses experiential meaning through -DI with appropriate adverbials, as in *Hiç Paris'e gittin mi?*, but -DI is not specialized for this function. The absence of a grammaticalized experiential perfect follows from Croft's (2012) observation that the typical grammaticalization pathway for perfect markers proceeds from resultative through experiential to perfective. Turkish -mIş has traveled a different branch of this path (resultative > evidential), and -DI has not traveled the perfect path at all. The experiential gap is a consequence of the system's particular grammaticalization history.

A third gap is the absence of a dedicated completive marker, a form that profiles the event's completion without implying boundary-profiling in the -DI sense or result-state profiling in the -mIş sense. Languages with adterminal aspect (Russian, Czech, Polish) have grammaticalized markers that signal the attainment of the event's culmination point as a viewpoint value. Turkish lacks adterminality entirely. Johanson (2000b) notes that nonintraterminals like -DI function as pseudo-perfectives that differ fundamentally from true adterminals in that they do not encode the actual attainment of a terminal boundary. Turkish expresses completive meaning through lexical means, such as the verb bitirmek 'finish' and the postverb construction V-Ip bitirmek, or through pragmatic inference from -DI's boundary-profiling, but no dedicated completive morpheme exists. This absence is typologically consequential, in that Turkish speakers must infer completion from context rather than encode it grammatically, and it explains why -DI can freely combine with incomplete situations, as in *Yarım bıraktı* 'He left it unfinished', without the contradiction that a true adterminal would produce.

These three gaps — prospective aspect, experiential perfect, and completive — are not design flaws but natural consequences of the source-domain inventory. A system built from motion, locative, boundary, and resultative sources will profile trajectories and containment, boundaries and endpoints; pre-event anticipation, one-time experience, and culmination-attainment fall outside this inventory's range. What it will not naturally profile is pre-event anticipation (prospective), one-time-at-least experience (experiential), or culmination-attainment (completive), because none of the recruited source domains inherently foreground these conceptual configurations. The gaps are, in this sense, the negative space of the system's source-domain palette, the positions in the construal space that the available source domains do not illuminate.

8.5.2 Predictions for Diachronic Change

The construal-space analysis generates three testable predictions about how the Turkish system might change, as follows.

First, the -(I)yor/-(A)r competition should continue to resolve in favor of -(I)yor in habitual contexts, as the defocalization drift (Johanson, 2000b) proceeds. This predicts that -(A)r will increasingly be restricted to modal, gnomic, and fixed-expression contexts, ultimately becoming a modal marker rather than an aspectual one. The prediction is already being confirmed by

corpus evidence showing that speakers use -(A)r less frequently in habitual contexts (Kanık, 2015; see also Chapter 4, section 4.3.3).

Second, -mAktA should continue to retreat from the progressive territory, becoming increasingly specialized as a formal/written-register marker. If -(I)yor continues to expand, -mAktA may eventually lose its progressive function entirely and survive only as a stative/descriptive marker in institutional language, a development parallel to the narrowing of earlier English progressive forms as newer forms expanded.

Third, if Turkish were to recruit a new source for aspectual marking (as languages periodically do), the source-domain retention hypothesis predicts that the new marker's extension patterns would be constrained by the cognitive properties of its source. A posture-verb source, for example from *durmak* 'stand/stay', would produce a configuration-sensitive progressive with different extension patterns from -(I)yor's trajectory-based progressive. A perception-verb source, for example from *bakmak* 'look', would produce a witness-based marker with different epistemic implications from -mIş's resultative-based evidential. The prediction is specific, in that source domain determines construal profile, and construal profile determines the range of possible extensions.

8.5.3 Beyond Features: The Source-Domain Variable

The construal-space analysis exposes a systematic limitation of feature-based approaches to aspect. Universal-feature accounts (e.g., the binary [perfective]/[imperfective] distinction, or Smith's (1997) three viewpoint types crossed with her five situation types) predict that all languages with the same feature inventory should produce the same distribution of aspectual markers. But Turkish refutes this prediction: it has two markers in the [imperfective] territory (-(I)yor and -mAktA) that differ not in their truth-conditional contribution but in their construal profile, and these construal differences have real distributional consequences (different register distributions, different extension patterns, different discourse functions). It has two markers in the [past] territory (-DI and -mIş) that differ not in temporal reference but in epistemic-construal properties that feature-based accounts classify as pragmatic rather than semantic. The feature inventory captures the broad contours of the system but misses the fine-grained construal distinctions that determine how the markers actually behave in discourse.

Deo's (2015) formal account of the progressive-to-imperfective shift predicts the direction of change (progressive markers extend to imperfective territory) but cannot predict which extensions a given progressive marker will develop, because the formal account treats progressive meaning as a universal semantic core common to all progressive markers. The source-domain retention hypothesis adds what the formal account lacks, namely a theory of how the specific cognitive content of the source domain constrains the specific extensions that are available. Not all progressives develop futurate extensions; those that do are typically motion-derived, as with English *be going to* and Turkish -(I)yor, because the trajectory schema naturally extends to prospective meaning. Not all progressives develop exclamative extensions; Turkish -(I)yor develops this extension because the experiential-immersion construal that the motion source produces is compatible with the heightened involvement that exclamative contexts require. The source domain is the missing variable in universal accounts of aspectual change.

8.5.4 The System as a Cognitive Map

The five vantage points, when viewed together, compose what might be called a cognitive map of the speaker's possible relationships to an event. The map has a spatial logic, in which the conceptualizer can be on the trajectory (-(I)yor), above the trajectory (-(A)r), at the event (-mAktA), beyond the event (-DI), or after the event (-mIş). Each position affords a different set of cognitive operations, namely tracking on the trajectory, surveying above it, observing at the event, bounding beyond the event, and inferring after the event. The grammar of Turkish aspect is, in essence, a system for encoding which of these positions the speaker occupies relative to the event, and the source-domain retention hypothesis explains why these specific positions, and not others, are available, since they are the positions that the recruited source domains make cognitively accessible.

This cognitive map is not a metaphor. It is a claim about the conceptual content of grammatical meaning, following Langacker's (2006) argument that "grammatical meanings may consist solely in the activity of the conceptualizing subject, activity which is immanent in the conceptualization of objectively construed situations but has come to be used independently." The motion, locative, boundary, and resultative source domains each provided a package of cognitive operations, and the grammaticalization of each source preserved those operations while abstracting away from the onstage content

that originally motivated them. The five markers are the surviving traces of five source-domain packages, and the system they compose is the cognitive map that those traces collectively define.

The cognitive map is, moreover, dynamic. It is not a fixed grid but a landscape shaped by ongoing grammaticalization processes, in which -(I)yor continues to expand along the trajectory, colonizing habitual and stative territory; -(A)r continues to retreat toward modality; -mAktA settles into its formal niche; and -mIş's evidential domain is stable but internally differentiated, with Şener's two -mIş morphemes representing incipient divergence within the post-event vantage point. The system is in motion, and the direction of motion is predictable from the construal properties of each marker's source domain. This predictability is the empirical payoff of the source-domain retention hypothesis, since if we know where each marker comes from, we can predict where it is going.

Chapter 9 develops this insight into a theoretical argument, presenting the source-domain retention hypothesis as a falsifiable prediction about the relationship between source domains and extension patterns across languages.

Chapter 9. Source-Domain Retention: The Theoretical Argument

9.1 The Persistence Principle Revisited

Hopper (1991) proposed the Persistence Principle as one of five diagnostic criteria for grammaticalization in progress. In his formulation, a lexical item that becomes grammatical tends to carry forward vestiges of its earlier lexical semantics, and the details of its etymological history may continue to shape constraints on its grammatical distribution (as cited in Hopper & Traugott, 2003, p. 96). The principle was descriptive in that it identified a pattern in the data without specifying the cognitive mechanism that produces it. Persistence was an observation, not an explanation.

This book argues that the cognitive mechanism behind persistence is what we term source-domain retention, that is, the structure-preserving schematization of source-domain properties through grammaticalization. The claim is not merely that vestiges of earlier meaning persist, as in Hopper's formulation, but rather that the specific cognitive structure of the source domain, including its spatial configuration, force dynamics, trajector-landmark asymmetry, and scanning directionality, is preserved through subjectification as a constitutive part of the grammaticalized marker's construal profile. The source domain is not erased or bleached but rather schematized, so that the onstage content fades while the cognitive operations that were immanent in that content survive and continue to constrain the marker's distribution and extension patterns.

Langacker (2006) provides the theoretical apparatus for this claim. His revised account of subjectification characterizes it not as a "realignment from the objective axis to the subjective axis," in his earlier formulation, but as a kind of semantic "fading away," writing that "the subjectively construed entity which remains as a vestige of an objectively construed counterpart was actually there all along, immanent in the latter. It simply becomes more evident when the objectively construed element is no longer there to mask it" (p. 21). The critical concept is immanence, whereby the cognitive operations that characterize the grammaticalized meaning were always present in the source domain's conceptualization, operating alongside (and masked by) the onstage content. When the onstage content fades through grammaticalization, the immanent operations survive as the marker's schematic meaning.

The Turkish data examined in this book provide the strongest evidence for this account. Each of the five markers examined in Chapters 3–7 retains a construal profile that is traceable to its source domain, and the pattern divides cleanly along the dimension of source transparency.

The three transparent-source markers — -(I)yor, -mAktA, and -mIş — each preserve the structural fingerprint of their source. The progressive -(I)yor, descended from the motion verb *yörü-* 'walk', inherits a trajectory schema — sequential scanning through a spatial path — that persists as sequential scanning through a temporal process; the marker's extensions (futurate, historical present, exclamative, complaint, near-miss) all preserve the trajectory's directionality, placing the conceptualizer on a path with a forward orientation where what lies ahead is cognitively salient, and a locative or posture-verb source would not produce this trajectory-specific extension pattern. The imperfective -mAktA, composed of infinitival -mAk plus locative -DA, inherits instead a containment schema in which the subject is situated within the event rather than moving through it; its register restriction to formal and written contexts, and its bias toward stative and descriptive situations, preserve the static-interior quality of the locative schema, and a motion-verb source would have produced trajectory-based extensions rather than containment-based descriptions. The evidential-resultative -mIş, descended from a resultative perfect, places the conceptualizer at the event's aftermath, encountering traces rather than the process itself; its evidential function — encoding indirect evidence and epistemic non-authority — is a construal consequence of that post-event vantage point, since being at the result entails not having been at the process, and the extensions to mirative, narrative, and ironic uses all preserve this indirect-access configuration.

The two opaque-source markers — -(A)r and -DI — function as the control conditions for the account. The aorist -(A)r scans in summary rather than sequentially, and its extensions to gnomic, modal, and performative domains preserve that panoramic, non-tracking construal. The absence of a transparent content-domain source makes -(A)r the case that shows what remains when source-domain properties have fully faded, namely a scanning mode but no content-domain fingerprints. The perfective -DI is similar in lacking a transparent source, and its boundary-profiling construal — the event presented as a bounded whole viewed from outside — is its schematic meaning with no content-domain residue. The result is a maximally general perfective/past marker that serves as the unmarked default, acquiring its

apparent "direct evidence" value only through Gricean opposition to the marked -mIş.

The pattern is systematic: markers with transparent content-domain sources (-(I)yor, -mAktA, -mIş) retain source-specific construal profiles that constrain their extension patterns; markers with opaque sources (-(A)r, -DI) retain only schematic scanning operations and are functionally more general. This is precisely what the source-domain retention hypothesis predicts, namely that the richer the source, the more constrained the marker.

The distinction between persistence and source-domain retention can be stated precisely. Persistence, as Hopper formulated it, is a distributional observation in which the grammaticalized form's distribution reflects its etymological history. Source-domain retention is a cognitive-structural claim, holding that the grammaticalized form's construal profile is determined by the cognitive structure of the source domain, and this construal profile constitutes the marker's schematic meaning, not a residue of incomplete bleaching but the productive semantic core that governs extension. The shift from distributional observation to cognitive-structural claim has empirical consequences. Persistence predicts that traces of the original meaning will "adhere" to the marker, whereas source-domain retention predicts that the specific structural properties that adhere will be precisely those that were immanent in the source domain's conceptualization, namely the scanning operations, the spatial configurations, and the vantage-point placements, rather than arbitrary fragments of lexical meaning.

The cognitive-structural claim also addresses a puzzle in the grammaticalization literature, namely why some grammaticalized markers retain source-domain properties far longer than others. The answer, on the source-domain retention account, is that retention is not a matter of "how far along" the marker is in the grammaticalization process, as if retention were merely a symptom of incomplete development, but of how rich the source domain's cognitive structure is. A rich source domain (like a motion verb with trajectory, directionality, body-schema engagement, and proximity) provides many strands of immanence, many structural properties that can survive the fading of onstage content. A sparse source domain (like a grammaticalized auxiliary with minimal lexical content) provides few strands. The number of surviving strands determines the thickness of the construal profile and, consequently, the degree of distributional constraint. Rich sources produce

thick profiles with constrained distributions, whereas sparse sources produce thin profiles with general distributions.

9.2 Subjectification with Rich versus Sparse Sources

Langacker's canonical examples of subjectification, namely the preposition *across* (spatial path > static location) and the construction *be going to* (spatial motion > future tense), involve what we might call sparse sources. The source verbs, *such as go and march*, provide a trajectory schema with limited internal structure in which an entity moves along a path from one point to another. When the onstage motion content fades, what remains is the conceptualizer's sequential scanning along the path, a processing operation with minimal structural complexity. The grammaticalized meaning, as with *across the street* as static location and *gonna* as future, retains the scanning operation but little else.

Turkish *yörü-* 'walk', however, is a much richer source. The motion verb does not merely encode displacement from point A to point B; rather, it encodes a specific mode of locomotion, walking, that involves rhythmic, bipedal, ground-level, sustained motion with the body oriented in the direction of travel. When -(I)yor grammaticalizes from this source, the onstage content (physical locomotion, bipedal motion, ground contact) fades, but the immanent cognitive operations that were constitutive of the walking experience survive. These operations include (a) sequential scanning through a temporally extended process; (b) forward directionality, in which the conceptualizer's vantage point moves in a specific direction; (c) subject engagement, in which the experiencer is not merely observing but actively participating in the trajectory; and (d) proximity, in which the walking experience is a proximal, embodied mode of engagement rather than a distal, observational mode.

