Depicting Space

Advanced Classifier Morphology and Spatial Grammar in American Sign Language

Janna Sweenie, MA
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ASL Linguistics for Practitioners Series
Book 2

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0.1 DEPICTING SPACE

0.1.1 Advanced Classifier Morphology and Spatial Grammar in American Sign Language

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This book extends the analytical framework established in *Arm Angles in American Sign Language: A Comprehensive Guide to Shoulder, Elbow, and Wrist Positioning* (Sweenie and Boles, 2026).

0.3 Dedication

To everyone who loves the language that lives in the hands.

0.4 Authors' Note

This book exists because classifiers are hard.

Not hard in the way that vocabulary is hard, where more exposure and memorization eventually produce competence. Classifiers are hard in the way that spatial reasoning is hard, the way that coordinating multiple simultaneous parameters is hard, the way that integrating receptive understanding with productive fluency is hard. They are hard because they require signers to think spatially while signing temporally, to track multiple referents while producing new content, to select among productive options while maintaining discourse coherence.

For over two decades, we have taught classifier predicates and spatial grammar to students at various levels. We have watched talented signers struggle with spatial consistency. We have seen interpreters lose frame coherence under cognitive load. We have observed the gap between knowing what classifiers are and being able to deploy them fluently. This book attempts to address that gap.

Our approach builds on the framework we developed in *Arm Angles in American Sign Language*. That book examined how the arm's positioning carries meaning in ASL, how proximal and distal articulation correlate with register and emphasis, how the physical apparatus of signing contributes to linguistic structure. This book extends that analysis into the domain where arm positioning matters most: classifier predicates and the spatial grammar that organizes them.

We have tried to write the book we wished existed when we were learning and the book we wish existed now for our students. The result is more theoretical than a phrase book, more practical than a linguistics monograph, and more demanding than an introductory text. We make no apology for this positioning. The subject requires it.

The theoretical chapters establish frameworks that the practical chapters apply. Readers who want only practical guidance may be tempted to skip the theory. We advise against this. The practical guidance makes more sense when the theoretical foundations are in place. Understanding why classifier systems work as they do supports using them effectively.

We have included extensive discussion of professional interpreting contexts because that is where spatial and classifier precision matters most. Legal, medical, and technical settings demand accuracy that casual conversation does not. Signers who work in these settings need resources that address their specific challenges. We hope this book provides some of those resources.

No book teaches signing. Books provide frameworks, vocabulary, and guidance, but skill develops through practice with feedback. We have included practice suggestions throughout, and Appendix B provides structured exercises. These are starting points, not substitutes for the work of development.

We are grateful to our students, whose struggles and successes have shaped our understanding. We are grateful to our colleagues, whose scholarship informs every chapter. We are grateful to the Deaf community, whose language we have the privilege of studying and teaching.

The errors that remain are ours.

Janna Sweenie David Boles 2026

0.5 A Note on Format

This book contains no photographs, diagrams, or video links. This absence is deliberate.

American Sign Language is a visual-spatial language. Its forms exist in three-dimensional space, in movement, in the relationship between hands and body and face. No static image captures what a classifier predicate does. No diagram adequately represents how spatial loci function across extended discourse. No two-dimensional representation conveys perspective shift or the integration of movement morphology with spatial grammar.

We could have included illustrations showing hand configurations, arrows indicating movement paths, schematic representations of signing space. Such illustrations appear in many ASL textbooks and serve useful purposes at introductory levels. But for the advanced work this book addresses, we believe illustrations would do more harm than good. They would suggest that classifier predicates can be understood from pictures. They cannot. They must be seen in motion, produced in practice, and experienced in actual signed discourse.

This book provides what text can provide: analytical frameworks, terminology, principles, and descriptions. It explains what skilled signers do and why those practices work. It offers vocabulary for discussing spatial and classifier phenomena. It presents exercises and rubrics for practice and self-assessment.

What this book cannot provide, readers must seek elsewhere: exposure to fluent signing through video and in-person interaction, practice with feedback from skilled observers, and the accumulated experience that transforms knowledge into competence. We assume readers have access to such resources and use this book alongside them, not instead of them.

The analytical work of understanding classifier systems is preparatory to the practical work of using them. This book serves the analytical work. The practical work requires hands in motion.

0.6 A Note on Terminology

This book uses several frameworks that operate on different analytical axes. To prevent confusion, we clarify these distinctions here.

Classifier predicate is our primary term for the family of complex verb constructions that combine handshape, location, movement, and orientation to depict entities and actions in space. Some linguists, notably Liddell (2003), prefer the term **depicting verb** to emphasize that these constructions function as verbs rather than noun-like classifiers. When discussing Liddell's framework specifically, we use his terminology; otherwise, we use "classifier predicate" for continuity with existing ASL curricula.

Three Analytical Axes

Readers must keep three distinct analytical axes separate:

Axis 1: Spatial Mode

Topographic mode uses signing space to map real-world spatial relationships. Positions in signing space correspond to positions in the depicted world. If a building is east of an intersection, the classifier representing it is placed in the corresponding position relative to the intersection's representation. Topographic mode is essential for witness testimony, spatial descriptions, and any context where actual locations matter.

Syntactic mode uses signing space for referent tracking without representing actual spatial relationships. Establishing "John" on the left and "Mary" on the right says nothing about where John and Mary are physically located; it creates discourse addresses for subsequent reference. Syntactic mode is the default for most narrative and conversational signing.

Axis 2: Perspective (Viewpoint)

Observer viewpoint depicts scenes from outside, as an external viewer would see them. The signer's body remains the signer; hands and classifiers represent entities in a reduced-scale model of the world.

Character viewpoint depicts scenes from inside, as a participant would experience them. The signer's body becomes the character's body; hands show what the character's hands do; spatial reference is organized around the character's position.

These are endpoints of a continuum, not binary categories. Signers move fluidly between them.

Axis 3: Scale and Representational Space

Liddell's framework distinguishes **token space** (reduced-scale representations where classifiers stand for entities) from **surrogate space** (life-scale representations where entities are manifested at full scale in signing space). His complete framework also includes **real space** (actual locations and objects in the immediate environment that signers may point to or incorporate). This axis intersects with but is not identical to the viewpoint axis: observer viewpoint typically uses token space; character viewpoint typically uses surrogate space; but combinations occur. Surrogate space involves life-scale spatial manifestation, which often accompanies but is not identical to constructed action (bodily enactment).

Throughout this book, we specify which axis we are discussing. When we write "topographic mode," we mean Axis 1. When we write "character viewpoint," we mean Axis 2. Conflating these axes produces confusion; keeping them separate enables precise analysis.

On Visual Reception

This book assumes visual reception of ASL. The spatial frameworks, locus systems, viewpoint distinctions, and classifier analyses all presuppose that the receiver watches the signer from a distance, tracking handshapes, locations, and movements through sight.

This assumption excludes tactile ASL, in which DeafBlind receivers perceive signing through touch rather than vision. Tactile ASL and the Pro-Tactile movement (developed by DeafBlind community leaders including Jelica Nuccio and aj granda) involve distinct spatial conventions: reference points may be established on the receiver's body rather than in the air; spatial relationships may be communicated through pressure, movement direction, and haptic feedback; the kinesthetic channel supplements or replaces the visual channel entirely.

These differences are not minor variations. They constitute a different way of organizing spatial grammar, one that merits its own systematic treatment rather than a brief appendix to a visually-oriented text. Readers working with DeafBlind consumers or interested in Pro-Tactile linguistics should consult the growing body of work emerging from the DeafBlind community and researchers collaborating with that community.

We acknowledge that a book titled *Depicting Space* that addresses only visual space is incomplete. We hope future work, our own or others', will provide the tactile counterpart this subject deserves.

Constructed Action and Role Shift

We use **constructed action** as our primary term for the technique of embodying a character. Some sources use **role shift**; we treat this as a synonym and define it in the glossary.

Error Terminology

When discussing spatial errors, we use **locus collision** (not simply "collision") for clarity, since "collision" also describes real-world events that signers might depict.

0.7 Who This Book Is For

This book is for signers who already sign.

If you are beginning your study of American Sign Language, this book is not for you. Not yet. The foundational skills of handshape production, basic vocabulary, sentence structure, and conversational fluency must be in place before the advanced work this book describes becomes accessible. Return to this book when you have achieved intermediate proficiency. It will be here.

If you are an intermediate signer ready to develop more sophisticated spatial and classifier skills, this book is for you. The theoretical frameworks will provide structure for what you may have learned piecemeal. The practical chapters will extend your capabilities into new domains. The exercises will give you focused practice opportunities.

If you are an advanced signer or working interpreter seeking to refine and deepen your classifier and spatial competence, this book is for you. The analysis of professional contexts addresses challenges you have likely encountered. The error analysis frameworks provide diagnostic tools for ongoing development. The integration chapters offer approaches to the fluency that distinguishes competent from excellent performance.

If you are an interpreter educator or ASL instructor teaching classifier predicates and spatial grammar, this book is for you. The theoretical chapters provide teachable frameworks. The chapter structures suggest curricular organization. The appendices include sample syllabi adaptable to various course formats.

If you are a linguist or researcher interested in ASL spatial systems, this book is for you, though you may find our applied orientation differs from purely theoretical treatments. We have tried to be theoretically informed without being theoretically exhaustive. The bibliography points toward deeper scholarly investigation.

This book assumes:

You can produce the handshapes of ASL accurately and distinguish among similar handshapes.

You understand basic ASL syntax and can produce grammatical sentences.

You have encountered classifier predicates before and have some productive ability with common classifiers.

You understand that ASL is a distinct language with its own grammar, not a manual encoding of English.

You are willing to engage with analytical frameworks, not just memorize forms.

You have access to fluent ASL models, whether in person or through video, for the exposure that supports development.

You are prepared to practice, record yourself, review your work, and practice again.

This book does not assume:

Formal linguistic training. We explain terminology as we introduce it.

Prior reading of *Arm Angles in American Sign Language*, though readers of that book will recognize the extended framework.

Interpreter certification or enrollment in an interpreter training program, though many readers will be in those categories.

Native or near-native ASL fluency. This book is for learners as well as experts, though it serves learners who have moved beyond the beginning stages.

This book is not:

A comprehensive ASL grammar. We address classifier predicates and spatial grammar specifically, not the full range of ASL linguistic structure.

A dictionary of classifier forms. We do not catalog every classifier but rather explain the systems that generate and organize them.

A collection of narratives for practice. We describe principles and provide examples, but we do not provide the extensive video content that classifier development requires.

A substitute for instruction and feedback. Books inform; practice with guidance develops skill.

A quick fix. The competencies this book addresses develop over months and years, not hours and days.

If you are ready for this book, you will find:

Frameworks that organize what may have seemed arbitrary.

Terminology that allows precise discussion of spatial and classifier phenomena.

Analysis of professional contexts that connects abstract principles to concrete demands.

Error categories that support diagnosis and targeted development.

Practice structures that promote integrated fluency.

A developmental perspective that situates current learning within ongoing growth.

Welcome. The work begins.

0.8 Table of Contents

0.9 About the Authors

Janna Sweenie, MA is an American Sign Language educator and curriculum developer with over thirty-five years of experience teaching ASL at the post-secondary level. She holds a Master of Arts degree and has taught ASL levels one through five at New York University for more than three decades. Her work focuses on the linguistic analysis of ASL structure and its application to second-language acquisition and interpreter education.

Sweenie's research interests include the biomechanics of sign production, the relationship between physical articulation and linguistic meaning, and the development of analytical frameworks that bridge linguistic theory and practical pedagogy. She has presented at national conferences on ASL linguistics and interpreter education and has contributed to curriculum development initiatives across the field.

She is co-author, with David Boles, of *Arm Angles in American Sign Language: A Comprehensive Guide to Shoulder, Elbow, and Wrist Positioning* (2026), which established the analytical framework extended in the present volume.

David Boles, MFA is a writer, dramatist, editor, and publisher. He holds a Master of Fine Arts from the Columbia University School of the Arts, where he trained at the Oscar Hammerstein II Center for Graduate Theatre Studies. He is the founder of David Boles Books, an independent publishing house established in 1975, and maintains an active presence across multiple platforms including BolesBooks.com, Boles.com, and BolesBlogs.com. He founded the American Sign Language Program at the City University of New York School of Professional Studies.

Boles brings to this collaboration expertise in clear expository writing, pedagogical structure, and the translation of specialized knowledge into accessible prose. His background in dramatic literature informs the narrative examples and case studies throughout the book, while his editorial experience shapes the systematic organization of complex material.

He is co-author, with Janna Sweenie, of *Arm Angles in American Sign Language* (2026), and has published widely across genres including drama, fiction, and critical analysis.

Sweenie and Boles began their collaboration through shared interest in making the implicit knowledge of skilled signers explicit and teachable. Their complementary expertise, combining deep ASL linguistic knowledge with clear analytical writing, continues to produce resources that serve the ASL learning and interpreting communities.

0.10 Part One

0.11 Theoretical Foundations

0.12 Chapter One

0.12.1 Beyond the Basic Taxonomy

The first encounter with classifier predicates in American Sign Language typically occurs in the second or third year of formal instruction. The student has mastered basic vocabulary, absorbed the fundamentals of spatial grammar, and developed enough productive competence to hold simple conversations. Then the curriculum introduces a new category: classifiers. The textbook presents a taxonomy. Entity classifiers represent whole objects. Handling classifiers show how objects are manipulated. Size and shape specifiers indicate physical dimensions. Body part classifiers use the signer's body to represent corresponding parts of referents. Locative classifiers establish spatial relationships.

The student memorizes the categories. The student learns that CL:3 represents vehicles, that CL:1 represents upright persons or poles, that CL:bent-V represents animal legs. The student practices placing these handshapes in signing space and moving them along paths. The instructor corrects handshape errors, praises successful constructions, and eventually certifies that the student has learned classifiers.

This pedagogical approach has merit. It provides structure for initial learning. It gives students a vocabulary for discussing what they observe in fluent signing. It offers a framework for organizing practice. But it also creates problems that persist into advanced study and professional practice, problems that this book addresses directly.

The traditional taxonomy treats classifier predicates as a finite inventory to be memorized rather than a productive system to be understood. It obscures the morphological processes that generate classifier constructions. It fails to explain why native signers regularly produce classifier forms that fit none of the textbook categories cleanly, or why the "same" classifier can function differently in different constructions. It leaves advanced students and working interpreters with a descriptive vocabulary but without generative competence.

This chapter dismantles the introductory taxonomy and reconstructs classifier predicates as what they actually are: a productive morphological system governed by principles that can be articulated, learned, and applied. The goal is not to discard everything you learned in ASL 2 but to reveal the deeper structure that the introductory categories approximate.

The Problem with Categories

Consider a simple construction: the signer produces CL:3 (the 3-handshape representing a vehicle) and moves it from left to right across signing space. Introductory instruction labels this an entity classifier. The handshape represents a vehicle, an entity. Category assigned, analysis complete.

But what exactly has the signer produced? The construction contains at least three distinct meaningful elements. The handshape CL:3 classifies the referent as a member of a category (vehicles, or more precisely, land vehicles of a certain type). The location of the hand in signing space indicates where the vehicle is. The movement of the hand indicates the vehicle's motion. These three elements combine into a single predicate that might be glossed as something like "vehicle-move-leftward" or, in a discourse context where a specific car has been established, "the-car-drove-across."

The term "entity classifier" captures only the first element: the handshape's classificatory function. It says nothing about the locative and movement morphology that combine with the handshape to create the full predicate. A student who understands only that CL:3 "represents vehicles" has learned perhaps one-third of what the construction means and does.

Now consider a second construction: the signer produces CL:C (a C-handshape) and moves it through space with a pouring motion, rotating the forearm to tip an imaginary container. Introductory instruction labels this a handling classifier. The handshape shows how an object is held.

But again, what has the signer actually produced? The handshape indicates a grip configuration appropriate for a cylindrical object of a certain diameter. The movement indicates the action performed (pouring).

The manner of movement (slow and careful versus quick and careless) indicates how the action was performed. The arm configuration, as we explored in Arm Angles, indicates the weight and resistance of the handled object. These elements combine into a predicate that means something like “pour-from-cylindrical-container” with manner and effort specifications built in.

The term “handling classifier” captures the grip configuration but obscures everything else. And it creates a false dichotomy: is CL:C an entity classifier (representing a cylindrical object) or a handling classifier (representing a grip on a cylindrical object)? The answer is that the same handshape can function either way depending on the construction, which means the categories are not properties of handshapes but properties of how handshapes are deployed.

The taxonomy problem deepens when we examine constructions that combine elements from multiple categories. A signer describing a person climbing a ladder might use CL:1 (the person), CL:B (the ladder, held by the non-dominant hand as ground), and constructed action (the signer’s body and face showing the climber’s effort and perspective). Is this an entity classifier construction? A body part classifier construction? Constructed action? The answer is yes to all three, which means the categories describe aspects of a unified system rather than discrete types of constructions.

Supalla’s Foundation

The linguistic analysis of ASL classifiers begins in earnest with Ted Supalla’s work in the 1980s (Supalla, 1986), building on his earlier research on verbs of motion and location from the late 1970s. Supalla recognized that classifier constructions are morphologically complex: they are not single signs but combinations of meaningful units (morphemes) that follow systematic rules of combination.

Supalla identified the classifier handshape as a morpheme indicating category membership. The 3-handshape is not simply an arbitrary form associated with vehicles; it reflects (iconically, with modifications) the shape of a vehicle with wheels. The 1-handshape reflects the upright, elongated shape of a standing person or pole. The bent-V reflects the bent-leg configuration of a quadruped. These handshapes are motivated rather than arbitrary, though their specific forms are conventionalized within ASL.

Crucially, Supalla analyzed movement in classifier predicates as morphemic: movement is not merely phonetic displacement of the hand but carries its own meaning. A straight movement indicates a direct path. A curved movement indicates a curved path. A repeated movement indicates repeated action. An abrupt stop indicates sudden cessation. These movement morphemes combine with classifier handshapes to create complex predicates.

Supalla also recognized the morphemic status of location. Where the hand is placed in signing space is not phonologically arbitrary (as the location of a lexical sign like MOTHER is essentially arbitrary) but semantically significant. The hand’s location represents the referent’s location. Movement between locations represents movement between places.

This analysis reveals classifier predicates as polysynthetic-like in their information packaging: they combine multiple morphemes into single complex forms, an information-dense strategy often compared (in functional terms) to polysynthetic packaging in some spoken languages. A single classifier predicate can encode the equivalent of an English sentence: “The car slowly approached the intersection from the east.”

Supalla’s analysis liberated classifier predicates from the status of “visual gestures” or “mime” and established them as fully linguistic, morphologically complex, rule-governed constructions. This theoretical foundation remains essential, though subsequent work has refined and sometimes challenged specific aspects of his analysis.

Liddell's Depicting Verbs

Scott Liddell's work reframes classifier predicates as depicting verbs (Liddell, 2003), a terminological shift that reflects a theoretical reorientation. Liddell argues that the term "classifier" is problematic because it implies a particular morphological analysis that may not accurately describe what signers do.

In spoken language linguistics, a classifier is typically a morpheme that categorizes nouns. Mandarin Chinese, for example, requires classifiers when nouns are counted: one cannot say "three books" without an intervening classifier morpheme that categorizes "book" as a flat object. If ASL classifier handshapes were classifiers in this sense, they would function as noun categorizers.

But Liddell argues that ASL "classifier" handshapes function more like verb-like depicting constructions than noun-classifying morphemes. The predicate CL:3[a $\rightarrow$ b] does not mean "vehicle" (a noun); it means "vehicle-move-from-a-to-b" (a verb). Liddell treats the handshape as the more conventional component while arguing that much of the spatial realization (location, movement, orientation) is gradient and depictive, making full morphemic segmentation analytically problematic. He proposes "depicting verb" as a more accurate term: these are verbs that depict actions, locations, and relationships through iconic and spatial means.

The depicting verb framework emphasizes the productive, generative nature of these constructions. Rather than selecting from an inventory of pre-existing classifier signs, signers construct depicting verbs in real time by combining meaningful elements according to systematic principles. The set of possible depicting verbs is not finite and memorizable but infinite and generatable, just as the set of possible English sentences is infinite.

Liddell's analysis also addresses the relationship between depicting verbs and what he calls "surrogate space" and "token space." In token space, the signer's hands represent entities at reduced scale, and signing space represents a scene viewed from outside, as if looking at a model or map. In surrogate space, an entity is manifested at life-size scale in signing space. These two uses of space correspond roughly to what other researchers call observer perspective and character perspective, though the correspondence is not exact: surrogate space involves life-scale spatial manifestation, while constructed action (role shift) involves bodily enactment. A signer can use surrogate space without fully embodying a character, and constructed action can occur with various degrees of spatial manifestation. The front matter's "A Note on Terminology" addresses these distinctions in detail.

For our purposes, the depicting verb framework provides a crucial insight: classifier predicates are not a miscellaneous category of "visual" expressions separate from the "real" grammar of ASL but are central to ASL morphology and syntax. They are verbs, and they follow rules.

Brentari's Prosodic Model

Diane Brentari's prosodic model of sign language phonology (Brentari, 1999) offers additional analytical tools. Brentari argues that signs have internal structure organized into prosodic constituents, analogous to the syllable structure of spoken languages. Her analysis distinguishes between the inherent features of a sign (those that remain constant throughout production) and the prosodic features (those that change during production).

For classifier predicates, this distinction is illuminating. The classifier handshape is typically an inherent feature: it is selected at the outset and maintained throughout the predicate. The movement path is prosodic: it unfolds over time and constitutes the temporal structure of the predicate. This is not absolute, however. Some classifier predicates involve handshape aperture change or orientation change during production, which Brentari's model treats within the prosodic architecture. The generalization that "handshape is inherent" holds for many classifier predicates but should not be taken as definitional.

Applied to classifier predicates, this distinction helps clarify what is "classifier" and what is "movement." The handshape is an inherent feature: it is selected before the predicate begins and maintained throughout. The movement is a prosodic feature: it unfolds through time and can be modified in various ways (faster, slower, tenser, more relaxed) without changing the inherent handshape.

Brentari's model also addresses the phonological constraints on classifier predicates. Not all conceivable combinations of handshape, location, and movement are possible or well-formed. Some combinations violate phonological constraints (they would be unpronounceable, in spoken language terms). Others violate morphological constraints (they would be ungrammatical). Still others violate semantic constraints (they would be uninterpretable). Understanding these constraints helps explain why some classifier constructions feel natural and others feel awkward or wrong.

For advanced learners and interpreters, Brentari's work offers a framework for analyzing why certain productions succeed and others fail. A classifier construction that "looks wrong" often violates a specific constraint that can be identified and corrected, rather than simply being "not how Deaf people do it" (a feedback that, while sometimes necessary, offers no path to improvement).

Toward a Unified Framework

This book synthesizes these analytical traditions into a working framework for advanced study. The framework rests on several key principles.

First, classifier predicates are morphologically complex verbs. They combine multiple meaningful elements (classifier handshape, location, movement, manner, spatial relationships) into single predicates. Understanding classifier predicates requires understanding each element and how they combine.

Second, classifier predicates are productive. Signers generate novel classifier predicates in real time rather than retrieving them from a memorized inventory. This productivity is rule-governed: it follows systematic principles that can be learned and applied.

Third, classifier predicates are gradient. Unlike lexical signs, which have relatively fixed forms, classifier predicates allow continuous variation in parameters like size, speed, location, and manner. A vehicle classifier can move quickly or slowly, smoothly or jerkily, in a straight line or a curved path, and each variation contributes to meaning. This gradience is not vagueness but precision: it allows signers to encode fine-grained information that lexical signs cannot capture.

Fourth, classifier predicates interact with perspective. The same scene can be depicted from observer perspective (the signer's hands represent entities seen from outside) or character perspective (the signer's body represents a participant seen from inside). Perspective affects how spatial relationships are mapped onto signing space, how scale is managed, and how the signer's body and face contribute to the construction.

Fifth, classifier predicates interact with discourse structure. They do not occur in isolation but in the context of ongoing discourse with established referents, spatial loci, and topical frameworks. Classifier use must be coherent with this discourse context, and classifier predicates contribute to building and maintaining that context.

These principles replace the introductory taxonomy not by discarding it but by revealing its limitations. The categories “entity classifier,” “handling classifier,” and so forth describe functional tendencies rather than discrete types. A given handshape may function as an entity classifier in one construction and a handling classifier in another. A given construction may combine entity, handling, and body part elements simultaneously. The categories are useful for initial instruction but become obstacles when treated as fixed, mutually exclusive bins.

What the Taxonomy Gets Right

Before proceeding, we should acknowledge what the traditional taxonomy captures accurately. The distinction between representing an entity (what something is) and representing handling (how something is manipulated) is real. These are different semantic functions, and constructions emphasizing one function do look and feel different from constructions emphasizing the other. The taxonomy is not wrong; it is incomplete.

Similarly, the taxonomy correctly identifies that some classifier constructions represent physical dimensions (size and shape specifiers), that some use the body to represent body parts (body part classifiers), and that some establish locations and spatial relationships (locative classifiers). These are genuine functional distinctions observable in ASL production.

The problem is treating these functions as the basis for categorizing handshapes rather than constructions. The handshape CL:1 does not “belong to” the entity classifier category; it is a handshape that can be deployed in entity constructions, handling constructions, body part constructions, and others depending on discourse context and the signer’s communicative intent.