The difference between rich and sparse sources has consequences for the grammaticalized marker's extension potential. A sparse source, such as *go* in *be going to*, produces a marker with a thin construal profile consisting of sequential scanning through time, with minimal structural constraints on extension. The marker can extend freely to any future-oriented context because it retains nothing from the source that would block such extension. A rich source, such as *yörü-* in -(I)yor, produces a marker with a thick construal profile that combines sequential scanning through time with directionality,

engagement, and proximity. The marker's extensions are constrained by these additional structural properties, extending readily to contexts that are compatible with engaged, forward-directed, proximal processing (futurate, historical present, exclamative, complaint) but resists contexts that require disengaged, directionless, distal processing (gnomic statements, abstract characterizations, modal predictions). The source-domain retention hypothesis predicts that richer sources produce more constrained markers, and the Turkish evidence confirms this prediction.

The implication for Langacker's framework is an extension of his concept of immanence. Langacker treats immanence as a single-stranded relationship, in which the subjectively construed scanning operation is immanent in the objectively construed motion. Source-domain retention proposes multi-stranded immanence, whereby not only the scanning operation but also the scanning's specific qualities (directionality, engagement, proximity) are immanent in the source domain and survive through subjectification. The richer the source domain, the more strands of immanence, and the more constrained the grammaticalized marker's distribution.

Consider a concrete illustration. When Langacker analyzes the subjectification of *be going to*, he identifies one surviving strand, namely the conceptualizer's sequential scanning through time, which is immanent in the conception of spatial motion. Langacker's analysis, focused on a single case, does not itself generate crosslinguistic predictions. But if we generalize the single-strand approach, it would predict that motion-derived markers sharing the same scanning operation should exhibit similar extension profiles — a prediction the Turkish-Spanish comparison disconfirms. In fact, motion-derived future markers differ, with English be going to encoding intention and plan, French aller + infinitive encoding imminent futurity, Spanish ir a + infinitive having become a general future, and Turkish -(I)yor's futurate use profiling trajectory-based momentum toward an imminent event. These differences arise because the single-strand analysis is too coarse, since each motion verb brings its own package of cognitive properties, such as intentional travel, directional displacement, and rhythmic locomotion, and different properties survive in different grammaticalization contexts. Multi-stranded immanence captures this variation by recognizing that the surviving strands differ across languages because the source verbs differ in their cognitive structure.

Langacker (2006) himself hints at multi-stranded immanence when he discusses conceptual archetypes. He characterizes the source expressions affected by subjectification as representing "fundamental aspects of our everyday experience that we deal with as simple gestalts whatever their actual complexity" (p. 28). The qualifier "whatever their actual complexity" is crucial, since the gestalt nature of archetypes means that they are experienced as simple even though their cognitive structure is rich. Walking is a "simple" experience that involves a complex package of motor control, spatial orientation, temporal sequencing, and proprioceptive feedback. When walking grammaticalizes, the experiential simplicity persists (the marker has a single, unified meaning), but the underlying structural complexity provides multiple strands of immanence that can survive selectively. Source-domain retention is, in this sense, a theory of which strands survive and why, predicting that the strands that are most general, such as sequential scanning, survive most readily, that the strands that are most specific, such as bipedal locomotion, fade most readily, and that the strands of intermediate generality, such as directionality, engagement, and proximity, survive selectively depending on the grammaticalization context.

9.3 The Falsifiable Prediction

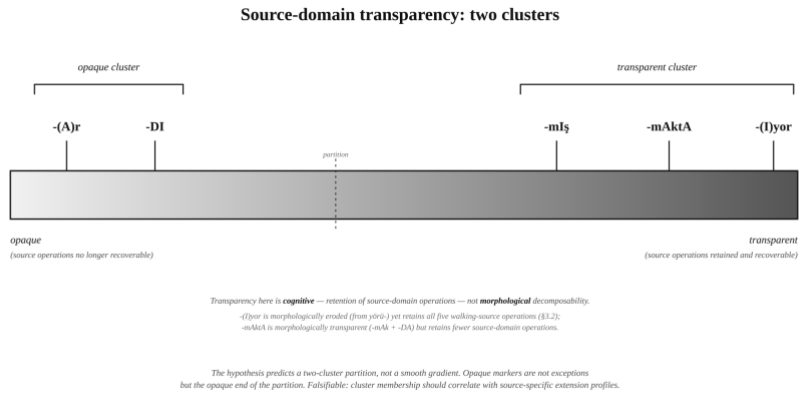


Figure 9.1. Source-domain transparency: two clusters. The five markers partition into two clusters rather than distributing along a smooth gradient. The opaque cluster (-(A)r, -DI) has no recoverable content-domain source; the transparent cluster (-mIş, -mAktA, -(I)yor) retains structurally visible source-domain properties. 'Transparency' here refers to cognitive retention of the

source domain's construal profile, not to morphological decomposability: -(I)yor is cognitively transparent yet morphologically eroded, whereas -mAktA is morphologically transparent but retains only its locative configuration. The partition is falsifiable: an opaque marker that nonetheless shows source-specific extensions, or a transparent marker with no source-specific extensions, would challenge the account.

The source-domain retention hypothesis generates a specific, falsifiable prediction about the relationship between source domains and extension patterns. If a grammaticalized aspect marker retains cognitive structure from its source domain, then the marker's extension patterns should be systematically predictable from the source domain's cognitive properties, with the predictions dividing by source type.

A motion-source progressive should develop trajectory-based extensions, since the trajectory schema makes directional, momentum-generating readings cognitively available, including a futurate reading in which the trajectory points ahead, a historical present in which it supplies narrative momentum, an exclamative in which it generates experiential intensity, and a complaint reading in which its ongoing directionality is what the speaker finds objectionable. By the same logic, the marker should resist non-directional extensions such as pure dispositional readings.

A locative-source progressive should develop containment-based extensions instead. Durative contexts, in which the subject remains within the container; descriptive stative contexts, in which the container holds a stable state; and formal or institutional registers, in which the containment metaphor lends stability and formality, all exploit the containment schema. The containment source correspondingly blocks trajectory-based extensions such as futurate, complaint, or near-miss readings, which a motion source would license.

A posture-verb progressive should develop configuration-sensitive extensions constrained by the body-schema properties of its source posture. "Standing" progressives should associate with sustained, vertical, publicly visible activities, "sitting" progressives with stationary, extended-duration, domestic activities, and "lying" progressives with prolonged, horizontal, or resultative states. Like the locative progressive, the posture progressive should resist the trajectory-based extensions that motion-source progressives develop.

A resultative-source evidential, finally, should develop inference-based extensions in which the result state serves as evidence for an antecedent event, producing inferential, reportative, mirative, and narrative readings. It should be constrained by the backward temporal orientation of the source and should not extend to prospective or imminent-future readings.

These predictions are specific enough to be tested against crosslinguistic data and to be falsified by counterexamples. If a motion-source progressive develops containment-based extensions without trajectory-based extensions, or if a locative-source progressive develops trajectory-based extensions without containment-based extensions, the hypothesis would require revision.

The prediction is deliberately formulated in terms of extension patterns rather than core meanings. Core meanings — the basic progressive/imperfective readings that all markers in the domain share — are too general to discriminate between source domains. All progressives, regardless of source, share the core function of describing events in progress; the source-domain retention hypothesis does not predict differences at this level. The predictions concern the extensions beyond the core: the secondary, tertiary, and peripheral functions that markers develop as they grammaticalize further. It is at these functional peripheries that source-domain properties become visible, because the core function is determined by the target domain (imperfective aspect) while the extensions are shaped by the source domain's structural affordances. The distinction between core and extension corresponds to Langacker's distinction between the schematic meaning of a construction (shared across all instances) and the specific elaboration sites where individual instances diverge — and it is at the elaboration sites that source-domain retention operates most transparently.

A methodological note is warranted here. The predictions concern extension *profiles* — the characteristic pathways along which a marker develops — not absolute distributional boundaries. As markers grammaticalize further and undergo defocalization (Johanson, 2000b), they may enter territories that the source domain does not naturally favor. Turkish -(I)yor's increasing compatibility with stative predicates in spoken registers illustrates this: the trajectory schema does not naturally support stative construals, but frequency-driven entrenchment and paradigmatic competition can push a marker beyond its source-domain-predicted territory. The

predictions are therefore strongest for markers at intermediate stages of grammaticalization, where the source domain's cognitive fingerprint is still visible, and weakest for markers that have undergone extensive defocalization. The appropriate test is not whether a marker ever appears in a source-domain-incompatible context, but whether its *profile* of extensions — the relative frequency, naturalness, and productivity of different extended uses — is systematically shaped by the source domain.

The falsifiable prediction also has a negative form, namely that markers should not develop extensions that are incompatible with their source domain's structural properties. A motion-source progressive should not develop a stative-default reading, because the trajectory schema implies dynamicity, and indeed Turkish -(I)yor resists pure stative uses. Biliyorum 'I know' is grammatically possible and has become the dominant form in spoken Turkish, but the stative-default form remains bilirim with -(A)r in formal and written registers, reflecting the trajectory schema's preference for dynamic content, though the spoken dominance of biliyorum itself illustrates how far -(I)yor's defocalization has progressed. A locative-source progressive should not develop a trajectory-based futurate, because the containment schema implies stasis, and indeed Turkish -mAktA does not develop futurate extensions. A resultative-source evidential should not develop a prospective function, because the post-event vantage point is inherently backward-looking, and indeed Turkish -mIş does not extend to future-oriented meanings. These negative predictions, that is, the extensions that markers fail to develop, are as informative as the positive predictions, because they reveal the constraints that source-domain properties impose on the grammaticalized marker's functional potential.

9.3.1 The Transparency Gradient and Opaque-Source Markers

The hypothesis predicts a gradient, not a binary. Source-domain retention is strongest where the etymological connection between marker and source is cognitively transparent and weakest where phonological and semantic erosion have rendered the connection opaque. Turkish -(I)yor, -mAktA, and -mIş occupy the transparent end of this gradient, retaining identifiable structural traces of their respective source domains (motion, location, result state). The aorist -(A)r and the perfective -DI occupy the opaque end, having undergone sufficient erosion to sever any synchronically recoverable link to a specific lexical source.

Critically, -(A)r and -DI are not exceptions to the source-domain retention hypothesis. They are predictions of it. If source-domain retention operates through the persistence of source-specific cognitive structure, then markers whose source domains are no longer recoverable should exhibit maximally general, paradigmatically-determined construal profiles, that is, profiles shaped by systemic opposition rather than by inherited source properties. This is precisely what Chapters 4 and 6 document. The aorist -(A)r functions as the systemic complement of -(I)yor, occupying whatever functional territory the progressive does not claim, and its construal profile (summary scanning, dispositional characterization) is derivable from its paradigmatic position without reference to any specific source domain. The perfective -DI functions as the default boundary-profiling marker, and its broad, minimally specified construal is consistent with an opaque source that imposes no domain-specific constraints.

The transparency gradient thus generates a falsifiable prediction of its own, namely that if a marker with an opaque etymology were shown to exhibit source-specific extension patterns, specifically extensions systematically traceable to a particular lexical domain rather than derivable from paradigmatic opposition, this would challenge the gradient prediction and require either revision of the hypothesis or recovery of the previously opaque etymological connection. Conversely, if markers at the transparent end of the gradient consistently exhibit source-specific profiles while markers at the opaque end consistently exhibit paradigmatically-determined profiles, the gradient is confirmed. The Turkish five-marker system provides evidence for exactly this pattern.

9.4 Cross-Linguistic Evidence

The predictions generated in §9.3 can be tested against crosslinguistic data. The evidence presented in this section is illustrative rather than exhaustive. A systematic typological survey — sampling progressive markers from each source-domain type across genealogically and areally diverse languages — would provide the strongest test of the predictions generated above. The present analysis identifies the predictions and demonstrates their plausibility against well-described cases from English, Dutch, Spanish, and Turkic; the typological verification remains a task for future research (see §11.5.1).

English progressive (*be + V-ing*): The English progressive derives from a locative construction (*be on/at V-ing*). De Wit and Brisard (2014) analyze its core meaning in terms of epistemically contingent situations anchored to the speaker's immediate reality — a characterization that aligns with the locative source insofar as the subject is situated in a contingent, non-structural state. The English progressive extends to temporary validity, iteration, habitual-but-temporary, and emotional evaluation, as in the "interpretive" progressive *He's always complaining*. Crucially, the English progressive does not develop the futurate extension with the same trajectory-based semantics as Turkish -(I)yor, since the English futurate progressive, as in *I'm leaving tomorrow*, profiles an arranged plan rather than a trajectory pointing toward the future. The emotional/interpretive progressive, as in *He's always complaining*, profiles speaker annoyance rather than trajectory-based experiential intensity. These differences follow from the source domain, since the locative source produces containment-based extensions such as contingent situations and temporary states, rather than trajectory-based extensions such as imminent futures and directional momentum.

The English-Turkish comparison is particularly instructive because both markers are functionally progressive and have broadly similar distributions in their respective core territories (event-in-progress reading), yet their extension profiles diverge systematically at the periphery. De Wit and Brisard's semantic network for the English progressive — organized by branching principles (temporal vs. non-temporal, actual vs. virtual, boundaries attended vs. unattended, singular vs. multiple) — can be compared point by point with the semantic network for Turkish -(I)yor developed in Chapter 3. The comparison reveals that the branching structures are similar at the top (both divide into temporal and non-temporal uses) but diverge at lower levels, with the English network favoring contingency-based branches (temporary validity, arrangement) and the Turkish network favoring trajectory-based branches (futurate, complaint, near-miss). This asymmetry in branching structure is exactly what the source-domain retention hypothesis predicts, with the locative source producing contingency-centered extensions and the motion source producing trajectory-centered extensions.