The Pedagogical Challenge

If classifier predicates are a productive morphological system rather than an inventory of forms, then teaching them requires a different approach than teaching lexical vocabulary. You cannot simply memorize all the classifier predicates the way you memorize signs for APPLE, BOOK, and UNDERSTAND. There are infinitely many possible classifier predicates, just as there are infinitely many possible English sentences.

What you can do is learn the meaningful elements (the morphemes), learn the rules for combining them, develop fluency in applying those rules in real-time production, and develop perceptual sensitivity to their deployment in fluent signing. This is analogous to how native speakers of English learn not words alone but the morphological and syntactic rules that allow unlimited word and sentence creation.

The challenge for advanced learners and interpreters is that this productive system was largely acquired implicitly by native signers during childhood, through immersion rather than instruction. Native signers do not consciously think “I will now combine a vehicle classifier morpheme with a direct-path movement morpheme and a leftward direction morpheme”; they simply produce the form that depicts what they want to communicate. The rules are internalized and automatic.

For second-language learners, conscious analysis provides a bridge to eventual automaticity. By understanding what the rules are, learners can practice applying them deliberately until application becomes automatic. This book provides the analytical framework for that conscious understanding.

The Notation Challenge

Discussing classifier predicates in text requires notation that captures their morphological complexity. The notation system introduced in Arm Angles and extended in this volume serves this purpose.

A simple classifier predicate might be notated as:

CL:3[a → b]

This indicates a classifier with the 3-handshape moving from locus a to locus b. The notation identifies the handshape (CL:3) and the movement path (a → b).

A more complex predicate might be notated as:

CL:3[a → b, PATH:arc, SLOW, PROX+]

This indicates the same classifier moving from a to b, but on an arced path, with slow movement, and with notable proximal (shoulder) involvement. Each element in the brackets adds information about how the predicate is produced and what it means.

When both hands participate:

ND:CL:B[GROUND, HOLD] + D:CL:3[a → b]

This indicates that the non-dominant hand (ND) holds a flat surface (CL:B) as ground while the dominant hand (D) moves the vehicle classifier across it.

These notations are pedagogical tools for this book, as the Preface to Arm Angles established. They are not standard transcription conventions for ASL linguistics research. Their purpose is to allow precise discussion of classifier constructions in a text-only format, and they will be introduced progressively as the constructions they describe are examined.

The Work Ahead

This chapter has argued that classifier predicates are not a category of "special signs" separate from the core grammar of ASL but a productive morphological system central to the language. The introductory taxonomy of entity, handling, SASS, body part, and locative classifiers describes functional tendencies rather than discrete categories. Classifier predicates combine meaningful elements (handshape, location, movement, manner) into complex verbs that depict actions, locations, and relationships.

The chapters that follow examine each aspect of this system in detail. Part Two addresses spatial anchoring: how signers establish, maintain, and manage spatial loci across extended discourse. Part Three examines classifier predicates in depth, moving beyond the introductory categories to analyze the morphological and semantic principles governing their production and interpretation. Part Four addresses precision requirements in professional contexts where spatial accuracy has legal, medical, or academic consequences. Part Five provides integrated practice protocols for developing productive competence.

Throughout, the goal is not merely to describe what fluent signers do but to explain why they do it, in terms that support deliberate learning and eventual automaticity. Classifier predicates are not a mystery accessible only to native signers; they are a system that can be understood and mastered at advanced levels by dedicated learners.

That understanding begins with releasing the introductory taxonomy's grip on how you conceptualize these constructions. Entity, handling, SASS, body part, locative: these terms remain useful shorthand for functional tendencies, but they are not the deep structure of the system. The deep structure is morphological productivity governed by semantic, phonological, and discourse principles. The next chapter examines the first of those principles: the cognitive architecture that governs how signers select classifiers for the referents they wish to depict.

0.13 Chapter Two

0.13.1 The Cognitive Architecture of Classifier Selection

A student in an advanced ASL course produces a classifier predicate describing a pencil rolling off a desk. She uses CL:1, the upright-person/pole classifier, because the pencil is long and thin. The instructor pauses. A native Deaf signer in the room has just depicted the same event using CL:G, the small-cylindrical-object classifier, held horizontally with a rolling movement. Both handshapes could represent a pencil. Both are "correct" in some abstract sense. Yet the native signer's choice looks natural while the student's choice looks slightly off.

Why?

The answer lies in the cognitive architecture underlying classifier selection. Choosing a classifier is not a matter of matching referents to handshapes through memorized pairings. It is a real-time cognitive process that considers multiple factors simultaneously: the physical properties of the referent, its role in the event being depicted, the perspective from which the scene is viewed, the discourse context in which the description occurs, and the communicative goals of the signer. Understanding this architecture transforms classifier use from an error-prone guessing game into a principled system.

This chapter examines the cognitive principles governing classifier selection. We begin with the foundational concept of iconicity and its constraints, then examine the semantic features that drive selection, and conclude with the discourse and perspective factors that modulate choice. The goal is to make explicit the implicit knowledge that native signers deploy automatically.

Iconicity and Its Limits

ASL classifier handshapes are iconic: they resemble, in schematized form, properties of the entities they represent. The 3-handshape used for vehicles presents the extended thumb and first two fingers in a configuration suggesting wheels or the general outline of a car. The 1-handshape used for upright persons presents a single extended finger suggesting the verticality and relative narrowness of a standing human figure. The bent-V used for animal legs presents two bent fingers suggesting the configuration of quadruped limbs.

This iconicity is real and important. It is not coincidence that vehicle classifiers look vaguely vehicle-like or that person classifiers look vaguely person-like. The visual-gestural modality of signed languages permits and exploits resemblance between form and meaning in ways that the acoustic modality of spoken languages largely cannot.

However, iconicity operates under significant constraints. The handshapes available for classifier use are not infinite; they are drawn from the phonological inventory of ASL, which permits certain hand configurations and prohibits others. The iconic representation must be achieved using permissible handshapes, which means the resemblance is always partial, schematized, and conventional.

Consider the 3-handshape for vehicles. It does not look exactly like a car. It does not have four wheels, windows, or doors. It presents a schematic suggestion of vehicularity: something with a horizontal extent and perhaps protrusions suggesting wheels. This schematization is conventional within ASL. Signers of other sign languages may use different handshapes for vehicles, handshapes that are equally iconic but schematize different features. The iconicity is real, but it is filtered through language-specific convention.

Sarah Taub's work on iconicity in ASL (Taub, 2001) provides a framework for understanding this relationship. Taub argues that iconic signs involve a mapping between a mental image of the referent and the linguistic form. This mapping is not direct (the sign does not simply "picture" the referent) but mediated by what Taub calls an "image schema": an abstract spatial or structural pattern that captures relevant features while discarding irrelevant ones.

For classifier handshapes, the image schema captures the features relevant for categorization. The 3-handshape's image schema might be something like "object with horizontal extent and lower protrusions." This schema fits cars, trucks, buses, and motorcycles (all of which can be represented by CL:3 or related forms) while excluding objects without these features. The schema is abstract enough to cover a category but specific enough to exclude non-members.

Understanding iconicity as schema-mediated rather than directly pictorial explains why classifier selection is not simply "pick the handshape that looks most like the thing." The signer must identify which schematic features are relevant for the current depiction, then select a handshape whose image schema matches those features. Different features may be relevant in different contexts, leading to different classifier choices for the same referent.

Semantic Features Governing Selection

Classifier selection is governed by semantic features of the referent: properties that determine which category the referent belongs to for purposes of classifier assignment. Research has identified several features as particularly important.

Dimensionality refers to the primary geometric extension of the referent. Is it primarily linear (one-dimensional extension, like a pole or rope), planar (two-dimensional extension, like a sheet of paper or tabletop), or volumetric (three-dimensional extension, like a ball or box)? Dimensionality strongly influences classifier choice. Linear objects typically take classifiers emphasizing length (CL:1 for rigid linear objects, CL:G for thin cylindrical objects, CL:X for bent linear objects). Planar objects typically take flat-hand classifiers (CL:B, CL:5). Volumetric objects take classifiers suggesting three-dimensional grasp or extent (CL:C, CL:claw-5).

The pencil example illustrates dimensionality in action. A pencil is linear, suggesting CL:1. But it is also cylindrical with small diameter, suggesting CL:G. Both classifiers are dimensionally appropriate. The native signer's choice of CL:G over CL:1 reflects additional factors beyond dimensionality alone.

Animacy distinguishes living entities from non-living objects. Animate referents, particularly humans and animals, have dedicated classifier forms. However, the relevance of animacy to the pencil example is subtler than it might appear. The issue is not that CL:1 “imports an animate schema” onto the pencil. As Chapter 1 established, handshapes do not belong to categories; they are deployed in constructions. The issue is that CL:1’s typical deployment contexts (upright persons, poles standing vertically) create expectations about orientation and movement that conflict with the pencil’s situation in the depicted event. A pencil lying horizontally and rolling does not match the vertical, non-rolling contexts where CL:1 is most commonly deployed. The CL:G classifier, commonly used for small cylindrical objects in various orientations, better affords the horizontal positioning and rolling movement the event requires.

Animacy interacts with other features in complex ways. A doll, though inanimate, may be represented with person classifiers when the discourse treats it as a person-like entity (in a child’s play narrative, for instance). A person reduced to an object-like role (a body being carried, a patient on an operating table) may be represented with less animate-associated classifiers. The feature is semantic and discourse-dependent, not purely ontological.

Rigidity distinguishes objects that maintain their shape from objects that deform. A pencil is rigid; a rope is flexible. Rigid objects can be represented with classifiers showing fixed configurations, while flexible objects may require classifiers showing deformation or may use handling classifiers that show the object’s response to manipulation.

Canonical orientation refers to how an object is typically positioned. A pencil in use is held at an angle; a pencil at rest lies horizontally; a pencil in a cup stands vertically. Different orientations may invite different classifier choices. The student who chose CL:1 for the rolling pencil may have been thinking of a pencil’s canonical “in use” orientation (held somewhat vertically) rather than its actual orientation in the depicted event (horizontal, rolling).

Size category affects classifier choice through handshape aperture. Small objects take classifiers with closer finger configurations; large objects take classifiers with wider apertures. A drinking glass takes CL:C; a barrel takes a larger curved handshape or two-handed representation. Size is relative and context-dependent: the “same” object may be classified differently when contrasted with larger versus smaller objects.

These features do not operate independently. A classifier choice reflects the intersection of multiple features simultaneously. A pencil is linear, cylindrical, rigid, inanimate, small, and (in the depicted event) horizontally oriented. The classifier that best satisfies this feature bundle, given the phonological options available, is what native signers select.

The Role of Perspective

The perspective from which a scene is depicted affects which features are relevant and therefore which classifiers are selected. The two fundamental perspectives, observer and character, weight features differently.

In observer perspective, the signer views the scene from outside, as if looking at a model or watching from a distance. The hands represent entities at reduced scale, and the signing space represents the scene’s spatial layout. In observer perspective, the overall shape and category of referents tends to dominate classifier choice. A car is represented as a car-shaped thing (CL:3) moving through space; a person is represented as a person-shaped thing (CL:1) in spatial relation to other entities.

In character perspective, the signer views the scene from inside a participant’s experience. The signer’s body may represent the character; the hands may represent what the character manipulates or perceives. In character perspective, handling and interaction features tend to dominate. A car is not represented as a car-shaped thing but through the actions of driving it: hands on a steering wheel (handling classifiers), body orientation and movement suggesting the driving experience. A pencil is not represented as a pencil-shaped thing but through the action of grasping, using, or (in our example) watching it roll away.

The native signer's CL:G choice for the rolling pencil fits an observer perspective that emphasizes the object's motion as seen from outside. If the signer shifted to character perspective (becoming the person watching the pencil roll), the representation might change: perhaps a handling classifier showing the attempt to catch it, or a body shift showing the watcher's reaction.

Perspective selection is itself a communicative choice. Signers shift between perspectives based on narrative needs, emphasis, and the information structure of the discourse. Classifier selection follows perspective: once perspective is chosen, certain classifiers become more appropriate than others.

Figure, Ground, and Event Structure

Gestalt principles of figure-ground organization influence classifier selection and deployment. In any depicted scene, some elements are figures (the focal entities whose actions or properties are being predicated) and some are ground (the stable background against which figures act).

Figure elements typically receive classifier predicates with movement and change. Ground elements typically receive classifier predicates that establish location and then hold. The non-dominant hand often provides ground while the dominant hand animates the figure, a division of labor examined in detail in Chapter 11.

Figure-ground organization affects classifier selection because figures and grounds have different functional requirements. A ground element needs to be spatially stable and recognizable but does not need to show internal action. A flat-hand classifier (CL:B) representing a surface works well as ground: it establishes a plane against which other action occurs. A figure element needs to show the action or change being predicated, which may require classifiers that permit the relevant movement or that schematize the relevant features for the action.

In the pencil example, if the desk surface were explicitly represented (ND:CL:B as ground), the pencil would be the figure moving across that ground. The rolling motion, the horizontal orientation, and the small cylindrical shape all become relevant features for depicting this figure in this event. CL:G held horizontally with a rolling movement captures these features.

Event structure, the internal organization of the event being depicted, also influences selection. Events have participants in different roles: agents that cause action, patients that undergo action, instruments used in action, locations where action occurs. Classifier choice may reflect the role a referent plays in the event, not just its inherent physical properties.

A hammer used to drive a nail might be represented with a handling classifier showing the grip during the event. The same hammer lying in a toolbox might be represented with an entity classifier showing its shape at rest. The object's physical properties have not changed, but its role in the event structure has, and classifier selection responds to this role.

Discourse Salience and Referent Tracking

Classifiers serve discourse functions beyond depicting physical properties. They track referents across extended discourse, maintaining spatial loci and distinguishing co-present entities. These discourse functions influence classifier selection.

When multiple referents of the same type are present, classifiers may differentiate them through features that would otherwise be irrelevant. If two cars are involved in a narrative, both could in principle be represented with CL:3. But a signer might differentiate them: perhaps one is represented with a larger classifier configuration (it is a truck), or one is oriented differently (it is facing the opposite direction), or one is placed at a distinctive height (it is on a hill). These differentiating choices serve referent tracking, allowing viewers to distinguish "this car" from "that car" throughout the discourse.

Salience affects classifier complexity. Highly salient referents, those central to the discourse and frequently referenced, may receive more elaborate classifier treatment: more precise spatial placement, more careful movement depiction, more attention to distinctive features. Less salient referents, those mentioned briefly or serving only background roles, may receive more schematic treatment.

First mention versus subsequent mention also matters. When a referent is introduced, the classifier choice may emphasize category membership and distinctive features, establishing what kind of entity this is. On subsequent mention, the classifier may emphasize continuity with the established referent rather than re-establishing category membership. A car introduced with full CL:3 treatment may be referenced subsequently with a more abbreviated form, relying on discourse continuity to identify the referent.

Why Native Signers Choose "Unexpected" Classifiers

With this framework in place, we can address why native signers sometimes use classifiers that learners find surprising or "wrong." These choices are rarely errors; they are principled selections reflecting factors that learners have not yet learned to perceive.

A native signer might represent a person with a vehicle classifier. Why? Perhaps the narrative is adopting the perspective of another vehicle, and the person is being depicted as an obstacle in the road, an object to be avoided rather than an agent to be interacted with. The classifier choice reflects perspective and event role, not failure to know that people are usually CL:1.

A native signer might represent a large object with a small-object classifier. Why? Perhaps the discourse has established a reduced-scale model of the scene, and within that model, the object is appropriately small. Or perhaps the signer is emphasizing the object's role as a manipulable item from a character's perspective, making a handling classifier appropriate despite the object's actual size.

A native signer might switch classifiers for the same referent within a single discourse. Why? Perhaps the perspective has shifted, or the referent's role in the event has changed, or the signer is zooming in on different features for different communicative purposes. Classifier consistency is not required; classifier coherence with the evolving discourse structure is.

These "unexpected" choices become predictable once the underlying principles are understood. The principles are complex, and native signers apply them unconsciously through years of immersion. For learners, making these principles explicit provides a path to developing similar intuitions through deliberate practice.

Emmorey's Cognitive Neuroscience Perspective

Karen Emmorey's research on the cognitive neuroscience of sign language (Emmorey, 2002) provides additional insight into classifier processing. Her work using brain imaging and behavioral experiments reveals that classifier predicates engage both linguistic and spatial-cognitive systems in the brain.

Emmorey's findings suggest that classifier production and comprehension involve mental imagery and spatial transformation, not just linguistic symbol manipulation. When a signer produces a classifier predicate, they are not merely selecting a form from a lexicon; they are constructing a mental spatial model and mapping it onto the linguistic resources available. When a viewer comprehends a classifier predicate, they are not merely decoding symbols; they are reconstructing the spatial model the signer has depicted.

This cognitive architecture explains why classifier predicates feel different from lexical signs. Lexical signs are retrieved from memory as relatively fixed forms; their production is largely automatic. Classifier predicates are generated through a constructive process that involves imagining the scene, selecting relevant features, and encoding those features in available forms. This process is more demanding and more variable.

For learners, Emmorey's work suggests that developing classifier competence requires developing spatial imagery and transformation abilities alongside linguistic knowledge. Practice should include visualizing scenes from different perspectives, identifying relevant features, and mapping those features onto classifier forms. Pure linguistic drill without spatial-cognitive engagement will produce limited results.

Taub's Iconicity Framework

Sarah Taub's analysis of iconicity, mentioned earlier, provides a systematic framework for understanding the form-meaning relationship in classifiers. Taub argues that iconic expressions involve three components: the image (the mental representation of the referent), the schema (the abstract pattern extracted from the image), and the form (the linguistic expression that encodes the schema).

For classifier predicates, the image is the signer's mental representation of the referent and the event. The schema is the abstracted set of features relevant for classifier selection: dimensionality, animacy, orientation, role, and so forth. The form is the classifier handshape and its deployment in signing space.

Taub's framework explains why the "same" referent can be classified differently in different contexts. The referent has not changed, but the schema has: different features are extracted as relevant for different communicative purposes. A pencil schematized as "long thin thing" yields CL:1. A pencil schematized as "small cylindrical graspable object" yields CL:G. A pencil schematized as "writing instrument in hand" yields a handling classifier showing the grip.

The framework also explains partial iconic failures. When a learner's classifier choice looks "not quite right," the problem may be at any of the three levels. The learner may have an incomplete image (not visualizing the scene fully or accurately). The learner may extract an inappropriate schema (attending to features that are not relevant for the current depiction). The learner may select an inappropriate form (choosing a classifier whose schematic features do not match the intended schema).

Diagnosing which level has failed helps target remediation. A learner who consistently chooses wrong classifiers despite understanding the scene may need work on schema extraction: learning which features are relevant in which contexts. A learner who understands the principles but cannot reliably produce appropriate forms may need work on the form inventory: internalizing which handshapes encode which schematic features.

Toward Principled Selection

This chapter has argued that classifier selection is a principled cognitive process governed by semantic features, perspective, discourse function, and event structure. The principles are complex, but they can be articulated and learned.

The semantic features of dimensionality, animacy, rigidity, canonical orientation, and size category provide a starting point for analysis. When uncertain about classifier choice, a learner can explicitly consider these features: What is the referent's primary dimensional extension? Is it animate or inanimate? Rigid or flexible? How is it oriented in the depicted event? What is its relative size?

Perspective provides a second analytical lens. Is the scene depicted from observer or character perspective? If observer, what schematic features categorize the referent as viewed from outside? If character, what handling or interaction features characterize the referent as experienced from inside?

Discourse function provides a third lens. What role does this referent play in the ongoing discourse? Is it a newly introduced entity requiring category establishment, or a continuing referent requiring only identification? Is it a central figure or a background element? Does it need to be differentiated from similar co-present referents?

Event structure provides a fourth lens. What role does the referent play in the event being depicted? Is it an agent, patient, instrument, or location? How does its event role affect which features are relevant for depiction?

These analytical questions do not yield automatic answers. Multiple classifiers may remain viable options even after careful analysis. But the analysis narrows the field and, crucially, excludes clearly inappropriate choices. Over time, with practice, the analytical process becomes faster and more automatic, approaching the unconscious fluency of native signers.

Exercises for Developing Selection Intuitions

The principles discussed here are better internalized through practice than through reading alone. Chapter exercises will provide structured opportunities for that practice, but two preliminary approaches deserve mention here.

First, observation practice: watch fluent signers produce classifier predicates and attempt to reverse-engineer their choices. What features did the signer apparently attend to? What perspective were they adopting? What discourse function was the classifier serving? This analytical observation builds the perceptual sensitivity that underlies productive competence.

Second, variation practice: take a single referent and deliberately produce multiple classifier representations of it, varying perspective, emphasis, and context. A car can be CL:3 moving through space (observer, entity), or handling classifiers on a steering wheel (character, handling), or CL:B surfaces approaching each other (observer, collision focus), or many other possibilities. Exploring the variation space builds flexibility and reveals the principle that classifier choice is context-dependent rather than fixed by referent identity.

Conclusion

Classifier selection is not arbitrary matching of referents to handshapes. It is a motivated process governed by semantic features, perspective, discourse function, and event structure. The cognitive architecture underlying selection involves mental imagery, schema extraction, and mapping onto available linguistic forms.

Native signers acquire this architecture implicitly through immersion. Advanced learners can approach similar competence by making the principles explicit and practicing their application. The analytical framework presented here, drawn from Supalla's morphological analysis, Liddell's depicting verb framework, Emmorey's cognitive neuroscience research, and Taub's iconicity theory, provides tools for that explicit learning.

The pencil that began this chapter illustrates the framework in miniature. The student's CL:1 choice was not wrong in isolation, but it failed to account for the referent's orientation in the event (horizontal, not vertical), the movement type (rolling, which CL:G affords more naturally than CL:1), and its role in the event (a small object in motion across a surface). The native signer's CL:G choice fit the full feature bundle: small, cylindrical, horizontally oriented, rolling. Understanding why the native choice works helps the learner make similar choices in future contexts.

The next chapter turns from how classifiers are selected to where they are placed. Signing space is not homogeneous; it is structured into distinct zones with different functions. Understanding topographic versus syntactic space is essential for the spatial anchoring that gives classifier predicates their referential power.

0.14 Chapter Three

0.14.1 Topographic Space Versus Syntactic Space

An interpreter working a deposition faces a challenge. The witness, describing a car accident, says: "The blue car was heading north on Main Street. The red car came from the east on Oak Avenue. They collided in the intersection." The interpreter must render this in ASL. She establishes a spatial layout: Main Street running vertically in signing space (representing north-south), Oak Avenue crossing horizontally (representing east-west), the blue car approaching from the bottom of the signing space, the red car approaching from the right. The classifier predicates move along these paths and meet in the center.

Later in the same deposition, the witness discusses the drivers. "The driver of the blue car, let's call him Driver A, claimed he had the green light. The driver of the red car, Driver B, disputed this." The interpreter establishes two referents: Driver A on her left, Driver B on her right. When discussing what Driver A said, she orients toward the left; when discussing Driver B's claims, she orients toward the right.

The interpreter has used signing space in two fundamentally different ways. In the accident description, space mapped real-world geography: north was up, east was right, and the spatial relationships in signing space corresponded to spatial relationships in the actual intersection. In the driver discussion, space tracked discourse referents: left meant "Driver A" and right meant "Driver B," but these positions had nothing to do with where the drivers were physically located. Driver A might have been sitting to the witness's right during the accident, but in signing space he was established on the left because that is where the interpreter chose to place him for referent tracking purposes.

This distinction between topographic space and syntactic space is fundamental to advanced ASL use. Conflating the two produces spatial incoherence. Failing to shift between them appropriately produces confusion. Understanding when each mode is operative, and how to signal shifts between them, is essential for the precision that professional contexts demand.

We speak of "topographic space" and "syntactic space," but more precisely these are **modes**: different functional uses of the same physical signing space. The signing space in front of the signer is always the same three-dimensional region. What differs is how that space is being used at a given moment: as a map of spatial relationships (topographic mode) or as a system for tracking discourse referents (syntactic mode). Throughout this chapter and this book, when we say a signer "uses topographic space," we mean the signer is operating in topographic mode.

Defining the Distinction

Topographic space uses signing space as a map. Locations in signing space correspond to locations in a real or imagined environment. Spatial relationships in signing space (above, below, left of, right of, near, far) correspond to spatial relationships in the depicted environment. If a signer establishes that a building is to the left and a park is to the right, this placement reflects (or at least can reflect) the actual geographical relationship between the building and the park.

The correspondence is not necessarily literal. A signer describing a city might compress miles into inches of signing space. A signer describing a room might expand or rotate the layout for visibility. But the spatial relationships are preserved: if A is north of B in reality, A is "north" of B in signing space (where "north" in signing space is consistently mapped to a particular direction, often upward or away from the signer).

Syntactic space uses signing space for abstract referent tracking. Locations in signing space serve as addresses for discourse referents, allowing the signer to refer back to established entities through spatial reference (pointing, verb agreement, classifier placement). The spatial positions are arbitrary with respect to the real world: establishing John on the left and Mary on the right says nothing about where John and Mary are physically located relative to each other or to the signer.

Syntactic space is fundamentally a bookkeeping system. It allows the signer to manage multiple referents without constantly repeating their names. Once John is established at locus [a] and Mary at locus [b], the signer can refer to John by pointing toward [a] and to Mary by pointing toward [b]. Verbs can agree with these loci: TELL[a→b] means John tells Mary; TELL[b→a] means Mary tells John. The spatial positions carry referential meaning, not geographical meaning.

Why the Distinction Matters

The distinction matters because the two uses of space operate under different rules and create different expectations for the viewer.

In topographic space, spatial consistency is consistency with the depicted environment. If a signer establishes that the kitchen is to the left of the living room, then any subsequent reference to the kitchen should be to the left. Violating this consistency confuses the viewer about the spatial layout being described. The viewer is building a mental map, and inconsistent spatial reference corrupts that map.

In syntactic space, spatial consistency is consistency with established loci. If John is at locus [a], then any subsequent reference to John should use locus [a]. But this consistency is arbitrary: the signer could have established John at locus [b] instead, and the discourse would work equally well. What matters is internal consistency, not correspondence to external reality.

The distinction also affects how spatial information is interpreted. In topographic space, the distance between two classifiers represents (proportionally) the distance between the depicted entities. A car classifier placed far from a building classifier indicates a car far from a building. In syntactic space, the distance between loci carries no such meaning. John at locus [a] and Mary at locus [b] might be standing next to each other, miles apart, or in different countries. The spatial separation in signing space does not indicate physical separation.

When signers or interpreters conflate these modes, viewers misinterpret the spatial information. A viewer in topographic mode, seeing classifiers placed far apart, infers physical distance. If the signer intended syntactic mode (merely distinguishing referents), the viewer has extracted false information. Conversely, a viewer in syntactic mode, seeing consistent left-right placement, assumes referent tracking. If the signer intended topographic mode (conveying actual spatial relationships), the viewer has missed crucial information.

Marking the Modes

Native signers navigate between topographic and syntactic space fluidly, often within a single discourse. How do they signal which mode is active?

Several cues mark topographic space. Explicit spatial description often precedes or accompanies topographic constructions: signs like LAYOUT, AREA, MAP, or descriptive phrases establishing the spatial frame. Constructed action from a character's perspective within a location often invokes topographic space: if the signer becomes a character walking through a room, the room's layout is typically topographic. Detailed classifier constructions showing multiple entities in spatial relationship tend toward topographic interpretation: the viewer assumes the spatial relationships are meaningful.

Eye gaze plays a role. In topographic constructions, signers often gaze at the depicted locations as if viewing the actual scene. This gaze behavior reinforces the map-like interpretation: the signer is "looking at" the locations being described. In syntactic constructions, eye gaze more often follows discourse referents for grammatical purposes (agreement, pronominal reference) rather than spatial visualization.

Scale cues can distinguish the modes. Topographic constructions often involve reduced scale: the signing space represents a large environment compressed to manageable size. The signer may mark this reduction explicitly or through classifier deployment that suggests miniaturization. Syntactic constructions typically involve no scale implications: loci are addresses, not scale models.

Discourse context provides strong cues. If the preceding discourse has been establishing referents for tracking (introducing characters, setting up a he-said-she-said structure), subsequent spatial reference is likely syntactic. If the preceding discourse has been describing locations and spatial relationships (giving directions, describing a room layout, recounting movements through space), subsequent spatial reference is likely topographic.

However, no cue is absolute. Skilled signers shift modes without explicit marking, relying on viewer inference from context. Advanced learners and interpreters must develop sensitivity to these implicit shifts.

When the Modes Overlap

The modes are not always cleanly separated. Many discourses involve both spatial description and referent tracking, sometimes simultaneously.

Consider a narrative about two people walking through a city. The signer might establish the city layout topographically: the river runs east-west, the bridge is to the north, downtown is to the south. Within this topographic frame, the two characters are tracked syntactically: Character A and Character B, established at different loci. As the characters move through the city, their classifier positions change topographically (reflecting their movement through the mapped space), while their identification remains syntactic (this is still Character A, now in a different location).

This overlap requires careful management. The signer must maintain topographic consistency (the river stays in the same direction) while also maintaining syntactic consistency (Character A remains identifiable). When Character A crosses the bridge, the classifier moves northward in signing space (topographic) while remaining associated with the locus established for Character A (syntactic).

The non-dominant hand often helps manage this overlap. It might hold a ground element (the bridge, a landmark) topographically while the dominant hand moves character classifiers that are tracked syntactically. The viewer understands that the ground is part of the map while the figures are tracked referents moving through that map.

Perspective shifts complicate the overlap further. In observer perspective, topographic space is viewed from outside: the signer sees the map from above or at a distance. In character perspective, topographic space is experienced from inside: the signer becomes a character within the mapped environment, and spatial reference shifts to egocentric (left means the character's left, not the map's left). Shifting between perspectives requires recalculating spatial reference, and viewers must recognize when such shifts occur.

Common Errors and Their Sources

Several error patterns emerge when learners struggle with the topographic/syntactic distinction.

Unintended topographic interpretation. A learner establishing two referents for syntactic tracking places them at spatially meaningful locations without realizing the topographic implication. For instance, placing a character who lives in California on the left and a character who lives in New York on the right inadvertently creates a geographic map (west on left, east on right). If the narrative later involves these characters meeting in Chicago, the spatial reference becomes confused. The learner intended syntactic tracking but accidentally created topographic expectations.

The remedy is spatial arbitrariness in syntactic mode. When establishing loci purely for referent tracking, avoid positions that suggest meaningful spatial relationships. Alternatively, if spatial relationships are relevant, commit to topographic mode and maintain geographic consistency throughout.

Topographic drift. A learner begins with consistent topographic mapping (north is upward, the building is on the left) but gradually loses consistency as the discourse proceeds. Midway through the description, the building is referenced on the right. The mental map has rotated or collapsed without marking.

The remedy is explicit spatial anchoring. Before beginning topographic description, establish the orientation clearly, either through explicit signs or through consistent early reference that sets the frame. Periodically reinforce the frame, especially after digressions or perspective shifts.

Mode confusion under cognitive load. A learner can maintain either mode in isolation but confuses them under the demands of complex discourse. During a narrative involving both location description and character interaction, topographic and syntactic reference become interleaved incorrectly. Characters end up in the wrong locations; locations become associated with the wrong referents.

The remedy is mode segregation during learning. Practice topographic constructions separately from syntactic constructions until each mode is stable. Then practice combining them with explicit attention to mode boundaries. Cognitive load decreases as each mode becomes automatic.

Failure to shift perspective appropriately. A learner maintains observer-perspective topographic reference while shifting into constructed action (character perspective). The character is now inside the depicted space, but spatial reference still operates as if viewed from outside. The character "turns left" but the classifier moves in a direction inconsistent with the character's orientation.

The remedy is perspective tracking. When shifting into character perspective, explicitly recalculate spatial reference. The character's left is not the observer's left. This recalculation must happen at every perspective shift, which requires awareness of when shifts occur.

The Interpreter's Challenge

Interpreters face particular challenges with the topographic/syntactic distinction because they must make real-time decisions about mode selection based on source material that may not clearly specify spatial relationships.

When a speaker says "John was standing by the window, and Mary came in through the door," the interpreter must decide: is this topographic (requiring consistent spatial placement of window and door that reflects actual room layout) or syntactic (simply tracking two characters who happen to be in different locations)? The speaker's intent may not be clear. The interpreter must make a choice and commit to it.

Interpreters often default to syntactic mode because it is safer: syntactic reference requires only internal consistency, not correspondence to unknown physical reality. But this default can underserve content that is genuinely spatial. A witness describing a crime scene needs topographic accuracy; defaulting to syntactic mode loses crucial information.

The best practice is to match the source's spatial specificity. If the speaker provides detailed spatial information (cardinal directions, distances, relative positions), interpret topographically. If the speaker provides only referent identification without spatial detail, interpret syntactically. If uncertain, syntactic mode is safer, but the interpreter should remain alert for cues that topographic mode is needed.

When spatial accuracy matters legally, medically, or academically, the interpreter may need to clarify with the speaker. "I want to make sure I represent the scene accurately. Was the car approaching from the north?" This verification takes time and may disrupt flow, but it prevents spatial errors that could have serious consequences.

Spatial Coherence in Extended Topographic Discourse

Extended topographic description, such as giving complex directions or describing a multi-room building, requires sustained spatial coherence that challenges even fluent signers. Several strategies support this coherence.

Establish the frame explicitly. Before beginning detailed description, establish the overall orientation. “Imagine you’re standing at the main entrance, facing the building. To your left is the east wing, to your right is the west wing, straight ahead is the central hall.” This frame gives the viewer a mental anchor for all subsequent spatial reference.

Use landmarks as anchors. Within the topographic frame, establish distinctive landmarks that serve as reference points. “The big fountain is in the center of the courtyard.” Subsequent references can be made relative to this landmark: “The café is just past the fountain on the left.”

Maintain consistent viewpoint. Decide whether the description adopts a fixed external viewpoint (as if looking at a map) or a moving internal viewpoint (as if walking through the space). Mixing viewpoints without marking creates confusion. If the viewpoint moves, signal the movement: “Now we’re walking down the hall toward the library.”

Chunk complex spaces. Large or complex environments can exceed working memory for spatial tracking. Break the description into manageable chunks: describe one area completely, then transition to the next area with explicit spatial connection. “That’s the first floor. Now let’s go upstairs.”

Reinforce periodically. In extended description, periodically reinforce the spatial frame. “Remember, we’re still in the east wing.” This reinforcement prevents drift and helps viewers who may have momentarily lost the frame.

Spatial Coherence in Extended Syntactic Discourse

Extended syntactic discourse, such as a narrative with many characters, poses different challenges. The task is not mapping space but managing addresses for numerous referents.

Limit active loci. Working memory limits how many spatial loci a viewer can actively track. Research suggests that three to four loci is a practical maximum for comfortable processing. With more referents, some must be managed through other means: grouping, sequential rather than simultaneous reference, or explicit naming rather than spatial indexing.

Use principled locus assignment. While syntactic loci are arbitrary relative to the world, they need not be arbitrary relative to each other. Assigning loci by some principle (protagonists on dominant side, antagonists on non-dominant side; family members in one region, colleagues in another) creates structure that aids memory.

Reactivate dormant loci. When a referent has not been mentioned for some time, its locus may have faded from the viewer’s active tracking. Before using spatial reference to that referent, reactivate the locus: point to it explicitly, or name the referent while pointing, before continuing with pronominal spatial reference.

Allow locus reassignment when referents exit. A character who leaves the narrative permanently can have their locus reassigned to a new character. This recycling prevents locus proliferation. But be cautious: if the original character might return, reassignment creates confusion.

Signal shifts between referent sets. When discourse shifts from one group of referents (the family members) to another (the coworkers), signal the transition. This allows viewers to partially deactivate one set of loci while activating another, managing cognitive load.

Case Study: The Accident Reconstruction

Returning to the deposition scenario that opened this chapter, we can now analyze the interpreter's spatial decisions more precisely.

The accident description required topographic space. The spatial relationships among streets and vehicles were legally significant: who was traveling which direction, where the collision occurred, what each driver could have seen. The interpreter established Main Street running vertically (north-south) and Oak Avenue running horizontally (east-west). The blue car, heading north, approached from the bottom of the signing space. The red car, coming from the east, approached from the viewer's right. The collision occurred where the paths crossed.

This topographic construction preserves the spatial relationships from the testimony. A deaf juror or attorney can visualize the intersection and understand the physical dynamics of the collision. If later testimony addresses sight lines or traffic signals, the established frame supports accurate reference.

The driver discussion shifted to syntactic space. "Driver A" and "Driver B" are referents to be tracked, not locations to be mapped. The interpreter placed Driver A on her left and Driver B on her right. These positions allow efficient reference: when discussing Driver A's claim, she orients left; when discussing Driver B's counterclaim, she orients right. Verbs of saying and disputing agree with these loci.

The positions do not correspond to where the drivers were physically located. Driver A (the blue car driver) was heading north, which in the topographic frame was "upward" in signing space. But Driver A as a discourse referent is on the left. This is not a contradiction because the modes are different. The blue car's position was topographic (where the car was in the intersection). Driver A's locus is syntactic (an address for tracking this referent in discourse).

The interpreter must manage the connection between these modes. "The driver of the blue car" establishes that Driver A is associated with the blue car. Subsequent reference to either the driver (syntactic) or the car (topographic, if discussing the vehicle's movement) must maintain this association. If testimony later addresses Driver A's line of sight, the interpreter may need to reconnect: showing Driver A (syntactic, on the left) looking toward the intersection (topographic, in the established frame).

This mode-switching is cognitively demanding but essential for accuracy. Conflating the modes would either lose the spatial precision of the accident description or lose the referent-tracking clarity of the driver discussion. Chapter 12 examines in detail the precision requirements of legal settings, including verification protocols and strategies for maintaining spatial accuracy when legal consequences attach to spatial facts.

Implications for Classifier Predicates

Classifier predicates operate in both topographic and syntactic space, and their interpretation depends on which mode is active.

In topographic space, a classifier's position represents the referent's location in the depicted environment. CL:3[a] means "the vehicle is at location a" where a is a position in the spatial map. Moving the classifier from [a] to [b] represents the vehicle moving from one location to another in the actual or depicted space.

In syntactic space, a classifier's position primarily identifies which referent is being discussed. CL:3[a] might mean "the car associated with locus a" (perhaps the blue car, previously established at that locus). The position serves referent identification rather than location description.

These functions can overlap. In a narrative, CL:3[a→b] might simultaneously show the blue car (syntactic identification) moving from the intersection to the parking lot (topographic path). The viewer understands both: this is the blue car we have been tracking, and it moved from here to there in the scene.

Errors arise when the functions conflict. If a signer has established two cars at syntactic loci (CL:3[a] for the blue car, CL:3[b] for the red car) and then shows them colliding, where does the collision occur spatially? If loci [a] and [b] were assigned syntactically (arbitrarily, for tracking), they may not represent the actual positions of the cars at collision time. The signer may need to override the syntactic positions with topographic placement for the collision scene, then return to syntactic reference afterward. Managing this transition requires mode awareness.

Conclusion

Topographic space maps the world; syntactic space tracks discourse referents. These two uses of signing space operate under different rules and create different viewer expectations. Skilled signers shift between modes fluidly, sometimes operating in both simultaneously, but always with coherence that viewers can follow.

For advanced learners and interpreters, explicit awareness of the distinction provides a diagnostic tool. When spatial reference seems confused or inconsistent, ask: which mode was intended? Was the mode clearly established? Did unintended mode-mixing create the problem?

The chapters that follow build on this foundation. Chapter 4 examines how spatial loci are established and maintained across extended discourse. Chapter 5 addresses spatial coherence strategies for complex narratives. Chapter 6 explores perspective and viewpoint, examining how the relationship between signer and depicted space affects all spatial reference. Throughout, the topographic/syntactic distinction remains fundamental: knowing which mode is active determines how spatial information should be constructed and interpreted.

0.15 Part Two

0.16 Spatial Anchoring Systems

0.17 Chapter Four

0.17.1 Establishing and Maintaining Spatial Loci

The introductory ASL curriculum teaches a simple model of spatial reference. You have two referents, John and Mary. You establish John on your left by signing JOHN while indexing leftward. You establish Mary on your right by signing MARY while indexing rightward. Now you can refer to John by pointing left and Mary by pointing right. Verbs move between these locations to show who does what to whom. GIVE[left→right] means John gives to Mary.

This model is accurate as far as it goes. It captures the basic mechanism of spatial reference in ASL. But it leaves advanced learners unprepared for the complexity of real discourse. What happens when you have five referents instead of two? What happens when referents enter and exit the discourse at different times? What happens when you need to distinguish between two referents of the same type (two brothers, three cars, multiple proposals)? What happens when a referent established early in the discourse is not mentioned for several minutes and then returns?

This chapter examines the full system of spatial locus management: how loci are established, how they are maintained across extended discourse, how multiple loci are coordinated, and how the system handles the cognitive limits that constrain spatial tracking. The goal is to move from the two-referent textbook model to the multi-referent complexity of actual ASL use.

The Mechanics of Locus Establishment

Establishing a spatial locus involves associating a referent with a location in signing space. This association can be created through several mechanisms.

Indexing with naming is the most explicit method. The signer produces the sign or fingerspelling for the referent while simultaneously or immediately afterward pointing to the intended locus. JOHN IX[a] establishes John at locus [a]. The pointing gesture need not be a full index finger point; it can be accomplished through eye gaze toward the location, head tilt, body shift, or the final position of the name sign itself. But the essential mechanism is the same: the referent is identified, and a location is indicated.

Verb agreement can establish loci implicitly. If a signer produces TELL[a→b] before explicitly establishing what is at [a] and [b], the verb itself implies that some referent is at [a] (the teller) and some referent is at [b] (the one told). Subsequent context clarifies who these referents are, and the loci become established through use rather than through explicit setup. This implicit establishment is common in narrative, where action sometimes precedes character introduction.

Classifier placement establishes loci through spatial positioning of depicting verbs. If a signer places CL:3 (a vehicle) at a particular location in signing space, that location becomes associated with that vehicle. The classifier predicate both depicts the referent and establishes its locus. Subsequent reference to the vehicle can use that locus.

List construction establishes multiple loci systematically. A signer introducing a list of items (three reasons, four candidates, five options) may assign each item to a distinct locus, often arranged in a line or arc. The non-dominant hand may hold up fingers corresponding to list items, and each finger becomes a locus. Pointing to finger one references the first item; pointing to finger three references the third item.

Constructed action establishes loci through body position. When a signer shifts into a character's perspective (role shift), the signer's body occupies that character's position, effectively establishing the character at the signer's location. Other characters are established relative to this position: if the signer-as-character looks leftward while addressing someone, that someone is established at the left.

These mechanisms can combine. A signer might explicitly name a character (JOHN), place a classifier at a location (CL:1[a]), and then shift into that character's perspective (constructed action from position [a]). Each mechanism reinforces the locus establishment.

Locus Precision and Vagueness

Not all locus establishment is equally precise. Loci can be established with varying degrees of spatial specificity, and this variation serves communicative purposes.

Precise locus establishment places the referent at a clearly defined point in signing space. The index or classifier is directed to a specific location, and subsequent reference uses that same specific location. Precise establishment is necessary when multiple referents must be clearly distinguished, when spatial relationships are meaningful, or when extended tracking requires unambiguous reference.

Vague locus establishment places the referent in a general region without committing to a specific point. A signer might indicate "somewhere on the left" without specifying exactly where on the left. Vague establishment suffices when only one referent occupies that region, when spatial relationships are not meaningful, or when the referent is peripheral to the discourse and does not require precise tracking.

The precision of establishment affects the precision required for subsequent reference. A precisely established locus demands precise return reference; pointing vaguely in the general direction may be ambiguous if other referents are nearby. A vaguely established locus permits vague return reference; the region itself identifies the referent.

Skilled signers calibrate precision to communicative needs. Using more precision than necessary is inefficient and can imply spatial meaning that is not intended. Using less precision than necessary creates ambiguity and tracking failures. The calibration is often unconscious for native signers but must be developed deliberately by learners.

The Architecture of Signing Space for Loci

The signing space available for locus establishment is not homogeneous. Different regions of signing space have different properties and tendencies, though these are conventions rather than rules.

The **lateral dimension** (left-right) provides the primary field for contrastive locus establishment. When two referents need to be distinguished, placing one on the left and one on the right is the default strategy. This placement exploits the lateral symmetry of the signing space and creates maximum visual contrast between the loci.

The **sagittal dimension** (forward-back) is often used for temporal or sequential organization, as discussed in Chapter 3. But it can also serve contrastive locus establishment when combined with the lateral dimension. A signer might establish four referents at four corners: front-left, front-right, back-left, back-right.

The **vertical dimension** (up-down) is less commonly used for pure referent tracking because of its strong associations with hierarchy, power, and physical height. Placing one referent higher than another may imply a hierarchical relationship that is not intended. However, vertical placement can be used deliberately when such relationships are relevant, or when the signing space is crowded and vertical separation helps distinguish loci.

The center of signing space is often reserved for topics, for the signer's own position (first person reference), or for referents that are central to the discourse. Placing a referent in the center can imply focus or importance.

The periphery of signing space (far left, far right, very high, very low) is used for referents that are spatially distant, temporally remote, or discursively peripheral. Reaching to the far edges of signing space requires more physical effort and draws visual attention, making peripheral placement marked.

These spatial tendencies interact with the topographic/syntactic distinction from Chapter 3. In syntactic mode, the spatial properties of regions (center versus periphery, high versus low) may contribute discourse meaning even though the absolute positions are arbitrary. In topographic mode, the spatial properties must map to actual spatial relationships in the depicted environment.

Maintaining Loci Across Discourse

Establishing a locus is only the beginning. Maintaining the locus across extended discourse requires strategies for keeping the association active in the viewer's memory and for returning to the locus accurately after intervening material.

Consistent return reference is the primary maintenance strategy. Each time the signer refers to the referent, the signer uses the same locus. This consistency reinforces the association. Inconsistent reference (pointing sometimes left, sometimes center for the same referent) weakens the association and creates confusion.

Consistency requires memory for established loci. The signer must remember where each referent was placed. For two or three referents, this memory load is manageable. For larger numbers, explicit strategies help: visualizing the signing space as a map with referents at fixed positions, using principled assignment that creates memorable structure, or relying on the non-dominant hand as a physical anchor.

Reactivation refreshes a dormant locus. When a referent has not been mentioned for some time, viewers may have let the locus fade from active memory. Before using spatial reference to that referent, the signer can reactivate the locus by pointing to it explicitly while naming the referent: IX[a] JOHN… or JOHN IX[a]…. This reactivation re-establishes the association before continuing with spatial reference.

The need for reactivation depends on discourse structure. A referent mentioned in the immediately preceding clause probably needs no reactivation. A referent not mentioned for several sentences may need minimal reactivation (a glance toward the locus). A referent not mentioned for minutes, or one that was only mentioned briefly at the outset, may need full reactivation with explicit naming.

Physical anchoring uses the non-dominant hand to maintain locus presence. The non-dominant hand can hold an index point, a classifier, or a buoy at a locus while the dominant hand continues signing. This physical presence keeps the locus visible and active without requiring the viewer to maintain it in memory. Physical anchoring is particularly useful when a referent is being discussed at length: the held hand reminds the viewer which referent is being addressed.

Spatial return after digressions presents a challenge. If a signer digresses from the main narrative (an aside, a background explanation, a tangent), the spatial frame established before the digression may have faded by the time the signer returns. The signer should re-establish the frame after the digression, either through explicit reactivation or through careful return to the spatial positions that were in use.

Managing Multiple Referents

As the number of referents increases, the challenge of locus management intensifies. The textbook two-referent model scales poorly to five, seven, or twelve referents. Several strategies address this scaling challenge.

Hierarchical organization groups referents into categories and assigns loci to groups rather than individuals. Instead of establishing seven family members at seven distinct loci, a signer might establish "my mother's side of the family" on the left and "my father's side" on the right, with individuals within each side distinguished through other means (naming, description, sub-loci within the region). The viewer tracks two groups rather than seven individuals.

Sequential rather than simultaneous tracking handles referents one or two at a time rather than maintaining all loci simultaneously. A narrative with many characters might establish and use loci for only the characters active in the current scene. When the scene shifts, old loci are released and new loci established. The viewer does not need to track all characters simultaneously because the discourse structure indicates which characters are currently relevant.

Locus recycling reassigns a locus from a departed referent to a new referent. A character who has permanently exited the narrative no longer needs a locus; that spatial position can be reused. This recycling prevents the signing space from becoming overcrowded with inactive loci. However, recycling requires clear signals that the old referent has exited; ambiguous transitions create confusion about whether the old or new referent is intended.

Reduced spatial reliance uses naming and description more heavily when many referents are present. Rather than relying on spatial pointing to identify referents, the signer explicitly names or describes the intended referent. This strategy is less efficient than pure spatial reference but more robust when loci might be confused. The signer might use spatial reference for the two or three most important referents while naming others explicitly.

Clustered loci place related referents in spatial proximity. Three siblings might be established close together on the left, while their parents are established together on the right. Pointing to the sibling cluster references the siblings collectively; pointing to a specific position within the cluster references an individual sibling. This clustering creates structure that aids memory while preserving the ability to individuate referents when needed.

Cognitive Limits on Spatial Tracking

General working memory constraints limit how many distinct items can be actively maintained (Emmorey, 2002, reviews relevant cognitive research). For spatial loci specifically, many educators and practitioners find that maintaining approximately three to four simultaneously active loci is most comfortable for viewers; higher counts increase the need for reactivation, explicit naming, or other support strategies. The exact ceiling varies by individual, by how clearly loci were established, and by the cognitive demands of concurrent processing.

This limit has implications for signers and interpreters. Discourse with more than four referents cannot rely on viewers maintaining all loci simultaneously. The signer must use the strategies described above (hierarchical organization, sequential tracking, reduced spatial reliance) to manage the complexity.

The limit also varies with viewer expertise. Native signers with extensive experience tracking spatial reference may handle more loci than learners. Viewers with strong spatial working memory may outperform those with weaker spatial skills. The signer often cannot know the viewer's capacity and should err on the side of clarity.