A potential objection arises from De Wit et al.'s (2020) demonstration that progressives from typologically diverse sources, including motion verbs, posture verbs, and locative constructions, all develop "extravagant" uses such as complaint, intensification, and surprise. If all progressives extend beyond

their core territory regardless of source, what work is the source domain doing? The answer requires distinguishing *scope* of extension from *direction* of extension. De Wit et al.'s findings concern scope, in that all sufficiently grammaticalized progressives extend beyond the progressive core, because the construal operations that define progressive aspect, such as epistemic contingency and temporal anchoring, are inherently available for pragmatic exploitation. Source-domain retention concerns direction, asking which specific pathways are favored among the extensions that a progressive develops and which are blocked. Turkish -(I)yor extends to futurate, where the trajectory projects forward, and near-miss, where the trajectory is interrupted near its endpoint, extensions that exploit the forward-pointing directionality of the motion source. English be V-ing extends to temporary validity and interpretive evaluation, extensions that exploit the contingent, circumscribed quality of the locative source. Both markers extend, but they extend along different pathways, and the pathways track the source domains. Competition and frequency determine how far a marker extends along its available pathways, that is, the scope, whereas the source domain determines which pathways are available, that is, the direction.

Dutch posture-verb progressives (*zitten*, *staan*, *liggen* + *te* + INF): Dutch uses posture verbs as auxiliaries in progressive constructions, and each posture verb constrains the kinds of events that can be described. *Zitten* ('sit') combines preferentially with activities performed while seated, that is, domestic, prolonged, non-vigorous activities; staan ('stand') with activities performed while standing, that is, public, visible, sustained activities; and liggen ('lie') with activities performed while lying down, that is, horizontal, stationary, often pejorative activities. These body-schema constraints are precisely what the source-domain retention hypothesis predicts, since the posture-verb source imposes configuration-sensitivity on the progressive, restricting it to events compatible with the source posture's spatial and postural properties. De Wit et al. (2020) document the extension of staan to "standing out" uses where no physical standing is involved, a subjectification of the vertical, publicly-visible quality of standing into a metaphorical "prominence." The extension preserves the source domain's structural property (vertical salience) while abstracting away from the physical posture.

The Dutch case is particularly revealing because it provides a three-way minimal set within a single language: three progressive constructions with three different posture-verb sources producing three different distributional

profiles. If progressives were semantically uniform (as universalist accounts predict), all three Dutch progressives should have identical distributions. They do not, since each is constrained by its source posture in ways that the other two are not. The three-way contrast constitutes a within-language test of source-domain retention, and the results unambiguously demonstrate that source domain determines distribution. The within-language design eliminates confounds from language-contact, typological profile, or genetic inheritance, holding constant the language, the speakers, and the discourse contexts while varying the source domains and therefore the extension patterns.

Corpus-based evidence further documents that these markers are not interchangeable even in contexts where all three are grammatically acceptable. Speakers select among the three based on the "fit" between the described activity and the source posture's physical properties — even when no physical posture is involved in the described event. A speaker describing someone working at a desk will prefer *zitten*, matching the sitting posture; a speaker describing someone waiting at a bus stop will prefer staan, matching the standing posture; and a speaker describing someone sleeping will prefer liggen, matching the lying posture. The source domain constrains not only what contexts the marker can appear in but which marker speakers select when multiple options are available. This selection effect is invisible to feature-based accounts, under which all three markers are [+progressive], but fully predicted by source-domain retention.

Spanish motion progressive (*andar* + gerund): Spanish *andar* ('walk') + gerund forms a progressive construction that carries connotations of aimlessness, diffuseness, and low-intensity activity. Unlike Turkish -(I)yor, which retains the trajectory's directionality (forward-pointing, momentum-generating), Spanish *andar* retains the trajectory's spatial distribution (wandering, non-directed, spread across space). Both retain motion-source properties, but different ones, with Turkish retaining directionality and Spanish retaining spatial distribution. This confirms the prediction that motion-source progressives develop trajectory-based extensions but specifies that the particular trajectory property retained depends on the particular motion verb recruited.

The Turkish-Spanish comparison thus refines the source-domain retention hypothesis by showing that it is not merely the source-domain type

— motion, locative, or posture — that determines the extension pattern, but the specific cognitive properties schematized from that source. Turkish yörü- 'walk' is a directed, purposeful motion verb; Spanish andar is an undirected, aimless motion verb. Both are motion verbs, and both produce progressive markers with motion-derived extension patterns. However, the specific extensions differ because the specific source verbs differ. A directed motion source generates extensions toward futurate and imminent readings, grounded in its inherent directionality. An undirected motion source generates distributed extensions: aimlessness, low-intensity activity, and wandering — each a consequence of forward movement without fixed vector. The refinement is important because it moves the hypothesis from a coarse-grained prediction, namely that motion sources produce trajectory extensions, to a fine-grained prediction, namely that the specific trajectory properties of the specific source verb determine the specific extensions that the marker develops. This fine-grained prediction is testable and, in principle, falsifiable, since if two languages recruit the same type of motion verb, both directed and purposeful, but develop different extension patterns, the hypothesis would need revision.

Turkic comparative data: The Turkic language family provides a partially controlled test of the hypothesis, because several Turkic languages recruited cognates of *yörü-* (or other motion verbs) as progressive sources but at different historical stages and in different contact environments. The common Turkic pattern, as documented by Johanson (2000b), indicates that defocalization drift along the cline INTRAHF > INTRALF > INTRANF > MOD is widespread across the family, since progressive markers recruited from motion verbs tend to expand to habitual, general, and eventually modal functions, following the trajectory from specific, event-in-progress tracking to generalized, abstracted present-tense or modal meaning. The shared pathway motion > progressive > imperfective > modal supports the source-domain retention hypothesis at the family level, where the same source type produces the same grammaticalization trajectory across independent daughter languages.

Crucially, Turkic languages that recruited non-motion sources for their intraterminal markers show different extension patterns. Chalkan, as documented by Nevskaya (2025), uses locational aspect markers (postverbal constructions with *čat-* 'lie' and *tur-* 'stand/stay') that encode the subject's physical position during the activity. These posture-derived intraterminals are

more configuration-sensitive than motion-derived intraterminals in that they are constrained by the compatibility between the described activity and the source posture, producing distributional restrictions that have no counterpart in Turkish -(I)yor. The within-family comparison thus provides a natural experiment, with the same target domain of progressive/imperfective aspect, different source domains of motion versus posture, and different extension patterns, exactly as the source-domain retention hypothesis predicts. Chapter 10 explores this comparative evidence in greater detail.

9.5 Against Alternatives

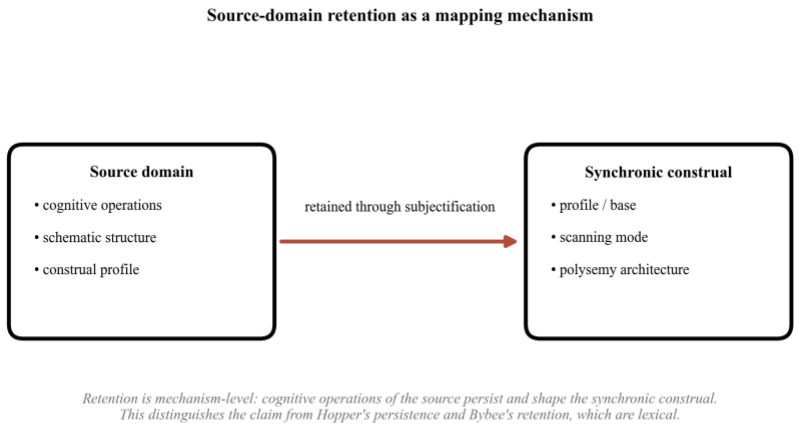


Figure 9.2. Source-domain retention as a mapping mechanism. Cognitive operations of the source domain — schematic structure and construal profile — are retained through subjectification and shape the synchronic construal's profile/base, scanning mode, and polysemy architecture. Retention is mechanism-level, not lexical; the observed polysemy is what the retained operations predict rather than a component of the construal itself. This distinguishes the claim from Hopper's persistence and Bybee's retention.

Three alternative accounts of progressive extension patterns can be contrasted with the source-domain retention hypothesis.

The first alternative, *frequency-based accounts* (Bybee, 2006, 2013), holds that extension patterns are driven by token frequency — the most frequent uses of a marker become entrenched first and serve as attractors for further extension. Frequency is undoubtedly a factor in entrenchment and in

the speed of grammaticalization, but frequency alone does not predict the direction of extension. Why does Turkish -(I)yor develop a futurate extension while Turkish -mAktA does not? Both are progressive markers with broadly similar frequency profiles in their respective registers. The difference is not in frequency but in source domain: the trajectory schema provides a forward-pointing configuration that the containment schema lacks. Frequency explains how fast a marker extends but not where it extends — the direction is determined by the construal operations that the source domain makes available.

This critique does not reject frequency as irrelevant; rather, it assigns frequency its proper role. Frequency drives the entrenchment of extensions that the source domain makes available; it does not create extensions that the source domain blocks. A motion-source progressive can develop a futurate extension because the trajectory schema provides the cognitive affordance for projecting forward in time; if this futurate context is then frequently used, the futurate reading becomes entrenched. But a containment-source progressive lacks the trajectory affordance; no amount of frequency in futurate contexts can produce a futurate reading if the construal profile does not support it. Source-domain retention and frequency-based accounts are thus complementary rather than competing, since the source domain constrains the possibility space, and frequency determines which possibilities are actualized and at what rate.

A second alternative, *pragmatic inferencing accounts* (Bybee et al., 1994; Traugott, 2010), argues that extension patterns are driven by contextual inferences that become conventionalized. When a progressive marker is used in a context that implicates futurity, *as in Geliyorum* 'I'm coming' → 'I'm about to arrive', the implicature conventionalizes as part of the marker's meaning. This account is correct about the mechanism, since conventionalization of implicature is indeed how extensions proceed, but it does not explain why certain implicatures arise in the first place. Why does the progressive implicate futurity rather than, say, past completion or static characterization? The source-domain retention hypothesis answers that the trajectory schema points forward, generating a natural implicature of imminent arrival/completion. The inference is generated by the construal configuration, which is determined by the source domain. Pragmatic inferencing is the mechanism of extension, whereas source-domain retention is the principle that constrains which inferences are generated.

Bybee et al. (1994) argue that metaphor operates only at the earliest stages of grammaticalization (near the lexical end of the continuum) and that subsequent extensions proceed by inference and generalization. This is compatible with the source-domain retention hypothesis, since the initial metaphorical step creates the source-domain fingerprint, such as the trajectory schema, the containment schema, or the result-state schema, and subsequent inferential extensions are constrained by that fingerprint. The source domain shapes the initial metaphor, and the initial metaphor shapes the field of possible inferences. Source-domain retention is not a mechanism in competition with inference but a constraint on the space of possible inferences.

A third alternative, *universal progressive semantics* (Deo, 2015), offers a formal semantic account of the progressive-to-imperfective shift in which progressive and imperfective are related by a privative semantic opposition, with the progressive treated as a subcategory of the imperfective whose meaning is narrower and more specific. The shift from progressive to imperfective is modeled as a loss of semantic specificity through competition with existing imperfective markers. This account predicts the direction of change (progressive > imperfective, never the reverse) and the cyclic renewal pattern (when progressives become imperfectives, new progressives are recruited). Deo's formal model captures the direction of change (progressive > imperfective) through privative semantic opposition, but does not address why different progressives develop different extension profiles along this shared trajectory. Turkish -(I)yor develops exclamative, complaint, and near-miss extensions that English *be V-ing* does not; English develops the "interpretive" progressive (*He's always complaining*) with a negativity bias that Turkish -(I)yor does not share. The source-domain retention hypothesis explains these differences: the universal semantic core (imperfective meaning) is realized through different source-domain configurations that produce different construal profiles and different extension affordances. Universalist accounts capture the common trajectory; source-domain retention captures the variation.

The relationship between the source-domain retention hypothesis and these three alternatives can be summarized as follows. Frequency-based accounts explain the rate of grammaticalization but not its direction. Pragmatic inferencing accounts explain the mechanism of extension but not the constraints on which inferences arise. Universalist accounts explain the common crosslinguistic trajectory but not the language-specific variation in

extension profiles. Source-domain retention complements all three by providing the missing constraint variable: the cognitive structure of the source domain, which determines the direction, constrains the mechanism, and explains the variation. The four accounts are not in competition; they operate at different levels of analysis. A complete account of any grammaticalized marker requires all of them: frequency governs speed of change, pragmatic inference drives extension, universals set the common trajectory, and source-domain retention supplies the mechanism-level specificity that the others leave unaddressed.

9.6 Consequences for Grammaticalization Theory

Before stating the consequences, it is worth distinguishing the present contribution from its two closest antecedents. Hopper's (1991) Persistence Principle observes that lexical traces adhere to grammaticalized forms. Bybee et al. (1994, p. 138) demonstrate that grams from different sources display different polysemy profiles. The present contribution adds a mechanism-level specification: the traces that persist are not arbitrary lexical residues but the cognitive operations that were immanent in the source domain's conceptualization, and these operations are retained through subjectification rather than through metaphorical transfer. The prediction is thus not merely that different sources produce different markers — which Bybee et al. already establish — but that the specific direction of a marker's extensions is derivable from the specific cognitive structure of its source domain. Hopper catalogues the distributional effects of persistence; Bybee et al. catalogue its typological consequences; source-domain retention provides the cognitive-structural mechanism that explains both, specifying that the processing operations immanent in the source domain survive grammaticalization because they constitute the very cognitive activity that the grammaticalized marker encodes.

The source-domain retention hypothesis, if correct, has three consequences for grammaticalization theory, as follows.