Cognitive load from other sources compounds the spatial tracking demand. If the discourse content is complex, emotionally intense, or delivered rapidly, viewers have fewer cognitive resources for locus maintenance. In high-load conditions, even three loci may be challenging. Skilled signers modulate their spatial complexity based on audience and context.

Interpreters face particular challenges because they must manage their own spatial working memory (tracking the source's referents and their own locus assignments) while producing fluent output. The interpreter's cognitive load is already high; complex spatial tracking adds additional demand. Interpreters benefit from explicit locus management strategies that reduce the memory burden.

Locus Assignment Principles

While syntactic loci are arbitrary with respect to the world, principled assignment can make them easier to manage and remember. Several principles guide effective assignment.

Dominance alignment places the more prominent, active, or focal referent on the dominant side of signing space. For a right-handed signer, this is the right side. The protagonist goes on the right; the antagonist goes on the left. The current topic goes on the right; the contrasting element goes on the left. This alignment exploits the natural asymmetry in ease of reaching and articulating on the dominant side.

Conceptual mapping places referents at positions that reflect their conceptual relationships. Opponents face each other across the signing space. Allies are positioned side by side. Hierarchies are organized vertically. Temporal sequences are organized along the sagittal axis. These mappings are not topographic (they do not reflect physical positions in the world) but they create conceptual structure that aids memory and comprehension.

Consistency across discourse maintains the same locus for a referent throughout. Even if a principled assignment would place the referent differently in a new context, consistency with earlier assignment takes precedence. A character established on the left stays on the left even if, in a new scene, they are the protagonist and would "naturally" go on the right under dominance alignment. Viewers rely on positional consistency for referent identification.

Contrastive placement maximizes the spatial distance between referents that might be confused. Two similar referents (two brothers, two proposals) should be placed far apart, not close together. Two different referents (the hero and the villain) can be placed closer together because they are unlikely to be confused on other grounds.

Audience orientation considers where the viewer is positioned. In face-to-face conversation, the viewer's left is the signer's right. Signers must remember that their spatial assignments appear reversed to the viewer. In video or platform contexts, the reversal may or may not occur depending on whether the video is mirrored. Skilled signers maintain consistency in their own spatial frame and trust viewers to make the necessary mental adjustments.

Special Cases in Locus Management

Several special cases require particular attention.

First person reference does not require an external locus. The signer references themselves through body contact (pointing to the chest, signing at body-anchored locations) or through verb forms that begin or end at the body. When the signer is a character in the narrative, this first-person reference is always available without establishing a separate locus.

Second person reference (the addressee) similarly has a default position: the signer points toward or directs verbs toward the actual viewer. In direct address, second person needs no establishment. However, when quoting dialogue in which someone addresses someone else, the quoted second person needs a locus distinct from the actual viewer. Confusion can arise if quoted second person appears to address the actual viewer.

Generic or indefinite referents ("someone," "people in general") are often assigned to vague or peripheral loci that do not imply specific individuals. A signer might index vaguely to the side while signing SOMEONE, establishing a locus for an indefinite referent without the precision that a specific individual would require.

Collective referents (groups, organizations, crowds) may be established as single loci representing the group or as regions containing multiple sub-loci for members. The choice depends on whether the discourse treats the collective as a unit or as a collection of individuals. A company might be a single locus when discussing its actions as an entity, or a region of loci when discussing its individual employees.

Referents in quotation (characters in quoted speech, people being cited) need loci within the quotation frame that do not conflict with the main discourse frame. When a signer quotes someone who is discussing two other people, those two people need loci for the duration of the quotation. These loci exist within the quotation and may be released when the quotation ends, unless the same referents continue in the main discourse.

Errors in Locus Management

Common errors in locus management include:

Drift occurs when a signer's return reference gradually shifts away from the original locus. The signer established John on the left, but subsequent references drift toward the center. Eventually John seems to be in two places, or the viewer loses track of which referent is intended.

Drift often results from imprecise establishment (the original locus was not clearly defined), memory failure (the signer forgets exactly where the locus was), or carelessness (the signer does not attend to precise spatial return). The remedy is more precise establishment, more frequent reactivation, and conscious attention to spatial accuracy.

Locus collision occurs when two referents end up at the same or overlapping loci. The signer established Mary on the left, then later establishes Susan, also on the left, without releasing or relocating Mary. Now left-pointing is ambiguous.

Locus collision results from poor planning (not reserving enough spatial territory for all referents), memory failure (forgetting that a locus is already occupied), or forced recycling (needing a position and reusing one without proper release). The remedy is explicit locus inventory management: knowing which positions are occupied and which are available.

Reversal occurs when a signer switches the positions of two referents midway through discourse. John was on the left and Mary on the right, but now the signer is treating left as Mary and right as John. This reversal may result from interference (the signer's memory of one pair interferes with another), fatigue (maintenance failures under extended signing), or perspective confusion (mixing up the signer's frame with the viewer's frame).

Reversal is particularly insidious because it often goes unnoticed by the signer. Self-monitoring and viewer feedback are essential for catching reversals. When noticed, the signer should explicitly re-establish the correct assignments.

Abandonment occurs when a signer stops using spatial reference for an established referent, switching to explicit naming or description. Abandonment is not inherently an error; sometimes it is the appropriate strategy when spatial tracking becomes too complex. But unintentional abandonment (forgetting to use available loci, losing confidence in the spatial frame) reduces efficiency and may confuse viewers who are still tracking the loci.

Building Locus Management Skills

Locus management is a skill that develops through deliberate practice. Several exercises support this development.

Locus drills practice establishing and returning to precise positions. With eyes open, establish a locus with a clear index. Close your eyes, count to five, then point to the same locus. Open your eyes and check accuracy. Increase the delay, add distractors (fingerspell something, produce unrelated signs), and build the ability to return accurately to established positions.

Multi-referent narratives practice managing three, four, and five referents simultaneously. Tell a simple story (a meeting, a family dinner, a business negotiation) with multiple characters. Establish each character at a distinct locus and maintain consistency throughout. Record yourself and review for drift, locus collision, and reversal.

Locus recycling exercises practice releasing old referents and assigning new ones to vacated positions. Tell a story where characters enter and exit. When a character exits permanently, signal the exit and later assign a new character to the same position. Review for clarity: can a viewer tell when the old referent is gone and the new referent has arrived?

Interpreter simulations practice managing source content with many referents. Listen to a spoken narrative or lecture with numerous people, organizations, or concepts being discussed. Interpret into ASL, tracking locus assignments and maintaining consistency. Review for accuracy and note where locus management became difficult.

Common Pitfalls in Locus Management

Before moving on, check yourself against these common pitfalls:

The Wandering Index. You establish John on the left, but your subsequent references drift gradually toward center. By the end of the narrative, "left" has become "center-left." Solution: After establishing a locus, commit to returning to exactly that position. Record yourself and watch for drift.

The Crowded Space. You establish too many referents too close together, and your pointing becomes ambiguous. Is that index toward Mary or toward Susan? Solution: Use the full signing space. Push referents to the periphery when you need room for more.

The Forgotten Tenant. You establish a locus, then forget it is occupied when you need to place a new referent. Two people now live at the same address. Solution: Before establishing a new locus, mentally inventory which positions are already in use.

The Mystery Reversal. Somewhere in your narrative, John and Mary swapped positions, but you did not notice. The viewer is confused because your verb agreements now contradict your earlier establishment. Solution: When a narrative feels “off” but you cannot identify why, check for reversal. Record and review.

The Abandoned Frame. You start with clear spatial reference but gradually stop using it, switching to fingerspelling names or explicit description. The spatial frame you built goes unused. Solution: If you build a frame, use it. If the frame is not serving you, acknowledge the transition to a different strategy rather than letting reference fade.

The Invisible Ceiling. You try to track six referents simultaneously when your (or your viewer’s) working memory can handle four. Confusion results. Solution: Know your limits. Use strategies for managing complexity rather than exceeding cognitive capacity.

Identifying your personal pitfalls through recording and review is the first step toward eliminating them.

The next chapter extends this foundation to examine spatial coherence across extended discourse: how signers maintain not just individual loci but entire spatial frames across narratives that span many minutes and many topic shifts.

0.18 Chapter Five

0.18.1 Spatial Coherence Across Extended Discourse

A two-minute explanation with two characters presents a manageable spatial task. Establish John on the left, Mary on the right, maintain consistency for two minutes, done. But ASL discourse is not limited to two-minute explanations. A sermon runs thirty minutes. A lecture runs an hour. A legal proceeding runs days. A narrative performance of a complex story runs as long as the story requires. Extended discourse demands spatial coherence not just for moments but across the full duration of the discourse, through topic shifts, temporal jumps, perspective changes, and digressions.

This chapter examines how fluent signers maintain spatial coherence across extended discourse. We consider the challenges that extended discourse presents, the strategies signers use to manage those challenges, the structure of spatial frames and how they nest within each other, the management of transitions between frames, and the repair strategies available when coherence breaks down. Case studies illustrate these principles in action.

The Challenge of Extended Discourse

Extended discourse challenges spatial coherence in several ways.

Memory decay affects both signer and viewer. A locus established at minute two may have faded from active memory by minute fifteen. The signer may forget exactly where a referent was placed; the viewer may forget the association between position and referent. The longer the discourse, the more severe the decay.

Accumulating referents strain the spatial system. A narrative that introduces two characters in the first scene, three more in the second scene, and four more in the third scene eventually exceeds any reasonable locus capacity. The signing space cannot accommodate unlimited distinct positions, and viewer working memory cannot track unlimited associations.

Topic shifts disrupt established frames. A discourse that begins with one topic (the company's financial situation), shifts to another (the marketing strategy), and then to another (personnel changes) may involve different referent sets for each topic. The loci established for financial entities (budgets, revenue streams) may not be relevant for personnel entities (employees, departments). Managing the transition between topic-specific spatial frames requires explicit strategies.

Temporal shifts complicate spatial reference. A narrative that moves between past and present, or that flashes forward to future events, may need to maintain spatial coherence across temporal boundaries. The characters are the same, but their positions and relationships may differ at different times. A character who was on the left in the past scene should probably remain on the left in the present scene for identification purposes, but their spatial relationship to other elements may have changed.

Perspective shifts transform spatial relationships. Moving from observer perspective to character perspective (or between different characters' perspectives) rotates the spatial frame. What was on the signer's left in observer perspective may be on the signer's right when inhabiting a character who faces the opposite direction. Managing these transformations while maintaining referent identification is cognitively demanding.

Digressions and asides temporarily abandon the main spatial frame. A signer might pause a narrative to explain background information, offer a personal opinion, or address a viewer's question. During the digression, a different spatial frame may be in use (or no spatial frame at all). Returning to the main narrative requires re-entering the original spatial frame.

Chunking and Hierarchical Organization

One fundamental strategy for managing extended discourse is chunking: organizing the discourse into segments with their own internal spatial organization, then managing the relationships between segments.

A chapter structure illustrates the principle. A long narrative might be organized into episodes. Each episode has its own spatial frame with its own loci for the characters and locations active in that episode. When the episode ends and a new episode begins, the old spatial frame is released (partially or fully) and a new frame is established. The viewer does not need to track all referents across the entire narrative, only the referents active in the current episode.

The transitions between episodes carry the coherence. A character who appears in multiple episodes needs to be identifiable across episode boundaries even if their specific locus changes. This identification might come through explicit naming at episode transitions, through consistent characterization (constructed action that evokes the same character), or through maintained locus assignment for recurring characters while releasing loci for episode-specific characters.

Hierarchical organization extends chunking to multiple levels. A long narrative might have acts containing scenes containing beats. Each level has its own spatial organization. The act level might establish the major character groupings (protagonists on one side, antagonists on the other). The scene level might establish specific positions for the characters active in that scene. The beat level might involve moment-to-moment spatial reference within the scene's frame.

This hierarchy allows cognitive load management. At any moment, the viewer is primarily tracking the beat-level spatial reference, with scene-level organization providing context and act-level organization providing structure. The signer manages each level appropriately, with beat-level reference being most precise, scene-level reference being re-established at scene boundaries, and act-level reference being reinforced at act transitions.

Spatial Frames and Frame Boundaries

The concept of a spatial frame captures the idea of a coherent spatial organization that applies to a segment of discourse. A spatial frame includes the loci established for that segment's referents, the topographic/syntactic mode in effect, the perspective (observer or character), and any spatial conventions specific to that segment.

Frame boundaries occur when the discourse shifts in ways that require new spatial organization. A scene change typically creates a frame boundary: new location, possibly new characters, new spatial layout. A perspective shift creates a frame boundary: observer perspective has different spatial conventions than character perspective. A topic shift may create a frame boundary if the new topic involves different referents.

Frame boundaries can be strong or weak. A strong boundary involves a complete reset: the previous frame is released entirely, and a new frame is established from scratch. A weak boundary involves a partial reset: some elements of the previous frame are retained while others are changed. The strength of the boundary depends on the degree of discontinuity between segments.

Marking frame boundaries helps viewers recognize when spatial organization is changing. Strong boundaries might be marked with explicit discourse markers (NOW, NEXT, ANYWAY), with physical pauses or body resets, with eye gaze shifts, or with explicit spatial re-establishment. Weak boundaries might be marked more subtly, with retained elements providing continuity while changed elements signal the shift.

Unmarked frame boundaries cause confusion. If a signer shifts spatial organization without signaling the shift, viewers may apply the old frame to the new content, misinterpreting spatial reference. The signer points left, meaning a new referent in the new frame, but the viewer interprets it as the old referent who was on the left in the previous frame.

Strategies for Maintaining Coherence

Several specific strategies support spatial coherence across extended discourse.

Anchor referents are referents whose loci are maintained across frame boundaries, providing continuity even as other elements change. The protagonist of a narrative might serve as an anchor referent: their locus remains constant throughout, even as other characters come and go, scenes change, and perspectives shift. The anchor provides a fixed point for spatial orientation.

Multiple anchor referents can structure the entire discourse. In a narrative about two families, one family might be anchored on the left and the other on the right throughout. Individual family members may have variable loci within their family's region, but the family-level anchors remain stable.

Periodic reinforcement explicitly re-establishes spatial organization at intervals. Even when no frame boundary has occurred, a signer might periodically reinforce key loci through pointing, naming, or both. This reinforcement counteracts memory decay and ensures that viewers who may have lost track can re-synchronize.

The frequency of reinforcement depends on discourse complexity, viewer characteristics, and the importance of spatial precision. Complex discourse with many referents needs more frequent reinforcement. Less experienced viewers need more reinforcement. Contexts where spatial accuracy has high stakes (legal, medical) warrant more reinforcement.

Explicit frame announcements tell viewers that a spatial shift is occurring. “Now let’s talk about what happened earlier that day.” “Setting that aside for a moment, I want to explain something.” “Back to the main story.” These announcements signal frame boundaries and help viewers release old spatial organization and prepare for new organization.

Frame announcements can indicate the type of shift: temporal (“earlier”), topical (“setting that aside”), perspective (“from John’s point of view”), or structural (“back to the main story”). This information helps viewers anticipate what kind of spatial reorganization to expect.

Spatial summaries consolidate spatial information at key points. Before a complex sequence, a signer might summarize the spatial layout: “So we have John here, Mary here, the car over here, and the building behind them.” After a complex sequence, a signer might confirm the current state: “Now John is over here and Mary has moved to here.” These summaries provide check-points for spatial coherence.

Reduced spatial complexity during transitions acknowledges that frame boundaries are cognitively demanding. When shifting between frames, a signer might temporarily reduce the number of active loci, use more explicit naming, and avoid complex spatial constructions until the new frame is established. Once viewers have oriented to the new frame, complexity can increase again.

Managing Perspective Shifts

Perspective shifts present particular challenges for spatial coherence because they transform the spatial frame rather than merely changing its contents.

In observer perspective, the signer views the scene from outside. Spatial reference is allocentric: left and right are defined relative to the scene, not relative to any character within it. A character facing the signer has their right on the signer’s left.

In character perspective (constructed action, role shift), the signer becomes a character within the scene. Spatial reference becomes egocentric for that character: left and right are the character’s left and right. If the character faces the direction the signer was facing in observer perspective, the mapping is straightforward. If the character faces a different direction, the mapping requires rotation.

The challenge is maintaining referent identification across these rotations. John was established on the left in observer perspective. The signer shifts into Mary’s perspective; Mary is facing John. From Mary’s perspective, John is in front of her, not to her left. The signer must now reference John by orienting forward (Mary looking at John) rather than by pointing left (John’s observer-perspective position).

Viewers must recognize that the shift has occurred and recalculate spatial reference accordingly. If the perspective shift is not clearly marked, viewers may continue applying observer-perspective interpretation to character-perspective reference, or vice versa.

Strategies for managing perspective shifts include:

Clear shift markers signal when perspective changes. Body shift, eye gaze change, and the assumption of character-specific behaviors all mark the transition into character perspective. Returning to neutral body position and outward eye gaze marks the return to observer perspective.

Maintained orientation for identification keeps referent identification consistent even when perspective reference changes. Even in character perspective, a signer might identify referents using their observer-perspective positions before producing character-perspective interaction. “John [pointing left, observer frame] came up to me [shifting into Mary's perspective, now John is in front]."

Perspective-appropriate reference fully commits to the current perspective's spatial conventions. In character perspective, all spatial reference uses the character's frame. Viewers learn to rotate their interpretation. This approach requires clear perspective marking but produces more immersive constructed action.

Alternation management handles rapid shifts between perspectives. A dialogue scene might alternate between John's perspective and Mary's perspective multiple times. Each shift requires the spatial rotation described above. Signers can manage this through consistent shift markers, through maintaining character-specific physical behaviors that help viewers track which character is currently inhabited, or through briefly returning to observer perspective between character turns.

When Coherence Breaks Down: Repair Strategies

Despite best efforts, spatial coherence sometimes fails. A signer loses track of where a referent was established. A viewer signals confusion. A locus collision becomes apparent. Repair strategies address these breakdowns.

Explicit re-establishment is the most direct repair. The signer pauses, explicitly names the referents, and re-establishes their loci. "Let me clarify: John is here, Mary is here." This repair sacrifices fluency for clarity. It is appropriate when confusion is significant and when the referents are important enough to warrant the interruption.

Implicit correction adjusts spatial reference without explicit acknowledgment. If a signer realizes they have been pointing to the wrong position for John, they can simply begin pointing to the correct position, perhaps with a brief naming to reinforce the correction. Viewers may not notice the error if the correction is smooth.

Frame reset abandons the problematic spatial organization and starts fresh. If the current spatial frame has become too confused to repair incrementally, the signer can signal a frame boundary, release all current spatial reference, and establish a new frame. This is appropriate when multiple errors have accumulated or when the discourse is transitioning to a new segment anyway.

Viewer query addresses confusion directly. A signer who suspects the viewer may be lost can ask: "Are you following who's who?" or "Should I clarify who's where?" This collaborative repair invites the viewer to participate in restoring coherence. It is appropriate in interactive contexts but not in platform or broadcast contexts where viewer response is not available.

Retrospective summary reviews the narrative to re-establish spatial organization. "Let me back up. So we started with John entering the room. He came in from this direction. Mary was already here. Then Susan arrived from over here." This summary walks through the spatial setup, allowing both signer and viewer to re-synchronize.

The choice of repair strategy depends on the severity of the breakdown, the context (interactive versus broadcast), and the importance of precise spatial reference for the content. Minor drift might be corrected implicitly. Major confusion in a legal context might warrant explicit re-establishment with viewer confirmation.

Case Study: Extended Narrative Performance

Consider an ASL storyteller performing a twenty-minute narrative with twelve named characters, three locations, and a plot that moves between present-time action and flashbacks.

The storyteller uses hierarchical organization. The narrative divides into four major segments: the setup, the complication, the climax, and the resolution. Each segment has one to three scenes. Each scene has its own spatial frame.

At the act level, the storyteller establishes the protagonist (MARIA) as an anchor referent on the dominant side of the signing space. MARIA's locus remains constant across all scenes. The antagonist (CARLOS) is anchored on the non-dominant side. Other characters have scene-specific loci within these anchored regions.

At scene transitions, the storyteller uses explicit frame announcements: "Later that night," "Back at the office," "Meanwhile, Maria's mother was…" These announcements signal frame boundaries and help viewers release scene-specific spatial organization while maintaining act-level anchors.

For flashbacks, the storyteller uses a consistent spatial convention: flashback scenes are marked by a backward lean and a brief pause, and they use a slightly retracted signing space (closer to the body). This physical convention helps viewers recognize temporal shifts and adjust their interpretation of spatial reference.

Perspective shifts between MARIA (frequently inhabited) and CARLOS (occasionally inhabited) are marked by body shift, eye gaze change, and character-specific physical mannerisms. MARIA is portrayed with upright posture and direct gaze; CARLOS with a slight slouch and indirect gaze. These consistent behaviors help viewers track which character is currently inhabited.

When the storyteller notices audience confusion (visible puzzlement, requests for clarification), they deploy repair strategies: a brief retrospective summary ("Remember, Maria had already decided to leave before Carlos arrived"), explicit re-establishment of a confused locus ("Let me be clear: the office door is over here"), or a frame reset when necessary.

The twenty-minute performance succeeds because the storyteller manages complexity through chunking, maintains coherence through anchors and reinforcement, marks frame boundaries clearly, and repairs breakdowns as they arise.

Case Study: Interpreted Academic Lecture

Consider an interpreter working a seventy-five-minute academic lecture on organizational behavior. The lecture discusses eight case studies, mentions dozens of researchers by name, and moves between theoretical frameworks and practical applications.

The interpreter cannot use the same strategies as the storyteller. The discourse is not pre-planned; content arrives in real time from the speaker. The interpreter must make instant decisions about spatial organization for material they have not seen before.

The interpreter adopts a conservative strategy: limited spatial complexity, heavy reliance on explicit naming, and spatial reference reserved for relationships that are clearly central to the content.

When the lecturer compares two theoretical frameworks (Theory X versus Theory Y), the interpreter establishes these as contrastive loci: Theory X on the left, Theory Y on the right. Discussion of each theory uses the appropriate locus. This contrastive spatial organization helps viewers track the comparison.

When the lecturer discusses a case study with multiple actors (a company, its CEO, its board, its employees), the interpreter uses hierarchical grouping: the company as an entity on one side, with individuals mentioned by name rather than by elaborate spatial tracking. Only the CEO, who is central to the case, gets a stable individual locus.

When the lecturer digresses to explain background concepts, the interpreter releases the case-study spatial frame and uses neutral, non-spatially-organized signing for the explanation. Returning to the case study, the interpreter briefly reactivates the relevant loci: "Back to Company X [pointing] and CEO Johnson [pointing]."

The interpreter periodically reinforces spatial organization, especially after digressions or when the lecturer returns to previously discussed material. This reinforcement is more frequent than it would be in prepared discourse because the interpreter cannot rely on audience familiarity with the material.

When the interpreter realizes that spatial reference has become ambiguous (too many referents in similar positions), they default to explicit naming rather than risking confusion. Efficiency decreases, but accuracy is maintained.

The interpretation succeeds because the interpreter manages complexity through selective spatial reference, uses explicit naming as a fallback, marks topic transitions clearly, and reinforces organization at key points.

Developing Coherence Management Skills

Spatial coherence management develops through practice with extended discourse. Several approaches support this development.

Extended narrative practice builds stamina and planning skills. Choose or create a narrative with multiple characters and scenes. Practice telling it from beginning to end, maintaining spatial coherence throughout. Record and review for coherence failures.

Cumulative complexity drills add spatial demands incrementally. Start with a two-character scene and maintain coherence for five minutes. Add a third character and maintain for five more minutes. Add a location shift and maintain. Add a perspective shift. Each addition increases the management demand.

Transition focus exercises practice specific transitions. Practice frame boundaries: how to signal them, how to release old organization, how to establish new organization. Practice perspective shifts: how to mark them, how to rotate spatial reference. Practice returns from digression: how to re-enter a suspended frame.

Real-time interpretation practice develops on-the-fly spatial management. Interpret lectures or presentations with complex content and many referents. Review for spatial coherence and note where management strategies succeeded or failed.

Audience feedback loops use viewers to identify coherence failures. Sign extended discourse for fluent viewers who can identify when spatial reference becomes confusing. Use their feedback to diagnose weaknesses and target practice.

Conclusion

Extended discourse challenges spatial coherence through memory decay, referent accumulation, topic and temporal shifts, perspective changes, and digressions. Fluent signers manage these challenges through chunking and hierarchical organization, clear frame boundaries, anchor referents, periodic reinforcement, and explicit frame announcements.

Perspective shifts require particular attention because they transform spatial reference relationships. Clear markers, maintained identification strategies, and consistent character behaviors help viewers track perspective changes.

When coherence breaks down, repair strategies range from implicit correction to explicit re-establishment to full frame reset. The choice depends on breakdown severity and context.

Extended narrative performance and academic interpretation illustrate these principles in action, showing how storytellers and interpreters deploy different strategies for different discourse types.

The next chapter examines perspective and viewpoint in depth, exploring how the fundamental distinction between observer and character viewpoint affects all aspects of classifier predicates and spatial reference.

0.19 Chapter Six

0.19.1 Perspective and Viewpoint in Spatial Constructions

A signer describing a car accident can show it two ways. In the first, she holds her hands in front of her body, each hand a vehicle classifier, and moves them toward each other until they collide. She watches the collision from outside, as if viewing a scale model on a table. In the second, she becomes the driver of one car. Her hands grip an imaginary steering wheel. Her body tenses. Her eyes widen as she sees the other car approaching. The collision happens to her, not in front of her.

These two approaches represent the fundamental perspective distinction in ASL spatial construction: observer viewpoint and character viewpoint. The distinction is not merely stylistic. It affects how space is organized, how classifiers are deployed, how scale operates, how the body contributes meaning, and how viewers interpret spatial reference. Mastering perspective is essential for advanced classifier use because the same scene depicted from different perspectives requires different spatial strategies.

This chapter examines perspective in depth. We analyze the properties of observer and character viewpoint, explore how signers shift between them, address the challenges of perspective management in complex discourse, and consider the communicative functions that motivate perspective choice.

Before proceeding, recall the three analytical axes from the front matter:

- **Mode** (Axis 1): topographic vs. syntactic (whether space maps real-world locations or tracks discourse referents)
- **Viewpoint** (Axis 2): observer vs. character (whether the scene is viewed from outside or experienced from inside)
- **Scale/Space** (Axis 3): token vs. surrogate (whether entities are represented at reduced scale or life-scale)

This chapter addresses Axis 2. Viewpoint is distinct from mode: a signer can use observer viewpoint in either topographic or syntactic mode. Viewpoint is also distinct from scale, though they often correlate: observer viewpoint typically uses reduced scale (token space), and character viewpoint typically uses life-scale (surrogate space). But these are tendencies, not definitions. A signer can depict a reduced-scale scene from within a character's perspective, and a signer can use life-scale spatial manifestation without fully embodying a character. Keeping the axes separate prevents analytical confusion.

Observer Viewpoint: The Scene from Outside

In observer viewpoint, the signer views the depicted scene from an external vantage point. The scene exists "out there" in signing space, and the signer is not a participant within it. The signer's hands represent entities in the scene, but the signer's body does not represent any character.

Several properties characterize observer viewpoint.

Reduced scale is typical. The signing space represents a larger environment compressed to manageable size. A room becomes a volume of space in front of the signer. A city block becomes a small area. Vehicles, people, and objects are represented at miniature scale through classifier handshapes. The signer is like someone looking at a model or a map.

Allocentric spatial reference organizes the scene. Left and right, front and back, up and down are defined relative to the scene itself, not relative to any character within it. If the signer establishes that north is toward the back of the signing space, north remains toward the back regardless of which characters are being discussed or what direction they face.

Entity classifiers dominate. In observer viewpoint, hands typically represent whole entities from outside: CL:3 for vehicles, CL:1 for persons, CL:B for surfaces. The classifiers show the shape and position of entities as seen by an external viewer, not as experienced by a participant.

The body remains neutral. The signer's torso, face, and posture do not represent any character. The signer may lean slightly to view different parts of the scene, but this lean is the signer's own movement, not a character's movement. Facial expression may reflect the signer's commentary on the scene (surprise, amusement, concern) rather than any character's experience.

Multiple entities can be represented simultaneously. Because the hands represent entities from outside, both hands can depict different entities at the same time. One hand might hold a ground element (a surface, a building) while the other moves a figure element (a person, a vehicle). Or both hands might represent two moving entities whose paths the signer is depicting.

Observer viewpoint excels at showing spatial relationships, movements through space, and the overall layout of a scene. It is the natural choice for giving directions, describing room layouts, explaining how objects are arranged, or depicting events where the spatial configuration is the primary information.

Character Viewpoint: The Scene from Inside

In character viewpoint, the signer becomes a participant within the depicted scene. The signer's body represents the character's body. The scene is experienced from the character's perspective, not viewed from outside.

Several properties characterize character viewpoint.

Life-size scale is typical. The signing space represents the environment at approximately the scale the character would experience it. A door is the size of a door relative to the signer-as-character. Another person stands at human height relative to the signer-as-character. The signer is not looking at a model but inhabiting a world.

Egocentric spatial reference organizes the scene. Left and right are the character's left and right. In front means in front of the character, which may be any direction relative to the observer-viewpoint scene. If the character turns, the spatial reference rotates with them.

Handling classifiers and constructed action dominate. In character viewpoint, hands often represent what the character touches, holds, or manipulates. The grip on a steering wheel, the grasp of a cup, the push against a door: these handling representations show objects as the character experiences them. The body itself becomes expressive, showing the character's posture, movement, and physical responses.

The body represents the character. The signer's torso takes on the character's posture. The signer's face takes on the character's expression. The signer's movements represent the character's movements. This embodiment creates vivid, immediate depiction that observers can read as the character's experience.

Non-manual markers carry character information. Facial expression, eye gaze, head position, and body tension all represent the character's state rather than the signer's commentary. A frightened character is shown through the signer's frightened expression. A searching character is shown through the signer's searching eye gaze.

Simultaneity is limited. Because the body represents a single character, it is difficult to represent multiple characters simultaneously in full character viewpoint. Rapid alternation between characters (shifting back and forth) can create the effect of dialogue or interaction, but true simultaneity requires partial return to observer viewpoint.

Character viewpoint excels at showing experience, emotion, action, and interaction. It is the natural choice for narrative, dialogue, showing how something feels rather than just how it looks, or depicting events where the character's perspective is the primary information.

The Viewpoint Continuum

Observer and character viewpoint are not binary categories but endpoints of a continuum. Signers frequently operate in intermediate positions that blend properties of both.

Partial character viewpoint maintains some observer-viewpoint properties while incorporating character elements. The signer might adopt a character's facial expression while keeping the hands in entity-classifier mode. Or the signer might shift body orientation to suggest a character's position without fully embodying the character's experience.

Character-in-model places a character perspective within an observer-viewpoint frame. The signer establishes a scene in observer viewpoint, then briefly shifts into a character's perspective for a moment of experience, then returns to observer viewpoint. The character moment is embedded within the larger observer frame.

Dual representation uses one articulator in observer viewpoint and another in character viewpoint. The non-dominant hand might hold a ground element from observer perspective (a surface, a structure) while the dominant hand shows character-perspective action (handling, manipulating). The viewer integrates both levels of representation.

These intermediate positions allow signers to exploit the advantages of both viewpoints within a single discourse. A narrative might establish spatial layout in observer viewpoint, shift to character viewpoint for a key emotional moment, and return to observer viewpoint for subsequent action. The flexibility to move along the continuum is a resource, not a complication.

Shifting Between Viewpoints

Viewpoint shifts are common in extended discourse. A signer might begin in observer viewpoint to establish a scene, shift to character viewpoint for dialogue, return to observer viewpoint to show movement, shift to a different character's viewpoint for their reaction, and so on. Managing these shifts requires clear marking and consistent conventions.

Entry into character viewpoint is typically marked by body shift, eye gaze change, and the assumption of character-specific behavior. The signer's posture changes to reflect the character's posture. The signer's eye gaze shifts from looking at the scene to looking as the character would look. The signer may adopt character-specific mannerisms or expressions. These changes signal to viewers that interpretation should shift from allocentric to egocentric.

Exit from character viewpoint is marked by return to neutral. The signer's posture neutralizes. Eye gaze returns to outward orientation (looking at viewers or at the depicted scene from outside). The hands may resume entity-classifier configurations. This return signals that interpretation should shift back to allocentric.

Rapid alternation between characters in dialogue or interaction uses repeated entry and exit cues. The signer might shift right for Character A, produce A's utterance, shift left for Character B, produce B's response, shift right for A again, and so on. The consistent association of body position with character identity helps viewers track who is speaking.

Gradual transitions move along the viewpoint continuum rather than jumping between endpoints. A signer might begin in observer viewpoint, gradually incorporate more character elements (first facial expression, then body tension, then handling), until fully in character viewpoint. This gradual shift can feel more natural than abrupt switches.

Unmarked shifts occur when skilled signers rely on context rather than explicit marking. If the discourse structure makes clear that a shift has occurred, the signer may not need to mark it elaborately. However, unmarked shifts risk viewer confusion if the context is not as clear as the signer assumes.

Spatial Reference Across Viewpoint Shifts

The most challenging aspect of viewpoint management is maintaining spatial coherence when viewpoints change. Spatial reference works differently in observer and character viewpoint, and viewers must recalculate their interpretation at each shift.

Consider a scene with two characters, John and Mary, facing each other. In observer viewpoint, the signer might establish John on the left and Mary on the right. Pointing left means John; pointing right means Mary. The allocentric frame is straightforward.

Now the signer shifts into John's viewpoint. John is facing Mary. From John's perspective, Mary is in front of him. To reference Mary, the signer-as-John looks or gestures forward, not to the right. The egocentric frame has rotated relative to the allocentric frame.

If the signer then shifts into Mary's viewpoint, another rotation occurs. Mary is facing John. From Mary's perspective, John is in front of her, in the opposite direction from where Mary was when viewed from John. The egocentric frame has rotated again.

Viewers tracking these rotations must maintain multiple spatial frames simultaneously: the allocentric observer frame (John on left, Mary on right) and the current egocentric character frame (which rotates with each character shift). This cognitive demand increases with the complexity of the scene and the frequency of shifts.

Strategies for managing spatial reference across viewpoint shifts include:

Explicit re-identification at each shift names or indicates the referent before using spatial reference. "John [pointing in observer frame] said to Mary [pointing in observer frame]… [shifting into John] 'I don't believe you' [looking forward at Mary from John's perspective]." The explicit identification in observer frame prepares viewers for the egocentric reference that follows.

Consistent character markers help viewers track who is who without explicit re-identification. If John is always associated with a particular body position, facial set, or mannerism, viewers can recognize John regardless of which viewpoint is active. The character identity transcends the spatial frame.

Limited rotation reduces cognitive demand by keeping viewpoint shifts from involving large spatial rotations. If characters are positioned so that their egocentric frames are not dramatically different from the allocentric frame, the recalculation is easier. This may constrain staging choices but improves clarity.

Return to observer between character turns provides a reference point. Rather than shifting directly from John to Mary, the signer briefly returns to observer viewpoint, re-establishing the allocentric frame, before shifting into Mary. This extra step adds time but reduces confusion.

Perspective and Classifier Choice

Viewpoint affects classifier choice systematically. The same referent may be represented with different classifiers depending on whether observer or character viewpoint is active.

In observer viewpoint, a car is likely represented with CL:3, the entity classifier showing the vehicle's shape from outside. The signer sees the car as an object in the scene.

In character viewpoint, a car is likely represented through handling classifiers showing the driver's grip on the steering wheel, or through constructed action showing the driving experience. The signer-as-character experiences the car from inside.

Similarly, a door in observer viewpoint might be CL:B, showing the flat surface. In character viewpoint, the door might be shown through the action of gripping and pulling a handle, or through the body responding to the door opening.

This systematic relationship between viewpoint and classifier type means that viewpoint shifts often involve classifier shifts. A scene showing a car approaching a building might use CL:3 and CL:B in observer viewpoint. When the signer shifts into the driver's viewpoint, the classifier deployment changes to handling and constructed action. Returning to observer viewpoint, the entity classifiers return.

Skilled signers make these shifts fluently, matching classifier choice to viewpoint automatically. Less experienced signers may produce mixed constructions that combine observer-appropriate and character-appropriate elements in ways that feel incongruent. Developing viewpoint-appropriate classifier selection is an important aspect of advanced classifier competence.

Perspective and the Non-Dominant Hand

The non-dominant hand plays different roles in different viewpoints.

In observer viewpoint, the non-dominant hand often provides ground: a surface, a reference point, a stable element against which the dominant hand's figure moves. This ground-holding function maintains the observer frame and provides spatial anchoring.

In character viewpoint, the non-dominant hand may participate in two-handed actions: gripping with both hands, gesturing with both arms, or holding one object while manipulating another. The non-dominant hand represents part of the character's physical engagement with the environment.

In mixed viewpoint (dual representation), the non-dominant hand may maintain observer-viewpoint ground while the dominant hand performs character-viewpoint action. This mixed deployment creates layered representation: the scene layout is visible through the non-dominant hand while the character's action is visible through the dominant hand.

Managing the non-dominant hand across viewpoint shifts requires attention. A ground element held in observer viewpoint may need to be released when shifting to character viewpoint, or it may be maintained as a stable reference while the rest of the construction shifts. The choice depends on whether the ground information remains relevant and whether maintaining it conflicts with character-viewpoint requirements.

Communicative Functions of Viewpoint Choice

Viewpoint choice is not arbitrary. Different viewpoints serve different communicative functions, and skilled signers select viewpoint based on what they want to accomplish.

Spatial clarity favors observer viewpoint. When the primary information is where things are relative to each other, how they move through space, or what the layout looks like, observer viewpoint provides clear allocentric reference without the rotation complications of character perspective.

Emotional engagement favors character viewpoint. When the primary information is how something feels, what a character experiences, or the subjective quality of an event, character viewpoint creates immediacy and empathy. Viewers experience with the character rather than watching from outside.

Narrative dynamism uses both viewpoints strategically. A skilled storyteller moves between viewpoints to create rhythm and emphasis. Establishing shots use observer viewpoint; emotional peaks use character viewpoint; transitions use observer viewpoint again. The viewpoint movement itself contributes to the storytelling.

Information density may favor observer viewpoint. Because observer viewpoint allows simultaneous representation of multiple entities and clear spatial relationships, it can convey complex configurational information efficiently. Character viewpoint, with its focus on single-character experience, may require more time to convey the same spatial information.

Discourse register may influence viewpoint tendency. Formal, expository discourse may favor observer viewpoint's clarity and distance. Casual, narrative discourse may favor character viewpoint's engagement and immediacy. Academic interpretation might lean toward observer viewpoint; storytelling performance might lean toward character viewpoint.

These functions interact. A legal interpreter might use observer viewpoint for spatial precision when describing a crime scene but shift to character viewpoint when conveying a witness's experience of the event. The interpreter selects viewpoint based on which function the source material requires.

Errors in Perspective Management

Several error patterns emerge when signers struggle with perspective.

Perspective bleed mixes observer and character elements inconsistently. The signer uses entity classifiers (observer appropriate) while showing character facial expression (character appropriate) in ways that create confusion rather than productive blending. The viewer cannot determine whether to interpret spatially (allocentric) or experientially (egocentric).

The remedy is perspective commitment: fully adopt one viewpoint or deliberately blend in ways that create meaningful layering rather than confusion.

Rotation failure occurs when a signer shifts into character viewpoint without adjusting spatial reference for the character's orientation. The signer-as-character points left to reference someone who is in front of the character, applying the observer-frame locus rather than the character-frame direction.

The remedy is rotation tracking: consciously recalculate spatial reference when entering character viewpoint, identifying where referents are relative to the character rather than relative to the observer frame.

Unmarked shift confusion occurs when viewers miss a viewpoint shift because it was not clearly signaled. The signer has shifted into a character's perspective, but viewers are still interpreting in observer mode. Spatial reference is misinterpreted; actions are attributed to the wrong referent.

The remedy is explicit marking: use clear entry and exit cues for viewpoint shifts, especially in complex discourse or with less experienced viewers.

Character collapse occurs when a signer attempts to maintain multiple character perspectives simultaneously and loses track of which character is currently active. In a dialogue scene, the signer may produce Mary's line from John's body position, or blend two characters' spatial orientations.

The remedy is character discipline: maintain consistent associations between characters and body positions, use clear shift markers, and simplify when necessary rather than producing confused blends.

Building Perspective Management Skills

Perspective management develops through targeted practice. Several exercises support this development.

Single-viewpoint commitment drills practice sustained observer or character viewpoint. Describe a scene in pure observer viewpoint for two minutes: no character embodiment, no egocentric reference. Then describe the same scene in pure character viewpoint: full embodiment, egocentric reference only. This practice builds fluency in each mode.

Perspective-shift exercises practice clean transitions between viewpoints. Establish a scene in observer viewpoint. Shift into a character's viewpoint with clear marking. Produce character-perspective content. Return to observer viewpoint with clear marking. Repeat with different characters and more complex scenes.

Rotation practice explicitly addresses the spatial reference transformation. Establish two characters facing each other in observer viewpoint. Note their allocentric positions. Shift into Character A's viewpoint; identify where Character B is egocentrically. Shift into Character B's viewpoint; identify where Character A is egocentrically. Practice until the rotation becomes automatic.

Narrative practice integrates perspective management into storytelling. Tell a story that requires multiple viewpoint shifts. Record and review: Are shifts clearly marked? Is spatial reference consistent within each viewpoint? Do viewers follow the rotations correctly?

Feedback from fluent viewers identifies perspective management problems that self-review may miss. Sign for experienced viewers and ask them to signal when perspective becomes confusing. Use their feedback to diagnose specific weaknesses.

Conclusion

Observer viewpoint and character viewpoint represent fundamentally different relationships between signer and depicted scene. Observer viewpoint sees from outside, uses allocentric reference, favors entity classifiers, and keeps the body neutral. Character viewpoint experiences from inside, uses egocentric reference, favors handling classifiers and constructed action, and embodies the character.

The viewpoints form a continuum, and skilled signers move along it strategically. Viewpoint choice serves communicative functions: spatial clarity, emotional engagement, narrative dynamism, information density, and register appropriateness.

Viewpoint shifts require clear marking and careful management of spatial reference, which transforms across perspectives. Errors in perspective management produce confusion about spatial relationships and referent identification.

This chapter concludes Part Two's examination of spatial anchoring systems. Part Three turns to classifier predicates in depth, examining each classifier type and its deployment in the unified framework established by Parts One and Two.

0.20 Part Three

0.21 Classifier Predicates in Depth

0.22 Chapter Seven

0.22.1 Entity Classifiers and Semantic Features

The introductory ASL course presents entity classifiers as a matching game: learn which handshape goes with which category of thing. CL:3 for vehicles. CL:1 for people. CL:bent-V for animals. CL:B for flat things. The student memorizes the pairings, practices producing them, and eventually can place a car classifier in signing space and move it along a path. Mission accomplished.

But this matching-game approach obscures the systematic principles governing entity classifier form. The handshapes are not arbitrary assignments; they encode semantic features of the referents they represent. Understanding these features transforms entity classifier use from memorized pairings to productive competence. A signer who understands the features can reason about novel referents, predict appropriate classifiers for unfamiliar entities, and recognize why certain classifier choices work while others do not.

This chapter examines entity classifiers through the lens of semantic features. We identify the features that govern classifier selection, analyze how features interact to determine appropriate forms, explore the productive application of features to novel referents, and address the limits and variations in the feature system.

What Makes a Classifier an Entity Classifier

Entity classifiers represent referents as whole objects seen from outside. They depict what something is rather than how it is manipulated (handling classifiers) or what its surface looks like (size and shape specifiers). The classifier handshape schematizes the referent's category membership, and the hand's position in signing space represents the referent's location.

The defining characteristic of entity classifier use is the observer-viewpoint relationship between signer and referent. The signer sees the entity from outside, as an object in space. The hand represents the entity's overall form, not any particular part of it and not the signer's interaction with it.

Entity classifiers answer the question "what kind of thing is this?" at the level of basic category membership. CL:3 tells viewers "this is a vehicle-type thing." CL:1 tells viewers "this is an upright-person-or-pole-type thing." The specific identity of the referent (which car, which person) comes from discourse context, not from the classifier itself.

This category-level representation is what makes entity classifiers useful for spatial description. Once a classifier establishes category membership, the hand's movement depicts the referent's movement, the hand's position depicts the referent's location, and the hand's orientation depicts the referent's facing direction. The classifier becomes a token that can be manipulated to show spatial information.

The Primary Semantic Features

Several semantic features govern entity classifier selection. These features describe properties of referents that are encoded in classifier handshape.

Dimensionality is the most fundamental feature. Referents have primary geometric extension in one, two, or three dimensions.

One-dimensional (linear) referents are primarily extended along a single axis: poles, pencils, ropes, snakes, roads when viewed lengthwise. Linear referents typically take classifiers that emphasize length: CL:1 (index finger extended) for rigid linear objects, CL:G (thumb and index finger extended, close together) for thin cylindrical objects, CL:I (pinky extended) for very thin linear objects, CL:X (index finger bent) for bent or curved linear objects.

Two-dimensional (planar) referents are primarily extended across a flat surface: paper, walls, screens, tables when viewed from above. Planar referents typically take flat-hand classifiers: CL:B (flat hand, fingers together) for solid flat surfaces, CL:5 (flat hand, fingers spread) for surfaces with some internal articulation or larger extent.

Three-dimensional (volumetric) referents have significant extension in all three dimensions: balls, boxes, cups, heads, buildings. Volumetric referents take classifiers that suggest three-dimensional form: CL:C (curved hand) for cylindrical or rounded volumes, CL:claw (bent-5) for irregularly shaped or bulky volumes, CL:S (fist) for compact volumes.

Dimensionality is not always clear-cut. A book is somewhat planar (flat) but also volumetric (has thickness). A coin is planar but also has some volumetric extent. Signers assess which dimension is most salient for the current depiction and select accordingly. Context affects salience: a book being placed on a shelf might be depicted with a planar classifier (showing how it fits on the shelf surface), while a book being stacked might be depicted with a volumetric classifier (showing how it occupies space in the stack).

Animacy distinguishes living beings from non-living objects. Animate referents, particularly humans, have dedicated classifier forms.

Humans in upright posture typically take CL:V (index and middle fingers extended, representing legs) when the legs or walking motion is salient, or CL:1 representing the whole upright body when legs are not particularly salient. The person classifiers can show standing, walking, falling, and other whole-body positions and movements.

Animals typically take CL:bent-V (index and middle fingers bent) representing four-legged posture, though this varies by animal type. Birds might use different classifiers suggesting wings or beaks depending on what aspect is being depicted.

Animacy affects more than just which classifier is selected; it affects how the classifier is used. Animate classifiers can show autonomous movement (the person walked, the dog ran) while inanimate classifiers more typically show caused movement (the ball rolled because something made it roll). This distinction is not absolute but represents a tendency in how classifiers are deployed.

Rigidity distinguishes objects that maintain their shape from objects that can deform. A pencil is rigid; a rope is flexible. A table is rigid; a piece of cloth is flexible.

Rigidity affects classifier selection less directly than dimensionality or animacy, but it influences how classifiers can be used. Rigid objects maintain their classifier configuration throughout movement; they can be placed, moved, and oriented with the handshape remaining constant. Flexible objects may require classifier changes during depiction (showing the object bending or folding) or may be better represented through handling classifiers that show manipulation of the flexible material.

Some classifiers inherently suggest rigidity or flexibility. CL:1 (rigid extended finger) suggests a rigid linear object. CL:1-wiggling (finger wiggling as it moves) can suggest a flexible linear object or a path with undulation.

Orientation refers to whether the referent has a canonical front, top, or facing direction. Many objects and all animate beings have orientations that matter for how they are depicted.

Vehicles have fronts (the direction they face and typically move). People have fronts (the direction they face). Buildings may have fronts (main entrances). These orientations are represented through classifier orientation: the direction the classifier handshape "faces" represents the direction the referent faces.

Objects without canonical orientation (balls, cups without handles) can be depicted in any orientation without implying facing direction. Objects with orientation (cars, people, chairs) should be depicted with appropriate orientation to avoid implying that they face a direction they do not.

Size category affects classifier choice through handshape configuration. Larger referents may use wider hand configurations; smaller referents may use narrower configurations.

However, absolute size is less important than relative size within a category. A large car and a small car might both use CL:3; the size difference would be shown through other means (signing LARGE or SMALL, adjusting movement speed or manner). Size categories are broad (small, medium, large) rather than precise measurements.

Size interacts with scale in depicting scenes. In observer viewpoint at reduced scale, all referents are miniaturized relative to the signer. A building might use CL:B (flat surface) to show one wall even though buildings are volumetric, because at the depicted scale the wall's flatness is salient.

Feature Interactions and Classifier Selection

The features described above do not operate independently. Classifier selection reflects the intersection of multiple features, and signers must weigh feature values against each other to determine the most appropriate form.

Consider a snake. Dimensionally, a snake is linear (long and thin). In terms of animacy, a snake is animate. In terms of rigidity, a snake is flexible (it bends and coils). These features point toward different classifier possibilities: CL:1 for linear objects, but CL:bent-V for animals, but CL:1-wiggling for flexible linear objects.

In practice, snake is often depicted with CL:G or CL:1 held horizontally with sinuous movement, emphasizing the linear and flexible features. The animal-classifier CL:bent-V is less common for snakes because the bent-V schematizes four-legged posture, which snakes lack. The classifier choice reflects the feature profile of the specific referent, not just one feature in isolation.

Consider an airplane. Dimensionally, an airplane has complex extension (long fuselage, wide wingspan). In terms of animacy, it is inanimate. In terms of rigidity, it is rigid. The most common airplane classifier uses the "Y" handshape (thumb and pinky extended) or a variant with the index finger also extended to suggest wings and body. This handshape schematizes the distinctive shape that makes airplanes recognizable as a category.

The airplane example illustrates that classifier handshapes can be motivated by distinctive perceptual features beyond the basic dimensional categories. Airplanes have wings; the classifier includes a schematic wing representation. Vehicles have wheels (or at least ground contact); the CL:3 includes suggestions of that property.