First, grammar is not bleached lexicon but schematized lexicon. The traditional narrative of grammaticalization as semantic bleaching, that is, the progressive loss of conceptual content as forms become more grammatical, is misleading. What happens is not loss but transformation, in which the onstage content, such as physical motion, spatial location, or result state, fades while

the cognitive operations that were immanent in that content, such as sequential scanning, containment, and post-event inference, survive and constitute the grammaticalized meaning. On the Langackerian view, grammatical meanings may consist in the activity of the conceptualizing subject — activity that was immanent in the conceptualization of objectively construed situations but has come to be used independently of any specific onstage content. The "bleached" marker is not empty but full of schematized conceptual structure, structure inherited from the source domain.

Hopper and Traugott (2003) reach a similar conclusion from the empirical data, acknowledging that meanings do weaken over time during grammaticalization but emphasizing that the evidence from early stages consistently points to a redistribution or reallocation of meaning rather than outright loss. Source-domain retention formalizes this observation by specifying that the redistribution is from onstage content to offstage processing operations, and that the processing operations retain the structural signature of the source domain.

Second, the source is not erased; it is abstracted. This reframing is not merely terminological; it makes different empirical predictions. The bleaching account predicts that more advanced grammaticalization should produce more general markers with fewer distributional constraints, such that constraints should decrease monotonically with grammaticalization. The schematization account predicts that constraints should decrease in quantity, producing fewer specific restrictions, but persist in kind, so that the structural type of restriction continues to reflect the source domain. Turkish -(I)yor has lost most of its source-specific distributional constraints, no longer requiring an agentive, animate, mobile subject, but the constraints that remain, such as the bias toward dynamic situations, the availability of trajectory-based extensions, and the experiential-engagement quality, are precisely those predicted by the motion source. The constraints have been pruned, not eliminated, and the pruning has been selective rather than uniform, since properties specific to the physical act of walking, such as bipedal locomotion and ground contact, have faded, while properties that are structural to the trajectory schema, such as sequential scanning, directionality, and engagement, have survived. This selective pruning is what "schematization" means, namely the retention of structural relations with the loss of specific instantiations.

Grammaticalization abstracts away from the surface details of the source domain — the bipedal locomotion of walking, the four walls of a container, the physical traces of a completed event — while preserving the structural relations that constitute the domain's cognitive profile: directionality, containment, and the post-event vantage point. This abstraction is structure-preserving in the mathematical sense, mapping the source domain's relational structure onto a more schematic domain (time, aspect, epistemology) while preserving the topology of the relations. The trajectory of walking maps onto the trajectory of temporal unfolding, the containment of a locative maps onto the containment of an imperfective state, and the result state of a completed event maps onto the evidential trace of an indirect inference. The mapping is not arbitrary but preserves the source domain's relational geometry.

Third, structure-preservation is the default, not the exception. The traditional view treats persistence as a residual effect, a failure to fully bleach, an incompleteness in the grammaticalization process. Source-domain retention inverts this framing: structure-preservation is the expected outcome, and full bleaching is the limiting case. Markers like -(A)r and -DI, which have fully opaque sources and maximally general construal profiles, represent the endpoint of a grammaticalization process that has erased the source-domain fingerprint. Markers like -(I)yor, -mAktA, and -mIş, which retain transparent source-domain properties, represent the more typical case — a grammaticalization process that has schematized but not erased the source. The typological norm is retention with schematization rather than loss with generalization.

This reframing has implications beyond aspect. If source-domain retention is the default rather than the exception, then crosslinguistic variation in grammatical categories should be predictable from the variation in their source domains. Two languages with the same aspectual feature inventory, for example [progressive, habitual, perfective], but different source domains should produce markers with different extension patterns, different discourse functions, and different subjectification trajectories. The source domain is a hidden variable in aspectual typology, invisible to feature-based classifications but visible to construal-based analyses. The CG framework, which treats grammatical meaning as construal rather than as feature specification, is uniquely equipped to capture this variable.

The implications extend to language pedagogy and second-language acquisition. If source-domain properties are retained in grammatical markers, then the meaning of a grammatical marker is not fully captured by its feature label, whether "progressive," "perfective," or "evidential." Learners who are taught that Turkish -(I)yor is "the progressive" and that English *be V-ing* is "the progressive" will expect the two markers to behave identically — but they do not, because they have different source domains and therefore different extension profiles. A pedagogically informed application of source-domain retention would teach the construal profile of each marker, such as the trajectory schema for -(I)yor and the contingency schema for *be V-ing*, alongside its functional distribution, helping learners predict the marker's extensions rather than memorizing them as arbitrary polysemy lists.

The implications also extend to computational linguistics. If grammatical meaning includes source-domain-specific construal operations, then natural language processing systems that treat grammatical markers as feature bundles, such as [+progressive] or [-perfective], will miss the construal-level distinctions that influence discourse interpretation, translation equivalence, and pragmatic appropriateness. A computational system that knows that Turkish -(I)yor is a motion-source progressive would be better equipped to handle its futurate, exclamative, and complaint uses than would a system that knows only that it is [+progressive, +present]. The source domain is information that enriches the feature representation without replacing it.

Finally, the source-domain retention hypothesis contributes to the broader question of the relationship between grammar and cognition. If grammatical meaning consists of schematized cognitive operations inherited from lexical source domains, then grammar is not an autonomous formal system but a precipitate of embodied experience — sensorimotor, spatial, and interactional — a system whose structural properties reflect the very experiences that its source domains encode. The motion-derived progressive retains the experience of walking, the locative-derived imperfective retains the experience of being in a place, and the resultative-derived evidential retains the experience of encountering a result. Grammar remembers its origins because the cognitive operations that constitute grammatical meaning are the same operations that constitute the experience of the source domain. The schematization preserves the operations, the operations carry the experiential signature, and the signature constrains the grammar. Source-domain retention means not that grammar is frozen lexicon but that grammar is living lexicon,

schematized, abstracted, subjectified, but still shaped by the cognitive architecture of the source domains that gave rise to it. The title of this book's concluding chapter captures the insight in its simplest form, that grammar remembers. What it remembers is the source, and the remembering is not passive residue but active constraint, shaping the marker's synchronic profile and its diachronic future alike.

The five Turkish markers analyzed in this book, -(I)yor, -(A)r, -mAktA, -DI, and -mIş, provide a detailed case study of source-domain retention in action. The motion-derived progressive retains its trajectory, the locative-derived imperfective retains its containment, the resultative-derived evidential retains its post-event vantage point, and the opaque markers retain only their schematic scanning modes. The variation in retention is not random but systematic, correlating with the transparency of the source domain, the richness of the source domain's cognitive structure, and the degree to which the source domain's structural properties are compatible with the marker's current functional territory. Source-domain retention is not a mere descriptive observation but a falsifiable theoretical prediction about the relationship between etymology and function, between source and target, and between lexicon and grammar.

The research program that the source-domain retention hypothesis inaugurates is not a closed account but an open framework. The hypothesis identifies a systematic relationship between source domains and extension patterns and proposes a cognitive mechanism (multi-stranded immanence through subjectification) that accounts for the relationship. The Turkish data examined in this book provide strong supporting evidence, but the hypothesis's crosslinguistic generality remains to be established through systematic typological comparison.

The predictions enumerated in §9.3 can be tested against a wide range of languages with diverse aspectual systems and diverse source-domain inventories. Each confirmed prediction strengthens the hypothesis, whereas each disconfirmed prediction invites revision and refinement. The goal is not to prove that source-domain retention is exceptionless but to establish that it is principled, showing that the relationship between source domain and extension pattern is lawful rather than accidental, and that the law is cognitive rather than formal.

Chapter 10 tests this prediction against the broader Turkic family, asking whether the same principles apply across languages that share a common inheritance but have developed their aspectual systems independently.

Chapter 10. Aspect Across Turkic

10.1 The Turkic Aspectual Landscape

The Turkic language family, spanning from the Balkans to Siberia and comprising some thirty modern literary languages and numerous unwritten varieties, provides a natural laboratory for testing the source-domain retention hypothesis. The family shares a common inheritance of aspectotemporal morphology — the same basic suffix slots, agglutinative architecture, and viewpoint categories — yet the daughter languages have independently recruited distinct lexical sources for their progressive, imperfective, and evidential markers. This combination of shared architecture and divergent recruitment creates a partially controlled comparison: the target domain (aspectual meaning) is constant, the structural template is constant, but the source domains vary.

Csató and Johanson (1998) provide the typological framework for the Turkic aspectual landscape. The family's verbal morphology follows a rigid suffix ordering — actionality > voice > possibility > negation > aspect > mood > tense > person — with thematic suffixes expressing aspect, mood, and tense in fixed positional slots. This ordering directly governs the morphotactics of all Turkic verb forms and ensures that aspectual marking occupies a consistent structural position across the family. The regularity of the agglutinative template means that when a daughter language recruits a new lexical source for aspectual marking, the source is integrated into the same positional slot and subject to the same morphophonological processes (vowel harmony, consonant assimilation, syncopation) that governed its predecessors. This morphological regularity has a theoretical consequence: it holds constant the structural variable that might otherwise confound the source-domain comparison. If two Turkic languages recruit different lexical sources for their progressive markers but integrate them into the same morphological slot, any differences in the markers' functional profiles cannot be attributed to structural position and must be attributed to the source domain. The Turkic family's agglutinative template thus provides a natural control for isolating the source-domain variable.

A further advantage of the within-family comparison is that the fundamental verb classification system is shared. Johanson (2000b) notes that his own actional classification — distinguishing transformatives

(initiotransformative, finitransformative) from nontransformatives (dynamic, static) — was originally developed through formal tests on Turkish actional phrases (Johanson, 1971), and this classification, applicable across the family, provides a common vocabulary for describing how intraterminal markers interact with different verb types. When we compare how Turkish -(I)yor and Chalkan intraterminal 3 interact with stative predicates, we are using the same actional framework for both languages, eliminating a source of crosslinguistic incommensurability.

Johanson's three core viewpoint categories — intraterminals (viewing events within their limits), post-terminals (viewing events after their relevant limit), and simple terminals (presenting events directly as a whole) — provide the classificatory coordinates for mapping the family's aspectual inventories. Modern Turkic languages characteristically possess a rich inventory of past tenses, typically more than one present tense, but rarely dedicated future forms (Csató & Johanson, 1998). The aspect-heavy, future-sparse profile reflects the family's tendency to derive prospective and modal meanings from intraterminal and post-terminal sources rather than from dedicated future morphemes — a tendency that itself reflects the grammaticalization dynamics documented throughout this book.

The family's common Turkic inheritance includes several markers whose cognates are found across most or all branches. The aorist in -(A/I)r and its cognates serve as the nonfocal intraterminal (or, in many languages, as a general non-past) across Oghuz, Kipchak, Karluk, and Siberian branches. The past in -DI and its cognates serve as the simple terminal (non-intraterminal) across the family. The postterminal in -mIş/-gAn and its cognates serve as the perfect/evidential across the family, with varying degrees of evidential specialization. These shared markers provide the stable background against which the innovation of new intraterminal (progressive) markers can be observed.

10.2 Progressive Markers Across Turkic

The most productive site of innovation in the Turkic aspectual system is the intraterminal domain. As Johanson (2000b) documents, Turkic languages have undergone repeated cycles of intraterminal renewal: an existing nonfocal intraterminal (like the aorist) is supplemented or displaced by a newly grammaticalized focal intraterminal (a progressive), which then

undergoes defocalization, prompting the recruitment of yet another focal form. This cyclic pattern — grammaticalization > defocalization > renewal — is the Turkic-wide mechanism that produced Turkish -(I)yor, and it has operated independently in multiple branches of the family.

The critical observation for the source-domain retention hypothesis is that different branches have recruited different types of lexical sources for their progressive markers, and the resulting markers differ in their functional profiles in ways that correlate with the source type.

10.2.1 Motion-Verb Sources

Turkish -(I)yor derives from the locomotive verb *yörü-/yorı-* 'walk, move, travel.' The grammaticalization pathway — converb + auxiliary verb > converb + clitic > fused suffix — produced a progressive marker with a trajectory-based construal profile that extends to futurate, historical present, exclamative, complaint, and near-miss functions, as documented in detail in Chapter 3. Azerbaijani and Gagauz possess cognate forms of similar origin (Csató & Johanson, 1998), reflecting the Oghuz branch's shared recruitment of a motion verb for its focal intraterminal.

Erdal (2017, pp. 52–53) documents an older Turkic parallel: Old Turkic -GIr-, which he tentatively derives from the verb *kir-* 'enter.' The grammaticalization pathway is structurally identical to -(I)yor's — a motion/spatial verb becoming an auxiliary and then fusing into a suffix — but the specific motion verb differs. Where *yörü-* encodes sustained, directed locomotion (walking along a path), *kir-* encodes a punctual change of location (entering a container). The source-domain retention hypothesis predicts that these two motion-derived markers should share trajectory-based properties (both involve spatial displacement) but differ in their aspectual profiles (walking is durative and dynamic; entering is punctual and telic). The data confirm this prediction: -GIr- expresses proximative content, and the related inflectional suffix -GAlIr is described by Kashgari as marking an agent who is "on the point of performing the action, or has almost done it" (Erdal, 2017, citing Kashgari). This proximative meaning profiles the boundary of the event (the entry point) rather than an ongoing trajectory (the walking path). The punctual, telic properties of 'enter' survive in the marker's proximative semantics, just as the durative, atelic properties of 'walk' survive in -(I)yor's progressive semantics.

Erdal's morphological evidence for the *kir-* 'enter' etymology — based on aorist allomorph matching (-GIr- takes -Ar, exactly as *kir-* does) — demonstrates that the source verb's formal properties persist in the suffix's morphophonology even after the semantic connection has become opaque. This formal persistence complements the semantic persistence that the source-domain retention hypothesis foregrounds: both the sound and the meaning of the source leave traces in the grammaticalized marker. The Turkish progressive -(I)yor exhibits an analogous formal trace: the vowel [o] in the suffix is phonologically anomalous in the Turkish vowel harmony system, reflecting the historical vowel of *yorı-*. Phonological anomaly is the formal correlate of source-domain retention: just as the meaning retains the source domain's cognitive fingerprint, the form retains the source domain's phonological fingerprint.