When feature values conflict or when multiple classifiers seem possible, signers consider which features are most relevant for the current depiction. A signer depicting a person lying down might use CL:1 held horizontally (emphasizing the body as a linear form in that position) rather than CL:V (which schematizes standing/walking posture). The choice reflects what aspect of the referent matters for the current discourse.

Productive Application to Novel Referents

A major advantage of understanding the semantic feature system is the ability to reason about novel referents. When encountering an object you have never depicted before, you can analyze its features and predict appropriate classifier choices.

Suppose you need to depict a skateboard. You have never learned a "skateboard classifier," but you can analyze: dimensionally, a skateboard is roughly planar (a flat board) with some linear extent (longer than it is wide). It is inanimate and rigid. A flat-hand classifier (CL:B) could represent the board. You might also show it through handling (feet on the board, body movement of riding) or through classifier motion (CL:B moving along a surface, perhaps with slight rocking for the riding motion).

Suppose you need to depict a drone. Analysis: three-dimensional but with extending rotors, inanimate, rigid, has orientation (front/camera direction). A classifier showing the compact body with suggestions of rotors (perhaps CL:claw with fingers slightly spread, or CL:5 with movement suggesting rotation) could work. The classifier would need to show the drone's flying movement and orientation.

This productive reasoning is not guaranteed to produce the same classifier that a native signer would use. Different signers may emphasize different features; regional and community variation exists. But feature-based reasoning produces principled choices that communicate effectively even if they differ from established community conventions.

When your feature-based choice differs from what you observe in fluent signers, that difference is informative. It suggests that the fluent signers are attending to different features or weighting features differently than you expected. Analyzing the difference helps refine your understanding of the feature system.

Polymorphism: Multiple Classifiers for One Referent

The feature system explains why a single referent may be depicted with different classifiers in different contexts. This polymorphism is not inconsistency but principled variation based on which features are relevant.

A person can be depicted as: - CL:V (bent-V representing legs) when walking or leg movement is salient - CL:1 (single upright finger) when the person as a whole entity in space is salient - Constructed action (signer's body represents person) when the person's experience is salient - Handling classifiers when the person is being physically manipulated (carried, pushed)

Each representation emphasizes different features of "person." The legs classifier emphasizes the locomotive aspect. The upright-entity classifier emphasizes the person's position in space. Constructed action emphasizes the person's subjective experience. Handling emphasizes the person as a physical body being acted upon.

A car can be depicted as: - CL:3 (vehicle classifier) when the car as an entity moving through space is salient - Handling classifiers (steering wheel grip) when the driving experience is salient - CL:B surfaces when the car as a spatial barrier or surface is salient (showing how it's parked against something)

The "correct" classifier depends on what the discourse requires, not on some fixed mapping between "car" and a handshape.

Polymorphism extends to within-category variation. Different types of vehicles might use modified classifiers: motorcycles might use a variant of CL:3 with different finger configuration; large trucks might use two-handed representations. These variations reflect feature differences within the vehicle category.

Category Boundaries and Edge Cases

The feature system has fuzzy boundaries. Some referents fall between categories or have unusual feature combinations that make classifier selection uncertain.

Is a wheelchair a vehicle or a chair? It has wheels and moves (vehicle features) but also has a seat and holds a person in seated posture (chair features). Signers might use vehicle classifiers when depicting wheelchair movement or chair-like classifiers when depicting someone sitting in one. The choice reflects which aspect is salient.

Is a smartphone a flat object or a volumetric object? It is thin (planar) but also has some thickness and is typically handled as a three-dimensional thing. CL:B might show it as a screen surface; CL:C might show it being gripped; handling might show the interaction with it. Context determines which features matter.

Edge cases require judgment rather than rule application. The feature system provides guidance, not algorithms. When features conflict or when referents do not fit neatly into categories, signers make reasonable choices based on communicative goals.

Native signers navigate edge cases through experience and exposure to community conventions. Advanced learners can approach this navigation through feature analysis combined with attention to how fluent signers handle similar referents.

Variation in the Classifier System

The classifier system is not entirely uniform across all ASL signers. Regional variation, generational variation, and individual style all affect classifier use.

Variation across ASL communities is well documented. McCaskill et al. (2011) established Black ASL as a distinct variety with phonological, lexical, and syntactic-discourse features shaped by the history of segregated Deaf education. While detailed empirical work specifically on classifier variation across communities is more limited, the sociolinguistic dynamics that produce dialect differences in other linguistic domains likely extend to depicting constructions as well. Generalizations about community-wide patterns must be made cautiously, as individual variation, regional factors, and register all interact. Older signers who attended residential schools may have different classifier repertoires than younger signers educated in mainstream settings. Regional communities may have local conventions for certain referents.

These variations do not mean the feature system is arbitrary. The underlying features (dimensionality, animacy, rigidity, orientation) are consistent; what varies is how particular handshapes encode those features and which features are emphasized in particular contexts.

For learners, variation means that the "correct" classifier for a referent may depend on who you are signing with. Exposure to diverse signing communities helps develop awareness of variation. When in doubt, analyze features and make a principled choice; if your choice differs from local convention, you will learn the convention through feedback.

The Limits of Entity Classifiers

Entity classifiers are powerful for depicting referents as objects in space, but they have limits.

Detail limits: Entity classifiers represent category membership, not individual identity or detailed features. CL:3 represents "a vehicle" but does not specify make, model, color, or condition. These details must come from other sources: lexical description, fingerspelling, facial expression, or constructed action showing the vehicle's character.

Action limits: Entity classifiers show referents as objects being moved or positioned, but they do not easily show the referent's internal actions or experiences. A person classifier can show where a person is and how they move through space, but showing what the person does with their hands or what expression they wear requires shifting to constructed action.

Abstraction limits: Entity classifiers work best for concrete, physical referents with clear spatial properties. Abstract concepts (ideas, emotions, relationships) do not have dimensional extension or physical form. They cannot be directly depicted with entity classifiers, though spatial metaphors sometimes use classifier-like representations for abstract domains.

When discourse requires what entity classifiers cannot provide, signers shift to other resources: lexical signs, constructed action, handling classifiers, or descriptive fingerspelling. The skilled signer recognizes when entity classifiers are the right tool and when other tools serve better.

Integrating Entity Classifiers with Spatial Systems

Entity classifiers gain their full power when integrated with the spatial systems examined in Part Two. An entity classifier is not just a handshape; it is a token placed in topographic or syntactic space, tracked through discourse, and viewed from a particular perspective.

In topographic space, entity classifier position represents the referent's location in the depicted environment. Moving the classifier traces the referent's path. Multiple classifiers show spatial relationships among multiple referents.

In syntactic space, entity classifier placement may primarily serve referent identification rather than location depiction. The classifier at locus [a] identifies which referent is being discussed, with spatial position arbitrary relative to the real world.

In observer viewpoint, entity classifiers are the default representation for external objects. In character viewpoint, entity classifiers may be less frequent, replaced by handling classifiers and constructed action, though they can still appear when the character perceives other entities in their environment.

The integration is seamless in fluent signing. A signer might establish two vehicles with CL:3 classifiers in topographic space, move them toward each other, then shift into character viewpoint to show one driver's experience, then return to observer viewpoint with the entity classifiers to show the outcome. The entity classifiers serve the discourse wherever external-object representation is needed.

Conclusion

Entity classifiers represent referents as whole objects seen from outside. Their handshapes encode semantic features: dimensionality (linear, planar, volumetric), animacy (human, animal, inanimate), rigidity (flexible or rigid), orientation (with or without canonical facing), and size category. These features interact to determine appropriate classifier selection.

Understanding the feature system enables productive application to novel referents and explains the polymorphism that allows multiple classifiers for single referents in different contexts. Category boundaries are fuzzy, and variation exists across communities, but the underlying feature system is consistent.

Entity classifiers integrate with spatial systems (topographic and syntactic space, observer and character viewpoint) to provide comprehensive spatial representation. They have limits in representing detail, internal action, and abstraction, requiring coordination with other expressive resources.

The next chapter examines handling classifiers, which represent referents through the signer's manipulation of them rather than through external observation.

0.23 Chapter Eight

0.23.1 Handling Classifiers and Implied Objects

A signer describing a coffee mug does not show you the mug from outside. She shows you her hand wrapped around it: fingers curving to match its cylindrical form, thumb braced against the handle, wrist tilted as if raising the mug to drink. You never see the mug as an object in space. You see the mug through the shape of the hand that holds it.

This is the essence of handling classifiers. Where entity classifiers represent objects as external things viewed from outside, handling classifiers represent objects through the signer's physical interaction with them. The handshape shows not what the object looks like but how it is held, gripped, grasped, or manipulated. The object is implied by the handling rather than depicted directly.

Handling classifiers are inherently character-viewpoint constructions. They show the world as experienced by someone interacting with it, not as observed from outside. They encode information that entity classifiers cannot: the feel of objects, the effort of manipulation, the manner of handling. They connect intimately with the arm positioning principles developed in Arm Angles, because the arm carries much of the information about weight, resistance, and force that handling classifiers convey.

This chapter examines handling classifiers in depth: how grip configuration implies object properties, how movement and manner encode action characteristics, how the arm contributes to handling representation, and how handling classifiers integrate with other classifier types in complex depictions.

Grip Configuration and Implied Objects

The fundamental principle of handling classifiers is that grip configuration implies object properties. The shape of the hand as it grasps an imaginary object tells viewers what kind of object is being grasped.

Consider the difference between these grips:

A hand with fingers curled around a cylindrical space, thumb opposite fingers, suggests a cylindrical object of moderate diameter: a cup, a bottle, a can, a handlebar. The grip implies the object's shape without depicting the object itself.

A hand with thumb and forefinger pinched together, other fingers relaxed, suggests a small, thin object: a needle, a coin, a piece of paper's edge, a pill. The precision grip implies precision-scale objects.

A hand with fingers spread wide and curved, as if palming a large sphere, suggests a large rounded object: a basketball, a melon, a globe. The wide grip implies large size.

A hand with fingers hooked over an edge, palm facing inward, suggests a flat object with an edge being carried: a tray, a book, a board. The edge-grip implies planar form.

These grip-to-object mappings are not arbitrary conventions but reflect real-world biomechanics. Humans grip cylindrical objects with wrapped fingers. Humans grip small objects with precision pinch. Humans grip large spheres with spread palms. The handling classifiers exploit this embodied knowledge: viewers see the grip and infer the object because they know how objects of various types are held.

The mapping is not one-to-one. A cylindrical grip could indicate a cup, bottle, flashlight, microphone, or many other objects. Context disambiguates. If the discourse has established that we are in a kitchen making coffee, the cylindrical grip probably indicates a mug. If we are in a bar, perhaps a beer bottle. If we are giving a speech, perhaps a microphone. The grip narrows the possibilities; context selects among them.

Object Properties Encoded in Handling

Beyond basic shape, handling classifiers encode several object properties through grip configuration and handling manner.

Size is encoded through grip aperture. A tight pinch suggests small objects. A wide grasp suggests large objects. The distance between thumb and fingers, the spread of the palm, and the degree of finger curl all contribute size information. A mug and a barrel might both be cylindrical, but the grip aperture differs dramatically.

Weight is encoded through arm configuration and movement manner. This is where the Arm Angles material becomes directly relevant. Handling a light object involves relaxed arm positioning, easy movement, and minimal visible effort. Handling a heavy object involves tensed arm positioning, slower movement, and visible effort. The arm does not just carry the hand into position; it embodies the physical experience of the weight.

A signer lifting a heavy box shows not just the grip (hands positioned under the box's bottom edges) but the effort: arms tensed, shoulders engaged, movement slow and controlled, perhaps a facial expression of strain. A signer lifting a light box shows the same grip shape but with relaxed arms, easy movement, and no strain indication. The object's weight is felt through the signer's embodied representation.

Texture and fragility can be suggested through handling manner. Handling a rough or awkward object involves adjustments, repositioning, careful grip. Handling a fragile object involves gentle, controlled movements with visible care. Handling a slippery object might involve tightened grip or compensatory movements. These manner variations do not change the basic grip shape but add information about the object's tactile properties.

Temperature can be implied through handling behavior. Handling a hot object involves quick contact, careful positioning to avoid extended touch, perhaps a reactive wince. Handling a cold object might involve similar quick handling or protective grip. The temperature is not visible in the grip shape but emerges from the handling behavior.

Rigidity versus flexibility affects how the object is handled and how it responds to handling. A rigid object maintains its shape as it is moved; the grip remains constant. A flexible object deforms, and the handling may show this: a rope going slack, a cloth draping, a spring compressing. The handling classifier may need to change during the depiction to show the object's response to manipulation.

The Arm's Role in Handling Classifiers

The Arm Angles analysis is particularly relevant for handling classifiers because the arm carries information that the hand alone cannot convey.

Proximal involvement indicates effort and scale. Handling that engages the shoulder and elbow (proximal articulation) suggests heavier objects, larger movements, or more effortful manipulation. Handling that involves only the wrist and fingers (distal articulation) suggests lighter objects, smaller movements, or easier manipulation. This correlation between proximal involvement and effort is consistent with the register and emphasis patterns described in Arm Angles, but here it serves a different function: depicting the physical demands of object manipulation.

Arm positioning indicates the spatial relationship between handler and object. Where the arms are positioned in signing space shows where the object is relative to the handler's body. Reaching forward indicates the object is in front. Reaching to the side indicates lateral position. Reaching down indicates the object is low. This spatial positioning integrates handling classifiers with the spatial systems described in Part Two.

Movement path traced by the arm shows what is being done with the object. Lifting involves upward arm movement. Placing involves downward arm movement with controlled endpoint. Throwing involves acceleration and release. Pouring involves rotation with controlled tipping. Each action has a characteristic arm movement pattern that viewers recognize.

Movement manner encoded in arm tension and speed conveys how the action is performed. Careful handling involves controlled, slower arm movement with visible precision. Careless handling involves quicker, less controlled movement. Forceful handling involves tensed, powerful movement. Gentle handling involves relaxed, easy movement. The arm embodies the manner as well as the action.

Common Handling Classifier Handshapes

While handling classifiers are productive (new grips can be created for novel objects), certain handshapes recur frequently because they represent common grip types.

CL:C (curved hand, thumb and fingers forming a C-shape) represents grips on cylindrical objects of moderate diameter. This is perhaps the most common handling classifier, covering cups, bottles, handles, poles, and many other everyday objects.

CL:S (fist, or closed hand) represents grips on handles, straps, or objects held entirely within the fist. Holding a hammer handle, gripping a rope, grasping a small object fully enclosed by the hand.

CL:F (index finger and thumb forming a circle or near-circle) represents precision grips on small objects. Picking up a pill, holding a pin, grasping a tiny item between fingertips.

CL:open-A or **CL:relaxed-5** can represent grips on larger objects where fingers do not fully close, or handling of flat objects from below.

CL:bent-B (flat hand with fingers bent at the knuckles) can represent handling flat objects by hooking fingers over an edge.

Two-handed configurations handle objects too large for one hand: both hands under a box, both hands gripping opposite sides of a tray, hands cooperating to manage a large or awkward object.

These common handshapes provide a vocabulary, but the vocabulary is open. Any grip that a human hand can form can become a handling classifier, representing whatever object that grip implies.

Action Verbs and Handling Classifiers

Handling classifiers often constitute the manual component of depicting verbs (action predicates). The action is not named through a lexical sign but depicted through the handling itself.

Consider how "pour" is depicted. The signer does not produce a lexical sign POUR and then show the action. Instead, the signer grips an imaginary container (CL:C for a pitcher, perhaps), positions it appropriately, and then rotates the forearm to tip the container, showing liquid flow through the movement. The action "pour" is depicted through handling, not named through a sign.

Similarly, "open a jar" might be depicted through two-handed handling: one hand gripping the jar body

(CL:C), the other gripping the lid (smaller CL:C or CL:S), then rotating hands in opposite directions to show the twisting-off motion.

"Hammer a nail" might be depicted through one hand holding the nail steady (precision grip, CL:F) while the other hand grips an imaginary hammer (CL:S on a handle) and produces the striking motion.

These action depictions integrate grip (what is being held), movement (what is being done), and manner (how it is being done) into unified constructions. The handling classifier is not separate from the verb; it is part of how the verb is expressed.

Handling Classifiers and Constructed Action

Handling classifiers blend naturally with constructed action (role shift, character viewpoint) because both involve the signer embodying a character's experience. When a signer shifts into a character's perspective and shows what the character does with their hands, handling classifiers are the primary resource.

In full constructed action, the signer becomes the character. The signer's hands represent the character's hands. The signer's face shows the character's expression. The signer's body shows the character's posture. Handling classifiers in this context show what the character handles, with all the implied object properties discussed above.

Constructed action allows handling classifiers to carry emotional and attitudinal information beyond physical properties. A character handling an object lovingly (gentle grip, slow movements, perhaps a fond expression) conveys relationship to the object. A character handling an object with disgust (minimal contact, tense grip, aversive expression) conveys a different relationship. The handling classifier depicts not just physical interaction but the character's experience of that interaction.

The integration with constructed action means that handling classifiers frequently co-occur with non-manual markers showing the character's state: facial expression, eye gaze, body tension. These non-manual elements are not separate from the handling; they are part of the complete depiction of character-plus-action.

Entity Classifiers and Handling Classifiers in Sequence

A single object in discourse may be represented with entity classifiers at some points and handling classifiers at others, depending on what aspect is currently relevant.

A scene might begin in observer viewpoint with a car depicted through CL:3 (entity classifier), showing the car's position and movement through space. Then the signer shifts into the driver's viewpoint: hands grip a steering wheel (handling classifier), body leans into turns, face shows attention to the road. Later the signer might return to observer viewpoint, and CL:3 returns for the car.

This alternation is not inconsistency but discourse-appropriate selection. When spatial position matters, entity classifiers serve. When experiential interaction matters, handling classifiers serve. The transition between them follows perspective transitions, with appropriate viewpoint marking as described in Chapter 6.

The alternation can be quite rapid in some narratives. A character might be shown (entity classifier) entering a room, then becoming (character viewpoint) the character picking up an object (handling classifier), then shown (entity classifier) leaving with the object, all within seconds. Each representation serves its moment in the narrative.

Implied Objects Without Explicit Introduction

Unlike entity classifiers, which typically require the referent to be introduced or identifiable, handling classifiers can introduce objects through the handling itself. A signer can produce a handling grip, and viewers infer the object from the grip without any prior naming or description.

This capacity makes handling classifiers efficient for narrative. A signer entering character viewpoint and reaching for something can show what kind of thing is grasped through the grip alone. If the signer reaches out with a cylindrical grip at drinking height and brings the hand to the mouth, viewers understand "picked up a cup and drank" without the cup ever being named.

However, this efficiency has limits. If the specific identity of the object matters, handling alone may not suffice. Viewers know "a cup-like thing" from the grip, but not whether it is the special mug, the coffee cup, or the water glass. When identity matters, additional specification is needed: lexical signs, pointing to an established referent, or contextual setup.

The pragmatics of implied objects resemble the pragmatics of pronouns. A pronoun can refer to an antecedent without restating it; a handling classifier can refer to an object without depicting it as an entity. Both work when context makes the referent identifiable and fail when context is insufficient.

Two-Handed Handling Constructions

Many real-world handling situations involve both hands. Carrying a box, opening a jar, using tools that require two-handed operation, holding one thing while manipulating another. Handling classifier constructions represent these situations with two-handed configurations.

Symmetric two-handed handling involves both hands performing the same or mirror-image grips. Carrying a box from below: both hands cupped under the box with fingers curled over the front edge. Holding a tray: both hands flat under the tray surface. These symmetric configurations follow the biomechanics of how humans actually handle such objects.

Asymmetric two-handed handling involves the hands doing different things. One hand holds an object steady while the other manipulates it: holding a jar while twisting off the lid, holding paper while writing on it, holding a tool while operating it. These constructions often place the steadying hand in a less active role while the manipulating hand carries the main action.

Sequential hand involvement occurs when actions proceed in stages. Open a drawer (one hand grips the handle, pulls), reach in and retrieve an object (other hand enters the drawer space, grasps), close the drawer (first hand returns to push). The hands take turns carrying the action.

Two-handed constructions require coordination that single-hand handling does not. Both hands must work together to create a coherent depiction of the interaction. This coordination is a skill that develops with practice.

Handling Without Grasping

Not all handling involves closed grips. Many interactions involve open-hand contact: pushing, pressing, supporting, stroking. These interactions use handling-style representations (showing the hand's relationship to an object) without traditional grip configurations.

Pushing uses an open hand (CL:B or CL:5) contacting and moving against a surface or object. The flat hand does not grasp but applies force. The arm movement shows the pushing action and implies the pushed object's resistance.

Supporting uses hands (often both) positioned under an object, bearing weight without necessarily gripping. Carrying a tray, holding a baby, supporting a heavy object from below. The hands shape to the supported object's underside.

Stroking or touching uses fingers or palm in gentle contact with a surface. Petting an animal, feeling a texture, touching a face. The hand movement and configuration show the nature of the contact.

These non-grip handling constructions share the key property of handling classifiers: the object is implied through the hand's interaction with it rather than depicted as an external entity.

Error Patterns in Handling Classifier Use

Several error patterns emerge when learners struggle with handling classifiers.

Grip-object mismatch occurs when the grip configuration does not match the object being represented. Gripping a basketball with a precision pinch, or gripping a needle with a wide cylindrical grasp. The implied object does not match the intended object. The remedy is attention to real-world biomechanics: how would you actually hold this object?

Absent arm involvement occurs when the signer produces appropriate hand grips but fails to incorporate arm movement and tension that convey weight, effort, and manner. The hands show "holding a heavy box" but the arms show no effort, no weight, no controlled movement. The remedy is attention to the Arm Angles principles: the arm must embody the physical experience.

Static handling occurs when the signer establishes a grip but fails to show action through movement. Handling classifiers typically depict actions (picking up, putting down, using, manipulating), not just states (being held). If action is intended, movement must show it.

Perspective confusion occurs when handling classifiers (character viewpoint) are mixed inappropriately with entity classifiers (observer viewpoint). The signer shows a grip as if being the character while simultaneously placing entity classifiers as if viewing from outside. The remedy is perspective commitment and clear viewpoint marking.

Practicing Handling Classifier Fluency

Developing handling classifier fluency involves several practice approaches.

Object exploration takes familiar objects and explores how they are handled. Pick up a cup. Notice your grip, your arm position, the movements involved. Now represent that handling in signing. Pick up a book, a pen, a chair, a bag of groceries. Each object has characteristic handling that can be depicted.

Action sequences practice common actions that involve handling: making coffee, getting dressed, cooking a meal, using a computer. Depict these activities using handling classifiers throughout. The sequences build fluency with varied grips and transitions between them.

Weight and manner variations practice depicting the same basic action with different object properties. Lift a light box. Lift a heavy box. Notice how your arms change. Depict both versions. Set something down carefully. Set something down carelessly. Depict both. The variations develop manner encoding.

Integration practice combines handling classifiers with entity classifiers and constructed action in extended narratives. Tell a story that requires moving between observer and character viewpoints, between entity depiction and handling depiction. The integration develops smooth transitions and appropriate mode selection.

Before You Move On: Self-Check

Before proceeding to the next chapter, verify that you can:

Analyze your own grips. Pick up any object and identify: Which fingers contact the object? What is the thumb doing? Is the grip power or precision? Is there tension or relaxation? Can you produce a handling classifier that accurately represents this grip?

Imply objects through grip alone. Produce handling classifiers and have a partner identify the implied object. Can your partner consistently recognize what you are "holding" without being told?

Encode weight and effort. Show the same basic action (picking up a box) with light versus heavy objects. Does your arm involvement change appropriately? Can a viewer distinguish the two versions?

Encode manner. Show careful versus careless handling of the same object. Show rushed versus relaxed handling. Are the manner differences visible in your production?

Maintain perspective consistency. Produce a narrative that uses handling classifiers in character viewpoint sequences. Do you stay in character viewpoint throughout the handling, or do observer-viewpoint elements intrude?

Integrate with entity classifiers. Produce a sequence that shifts between observer viewpoint (entity classifiers showing objects from outside) and character viewpoint (handling classifiers showing interaction with objects). Are the transitions clear?

Coordinate two-handed handling. Produce actions that require both hands working together: opening a jar, folding a shirt, using scissors. Do your hands coordinate realistically?

If any of these self-checks reveal weakness, return to the relevant practice exercises before continuing. Handling classifier fluency is foundational for the character-viewpoint work in the next chapter.

The next chapter examines body part classifiers and their integration with constructed action, completing the core classifier typology before turning to specialized applications.

0.24 Chapter Nine

0.24.1 Body Part Classifiers and Constructed Action

The signer's hands have been busy representing external objects: vehicles moving through space, cups being grasped, surfaces providing ground. But the signer's body offers another representational resource. The signer's head can represent a character's head. The signer's eyes can represent a character's eyes. The signer's legs, when visible, can represent a character's legs. This is body part classifier territory, where pieces of the signer's own body stand for corresponding pieces of a depicted character or entity.

Body part classifiers blur the boundary between classifier predicate and constructed action. When a signer uses their hand to represent a character's hand doing something, is that a classifier (the hand-handshape representing a hand-referent) or constructed action (the signer becoming the character)? The answer is often both, or somewhere on a continuum between them. This chapter examines that continuum, exploring how body parts function as classifiers, how body part representation integrates with full constructed action, and how signers manage the scale and perspective challenges that body part classifiers present.