Erdal further notes that Old Turkic possessed the -GAlIr suffix as the main inflectional proximative in Uygur and Qarakhanid Turkic, with Kashgari explicitly distinguishing it from the general future in *-GU*. Kashgari's description — the agent is "on the point of performing the action, or has almost done it" — is a metalinguistic recognition of the proximative's distinctive construal: not merely future but imminently relevant, already bearing on the current situation. This 11th-century metalinguistic distinction prefigures the Modern Turkish functional contrast between -(I)yor (imminent, ongoing, currently relevant) and -(y)AcAK (prospective future), confirming that the functional slot for "currently relevant event marking" has been a stable feature of the Turkic system for at least a millennium, filled by different formal exponents at different historical stages.

10.2.2 Posture-Verb Sources

The South Siberian Turkic languages provide the clearest evidence for posture-verb-derived intraterminals. Nevskaya (2025) documents three competing intraterminal forms in Chalkan, a highly endangered North Altay variety: intraterminal 1 and 2 (both derived from *tur-* 'to stand') and intraterminal 3 (derived from *t'at-* 'to lie, to live'). The two *tur-*-derived forms differ in their converb linkage (the vowel converb -y/A vs. the connective converb -(I)p) and in their degree of defocalization: form 1, the older form, has advanced to nonfocal intraterminal status (habitual, prospective, modal), while form 2 retains more focal (progressive) uses. Form 3, derived from 'lie,'

is the only Chalkan form whose core function is focal intraterminality — expressing an action ongoing at the reference moment.

The Chalkan data illustrate several principles relevant to source-domain retention. First, the posture-verb sources impose configuration-sensitivity on the resulting markers. The 'stand'-derived forms and the 'lie'-derived form occupy different functional niches, not because of arbitrary convention but because the cognitive properties of standing (vertical, sustained, publicly visible) and lying (horizontal, extended, private) produce different construal profiles. Second, the cyclic renewal pattern — older forms defocalizing while newer forms take over the focal progressive function — operates within a single language across multiple recruitment cycles, producing the kind of layering (Hopper, 1991) that Chapter 8 identified as a general property of aspectual systems. Third, the phonological merger of historically distinct forms (some allomorphs of all three forms coincide) creates analytical challenges that earlier researchers failed to resolve — a warning about the importance of source-domain analysis for morphological description.

Nevskaya documents that across South Siberian Turkic, focal intraterminality has been renewed through recurring grammaticalization cycles involving postverbal constructions with auxiliaries derived from the verbs for standing, lying, sitting, and going (Nevskaya, 2025). The inventory of recruited source verbs — stand, lie, sit, go — maps precisely onto the typological inventory of progressive sources identified by Bybee et al. (1994): posture verbs and motion verbs are the two most common source types for progressive markers crosslinguistically, and South Siberian Turkic has exploited both types in successive recruitment cycles.

The areal distribution of source auxiliaries within South Siberian Turkic is itself informative. Nevskaya (2025) documents a clear geographic split: in Khakas, Shor, Kumandy, and Chulym, the most fully grammaticalized and semantically bleached intraterminal auxiliary was the verb meaning 'to lie' (*dat-* / *cat-* / *cit-* / *tit-*), whereas in Tuvan and Tofan this verb was the last to undergo grammaticalization, with the auxiliary *tur-* 'to stand' playing the dominant role in Tuvan and, until recently, in southern Altay. Turkish stands outside both South Siberian isoglosses by using a locomotive verb (yorI- 'walk') rather than a positional one — a choice that produced a fundamentally different construal profile (trajectory-based rather than configuration-based) and a fundamentally different extension inventory (futurate, near-miss,

complaint — all trajectory-dependent extensions that posture-verb-source markers lack).

The Khakas and Shor data provide a completed example of the defocalization trajectory that Turkish -(I)yor has only partially traversed. Nevskaya (2025) documents that the Khakas and Shor present tense form {-(p)ca} traces back to a synthesized progressive Aktionsart construction combining {-(p) *cat-*} (*cat-* 'to lie, to live') with the aorist marker {-(V)r} (e.g., *par-ca* < *par-ip cad-ir* 's/he goes, s/he is going'). Originally a highly focal intraterminal form, it has since lost its focality entirely and is now classified in traditional grammar descriptions as an actual or general present tense. Where Turkish -(I)yor has defocalized from INTRAHF to INTRALF — still carrying progressive semantics alongside its newer habitual and imperfective uses — the Khakas/Shor {-(p)ca} has completed the journey to full generalization. If -(I)yor continues along the same trajectory, {-(p)ca} represents its predicted endpoint: a general present tense marker with no residual progressive specificity.

Contact effects add a further dimension. Nevskaya (2025) observes that Chalkan is in the process of replacing its indigenous auxiliary *t'at-* 'lie' with *tur-* 'stand' — the auxiliary typical of Standard Altay — in its most recent intraterminal viewpoint forms derived from biverbal constructions. The two auxiliary types currently coexist, producing allomorphic variation across different vowel harmony classes as the forms merge. This contact-driven auxiliary replacement demonstrates that intraterminal paradigms are not shaped by internal semantic drift alone: the pressure of a dominant standard variety can replace one source-domain type with another, restructuring the construal profile of the resulting marker. Turkish -(I)yor, geographically and sociolinguistically removed from this South Siberian contact zone, underwent its grammaticalization without competing with posture-verb alternatives — a historical circumstance that helped preserve its distinctively trajectory-based construal profile.

The crosslinguistic typological picture reinforces the significance of the Turkic data. Bybee et al. (1994) report that the largest share of progressive forms in their crosslinguistic database originate from expressions containing locative elements, while motion-verb sources with meanings like 'come' and 'go' constitute a secondary but geographically widespread pathway. They note that both source types convey broadly similar spatial information about

the subject's relationship to the activity — either that the subject is situated in a location performing the activity or that the subject is moving about while performing it. Turkish -(I)yor, derived from a motion verb, and Turkish -mAktA, derived from a locative construction, thus instantiate both major source types within a single language — a typologically rare configuration that produces a natural minimal pair for testing whether different sources yield different construal profiles.

10.2.3 Locative Sources

Turkish -mAktA (< mAk + locative -DA) represents the locative source type within the Turkic family. As documented in Chapter 5, the locative construction "in the doing of X" produces a containment-based imperfective that lacks the trajectory dynamics of motion-derived progressives. The locative source is structurally distinct from the biverbal (converb + auxiliary) source that produces motion-verb and posture-verb progressives: -mAktA is a nominalization + case marker construction, not a converb + auxiliary construction.

The locative strategy is less productive across the family than the biverbal strategy. Most Turkic languages that have innovated new intraterminals have done so through biverbal constructions with motion or posture verbs, not through locative nominalizations. Turkish -mAktA is, in this sense, typologically marked within the family, a locative strategy coexisting with a biverbal strategy (-(I)yor) in the same language, with the biverbal form dominating in speech and the locative form retreating to formal registers. The rarity of locative-source intraterminals within Turkic, combined with the productivity of motion-verb and posture-verb sources, suggests that the biverbal pathway is the family's preferred grammaticalization channel for progressive marking.

The structural difference between the biverbal and locative pathways has consequences for the resulting marker's construal profile. The biverbal pathway of converb + auxiliary produces a marker whose construal is shaped by the auxiliary verb's lexical semantics, with 'walk' producing a trajectory, 'stand' producing a configuration, and 'enter' producing a punctual boundary. The locative pathway of nominalization + case marker produces a marker whose construal is shaped by the spatial relation encoded by the case, with the locative -DA 'in/at' producing containment. The biverbal pathway thus offers greater construal diversity, since each new auxiliary brings a new source

domain, while the locative pathway is construally monotone, in that locative always means locative. This structural difference may explain why the biverbal pathway is more productive, since it offers the system a wider range of construal options for expressing progressive meaning, allowing for fine-grained differentiation among competing forms.

The crosslinguistic parallel with Spanish reinforces this analysis. Torres Cacoullos (2012) documents the grammaticalization of the Spanish Progressive (*estar* + gerund), which derives from a locative construction in which estar originally meant 'be located at.' She finds that in Old Spanish, the presence of a co-occurring locative expression strongly favors the progressive construction, providing quantitative support for the hypothesis of locative origins. Over time, however, the facilitating effect of co-occurring locatives diminishes — a pattern she interprets as reflecting the loss of source-specific semantic features through grammaticalization (Torres Cacoullos, 2012). The Spanish case illustrates what happens when a locative source grammaticalizes without competition from a motion-verb alternative, since the result is a progressive whose extension profile is shaped by containment rather than trajectory, producing a marker that extends to stative and characterizing contexts before extending to futurate ones, precisely the opposite of -(I)yor's trajectory-first extension profile.

Bybee et al. (1994, p. 133) capture the theoretical convergence: "the original function of the progressive is to give the location of an agent as in the midst of an activity." But the manner of being located matters. A locative source such as estar or -mAktA positions the agent statically within the activity, whereas a motion-verb source such as yörü- or the English ancestor of be going to positions the agent dynamically, moving through the activity. The static positioning yields a containment construal, whereas the dynamic positioning yields a trajectory construal. Both converge on progressive meaning, since both locate the agent temporally within the event, but they arrive at that meaning from different spatial schemas, and the spatial schema survives in the extension profile. Turkish, uniquely within the Turkic family, possesses both source types side by side, making the functional consequences of this difference visible in a single language's paradigm.

Having surveyed the progressive markers that actively compete for intraterminal territory across Turkic, we turn now to the marker they compete

against, namely the aorist, whose family-wide defocalization trajectory reveals the systemic consequences of progressive renewal.

10.3 The Aorist Across Turkic

The aorist in -(A/I)r and its cognates is the oldest surviving intraterminal marker in the Turkic family. Its common Turkic heritage is reflected in its presence across virtually all branches, though its functional profile has diverged significantly across the daughter languages. In Turkish, -(A)r has been defocalized to nonfocal intraterminal status, covering habitual, dispositional, modal, and gnomic functions, pushed by the expanding -(I)yor. In Chalkan, the cognate form has defocalized further and now functions as the sole prospective (future) marker, having lost its intraterminal semantics almost entirely (Nevskaya, 2025). In other South Siberian Turkic varieties, the aorist cognate retains more intraterminal functions but competes with newer biverbal forms.

The defocalization trajectory of the aorist confirms Johanson's (2000b) generalization along the cline INTRAHF > INTRALF > INTRANF > MOD. The same marker, starting from the same common Turkic source, has traveled different distances along this trajectory in different daughter languages, depending on how many renewal cycles have occurred in each language's intraterminal domain. Turkish, with one major renewal (-(I)yor), has pushed the aorist to INTRANF/MOD. Chalkan, with multiple renewals (three competing intraterminals), has pushed the aorist cognate past modality to become a general future. The rate of defocalization correlates with the number and intensity of competing intraterminals.

The focality continuum is visible across the family. Csató and Johanson (1998, p. 43) document the distinction between focal and less-focal intraterminals across multiple branches: "Some are more focal, putting a narrower focus on what is currently going on at the orientation point, sometimes in the sense of English progressives, e.g. Uzbek Keläyatir '(S)he is just coming', Noghay Barayatır '(S)he is just going', Kazakh tazıp otır, Uyghur Yeziwatidu '(S)he is writing', Turkish okumaktayım, Kirghiz oqüdamin 'I am reading'. Less focal items are used for events seen as ongoing within a broader period of time, for protracted, habitual or general events, e.g. Bashkir esley '(S)he works', Noghay Baradı '(S)he goes', Tatar Yaza, Uyghur Yazidu '(S)he writes'." The focal/nonfocal contrast that structures the Turkish

-(I)yor/-(A)r opposition is thus a pan-Turkic phenomenon, instantiated in Uzbek, Kazakh, Uyghur, Noghay, Bashkir, and Tatar with language-specific formal exponents but structurally parallel functional profiles. In every case, the focal form, that is, the one that profiles the event as currently ongoing at the reference moment, is the newer form, derived from a biverbal construction with a motion or posture auxiliary, while the nonfocal form is the older form that has been defocalized by the focal form's expansion.

The aorist's opaque source domain, since unlike -(I)yor, -mAktA, and -mIş the aorist lacks a transparent etymological source, makes it the family-wide control case for source-domain retention. No daughter language's aorist cognate retains source-specific construal properties; all show the same functional pattern, occupying whatever territory the newer, source-rich intraterminals have not yet colonized. This consistency across the entire family is itself a prediction of the source-domain retention hypothesis, namely that a marker with no surviving source-domain properties should be maximally general and minimally constrained, serving as the unmarked, elsewhere default and acquiring its functional identity through opposition to the marked members of the system rather than through its own construal profile.

10.4 The Evidentiality-Aspect Interface

The Turkic family's most distinctive typological contribution to aspectual theory is the grammaticalized evidentiality system based on the postterminal marker -mIş/-gAn and its cognates. As documented in Chapter 7, Turkish -mIş has grammaticalized from a resultative perfect (profiling the result state of a completed event) to an indirect evidential (encoding the speaker's non-authoritative epistemic access to the event). This grammaticalization pathway, running perfect > evidential, is not unique to Turkish but is a family-wide tendency.

Johanson (2000a) documents this tendency across the Turkic language family, classifying the resulting evidential systems into four types based on the degree of grammaticalization, namely Type 1, fully grammaticalized evidential systems with obligatory marking; Type 2, semi-grammaticalized systems where evidential marking is common but not strictly obligatory; Type 3, systems where evidential readings arise as pragmatic implicatures of postterminal forms; and Type 4, systems where the postterminal has not

developed evidential functions. Turkish represents a Type 1 or Type 2 system, in which the -mIş/-DI distinction is productive and deeply entrenched, though the choice between the markers is not always strictly evidential, as Kuram's (2023) epistemic-primacy analysis demonstrates.

The cross-Turkic comparison reveals that the degree of evidential specialization of the -mIş/-gAn cognate correlates with the functional load placed on it by the rest of the system. In languages where the intraterminal domain is crowded, as in Turkish with three competing forms, namely -(I)yor, -(A)r, and -mAktA, the postterminal is free to specialize for evidential function because its aspectual territory of the perfect is not under competitive pressure. In languages where the intraterminal domain is sparse, the postterminal may retain more of its aspectual perfect function and develop less evidential specialization. The evidentiality-aspect interface is thus system-dependent, in that the degree to which a marker specializes for one function depends on the competitive pressure exerted by other markers in the system.

The cross-Turkic -mIş/-gAn comparison also provides evidence for source-domain retention in the evidential domain. The resultative source of the postterminal constrains the marker's evidential function across the family: all Turkic languages that have developed evidential readings from the postterminal share the core configuration in which the speaker is positioned at the result state, inferring the antecedent event from its traces. This configuration, comprising the post-event vantage point, indirect access, and speaker non-authority, is the resultative source domain's cognitive fingerprint, and it persists across the family regardless of the degree of evidential specialization. What varies across languages is not the source-domain fingerprint but the degree to which the fingerprint has been conventionalized as the marker's primary function, fully in Turkish, or remains a pragmatic implicature of the postterminal meaning, partially in some Eastern Turkic varieties.

A further dimension of the Turkic evidential landscape has been overlooked in most typological treatments. Johanson and Csató (2021) argue that Turkish possesses a second evidential strategy beyond -mIş: the compound form {-DI-ydI}, which they analyze as a "mnemonic past" — an evidential marker encoding the speaker's retrieval of a self-experienced event from memory. They argue that the combination of the terminal base {DI} with the copula particle ‹i|di› underwent a distinct grammaticalization process,

yielding an evidential marker type that is typologically rare (Johanson & Csató, 2021). The mnemonic past does not express postterminality or temporal remoteness; rather, "its use implies a supplementary meaning which can be paraphrased 'as I may recall' or 'as far as I can remember'" (Johanson, 1971, p. 62, as cited in Johanson & Csató, 2021). Thus "‹Ali bir mektup yaz|di|ydi› does not mean 'I'm sure Ali wrote a letter', but rather 'As I remember it, Ali wrote a letter'" (Johanson & Csató, 2021).

The mnemonic past is marginal in standard written Turkish — Demir's (2015) frequency study reveals that {-DI-ydI} accounts for only about 2% of occurrences compared to {-mIş-tI}'s roughly 98% in standard written Turkish (Johanson & Csató, 2021) — but robustly productive in Anatolian dialects. Johanson and Csató report that {-DI-ydI} is productively used in Anatolian dialects — including those of Adana, Gaziantep, Mersin, Antalya, Konya, and Ankara — where {-mIş-tI} is only marginally present and generally perceived as a borrowing from the standard language. The register and dialectal distribution reverses the standard-language pattern, suggesting that the mnemonic past is not a marginal archaism but a living evidential strategy whose visibility depends on which variety of Turkish one examines.

Critically, the mnemonic past has deep Turkic roots. Johanson and Csató (2021) document that "East Old Turkic displays {-DI} *ar-di* as opposed to {-mIş} *ar-di*, e.g., *Kor-du-m ar-di* 'I once saw.' [...] Several other Turkic languages display constructions of this kind, e.g., Gagauz *Al-dı-y-dı-m*, Crimean Tatar *Al-dı-m a-di* 'I once bought it'." The Old Turkic {-DI} ar-di vs. {-mIş} ar-di opposition suggests that the mnemonic-past vs. postterminal-evidential distinction is an inherited Turkic feature, not a Turkish innovation. If the mnemonic past represents, as Johanson and Csató claim, "a typologically non-attested type of evidential marker" — neither direct evidence, nor inference, nor hearsay, but memory recall — then the Turkic family contributes a genuinely novel evidential category to language typology.

The Turkic evidential system thus illustrates a general principle whereby source-domain retention constrains the type of meaning a marker can develop, such as resultative > inference-based evidential, and not resultative > future or resultative > progressive, while systemic pressure determines the degree to which that meaning becomes the marker's primary function. The

type is source-determined, whereas the degree is system-determined. Both variables are needed for a complete account.

10.5 What the Turkic Family Tells Us About Source-Domain Retention

10.5.1 Four Converging Lines of Evidence

The Turkic comparative data support the source-domain retention hypothesis in four ways, as follows.

First, the same source type produces the same extension pattern. Motion-verb-derived intraterminals across Turkic, such as Turkish -(I)yor, Azerbaijani cognates, and Old Turkic -GIr-, all develop trajectory-based semantics, yielding progressive, imminent, and currently-relevant-event readings. Posture-verb-derived intraterminals, such as Chalkan forms from tur- 'stand' and t'at- 'lie', develop configuration-sensitive semantics, with the 'stand'-derived forms associated with sustained, visible activities and the 'lie'-derived form associated with extended, stationary states. This correlation between source type and extension pattern holds across independent daughter languages, distinct historical periods, and diverse contact environments. Such consistency cannot be attributed to chance or areal influence; it strongly supports a cognitive-structural explanation.

The convergence is particularly striking when we compare Old Turkic -GIr- (from *kir-* 'enter') with Modern Turkish -(I)yor (from *yorı-* 'walk'). Both are motion-verb-derived, but the specific motion verbs differ in their aspectual properties (entering is telic and punctual; walking is atelic and durative). The resulting markers share trajectory-based semantics (both profile the relationship between a current state and an imminent or ongoing event) but differ in the specific temporal profile they impose (proximative boundary-approach for -GIr-, sustained progressive tracking for -(I)yor). This combination of shared type-level properties and divergent token-level properties is exactly what multi-stranded immanence predicts: both markers retain the general trajectory structure of their motion-verb sources, but each retains the specific temporal characteristics of its particular source verb.

Second, different source types produce different markers even in the same functional slot. Turkish has two intraterminal markers in the progressive territory, namely -(I)yor from a motion source and -mAktA from a locative

source, that differ in register, extension pattern, and subjectification trajectory despite occupying the same functional slot. Chalkan has three intraterminal markers from two source types, stand and lie, that differ in focality and functional profile. The source domain creates differentiation even when the target function is identical.

Third, the defocalization pathway is source-independent. Johanson's INTRAHF > INTRALF > INTRANF > MOD trajectory applies to intraterminals regardless of their source domain: motion-derived, posture-derived, and locative-derived markers all undergo defocalization when a newer focal form enters the system. The defocalization pathway is a system-level phenomenon driven by competitive pressure rather than a source-domain phenomenon. Source-domain retention constrains the specific extensions a marker develops, whereas defocalization constrains the global trajectory of the marker within the system. The two principles operate at different levels.

Fourth, the cyclic renewal pattern is productive and ongoing. South Siberian Turkic demonstrates that intraterminal renewal is not a one-time historical event but a recurring process that draws on the same typological inventory of source types (motion verbs, posture verbs) in successive cycles. Each cycle produces a new marker with source-domain-specific properties, and the coexistence of markers from different cycles produces the kind of layered, internally differentiated system that Turkish and Chalkan both exhibit. The productivity of the cycle confirms that source-domain recruitment is not a historical accident but a systematic cognitive-linguistic process, in which speakers recurrently recruit embodied experiential concepts such as walking, standing, lying, and entering as the raw material for grammaticalized aspectual meaning.

10.5.2 Horizontal and Vertical Evidence

The Turkic family thus provides both horizontal evidence (across languages within a single time slice) and vertical evidence (across time within a single language's history) for source-domain retention. The horizontal evidence shows that different source domains produce different markers even when the target function is constant. The vertical evidence shows that the same source domain produces the same construal profile even when historical change has altered the marker's phonological form, syntactic status, and functional scope. Source-domain retention is not a synchronic snapshot but a diachronic principle, in which the source shapes the marker at birth, and the

marker carries the source's cognitive signature throughout its subsequent grammaticalization trajectory, through defocalization, through renewal, and through systemic reorganization. The Turkic data confirm that grammar remembers across generations, across languages, and across centuries.

The broader typological literature corroborates this picture. Bybee et al. (1994) cite Turkish -(I)yor directly as an exemplar of the progressive-to-imperfective pathway, noting that this motion-verb-derived suffix formerly expressed progressive meaning exclusively in spoken Turkish and still does so in the written language, but has since expanded in spoken use to cover habitual contexts as well. They further argue that "grams have inherent semantic content which is a continuation of the original semantics conveyed by the lexical item or periphrasis from which the gram has evolved" (p. 138), a position that converges with the source-domain retention hypothesis from a usage-based rather than a CG perspective. The convergence between the two frameworks, Bybee's frequency-driven account and the present book's construal-based account, on the prediction that grammaticalized markers retain source-domain properties is itself significant, suggesting that the empirical pattern is robust enough to be visible from multiple theoretical vantage points.

10.5.3 Limits and Future Directions

The within-family comparison also reveals the limits of source-domain retention as an explanatory principle. Not all differences between Turkic aspectual systems can be attributed to source-domain variation. Contact-induced change (the influence of Russian on Siberian Turkic, of Arabic and Persian on Oghuz Turkic), functional load redistribution (the pressure that evidential specialization places on the intraterminal domain), and language-internal analogical change (the leveling of paradigmatic irregularities) all contribute to the synchronic profiles of Turkic aspectual markers in ways that source-domain retention alone cannot account for. The hypothesis does not claim that source domain is the only factor, only that it is a systematic factor, one that operates alongside contact, system pressure, and analogy but that remains visible as a structural signature even when these other factors are active.

The research program that the Turkic comparison inaugurates is far from complete. A systematic typological survey of intraterminal markers across all thirty-plus Turkic literary languages — tracing source domains,

extension patterns, defocalization stages, and interactions with competing markers — would constitute the most comprehensive test of the source-domain retention hypothesis available in any language family. Such a survey would require extensive fieldwork in endangered South Siberian varieties: Chalkan, Shor, Chulym, and Khakas, as well as corpus-based analysis of better-documented languages across the Oghuz and Kipchak branches, including Turkish, Azerbaijani, Uzbek, Kazakh, Kirghiz, and Tatar. Recent fieldwork on Çulım and Altay by Başbuğ (2023) exemplifies the kind of cognitive-linguistic investigation this program calls for, drawing on the conceptual integration of space, time, and motion to document how Siberian Turkic varieties grammaticalize spatial-temporal relationships through morphological affixes. The present chapter has sketched the contours of this comparison using available data; a fuller treatment awaits future work.

What the available data already show, however, is that the Turkic family's aspectual diversity is not random but patterned, shaped by source-domain type, by defocalization trajectory, by systemic competition, and by the cognitive ecology of the markers that coexist in each language's system. The five Turkish markers analyzed in Chapters 3–7 are one system's instantiation of these family-wide principles, and the family-wide comparison confirms that the principles are not Turkish-specific but Turkic-general: motion sources produce trajectories, posture sources produce configurations, locative sources produce containments, and resultative sources produce post-event inferences, wherever in the family they occur.

Chapter 11. Conclusion: Grammar Remembers

11.1 What Turkish Aspect Teaches

This book has examined five Turkish aspectual markers, namely -(I)yor, -(A)r, -mAktA, -DI, and -mIş, through the lens of Cognitive Grammar, arguing that each marker's synchronic functional profile retains cognitive fingerprints of the source domain from which it grammaticalized, as follows.

- The motion-derived progressive **-(I)yor** retains its trajectory schema, producing a construal of experiential engagement in which the conceptualizer tracks the event's temporal unfolding from an interior vantage point.

- The locative-derived imperfective **-mAktA** retains its containment schema, producing a construal of static observation in which the subject is situated within the event.

- The opaque aorist **-(A)r** and perfective **-DI**, lacking transparent source domains, retain only their schematic scanning operations, summary and boundary-profiling respectively, and function as the system's maximally general defaults.

- The resultative-derived evidential **-mIş** retains its post-event vantage point, producing a construal of epistemic non-authority in which the speaker encounters the event through its traces rather than through direct witnessing.

The central lesson is that aspect is not a universal category uniformly filled by interchangeable local material. It is a locally constructed system in which each marker's cognitive profile is shaped by the specific source domain that gave rise to it. Two languages may both have a "progressive," but if one derives from a motion verb and the other from a locative construction, the two progressives will differ in their extension patterns, their discourse functions, and their subjectification trajectories, not because of arbitrary historical accident but because different source domains provide different cognitive affordances. The source domain determines the construal profile, which in turn determines the functional range. This is the core claim of the source-domain retention hypothesis.

The depth of the fingerprint varies across the five markers, and this variation is itself informative. -(I)yor, whose source verb *yörü-* 'walk' is transparently recoverable despite phonological erosion, retains a rich multi-

stranded cognitive profile comprising directionality, experiential engagement, and proximity to the event's internal structure. This richness explains why -(I)yor supports the widest array of extended functions, including futurate, historical present, exclamative, complaint, and near-miss, each derivable as a schema application of the motion source's cognitive affordances. At the opposite extreme, -(A)r, whose etymological source is opaque, retains only the maximally schematic operation of summary scanning, correspondingly supporting only the most general, least marked functional range. The other three markers fall between these poles, with -mAktA retaining a moderately rich containment schema but restricted by register pressures, -DI retaining boundary-profiling but generalized to function as the default past, and -mIş retaining a rich post-event schema that has been elaborated into a full evidential system. The principle that emerges is that transparency of the source domain correlates with richness of the retained cognitive profile, which in turn correlates with the breadth and specificity of the functional range.

The five-marker analysis has also revealed that the Turkish system is not a static paradigm but a dynamic ecology. -(I)yor continues to expand into -(A)r's habitual territory; -mAktA continues to retreat into formal-register niches; -(A)r is evolving toward modality; and -mIş maintains a stable but internally differentiated evidential domain. The directions of change are predictable from the markers' source-domain properties and from the competitive pressures that the markers exert on one another. The system is in motion, and the motion has a logic, one rooted in the cognitive properties of the source domains and the systemic interactions of the markers. Understanding the system requires understanding both what each marker carries from its past through source-domain retention, and what the system's competitive dynamics impose on its present through defocalization, renewal, and specialization.