The Body as Representational Resource

In entity and handling classifiers, the signer's hands represent external objects or interactions with objects. The hands are tools for depicting things that are not the hands themselves. But human bodies include many parts that can represent corresponding parts of other beings.

The most common body part classifiers use the hands to represent hands or limbs. The signer's hand, configured to represent a hand (often a flat or relaxed handshape rather than a specialized grip), can show a character's hand waving, pointing, gesturing, or performing any action hands perform. The signer's two fingers (V-handshape or bent-V) can represent legs walking, running, jumping, or falling.

But body part representation extends beyond hands and fingers. The signer's head can tilt, turn, nod, or shake to represent a character's head movements. The signer's eyes can gaze, squint, widen, or close to represent a character's visual attention and expression. The signer's shoulders can shrug, tense, or slump to represent a character's postural state. The signer's torso can lean, twist, or recoil to represent a character's whole-body movement.

When multiple body parts work together to represent a character's body, we move from isolated body part classifiers into constructed action (also called role shift or character viewpoint). The distinction is gradient rather than categorical.

The Classifier-to-Constructed-Action Continuum

Consider a spectrum of representations for "a person walking":

At one end, pure entity classifier: CL:V (two fingers extended downward) moves across signing space, representing a person as an external entity. The signer views the person from outside. The fingers schematize legs; the movement shows the path.

Moving along the spectrum, body part classifier with limited embodiment: the signer's two fingers represent legs, but the signer also tilts their body slightly in the direction of movement, adding a hint of the walker's forward lean. The fingers still carry the main representation, but the body contributes.

Further along, body part classifiers with substantial embodiment: the finger-legs walk while the signer's face shows the walker's expression (determination, fatigue, distraction), the signer's shoulders move with a walking rhythm, and the signer's gaze tracks where the walker is looking. Multiple body parts contribute to the representation.

At the other end, full constructed action: the signer becomes the walker. The signer's whole body represents the walker's whole body. The signer's legs might even move (stepping in place, shifting weight) if visible. The signer experiences the walk from inside rather than depicting it from outside.

Most actual signing operates somewhere in the middle of this spectrum rather than at the pure endpoints. Signers blend classifier and constructed action elements based on what the discourse requires.

Common Body Part Classifier Forms

Several body part classifier forms appear frequently in ASL.

Legs classifiers use two extended fingers (CL:V) or two bent fingers (CL:bent-V) to represent legs. The fingers can show walking (alternating movement), running (faster alternating movement), jumping (both fingers lifting and landing together), sitting (fingers bent at knuckle, positioned on a surface), standing (fingers extended downward, stationary), falling (fingers tumbling through space), and many other leg-related actions and positions.

The legs classifier operates primarily in observer viewpoint. The signer watches the legs from outside, showing what they do in space. This differs from constructed action, where the signer's own legs (if visible) or body movement represents the walking experience from inside.

Hand classifiers use the signer's hand to represent a character's hand. The represented hand might wave (side-to-side movement), beckon (curling fingers toward body), point (index finger extended toward a location), grab (closing from open to grip), release (opening from grip), push (flat hand moving away), or perform any manual action.

Hand classifiers can operate in observer viewpoint (showing a hand action from outside) or can integrate with character viewpoint (the signer's hand represents the character's hand while the signer partially or fully embodies the character). The integration with character viewpoint is so natural that the line between "hand classifier" and "constructed action showing what the character did with their hand" is often invisible.

Head classifiers use the signer's head to represent a character's head. The head can turn (looking in a direction), tilt (showing interest, confusion, or attitude), nod (agreement, acknowledgment), shake (disagreement, negation), drop (sadness, defeat), or lift (alertness, pride). Head movements combine with facial expression to create rich character representation.

Head classifiers almost always involve some degree of character embodiment. When the signer's head represents a character's head, the signer is partially becoming that character. The distinction from constructed action is mainly one of degree: how much of the body is involved, how fully the signer commits to the character's perspective.

Eye gaze as classifier uses the signer's eye direction to represent a character's visual attention. Where the signer looks represents where the character looks. This gaze can track moving objects, search for something, meet another character's eyes, avoid eye contact, or stare into space.

Eye gaze is deeply integrated with both constructed action and with the spatial referencing system. In constructed action, the character's gaze direction often indicates who the character is addressing or what the character is attending to. In spatial reference, eye gaze toward a locus can serve pronominal or agreement functions.

Scale Management in Body Part Classifiers

Body part classifiers present scale challenges that entity classifiers do not. When CL:3 represents a car, the scale relationship is clear: the small hand represents a large vehicle at reduced scale. But when the signer's head represents a character's head, what is the scale relationship?

In most body part classifier use, the scale is approximately 1:1. The signer's head represents a character's head at life-size scale. The signer's hand, representing a character's hand, is the same size as the character's hand would be. This life-size scale is natural when body part classifiers integrate with constructed action: the signer is (partially) becoming the character, and the character's body is approximately the signer's body size.

Scale complications arise when body part classifiers represent non-human entities or entities of different sizes.

Representing a small animal (a mouse, a bird) with body part classifiers involves scale mismatch. The signer's hand representing the mouse's paw is much larger than a real mouse paw. This mismatch is usually acceptable because the representation is schematic, not literal. Viewers understand that the hand shows what kind of action the paw performs, not the paw's actual size.

Representing a large entity (a giant, a dinosaur, a whale) with body part classifiers involves the opposite mismatch. The signer's body is smaller than the represented entity. This can work for character viewpoint (the signer becomes the giant, experiencing the world from the giant's perspective) but creates complexity for observer-viewpoint depiction. The signer might use enlarged signing space, exaggerated movements, or explicit scale indicators to suggest the entity's size.

Representing non-anthropomorphic entities (creatures with different body plans) requires adaptation. A snake has no legs, so leg classifiers do not apply. An octopus has eight arms, but the signer has two. A bird has wings, not arms. Body part classifiers for these entities must find approximate mappings: the signer's arm might represent a wing, fingers might represent tentacles, the body might represent a snake's entire form.

Body Part Classifiers and Non-Manual Markers

Body part classifiers integrate tightly with non-manual markers (facial expression, eye behavior, head position, body posture) because the body parts used as classifiers are often the same parts that carry non-manual grammatical and affective information.

When the signer's head tilts to represent a character's head tilting, this is simultaneously a body part classifier function and a non-manual marker potentially carrying attitudinal or grammatical information. The tilt might show the character's curiosity (affective) while also marking a question (grammatical).

When the signer's eyes narrow to represent a character's squinting, this simultaneously shows what the character's eyes are doing and may convey the character's emotional state (suspicion, concentration, hostility).

This integration is a feature, not a bug. In constructed action, the signer's body simultaneously represents the character's body and expresses the character's internal state. The body part classifier function and the non-manual marker function serve the same communicative goal: depicting the character in action.

However, the integration requires attention to layering. Grammatical non-manuals (question marking, topic marking, negation) must remain distinguishable from character-depicting non-manuals. A signer depicting a character who is nodding in agreement should not have that nod confused with grammatical affirmation. Context, timing, and scope usually disambiguate, but awareness of the potential confusion is important.

From Body Part Classifier to Full Constructed Action

The transition from body part classifier to full constructed action involves increasing embodiment: more body parts participating, more commitment to the character's perspective, more replacement of observer viewpoint with character viewpoint.

Partial constructed action uses some body parts for character representation while others remain in narrator/observer mode. The signer's hands might continue producing lexical signs or entity classifiers while the face shows character expression. Or the face might remain narrator-neutral while the hands show character action through body part classifiers.

Full constructed action commits the entire visible body to character representation. The signer's face, head, torso, arms, and hands all represent the character. The signer sees from the character's viewpoint, speaks (signs) from the character's position, and experiences the scene from inside rather than describing it from outside.

The transition can be gradual or abrupt. A skilled signer might begin describing a scene from outside (narrator perspective with entity classifiers), gradually incorporate character elements (facial expression hinting at the character's state), shift more fully into the character (body part classifiers for the character's actions), and finally commit to full constructed action for a dramatic moment, then gradually return to narrator perspective.

Managing these transitions is part of the perspective management discussed in Chapter 6. Body part classifiers are often the intermediate stage between pure observer viewpoint and full character viewpoint.

Constructed Action for Non-Human Characters

Constructed action is not limited to human characters. Signers can embody animals, objects, and even abstract concepts through full-body representation.

Animal constructed action uses the signer's body to represent the animal's body, with adaptations for different body plans. Becoming a dog might involve the signer's hands as front paws, facial expression showing the dog's alertness, head movements showing the dog's attention. Becoming a bird might involve arms as wings, body movements suggesting flight or hopping. Becoming a fish might involve the body undulating, face forward as if moving through water.

These non-human constructions require the viewer to map the human signer's body onto the non-human character's body. The mapping is approximate and schematic. Viewers understand that the signer's arms represent wings or front legs, not that the signer literally has those appendages.

Object constructed action is rarer but possible. A signer might become a door (body as the door surface, arm as the hinged edge, showing opening and closing), a tree (body as trunk, arms as branches, showing wind effects), or a machine (body parts representing moving components). These constructions are typically brief and used for vivid effect rather than extended representation.

Abstract or metaphorical constructed action uses the body to represent concepts that have no physical body. A signer might embody an emotion (becoming "fear" that approaches another character), an idea (becoming a "plan" that develops and changes), or a force (becoming "temptation" that beckons). These constructions often involve metaphorical extension of body part classifier and constructed action conventions.

Body Part Classifiers in Narrative

Narrative signing relies heavily on body part classifiers and constructed action because stories are about characters doing things. The flexibility to move along the classifier-to-constructed-action continuum gives narrators powerful tools for varying perspective, emphasis, and engagement.

Establishing shots often use entity classifiers in observer viewpoint: setting the scene, showing where characters are positioned, indicating spatial relationships. These establish the geography of the narrative.

Action sequences often shift toward body part classifiers and constructed action: showing what characters do, how they interact, what they experience. The embodied representation creates engagement and immediacy.

Dialogue scenes typically use full constructed action, with the signer shifting between characters to show who says what. Body part classifiers for gesture (how a character emphasizes their words) and head classifiers for orientation (who the character addresses) are integrated with the signed content of the dialogue.

Emotional climaxes often use sustained constructed action with full body commitment. The signer becomes the character at the moment of greatest dramatic intensity, allowing viewers to experience the moment with the character.

Returns to narrator perspective use entity classifiers and reduced embodiment to signal the shift back to outside viewing. The narrator can then comment, summarize, or transition to the next scene.

This movement through the continuum creates the rhythm and texture of narrative signing. Skilled storytellers vary their position on the continuum deliberately, using constructed action for engagement and entity classifiers for clarity and overview.

Error Patterns in Body Part Classifier Use

Several error patterns emerge when signers struggle with body part classifiers.

Inconsistent embodiment level shifts unpredictably between classifier and constructed action modes without clear discourse motivation. The signer represents a character with full constructed action, then suddenly produces entity classifiers as if viewing from outside, then returns to constructed action, with no perspective marking for the transitions. Viewers cannot track whether they are inside or outside the character's experience.

The remedy is perspective commitment within segments and clear marking of transitions between segments.

Scale confusion applies body part classifiers inappropriately across scale mismatches without acknowledgment. The signer uses their hand to represent a giant's hand while simultaneously using fingers to represent normal-sized people, creating impossible scale relationships within a single construction.

The remedy is scale awareness: either commit to one scale within a construction or explicitly mark scale shifts.

Non-manual conflict produces body part classifier movements that conflict with required grammatical or discourse non-manuals. The signer's head nods as a character depiction while simultaneously needing to mark a rhetorical question, and the two functions blur into confusion.

The remedy is awareness of layering and sequencing: separate functions that cannot co-occur, or ensure that context disambiguates when they must co-occur.

Anthropomorphic over-extension applies human body part classifiers to non-human entities in ways that obscure rather than clarify. Using leg classifiers for a snake's movement, or hand classifiers for an amoeba's pseudopods, may confuse rather than illuminate.

The remedy is thoughtful mapping: consider which body parts can reasonably represent which aspects of non-human entities, and use alternative strategies when body part classifiers do not fit.

Practicing Body Part Classifier Fluency

Developing body part classifier fluency involves practice across the continuum.

Isolation exercises practice individual body part classifiers without full constructed action. Use the legs classifier to show various locomotion patterns: walk, run, jump, tiptoe, stumble, fall. Use head classifiers to show various attention and attitude patterns. Use hand classifiers to show various manual actions. Build fluency with each body part as a representational resource.

Integration exercises combine body part classifiers into increasingly complete constructed action. Start with legs plus facial expression. Add head movement. Add eye gaze. Add body posture. Build toward full embodiment while maintaining conscious awareness of which parts are contributing what.

Continuum navigation exercises practice moving along the classifier-to-constructed-action continuum within single narratives. Tell a story using entity classifiers for the establishing material, shift to body part classifiers for action, commit to full constructed action for climax, return through body part classifiers to entity classifiers for resolution. The movement should feel motivated and smooth.

Non-human embodiment exercises practice representing various non-human characters. Become a cat. Become a bird. Become a snake. Become a robot. For each, identify which body parts map to which aspects of the character and practice making the mappings clear for viewers.

Conclusion

Body part classifiers use the signer's body parts to represent corresponding parts of depicted characters or entities. They exist on a continuum with constructed action, ranging from isolated body part representation (legs classifier showing walking from outside) to full embodiment (signer becomes the walking character).

The signer's hands, head, eyes, and body all serve as representational resources. Scale must be managed when characters differ in size from the signer or have non-human body plans. Body part classifiers integrate tightly with non-manual markers, sometimes serving both classifier and affective/grammatical functions simultaneously.

In narrative, body part classifiers enable movement between observer and character perspectives, with entity classifiers for establishing shots and spatial clarity, body part classifiers for action and transition, and full constructed action for engagement and dramatic climax.

This chapter completes the core classifier typology. The next chapter examines size and shape specifiers, which describe physical dimensions rather than representing entities or depicting handling.

0.25 Chapter Ten

0.25.1 Size and Shape Specifiers as Productive Morphology

A signer describing a table does not merely sign TABLE. She shows you: hands held flat, moving apart to indicate the surface width, then repositioned to show the depth, then one hand dropping to indicate the height. You see the table's dimensions traced in space. This is not an entity classifier representing a table-shaped thing, nor a handling classifier showing how to grip a table. This is a size and shape specifier (SASS) construction: hands and arms delineating the physical properties of a referent.

SASS constructions occupy a distinctive position in the classifier system. They do not represent entities moving through space (entity classifiers) or hands interacting with objects (handling classifiers) or body parts in action (body part classifiers). They describe: indicating how big, how wide, how thick, how shaped. The function is descriptive rather than representational.

This chapter examines SASS constructions as productive morphology. We explore how dimensions are encoded, how SASS integrates with other classifier types, how the arm's involvement carries dimensional information (building directly on the Arm Angles foundation), and how SASS functions in technical and descriptive discourse.

The Descriptive Function of SASS

Size and shape specifiers answer questions about physical properties: How big is it? What shape is it? How thick, how long, how wide? The answers are not lexical (not fixed signs like BIG or THICK) but constructed through hand and arm configuration that iconically represents the properties being described.

The iconicity is direct. Hands held far apart indicate large extent. Hands held close together indicate small extent. Hands tracing a circle indicate circular shape. Hands tracing a rectangle indicate rectangular shape. The form resembles the meaning in a way that entity classifiers (where CL:3 resembles "vehicle" only schematically) do not.

This direct iconicity makes SASS constructions intuitively accessible but also makes them easy to underestimate. Because they look like "just showing how big something is," learners may not recognize them as a systematic morphological resource with principles that can be articulated.

SASS constructions are not merely gestures. They integrate with ASL grammar, combining with other signs and constructions in rule-governed ways. They have internal structure: the handshape, the hand orientation, the movement, and the spatial extent all contribute distinct meaning components. They are productive: signers generate novel SASS forms for novel referents based on systematic principles.

Encoding Dimensions

SASS constructions encode dimensions through several mechanisms.

Linear extent (length, width, height, depth) is shown through the distance between the hands or the distance a hand travels. Two hands moving apart show increasing extent; two hands held at a stable distance show a fixed extent. One hand moving away from a reference point shows extent from that point.

The dimension being indicated depends on hand orientation and movement direction. Hands moving apart horizontally indicate width. Hands moving apart vertically indicate height. Hands moving apart sagittally (toward and away from the signer) indicate depth. The spatial axis of movement maps to the spatial axis of the property.

Surface extent (area) is shown through two-dimensional tracing. Hands outlining a rectangle show rectangular area. Hands tracing a circle show circular area. Hands sweeping across a region show the extent of that region. The traced shape corresponds to the referent's shape; the traced size corresponds to the referent's size.

Volumetric extent combines multiple dimensions. A box's dimensions might be shown through width (hands apart horizontally), depth (hands repositioning to show the perpendicular dimension), and height (one hand moving down from the top surface). Each dimension is indicated in turn, building up the volumetric description.

Thickness is shown through the distance between surfaces, often using two flat hands held parallel. Thin objects show hands close together; thick objects show hands farther apart. The parallel orientation indicates that thickness (the distance between surfaces) rather than length or width is being described.

Contour and shape are shown through hand configuration and movement path. A curved surface might be shown with a curved hand tracing the contour. An irregular shape might be shown with hands following the irregular outline. A pointed shape might be shown with fingers converging to a point. The hand's configuration and path match the described contour.

SASS Handshapes

Several handshapes appear commonly in SASS constructions.

Flat hand (B or 5) represents surfaces. Two flat hands can show the two major surfaces of a flat object (a board, a book, a table top), with the distance between them indicating thickness. A single flat hand can represent one surface of a larger object.

Curved hand (C or claw) represents curved surfaces or volumes. Two curved hands facing each other can show a rounded object's extent. A single curved hand can trace a curved contour.

Index finger can trace linear contours or indicate specific points. Tracing an outline with the index finger can show an irregular shape. Two index fingers can show the extent of a narrow dimension.

Spread fingers (5) can show surfaces with texture, openings, or articulation. A surface with holes might be shown with spread fingers; a solid surface with fingers together.

These handshapes combine with movement and orientation to create the full SASS construction. The handshape indicates the type of surface or contour; the movement and spacing indicate the extent and shape.

The Arm's Role in SASS

SASS constructions connect directly to the Arm Angles material because the arm's extension carries dimensional information.

Arm extension indicates size. Describing a large object requires the arms to extend farther from the body. Describing a small object keeps the hands close together, with minimal arm extension. This relationship is iconic: larger arm extent represents larger object extent.

Proximal involvement scales with size. Describing small dimensions requires only wrist and finger positioning; the arms stay relatively still. Describing large dimensions requires shoulder engagement to extend the arms apart. The largest SASS constructions involve full arm extension with proximal (shoulder-level) articulation.

This scaling is not merely biomechanical necessity (you cannot show hands far apart without moving the arms). It carries meaning. A signer who describes a medium-sized object with maximal arm extension implies that the object is large for its category. A signer who describes a genuinely large object with restrained arm extension downplays the size. The arm involvement is part of the message.

Effort in arm extension can indicate weight or substance as well as size. Describing a heavy, dense object might involve more tensed, effortful arm positioning than describing a light, insubstantial object of the same size. This manner encoding parallels the weight encoding in handling classifiers but operates in a descriptive rather than interactive mode.

SASS and Entity Classifiers: Integration Patterns

SASS constructions often combine with entity classifiers in the same discourse. The integration serves different functions.

SASS before entity classifier establishes the properties of a referent before representing it as an entity. A signer might first show how big and what shape a box is (SASS), then use a classifier to show the box's location or movement (entity classifier). The SASS provides description; the entity classifier provides spatial information.

SASS incorporated into entity classifier adds dimensional information to an entity representation. A vehicle classifier might be produced with wider hand spacing to indicate a large truck versus a compact car. A person classifier might be produced at different heights to indicate a tall versus short person. The entity representation carries size information through its spatial production.

SASS as elaboration follows an entity classifier to provide additional detail. A signer might place an entity classifier for "building," then shift to SASS to show the building's dimensions, then return to entity classifier to show the building's relationship to other entities. The SASS elaborates what the entity classifier introduces.

These integration patterns show SASS and entity classifiers as complementary resources. Entity classifiers locate referents in space and show their category; SASS constructions specify their physical properties. Skilled signers move fluidly between these resources.

SASS in Technical and Descriptive Discourse

SASS constructions become particularly important in technical discourse where precise physical description matters.

Scientific description often requires specifying dimensions. Describing experimental apparatus, biological specimens, geological formations, or astronomical objects involves communicating size, shape, and spatial relationships. SASS provides the resources for this dimensional specification without requiring specialized technical vocabulary.

Medical description frequently involves describing body parts, lesions, organs, and abnormalities. How big is the tumor? What shape is the rash? How thick is the tissue? SASS constructions can provide this information iconically, often more precisely than lexical signs for size categories.

Technical and trade descriptions specify dimensions of objects, spaces, and materials. Carpenters describe lumber dimensions. Architects describe room sizes. Mechanics describe part shapes. SASS serves these descriptive needs across technical domains.

Instructions and directions often require indicating sizes and shapes. Recipes specify ingredient amounts. Assembly instructions specify part orientations. Directions specify distances. SASS constructions contribute to clear instructional communication.

In these technical contexts, the precision of SASS matters. A vague SASS (hands approximately apart) communicates differently than a precise SASS (hands held at a specific distance with visible attention to accuracy). Signers working in technical domains develop precise SASS production as a professional skill.

Comparative and Contrastive SASS

SASS constructions support comparison by showing dimensions of multiple referents in relation to each other.

Sequential comparison shows one referent's dimensions, then another's, allowing viewers to note the difference. "This box is this big [SASS]. That box is this big [SASS, different size]." The contrast emerges from the sequential SASS productions.

Simultaneous comparison uses both hands to show two dimensions at once for direct comparison. One hand might hold at one height while the other hand shows a different height. Or two SASS productions might be placed side by side in signing space for visual comparison.

Contrastive placement positions SASS descriptions in contrastive loci (as discussed in Chapter 4) to emphasize comparison. The larger item's dimensions might be shown on one side, the smaller item's on the other, with spatial contrast reinforcing the dimensional contrast.

Gradient representation shows a range of sizes rather than discrete comparisons. Hands might move apart gradually to show how something grew, or hands might be positioned at several points to show size variation across a range of items.

These comparative functions make SASS valuable for any discourse involving comparison, evaluation, or grading by physical properties.

SASS and Perspective

Unlike entity classifiers, SASS constructions are relatively perspective-neutral. An entity classifier positions a referent in observer or character viewpoint; the spatial organization follows perspective conventions. SASS describes dimensions that exist regardless of viewing perspective.

However, perspective does affect how SASS integrates with other content.

In observer viewpoint, SASS descriptions apply to referents viewed from outside. The signer shows how big something looks from an external vantage point. The dimensions are allocentric: width is width in the scene, not relative to any character.

In character viewpoint, SASS might describe how something appears to the character. "I held something this big" involves a SASS that represents what the character perceived, not an objective measurement. The dimensions become egocentric: width is width as the character experienced it.

Perspective also affects the relationship between SASS and other classifiers. In observer viewpoint, SASS describes referents that might then be represented with entity classifiers. In character viewpoint, SASS might describe objects that are then shown through handling classifiers as the character interacts with them.

Error Patterns in SASS Use

Several error patterns emerge when signers struggle with SASS constructions.

Imprecise dimension indication fails to clearly communicate which dimension is being specified. The hands move apart, but is it width, height, or depth? The movement direction and hand orientation should make the dimension clear; vague or inconsistent orientation leaves viewers uncertain.

The remedy is explicit orientation: ensure that hand positions and movement directions clearly map to the intended dimensions.

Scale inconsistency applies different scales to different dimensions of the same object, creating impossible proportions. The width is shown at one scale, the height at a different scale, and the resulting shape does not match the intended object.

The remedy is scale management: maintain consistent scale throughout a dimensional description, adjusting arm extension proportionally for each dimension.

Under-use of SASS relies on lexical size terms (BIG, SMALL, THICK, THIN) when iconic dimensional specification would be clearer. Lexical terms are categorical; SASS is gradient. Saying something is “big” is less informative than showing how big.

The remedy is SASS fluency: develop the habit of using SASS for dimensional information rather than defaulting to lexical size vocabulary.

Over-specification provides SASS detail when it is not communicatively necessary. Describing every dimension of every mentioned object slows discourse and may distract from more important information.

The remedy is relevance calibration: provide SASS detail when dimensions matter for the discourse and omit it when dimensions are irrelevant.

Describing Negative Space and Apertures

SASS constructions can describe not only solid objects but also holes, gaps, and the space between objects. This capacity for encoding negative space is essential for technical description and everyday communication alike.

Apertures and holes require showing the absence of material within a boundary. A donut hole, a window opening, a pipe’s interior: these are defined by their surrounding edges. SASS can trace the boundary of the opening, with the handshape and spacing indicating the aperture’s size and shape. The C-handshape showing a circular opening, the two hands showing a rectangular window frame, the index finger tracing an irregular hole: these encode negative space through its positive boundary.