The analysis has treated the five markers as a single system operating across multiple functional domains — progressive, habitual, perfective, evidential — rather than as isolated morphemes with independent polysemy networks. This system-level perspective, developed most fully in Chapter 8, reveals that the markers define complementary regions of a structured construal space organized along two primary axes (scanning mode and subjectivity) and a third, intersubjective dimension (epistemic authority management). The markers' positions in this space are not arbitrary; they are determined by their source domains and refined by their systemic interactions.

The construal space is, in effect, a map of the cognitive resources that Turkish grammar makes available for positioning speakers relative to events, and the map's contours are shaped by the etymological histories of its coordinates.

Independent empirical evidence converges on this picture. Aksu-Koç's (1988) developmental data show that Turkish children's earliest verb inflections serve aspectual rather than temporal functions, with -(I)yor marking duration, -DI marking completion, and -mIş marking stativity. She concludes that "aspect and modality are more basic categories in Turkish than tense, and inflections typically treated as indicators of tense have to be reanalyzed in terms of these functions" (p. 207). This finding is consistent with the source-domain retention hypothesis, since if the markers' deepest cognitive identity is aspectual, rooted in construal operations inherited from their source domains, then it is unsurprising that children access these aspectual identities before the markers' secondary temporal and modal functions. The first functions to be acquired are the functions most directly anchored in the source domain. Büyükyıldırım et al. (2025) extend this picture into adult processing: even in adulthood, -(I)yor shows a processing advantage over -DI, suggesting that the progressive marker's richer construal profile — with its early morphophonological cues and its functionally specific aspectual commitment — provides stronger processing support than the perfective marker's more general, less specified boundary-profiling.

Three system-level properties deserve emphasis because they are invisible to analyses that treat markers in isolation. First, the system exhibits layering in Hopper's (1991) sense, with older and newer forms expressing overlapping functions coexisting for extended periods. The overlap between -(I)yor and -(A)r in the habitual domain, and between -(I)yor and -mAktA in the progressive domain, is not an anomaly to be resolved but a normal structural consequence of successive waves of grammaticalization within the imperfective domain (Bybee et al., 1994). Second, the system exhibits specialization, in that the competitive pressure between -(I)yor and -mAktA has driven -mAktA into increasingly narrow formal-register niches, while the competitive pressure between -(I)yor and -(A)r is redistributing the habitual domain along a construal axis, with -(I)yor covering experientially grounded habituals and -(A)r covering dispositional or generic characterizations. Third, the system exhibits divergence, in that the grammaticalized suffix -(I)yor has completely separated from its source verb, which survives in the modern form yürü- with regular sound changes but shares no synchronic morphological or

semantic connection with the suffix. This complete divergence distinguishes the Turkish case from English *be going to*, where the lexical and grammatical uses of *go* remain synchronically connected.

11.2 Implications for Cognitive Grammar

The Turkish data have tested and extended the CG apparatus in several ways.

The most significant extension concerns directionality. Langacker's concept of subjectification has been shown to operate in multiple directions. While the traditional model presents subjectification as a uniform movement from objective to subjective construal (from onstage content to offstage processing), and Langacker (2006) himself characterizes this as a "fading away" in which the subjectively construed element that remains was always immanent in its objectively construed counterpart — visible only when the objective content fades, like a watermark held to the light — the Turkish data reveal that this fading process possesses inherent *directionality*. Specifically, -(I)yor subjectifies toward experiential engagement (the speaker enters the event), -(A)r toward abstraction (the speaker generalizes over events), -DI toward epistemic authority (the speaker claims knowledge), and -mIş toward epistemic distancing (the speaker disclaims knowledge). The direction of subjectification is determined by what was immanent in the source domain, not by a universal tendency toward speaker-centeredness. A motion source makes trajectory-scanning immanent; a resultative source makes post-event inference immanent; the two yield different subjectification endpoints because they begin with different immanent structures. This directional analysis extends Langacker's framework beyond its canonical examples (spatial prepositions, English modals) to a typologically richer domain and reframes the universal claim: it is not that grammaticalization always moves toward subjectivity in the same way, but that it always moves toward whatever subjective structure was immanent in the specific source domain.

Langacker's concept of immanence has been extended from single-stranded to multi-stranded. In the canonical analysis of *across* or *be going to*, one cognitive operation (sequential scanning) is immanent in the source domain and survives through subjectification. In the Turkish data, multiple cognitive operations (directionality, engagement, proximity, containment, post-event orientation) are immanent in the source domains and survive

selectively. The richer the source domain, the more strands of immanence, and the more constrained the grammaticalized marker. Multi-stranded immanence predicts the crosslinguistic variation in progressive markers that single-stranded immanence cannot capture.

Langacker's characterization of grammatical meaning as conceptualizing activity devoid of onstage conceptual content has been empirically substantiated. The five Turkish markers constitute grammatical meaning that consists precisely in the activity of the conceptualizing subject — scanning along a trajectory, observing from within a container, profiling a boundary, inferring from a result state — without any onstage reference to the source domain's physical content. Grammar is not empty; it is full of schematized cognitive structure inherited from lexical sources.

The Turkish data also illuminate the relationship between Langacker's construal-based subjectification and Traugott's pragmatics-based subjectification. These two frameworks are not interchangeable. Langacker's subjectification concerns the shift of conceptual elements from onstage to offstage status — a matter of construal, not content domain — while Traugott's concerns the diachronic semanticization of speaker-oriented pragmatic meanings via conventionalization of implicature (Traugott, 2010). The Turkish markers require both perspectives. Langacker's framework captures why -(I)yor's motion content fades to offstage processing activity while the trajectory schema remains immanent — the synchronic construal analysis. Traugott's framework captures why certain pragmatic inferences (e.g., that an ongoing action implies speaker involvement, or that a currently progressing event implies near-future completion) become semanticized as part of the marker's coded meaning — the diachronic pathway. The two accounts are complementary, not competing. Langacker provides the cognitive architecture of what survives grammaticalization; Traugott provides the usage-based mechanism by which pragmatic inferences become coded meanings. A full account of any grammaticalized marker requires both.

The notion of conceptual archetypes, defined as fundamental aspects of everyday experience dealt with as simple gestalts, has been shown to structure the grammaticalization landscape. Langacker (2006) argues that expressions affected by subjectification represent conceptual archetypes: motion, possession, force, location, result. The Turkish data confirm this prediction: the five TAM markers derive from archetypal domains (motion, location,

result), and the markers whose sources are most prototypically archetypal (-(I)yor from motion, -mIş from result) show the richest subjectification trajectories. The domains that resist archetype status (the opaque sources of -(A)r and -DI) yield markers with maximally schematic, minimally differentiated cognitive profiles. This archetype-based prediction has a corollary for typological prediction. If grammaticalization is preferentially fed by conceptual archetypes — MOTION, LOCATION, RESULT, POSSESSION, FORCE — then the grammaticalization landscape is not infinite. The number of distinct progressive source types should be limited to archetypes that encode temporal unfolding. The candidates are few: motion (trajectory through space-time), location (containment within an activity), posture (bodily configuration during an activity), and perhaps vision (perceptual engagement with an ongoing event).

Bybee et al.'s (1994) crosslinguistic survey confirms this prediction: progressives arise overwhelmingly from motion and locative sources, with posture verbs as a secondary source in languages with well-developed posture verb systems. The rarity of progressives from non-archetypal sources — no known progressive derives from, say, a gustatory or olfactory verb — is not a sampling accident but a cognitive-structural constraint. Only archetypes that encode temporal duration in their base conceptualization can donate the scanning operations required for progressive aspect. The archetype determines not only which domains can grammaticalize but what kind of progressive they produce, and the Turkish data, with their explicit motion-verb source, exemplify the prototype of the archetype-to-grammar path.

11.3 Implications for Grammaticalization Theory

The source-domain retention hypothesis reframes the traditional narrative of grammaticalization.

The most fundamental reframing replaces the metaphor of "bleaching" — the progressive loss of conceptual content as forms grammaticalize — with "schematization." The Turkish data show that grammaticalization does not empty a marker of content but transforms the kind of content it carries, moving from onstage, objectively construed lexical material such as physical motion, spatial location, and result state, to offstage, subjectively construed processing operations such as sequential scanning, containment, and post-event inference. The transformation preserves the structural relations of the source

domain while abstracting away from its specific instantiation. Langacker (2011a) characterizes this as a "multi-faceted reductive process" in which semantic attenuation, phonological reduction, and processing compression are intertwined and mutually reinforcing, though the key word is "attenuation," not "deletion." The phonological reduction from *yörü-* to -(I)yor perfectly parallels the semantic attenuation from 'walking' to 'temporal tracking,' and crucially, neither process eliminates the structural core. Grammar is not bleached lexicon; it is schematized lexicon. This distinction is critical: whereas bleaching predicts that fully grammaticalized markers should become semantically empty and interchangeable, schematization predicts that they will retain source-specific cognitive structures that actively constrain their behavior — which is precisely what the Turkish data demonstrate.

The phonological evidence reinforces this reframing. As documented in Chapter 3, Hopper and Traugott (2003, p. 155) observe that Turkish generally avoids the vowel [o] in non-prominent syllables because it is marked as simultaneously low and rounded, yet the progressive suffix -yor—once an autonomous copular verb that has only recently been reanalyzed as a bound morpheme — is the sole grammatical suffix to retain this vowel. The non-harmonic vowel [o] in -(I)yor is a phonological fossil, a piece of the source domain's substance that has resisted the integrative pressures of Turkish vowel harmony precisely because the suffix entered the morphological system via univerbation rather than cliticization. Schiering (2006) demonstrates that this resistance is systematic rather than accidental: the syllable-based rhythmic structure of Turkish prevents grammaticalized elements from eroding, thereby favoring the accumulation of morphological material, and the univerbation pathway — unlike the cliticization pathway — does not trigger integration into the vowel harmony domain. The result is that -(I)yor remains disyllabic, stress-irregular, and harmony-defiant, three phonological fingerprints of its lexical origin that parallel the semantic fingerprints analyzed throughout this book. If bleaching were the dominant process, we would expect phonological reduction to proceed in tandem with semantic emptying, producing a short, fully integrated, harmonically transparent suffix. Instead, -(I)yor retains phonological substance in the same way that it retains cognitive structure, with the source domain persisting at every level of linguistic organization, from the construal operations that govern its aspectual behavior to the segmental material that constitutes its phonological form. The persistence is multi-stranded across semantic, phonological, and distributional layers, and each

strand is independently motivated by the properties of the specific source domain. The phonological retention is driven by the grammaticalization pathway (univerbation rather than cliticization, as Schiering demonstrates) rather than by the source domain's cognitive structure per se. Semantic and phonological persistence are thus parallel but distinct phenomena, converging on the same conclusion — that the source leaves traces — through different mechanisms.

Hopper's Persistence Principle is correspondingly elevated from a distributional observation to a cognitive-structural prediction. Persistence, as Hopper formulated it, notes that "traces of original lexical meanings tend to adhere" to grammaticalized forms. Source-domain retention specifies what adheres and why, identifying the cognitive operations that were immanent in the source domain's conceptualization survive because they constitute the processing activity that the grammaticalized marker encodes. The prediction is falsifiable: if a marker's extension patterns can be derived from its source domain's cognitive structure, source-domain retention is confirmed; if the extension patterns are orthogonal to the source domain, the hypothesis requires revision. Bybee et al. (1994) arrive at a convergent formulation from a purely typological perspective, showing that grams carry inherent semantic substance traceable to their original lexical sources and display predictable polysemy patterns that span contiguous segments of a grammaticalization pathway. Their crosslinguistic survey reveals that markers of the same gram-type consistently differ across languages in ways traceable to their sources, precisely because grams originating from different lexical items preserve distinct reflexes of those source meanings (Bybee et al., 1994). Where Hopper's Persistence catalogues the distributional effects of lexical residue and Bybee et al. catalogue the typological consequences, source-domain retention provides the cognitive-structural mechanism that explains both: the processing operations immanent in the source domain survive grammaticalization because they constitute the very cognitive activity that the grammaticalized marker encodes.

The relationship between source domain and extension pattern is shown to be systematic rather than accidental. The crosslinguistic evidence (Chapter 9) and the within-family Turkic evidence (Chapter 10) converge on the same generalization: motion sources produce trajectory extensions, locative sources produce containment extensions, posture sources produce configuration extensions, and resultative sources produce inference extensions. This

correlation is too consistent to be coincidental and too specific to be explained by universal aspectual semantics alone. It constitutes strong evidence for a cognitive-structural link between etymological source and synchronic function. The within-Turkic comparison is particularly telling. As Chapter 10 documented, Turkic languages that recruited different source verbs for their progressive markers show different patterns of aspectual extension. Turkish -(I)yor, from the motion verb yörü- 'walk,' has developed the broadest functional range among Turkic progressives, extending to futurate, historical present, and exclamative uses, extensions that exploit the trajectory schema's inherent directionality and experiential engagement. Chalkan, by contrast, derives its intraterminal forms from the posture verbs *tur*- 'stand' and *t'at*- 'lie,' and Nevskaya (2025) demonstrates that these forms differentiate aspectual function by the spatial configuration they encode — vertical for default continuation, horizontal for bounded activities — rather than by the trajectory-based extensions that characterize -(I)yor. The motion source affords different extensions than the posture source, and the difference is not random but predictable from the source domain's cognitive structure. This intra-familial comparison controls for areal and genealogical factors, isolating source-domain type as the explanatory variable.

The mechanisms of semantic change operative in grammaticalization have been differentiated more precisely than the standard bleaching narrative allows. Bybee et al. (1994) distinguish five mechanisms of semantic change in grammaticalization: metaphor, inference, generalization, harmony, and absorption. The Turkish data show that different mechanisms operate at different stages of each marker's development. Metaphor, which requires clear image-schematic structure crossing cognitive domains, operates primarily at the earliest stage — the initial recruitment of a motion verb or locative construction into an aspectual periphrasis. Inference — the conventionalization of implicature — drives the subsequent extensions: the futurate use of -(I)yor arises because hearers infer that a currently ongoing action will continue into the near future; the complaint function arises because hearers infer speaker displeasure from the foregrounding of ongoingness; the epistemic reading of -mIş arises because hearers infer indirect evidence from the assertion of a result state. Generalization drives the later stages, as markers expand to encompass wider ranges of predicates (-(I)yor with statives, -(A)r with non-agentive subjects). The Turkish data thus confirm that grammaticalization is not driven by a single mechanism but by a succession

of mechanisms whose applicability depends on the degree of schematization already achieved.

11.4 Implications for Language Typology

The source-domain retention hypothesis has consequences for how aspectual systems are classified and compared.

Feature-based typologies (e.g., Smith's five viewpoint types, the binary [perfective]/[imperfective] distinction) classify markers by their truth-conditional contribution: does the marker present the event as bounded or unbounded, complete or ongoing? These classifications capture the broad contours of aspectual systems but miss the construal-level distinctions that determine how markers actually behave in discourse. Smith (1997) herself acknowledges that progressive sentences frequently convey nuances of activity, dynamism, and vividness that exceed the viewpoint's formal specification, recognizing that progressive markers carry meaning beyond their truth-conditional contribution — but her framework treats these nuances as descriptive properties rather than deriving them from the source domain's cognitive structure. Croft's (2012) two-dimensional (t/q) model advances the analysis by formalizing construal as central to aspect — "a conceptualization or construal is simply a semantic structure for an experience" — and his distinction between directed and undirected activities resonates with the trajectory/containment contrast between -(I)yor and -mAktA. Yet Croft's model is synchronic and typological: it classifies aspectual construals without tracing them to diachronic sources. The source-domain retention hypothesis adds the missing diachronic dimension by showing that the construal type a marker encodes is not arbitrary but is inherited from the specific lexical source that gave rise to it. Two markers with the same feature specification ([+progressive]) can differ dramatically in their extension patterns (Turkish -(I)yor vs. Turkish -mAktA), and the difference is invisible to the feature-based typology but predictable from the source-domain typology.

The source domain is, in this sense, a hidden variable in aspectual typology, one that is invisible to truth-conditional semantics but visible to construal-based analysis. Recognizing this variable transforms the typological question from "What features does this marker encode?" to "What construal operations does this marker make available, and where do those operations

come from?" The second question is richer, more predictive, and more explanatory than the first.

A construal-based typology would classify markers by their source domain and the construal operations they encode: trajectory-scanning, containment, boundary-profiling, summary-scanning, post-event inference. This classification preserves the information that feature-based typologies discard, including the cognitive profile of the marker, the affordances it provides for extension, and the constraints it imposes on distribution, while still capturing the broad functional categories that features identify. A progressive from a motion source and a progressive from a locative source are both [+progressive] in feature terms, but they differ in construal type (trajectory vs. containment), and the construal type predicts their divergent behavior.

The research program that emerges from this typological reframing is concrete: for each aspectual marker in each language, identify the source domain, map the construal profile, catalogue the extension patterns, and test whether the extension patterns are predictable from the source domain's cognitive structure. This program does not replace existing typological frameworks; it supplements them with a variable — source-domain type — that enriches the typological description and increases its predictive power.

This reframing also has consequences for understanding diachronic cycles within aspectual systems. Deo (2015) has shown that the progressive-to-imperfective shift is a robust crosslinguistic pattern: markers that begin as progressives extend to habitual and stative contexts, eventually covering the full imperfective domain and triggering the innovation of new, more specific progressive markers. The Turkish data confirm this pattern — -(I)yor has extended from its original progressive territory into stative and characterizing contexts once reserved for the aorist — but the source-domain retention hypothesis adds a crucial specification that Deo's formal account lacks: the trajectory of extension is not merely a function of privative semantic opposition between progressive and imperfective, but is shaped by the specific cognitive affordances of the source domain. A motion-source progressive extends into futurate territory before habitual territory, because the trajectory schema naturally supports forward projection; a locative-source progressive extends into stative territory before futurate territory, because the containment schema naturally supports stable-state construal. The cyclic pattern is

universal; the path through the cycle is source-domain-specific. This specification has typological consequences for predicting which progressives will extend most rapidly into imperfective territory. If the source domain provides a rich cognitive affordance for temporal generalization — as the trajectory schema does, with its inherent directionality and forward projection — the marker should progress through the Deo cycle more rapidly than a marker whose source domain provides a more restricted affordance. Turkish -(I)yor, with its motion-verb source, has indeed progressed further through the cycle than Spanish *estar* + gerund, whose locative source provides containment but not trajectory (Torres Cacoullos, 2012). Similarly, the English progressive *be* + V-*ing*, with its locative-derived containment schema, is at an earlier stage in the cycle than Turkish -(I)yor: it has extended to habitual contexts only marginally and resists the futurate and exclamative extensions that -(I)yor supports readily. The rate of cycling is not determined solely by frequency or structural pressure; it is modulated by the source domain's cognitive affordances.

Johanson's viewpoint-operator framework, with its intraterminality, postterminality, and adterminality distinctions, provides an additional layer of typological precision. The Turkish system maps onto this framework in a principled way: -(I)yor encodes focal intraterminality (INTRAHF), -(A)r encodes non-focal intraterminality (INTRANF), -mAktA encodes a second layer of intraterminality distinguished by register, -DI encodes the boundary-profiling that corresponds to terminality, and -mIş encodes postterminality with an evidential overlay. The source-domain retention hypothesis explains why these particular mappings hold: the motion-derived -(I)yor naturally achieves the highest degree of focality (because motion verbs foreground the internal trajectory), while the opaque -(A)r achieves the lowest (because the absence of a transparent source domain leaves only schematic, non-focal scanning).

11.5 What Remains

This book has argued for the source-domain retention hypothesis on the basis of five Turkish markers, crosslinguistic parallels from English, Dutch, Spanish, and several other languages, and a preliminary comparison across the Turkic family. The argument is, at this stage, a strong case study with suggestive crosslinguistic support rather than a demonstrated universal. Turkish is an unusually rich testing ground because it offers five markers with

varying degrees of source-domain transparency within a single paradigm, but the hypothesis claims generality beyond Turkish. Several lines of future research would strengthen, refine, or challenge the hypothesis.

11.5.1 Empirical Verification

The claims in this book are grounded in evidence synthesized from existing literature, but they generate testable predictions that call for dedicated empirical work. Large-scale corpus studies of Turkish — using tagged corpora of spoken and written Turkish — would provide quantitative evidence for the distributional generalizations claimed here, replacing qualitative observations with usage-based profiles. How does the -(I)yor/-(A)r distribution vary by register, age group, and dialect? Do the collocational profiles of the two markers in the habitual domain align with the experiential-engagement vs. detached-overview construal distinction? Corpus data would provide the usage-based evidence that Cognitive Grammar, as a usage-based framework, ultimately requires.

The construal-level claims are also testable experimentally. Büyükyıldırım et al. (2025) have taken a first step: their eye-tracking and picture-selection experiments reveal a striking processing asymmetry between imperfective -(I)yor and perfective -DI (monolinguals: 96% vs. 76% accuracy), attributable partly to morphological positioning and partly to the "overlap between evidential and aspectual morphology" that complicates -DI's processing. These findings are suggestive but do not yet test source-domain retention directly. Reaction-time studies comparing -(I)yor vs. -(A)r in habitual contexts, eye-tracking studies measuring -DI vs. -mIş effects on discourse model construction, and crosslinguistic priming studies comparing Turkish and English progressive processing would move the hypothesis from the interpretive domain into the empirical one.

11.5.2 Extending the Framework

Source-domain retention, if valid for aspect, should apply to other grammatical domains with transparent etymological sources. Modality offers an immediate testing ground. English must (from a verb of allowance/ability) and should (from a verb meaning 'owe') have followed different subjectification trajectories despite converging on epistemic-modal territory — the former retaining a force-dynamic schema, the latter an obligation schema. If source-domain retention holds, these differences should persist in

speakers' processing and collocational profiles. Within Turkic, Chapter 10 sketched a preliminary comparison constrained by limited availability of detailed descriptions for many varieties. A systematic survey across Oghuz, Kipchak, Karluk, and Siberian branches would provide the most comprehensive intra-familial test available in any language family.

Acquisition data offer a convergent line of evidence. Aksu-Koç (1988) demonstrates that children's earliest verb inflections are aspectual rather than temporal: -DI marks completion, -(I)yor marks duration, -mIş marks stativity — each marker's earliest function corresponding to its source domain's core cognitive profile. She establishes that "SITUATION ASPECT has primacy over VIEWPOINT ASPECT" (p. 194), a developmental trajectory that mirrors the diachronic trajectory of grammaticalization itself. The parallel between ontogeny and diachrony is particularly striking for -mIş. Aksu-Koç (1988) documents a developmental sequence — stativity → perfect aspect → 'new information' → inferential past → quotative — that mirrors the historical development traced by Grunina (1976, as cited in Aksu-Koç, 1988) across the Turkic family: the perfect participial function preceded the inferential past, which in turn preceded the evidential mood. As Aksu-Koç observes, "the relations between the historical and ontogenetic sequences are striking and raise potentially important psycholinguistic questions" (p. 204). From the source-domain retention perspective, this convergence is expected: the resultative source domain's cognitive organization — profiling the result state before the antecedent process — determines both the historical and the developmental trajectory. A systematic re-analysis of Turkish acquisition data through the lens of source-domain retention would test whether this principle extends to the other markers as well.

11.5.3 Applied Predictions

The construal-space model proposed in Chapter 8 could be formalized computationally — using distributional semantic spaces derived from Turkish corpora, or Bayesian models estimating the probability of each construal given the marker and its linguistic context. If -(I)yor and -(A)r occupy different regions of a corpus-derived semantic space whose dimensions correspond to the scanning-mode and subjectivity axes, the model gains independent quantitative support.

The hypothesis generates specific L2 acquisition predictions in two domains. In the progressive domain, Bozdağ (2025) provides preliminary

evidence that Turkish EFL learners "transfer the construal patterns associated with Turkish -(I)yor to their use of the English progressive," overextending the English progressive into habitual and futurate contexts that reflect -(I)yor's broader motion-derived scope. The prediction can be tested across L1 source-domain types, with English-speaking learners of Turkish expected to underextend -(I)yor in futurate contexts (the English progressive's locative source does not support forward projection), while Dutch-speaking learners should show sensitivity to activity configuration (reflecting their posture-verb progressive sources) but not to trajectory-based extensions. A comprehensive cross-L1 study would show that source-domain fingerprints are detectable not only in synchronic distribution but in the transfer errors that L2 learners produce.

In the evidential domain, Turkish obligatorily partitions past-tense assertions along the -DI/-mIş axis (§7.5), and this structural asymmetry creates a second transfer domain. Turkish speakers whose L1 requires morphological encoding of information source may transfer these epistemic-marking habits to English in two directions, overusing hedging markers to compensate for the absence of a morphological evidential, or underusing them based on the expectation that unmarked assertions imply direct, authoritative knowledge. The source-domain retention framework predicts not merely general transfer but construal-specific transfer, whereby the vantage-point configuration that -mIş encodes (post-event, indirect access) should shape the L2 speaker's epistemic marking in ways that differ systematically from speakers of languages without grammaticalized evidentiality. A testable prediction follows: Turkish speakers should show sensitivity to information source in their hedging patterns — using more hedges for reported information than for personally experienced information — even when English native speakers show no such asymmetry. A full investigation combining corpus analysis of Turkish learners' hedging patterns with experimental measures of construal processing would constitute a productive empirical test of source-domain retention in the acquisitional domain.

The title of this chapter is also the title of this book's central claim: grammar remembers. What it remembers is the source domain — the embodied, spatial, experiential content from which grammatical meaning was abstracted. The remembering is not a passive residue of incomplete bleaching but an active structural constraint that shapes the marker's synchronic profile, determines its extension potential, and predicts its diachronic trajectory. The

five Turkish markers examined in this book are five memories — five cognitive fingerprints left by five source domains on the grammatical system that absorbed them. The fingerprints are not identical in depth: -(I)yor's motion fingerprint is deep and pervasive; -(A)r's opaque fingerprint is barely detectable. But the principle is the same: the source shapes the target, and the target carries the source.

This principle has a corollary that bears on the nature of grammatical knowledge itself. If grammar remembers its sources, then grammatical competence is not the mastery of an abstract, ahistorical system of features and rules. It is the mastery of a system of schematized cognitive operations whose internal structure was donated by specific experiential domains — motion, location, result, force. The speaker who uses -(I)yor is not merely selecting a formal feature bundle [+progressive, +imperfective]. Rather, the speaker is activating a construal operation — sequential scanning along an experiential trajectory — that was once the cognitive structure of walking, and is now the cognitive structure of temporal engagement. Likewise, the speaker who uses -mIş is not merely selecting [+evidential, +indirect] but activating a construal operation — inference from encountered traces — that was once the cognitive structure of arriving at a scene after an event, and is now the cognitive structure of epistemic hedging. Grammar is not empty form; it is living form — form that remembers where it came from and, in remembering, constrains where it can go.

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Abbreviations

Glossing Abbreviations (Leipzig Conventions)

Abbreviation	Meaning
1SG	first person singular
2SG	second person singular
3SG	third person singular
1PL	first person plural
ABIL	abilitative
ACC	accusative
AOR	aorist
COP	copula
DAT	dative
EVID	evidential
IMPF	imperfective
INF	infinitive
INS	instrumental
LOC	locative
NEG	negative
PERF	perfect
PL	plural
PROG	progressive
PST	past
REDUP	reduplication
SG	singular

Technical Abbreviations

Abbreviation	Meaning
CG	Cognitive Grammar
TAM	tense-aspect-mood
NP	noun phrase

VP	verb phrase
EFL	English as a foreign language
IPFV	imperfective

Johanson's Viewpoint Framework

Abbreviation	**Meaning**
INTRAHF	high-focal intraterminal
INTRALF	low-focal intraterminal
INTRANF	nonfocal intraterminal
MOD	modal
NON-INTRA	nonintraterminal
POSTLF	low-focal postterminal