Holes through versus indentations: Students often collapse the distinction between a hole that passes completely through an object (a pipe, a tunnel, a pierced ear) and an indentation or pocket that does not pass through (a bowl, a dent, a socket). For holes through, show both the entry boundary and the exit boundary, or show the path through. For indentations, show the boundary and depth without implying passage through. This distinction matters in technical and medical contexts where “hole” versus “depression” carries different implications.

Gaps between objects require showing separation distance. The space between fence posts, the gap between teeth, the clearance under a bridge: SASS can show the extent of empty space between solid elements. Two-handed constructions often work well, with each hand representing an edge of the gap and the space between showing the opening. Ground-figure organization supports this: the non-dominant hand may hold one edge while the dominant hand shows the other edge or traces the gap extent.

Hollow volumes combine surface description with interior emptiness. A hollow tube has exterior dimensions and interior dimensions. SASS can show the wall thickness, the interior diameter, and the overall length. Technical contexts frequently require distinguishing hollow from solid objects, and SASS provides the resources for this distinction.

The challenge of negative space is that signers must describe something by what is not there. The strategy is always to show the boundaries or edges that define the empty space. A skilled signer describing a complex shape with holes or cutouts traces the positive edges that create the negative space, allowing viewers to infer the absent material.

Lexical clarification: When the boundary-showing alone might be ambiguous (is this a ring or a disk?), signers may combine SASS with lexical signs such as HOLE, GAP, EMPTY, or HOLLOW to make the negative-space interpretation explicit. This is particularly useful when introducing a referent or when the shape could plausibly be either solid or hollow.

For advanced students, negative space description is often counterintuitive. Practice with objects featuring holes, gaps, and apertures builds the habit of identifying which positive features must be shown to successfully communicate the negative space.

Practicing SASS Fluency

Developing SASS fluency involves practice with dimensional description.

Object description exercises take everyday objects and practice describing their dimensions through SASS. Describe a book: width, height, thickness. Describe a cup: diameter, height, handle shape. Describe a room: width, length, ceiling height. Build fluency in encoding various dimensions.

Precision exercises practice producing specific dimensions. Practice showing "approximately 6 inches apart," "approximately 2 feet apart," "approximately 1 inch thick." Develop the ability to produce accurate dimensional representations that could be measured.

Comparison exercises practice showing dimensional comparisons. Show something growing. Show something shrinking. Show two items of different sizes. Show gradual size variation across a range. Develop comparative SASS facility.

Integration exercises combine SASS with entity classifiers and other constructions. Describe an object with SASS, then locate it in space with an entity classifier. Show how objects of different sizes relate to each other spatially. Build smooth transitions between SASS and other classifier types.

Conclusion

Size and shape specifiers are productive morphological constructions that describe physical dimensions iconically. They encode linear extent, surface area, volume, thickness, and contour through hand configuration, spacing, and movement.

The arm's extension carries size information directly: larger arm extent represents larger dimensions, with proximal involvement scaling to size. SASS integrates with entity classifiers through sequencing and incorporation, providing descriptive detail for entities that classifiers locate in space.

SASS is particularly valuable in technical discourse requiring precise dimensional specification. Comparative and contrastive functions support evaluation and grading by physical properties. Perspective affects SASS integration with other content but not the dimensional encoding itself.

The next chapter examines movement morphology in classifier predicates, completing Part Three's examination of classifier types before Part Four turns to precision requirements in professional contexts.

0.26 Chapter Eleven

0.26.1 Movement Morphology in Classifier Predicates

A classifier handshape placed in signing space is static information: an entity located at a point. But classifiers rarely remain still. They move, and their movement carries meaning. The path from point A to point B, the speed of travel, the manner of motion, the arc or directness of the trajectory: these movement properties constitute a morphological system as rich as the handshape system itself.

Movement morphology transforms classifier predicates from static location markers into dynamic depictions of action, change, and process. A vehicle classifier does not merely show where a car is; it shows how the car arrived, how it departed, what route it took, at what speed, with what manner. This movement information is not optional embellishment but core meaning that classifier predicates are uniquely positioned to express.

This chapter examines movement as a morphological domain within classifier predicates. We analyze the components of movement (path, manner, temporal contour), explore how movement integrates with handshape and location, and address the productive generation of novel movement patterns for depicting specific actions and events.

Movement as Morphological Component

In the analysis of classifier predicates as complex morphological structures, movement is one of the core components alongside handshape, location, and orientation. The movement component itself has internal structure: it is not a single undifferentiated parameter but a composite of several meaning-bearing elements.

Path is the trajectory through space: where the movement starts, where it ends, and what route it takes between them. A straight path from A to B differs meaningfully from an arced path from A to B, which differs from a zigzag path from A to B. Path indicates the shape of the motion in space.

Manner is how the movement is executed: the speed, tension, smoothness, and rhythm of the motion. A slow, smooth movement differs from a fast, jerky movement. A tense, effortful movement differs from a relaxed, easy movement. Manner indicates the quality of the motion.

Temporal contour is the distribution of movement over time: whether the movement is continuous or punctual, whether it repeats, whether it accelerates or decelerates. A single quick movement differs from a prolonged movement, which differs from a repeated movement. Temporal contour indicates the aspectual character of the motion.

These components combine productively. A classifier predicate might show a direct path executed with slow manner and continuous temporal contour (a car cruising steadily down a straight road) or an arced path executed with fast manner and punctual temporal contour (a ball thrown in an arc and caught). The combinations generate the range of motion depictions that classifiers can express.

Path Morphology

Path is perhaps the most visually salient movement component. The trajectory traced by a classifier through signing space is immediately visible and directly iconic: the hand's path represents the referent's path.

Direct paths move in a straight line from origin to endpoint. The hand travels the shortest route between two points. Direct paths indicate motion without deviation: the referent moved directly from here to there.

Arced paths curve through space, rising and falling or bending laterally. The hand traces an arc rather than a line. Arced paths can indicate thrown objects (parabolic arc), circular movement (full arc returning to origin), or detoured routes (lateral curve before reaching endpoint).

Complex paths involve multiple segments: straight sections connected by turns, repeated loops, zigzag patterns, or irregular trajectories. The hand moves through a compound shape that represents a compound route.

Path iconicity is strong but not absolute. The shape of the hand's path resembles the shape of the referent's path, but scale adjustments are routine. A hand moving six inches represents a car moving six miles. A hand tracing a small arc represents a ball tracing a large arc. The iconic relationship is shape-preserving but not size-preserving.

Path can be **modified by endpoint marking**. A movement may end with a distinct contact or hold that marks the arrival at the destination. A placement without endpoint marking suggests continuing motion or lack of precision about the endpoint. A placement with firm endpoint marking suggests definite arrival or stopping.

Manner Morphology

Manner encompasses the qualitative aspects of how movement is performed. The same path can be executed with different manners, yielding different meanings.

Speed is the rate of movement. Fast movement indicates fast motion of the referent; slow movement indicates slow motion. This correlation is iconic and intuitive, but skilled signers calibrate speed precisely. A car going 30 mph and a car going 90 mph might both be "fast" in lexical terms, but manner can distinguish them through graduated speed representation.

Tension is the muscular engagement visible in the movement. Tense, tight movement suggests effort, difficulty, or heaviness. Relaxed, loose movement suggests ease, lightness, or smoothness. Tension correlates with the arm involvement principles from Arm Angles: high-tension movements tend toward proximal engagement; low-tension movements tend toward distal articulation.

Smoothness is the continuity of the movement. Smooth movement flows without interruption or jerkiness. Jerky movement shows discontinuities, hesitations, or abrupt changes. Smooth movement suggests controlled, steady motion; jerky movement suggests erratic, interrupted, or rough motion.

Rhythm applies to repeated movements. A regular rhythm shows periodic, predictable repetition. An irregular rhythm shows unpredictable or varying repetition. Rhythmic properties indicate whether the motion has a regular pattern or is variable.

Manner is often where affective and evaluative information enters classifier predicates. A car depicted with smooth, easy movement suggests a pleasant drive; the same path with tense, jerky movement suggests a difficult or unpleasant drive. Manner colors the depiction with experiential quality.

Temporal Contour

Temporal contour addresses how movement unfolds in time, particularly regarding aspect: whether the action is viewed as a complete unit, an ongoing process, or a repeated occurrence.

Punctual movements are brief and complete, depicting actions viewed as single, bounded events. A quick, single movement from A to B shows "moved from A to B" as a completed action. The movement happens and is done.

Durative movements extend over time, depicting actions viewed as ongoing processes. A slow, sustained movement from A to B shows "was moving from A to B" as an extended process. The movement unfolds visibly in time.

Iterative movements repeat, depicting actions that occur multiple times. A repeated back-and-forth movement shows "kept moving back and forth" as a repeated action. The movement recurs to show recurrence.

Inceptive and terminative modifications mark the beginning or ending of motion. A movement that accelerates from stillness emphasizes inception; a movement that decelerates to stillness emphasizes termination. These modifications focus attention on the boundaries of the action.

Temporal contour interacts with aspect marking elsewhere in ASL grammar but also carries aspectual information independently through the movement itself. A classifier predicate can show aspect through movement contour without additional aspectual morphology.

Movement and Handshape Integration

Movement and handshape interact in classifier predicates. Not all movements are possible or felicitous with all handshapes, and the combination of movement and handshape creates unified meanings.

Entity classifiers and movement paths work together to show what kind of entity moved along what kind of path. CL:3 (vehicle) with a curved path shows a car taking a curve. CL:1 (person) with a straight path shows a person walking directly. The entity and the motion combine into a complete predicate.

Handling classifiers and manner integrate the feel of handling with the action performed. A handling grip moving with tense, slow manner shows effortful manipulation. A handling grip moving with quick, light manner shows easy manipulation. The manner colors the handling action.

Body part classifiers and characteristic movements show body parts doing what body parts do. Leg classifiers walk, run, jump; the movements are characteristic of legs. Hand classifiers wave, point, grab; the movements are characteristic of hands. The body part and its typical motions are linked.

Some handshape-movement combinations are conventional: specific handshapes tend to occur with specific movements because those movements are typical of the entities or actions represented. Other combinations are novel: signers create new handshape-movement combinations to depict situations that have no established convention. The system is productive.

Generating Novel Movement Depictions

Movement morphology is productive: signers generate movements they have never seen before to depict events they need to describe. This productivity relies on the iconic relationship between hand movement and depicted movement.

To generate a movement depiction, a signer considers:

What path did the referent take? The hand should trace a similar shape.

What manner characterized the motion? The hand should move with similar quality.

What temporal contour did the action have? The movement should unfold with similar structure.

These considerations are not conscious calculations during fluent signing but become conscious during learning and during challenging depictions. When a signer encounters a novel situation (a unusual vehicle maneuver, an unfamiliar animal's movement, a complex machine's operation), they reason through the movement properties and construct an appropriate depiction.

The reasoning process benefits from movement vocabulary: familiarity with the range of paths, manners, and temporal contours that can be combined. Just as vocabulary in spoken languages provides building blocks for sentences, movement vocabulary provides building blocks for classifier predicates.

Movement in Ground-Figure Constructions

Ground-figure constructions (discussed in earlier chapters) involve movement relationships between a moving figure and a stable ground. Movement morphology specifies how the figure moves relative to the ground.

The non-dominant hand holds a ground element (a surface, a structure, a reference point). The dominant hand moves a figure element relative to that ground. The movement shows the spatial relationship developing over time: the figure approaches the ground, moves along it, departs from it, or interacts with it.

Approaching movement brings the figure toward the ground. The dominant hand starts away from the non-dominant hand and moves toward it. The figure is coming nearer to the ground element.

Departing movement takes the figure away from the ground. The dominant hand starts near the non-dominant hand and moves away. The figure is leaving the ground element.

Along movement traces a path parallel to or along the ground surface. The dominant hand moves while maintaining consistent relationship to the non-dominant hand. The figure is traveling along or past the ground element.

Contact and separation mark interaction between figure and ground. Movement ending with contact shows arrival or collision. Movement beginning from contact shows departure or release. The endpoint and startpoint relationships carry meaning.

Ground-figure movements are particularly common in spatial descriptions, directions, and narrative action sequences. They efficiently convey how entities move through environments.

Movement and Perspective

Movement morphology operates differently in observer viewpoint versus character viewpoint, following the perspective patterns discussed in Chapter 6.

In observer viewpoint, classifier movements show referent movements as seen from outside. The signer watches the motion and depicts what is seen: the path through space, the manner as observed, the temporal contour as it appears to an external viewer.

In character viewpoint, movements may represent what the character does (constructed action) or what the character perceives (other entities moving from the character's perspective). The path and manner are egocentric rather than allocentric.

Perspective affects the scale and orientation of movements. Observer viewpoint typically uses reduced scale (small movements represent large motions). Character viewpoint typically uses life-scale or egocentric scale (movements represent motions at experienced scale).

Shifting between perspectives during a motion sequence requires attention to how the movement depiction changes with the shift. An observer-viewpoint car classifier moving across signing space might become a character-viewpoint driving experience with steering movements and body lean, then return to observer-viewpoint classifier showing where the car ended up.

Movement in Verbs of Motion

Many ASL verbs of motion are classifier predicates with movement as the verb stem. There is no separate sign for "go" or "move" in these constructions; the classifier movement is the verb.

This analysis contrasts with verbs where movement is secondary. A sign like WANT has movement, but the movement is not the predicate's core meaning; it is formational structure. In classifier motion predicates, the movement is the core meaning: to move the classifier is to predicate motion of the referent.

The verb-nature of classifier movements explains why movement modifications (manner, temporal contour) are aspectual and adverbial in function. Modifying how the movement is executed modifies the verb, yielding meanings like "moved quickly," "moved gradually," "kept moving," "finally moved." These modifications are morphological, not syntactic.

This analysis also explains why classifier predicates can serve as complete utterances. A single classifier movement can be a complete sentence: "The car went from here to there." No additional verb is needed because the movement is the verb.

Error Patterns in Movement Morphology

Several error patterns emerge when signers struggle with movement morphology.

Path imprecision fails to clearly trace the intended trajectory. The movement is vague about whether the path is straight or curved, direct or indirect. The remedy is explicit path commitment: trace a clear trajectory that unambiguously represents the intended path.

Manner monotony uses the same speed, tension, and smoothness for all movements regardless of what is being depicted. Everything moves with the same neutral manner. The remedy is manner awareness: consciously vary movement quality to match the depicted action's character.

Temporal collapse compresses all movements to punctual execution, losing durative and iterative distinctions. "He walked for hours" and "he took a step" both become single quick movements. The remedy is temporal contour attention: use duration and repetition to show extended or repeated actions.

Movement-handshape mismatch produces movements inappropriate for the classifier's entity type. Making a vehicle classifier hop like a person, or making a person classifier roll like a ball. The remedy is entity-appropriate movement: consider what kinds of motion the represented entity typically exhibits.

Practicing Movement Fluency

Developing movement fluency involves practice with varied paths, manners, and temporal contours.

Path exercises practice tracing distinct path shapes. Produce straight paths, arced paths, circular paths, zigzag paths. Practice combining path segments into complex trajectories. Build a vocabulary of path shapes.

Manner exercises practice the same path with different manners. Move from A to B slowly, quickly, smoothly, jerkily, tensely, relaxedly. Notice how the manner changes the depicted meaning. Build ability to produce graduated manner variations.

Temporal contour exercises practice punctual, durative, and iterative versions of the same basic movement. Show "moved once," "kept moving," "moved repeatedly." Practice inceptive and terminative emphasis. Build aspectual range.

Integration exercises combine handshape, path, manner, and temporal contour in complete classifier predicates. Depict complex actions with all components working together. Build fluency in producing fully specified movement depictions.

Real-world observation watches actual motion and practices depicting it. Watch a bird fly, a car turn, a person walk with a limp, water flow. Analyze the path, manner, and temporal properties. Depict them with classifier predicates. This observation-to-depiction practice develops the iconic connection between real motion and classifier movement.

Movement Pitfalls Worth Monitoring

As you develop movement fluency, watch for these patterns:

The Straight-Line Default. All your movements are direct paths, even when the action involves curves, turns, or complex trajectories. A car going around a curve follows a straight line. A bird circling overhead follows a straight line. Solution: Before producing movement, visualize the actual path. Trace it mentally, then trace it physically.

The One-Speed Signer. All your movements occur at the same moderate pace, regardless of whether you are depicting a tortoise or a hare. Solution: Practice speed extremes. Make something move painfully slowly. Make something move so fast the movement is almost a blur. Then find the gradations between.

The Effortless Universe. Nothing in your depictions shows effort, weight, or resistance. Heavy things move as easily as light things. Difficult actions look as effortless as easy ones. Solution: Recruit your arm according to Arm Angles principles. Let your body show what the movement requires.

The Punctual Trap. Everything happens once, briefly. A character "walked for hours" becomes a single quick movement. "Kept knocking on the door" becomes one knock. Solution: When the source is durative or iterative, your movement must be durative or iterative. Time in the depiction reflects time in the depicted event.

The Zombie March. All your characters move with the same neutral quality: no personality, no emotion, no urgency, no hesitation. Solution: Manner is meaning. How something moves reveals what kind of thing it is, who the character is, what the moment requires. Vary manner deliberately.

The Impossible Entity. Your movement does not match what your classifier represents. Vehicles hop. People slither. Birds roll. Solution: Before moving, check your classifier. What kind of entity is this? What kinds of motion does it exhibit? Match your movement to your handshape.

These pitfalls often emerge when cognitive load is high. Practice under load to identify your default errors, then target them deliberately.

This chapter completes Part Three's examination of classifier predicates in depth. Part Four turns to precision requirements in professional contexts, where the spatial and classifier skills developed throughout this book must meet the exacting accuracy standards of legal, medical, and technical interpretation.

0.27 Part Four

0.28 Precision Mapping in Professional Contexts

0.29 Chapter Twelve

0.29.1 Legal Settings and Spatial Accuracy

The witness testifies: "I was standing on the northwest corner of Fifth and Main. I saw the defendant's car coming south on Fifth Avenue. It ran the red light and struck the pedestrian who was crossing Main Street from east to west, about fifteen feet from the curb."

This testimony contains spatial information that may determine the outcome of a trial. The interpreter must render it in ASL with sufficient precision that a deaf juror, attorney, or party understands exactly where everyone was, which direction each was moving, and where the collision occurred. Approximation is not acceptable. "The car came from over there" loses the directional specificity that "coming south on Fifth Avenue" provides. "Near the corner" loses the precision of "about fifteen feet from the curb."

Legal interpreting demands spatial accuracy at a level that casual conversation does not. This chapter examines the precision requirements of legal settings, the classifier and spatial strategies that meet those requirements, common failure modes and their consequences, and protocols for verification and clarification when spatial accuracy is critical.

Why Legal Precision Matters

Legal proceedings turn on facts. Spatial facts, temporal facts, factual facts. The difference between "the defendant was standing near the victim" and "the defendant was standing three feet behind the victim" can determine guilt or innocence. The difference between "the car was speeding" and "the car was traveling approximately 45 miles per hour in a 25 mile per hour zone" is the difference between impression and evidence.

The adversarial nature of legal proceedings intensifies the precision requirement. Attorneys on both sides scrutinize testimony for inconsistencies, ambiguities, and weaknesses. An interpreted statement that is spatially vague where the source was spatially specific creates an inconsistency that can be exploited. "The interpreter said 'over there,' but the witness said 'on the northwest corner.' Which is it?"

The record-keeping nature of legal proceedings creates permanent consequences for imprecision. Depositions are transcribed. Trial testimony becomes part of the record. Appeals may examine the record years later. A spatial error or ambiguity that seems minor at the moment becomes a permanent defect in the legal record.

The due process rights of deaf parties require that they receive the same information hearing parties receive. If a hearing juror hears "fifteen feet from the curb," the deaf juror must receive equivalent specificity. Anything less denies equal access to the proceedings.

Spatial Precision in Witness Testimony

Witness testimony frequently involves spatial description: where things were, how they moved, what could be seen from where. Interpreters must render this spatial information accurately.

Absolute locations specify positions in objective terms: addresses, landmarks, compass directions, measured distances. "The northwest corner of Fifth and Main" is an absolute location. The interpreter must either fingerspell the street names and establish the compass orientation, or find some other way to convey the specificity. Using generic spatial placement ("on the corner") loses information.

Relative locations specify positions in terms of relationships: near, far, behind, next to, between. "Three feet behind the victim" is a relative location. The interpreter must show both the relationship (behind) and the distance (three feet). The SASS system provides resources for showing distances; the spatial grammar provides resources for showing relationships.

Directions of movement specify which way entities traveled. "Coming south on Fifth Avenue" specifies direction. The interpreter must establish a spatial frame where south is consistently represented, then show movement in that direction. Inconsistent or vague directionality loses critical information.

Sight lines and perspectives specify what could be seen from where. "From where I was standing, I could see the traffic light but not the crosswalk" describes a visual perspective. The interpreter may need to establish the witness's position, the traffic light's position, and the crosswalk's position, then show the sight-line relationship.

Each of these spatial elements requires the interpreter to make decisions about how to map the described space onto signing space. Those decisions must preserve the information content of the source, which means maintaining specificity, consistency, and accuracy.

Establishing the Spatial Frame

Before rendering spatially complex testimony, the interpreter must establish a spatial frame that can accommodate the necessary information. As discussed in Chapter 3, this means committing to topographic mode: positions in signing space will map to positions in the real-world scene being described, and spatial relationships must be preserved accurately.

Orientation decisions determine how compass directions or other reference systems map onto signing space. If testimony involves north, south, east, and west, the interpreter must decide which direction in signing space represents which cardinal direction, then maintain that mapping throughout. A common convention places north away from the signer, but any consistent mapping can work.

Scale decisions determine how real-world distances map onto signing-space distances. A city block cannot be represented at life-size scale in signing space. The interpreter establishes a scale, perhaps implicitly through the first spatial placement, and maintains that scale consistently. If two locations are placed six inches apart in signing space, and those represent one city block, then subsequent distances must be scaled proportionally.

Landmark establishment places key reference points in signing space before the action begins. If testimony will refer repeatedly to “the corner,” “the traffic light,” “the defendant’s car,” and “the victim,” establishing clear loci for each before depicting action prevents confusion during the action description.

Frame announcements can explicitly signal the spatial setup. “Let me show you the scene: here’s Fifth Avenue running this way, here’s Main Street crossing it, the traffic light is here, and the witness was standing here.” This kind of explicit frame-setting is appropriate when the spatial layout is complex and accuracy is critical.

The investment in careful frame establishment pays off in accurate rendering of subsequent testimony. Rushing past the setup phase leads to confusion and error later.

Classifier Strategies for Legal Precision

Classifier predicates offer several advantages for legal spatial description, but they also present risks.

Entity classifiers for position and movement show where things are and how they move through space. CL:3 for vehicles, CL:1 for persons, CL:B for surfaces and barriers. The classifiers can be placed at precise locations in the established frame and moved along precise paths. This precision is the advantage.

The risk is that classifier placement requires the interpreter to make specific spatial commitments that may exceed what the source specified. If the witness says “near the corner,” the interpreter placing a classifier places it somewhere specific. That specific placement may be more precise than “near the corner” warrants, or may be wrong about which direction “near” indicates.

SASS for measurements shows dimensions and distances iconically. “About fifteen feet” can be rendered with hands held apart at a spacing that represents fifteen feet within the established scale. This rendering is more precise than a lexical sign like FAR or CLOSE.

The risk is that SASS precision implies confidence that may not be warranted. If the witness said “about fifteen feet” with uncertainty, the interpreter’s crisp SASS production may imply more certainty than the witness expressed.

Topographic spatial organization treats signing space as a map, as discussed in Chapter 3. This mode is essential for legal spatial description because the spatial relationships in signing space correspond to spatial relationships being described. Mixing in syntactic space (using positions for referent tracking rather than location representation) creates confusion.

The interpreter must maintain topographic mode consistently when rendering spatial testimony, reserving syntactic space for non-spatial referent tracking. Clear mode distinction prevents viewers from misinterpreting spatial positions.

Verification Protocols

Given the high stakes of legal spatial accuracy, interpreters need protocols for verifying that their rendering is correct.

Pre-proceeding preparation reviews the case to understand what spatial information is likely to arise. If the case involves a traffic accident, the interpreter can study the intersection layout in advance. If it involves a building, floor plans may be available. This preparation allows the interpreter to establish accurate spatial frames rather than improvising in real time.

Real-time clarification asks for clarification when spatial information is unclear or when the interpreter is uncertain whether their rendering is accurate. "I want to make sure I'm representing this correctly for the record. When you say the car came from the east, you mean from this direction?" This clarification takes time but prevents errors that could be more costly.

Post-rendering verification checks with deaf parties after complex spatial testimony to confirm understanding. When interpreting for a deaf client or witness, confirmation may be appropriate during breaks or when permitted by the proceeding: "I showed the layout like this. Does that match what you understood?" For deaf jurors or audience members, interpreters typically cannot engage in comprehension checks during proceedings, though pre-session orientation or post-session debriefing may provide opportunities. Knowing when verification is procedurally possible, and using those opportunities, catches errors before they compound.

Team interpreting coordination ensures that interpreters working together maintain consistent spatial frames. If Interpreter A establishes north as away from the signer, Interpreter B must maintain that orientation when they switch. Pre-assignment coordination and real-time monitoring prevent frame inconsistencies.

These protocols slow the proceedings slightly but protect accuracy. Legal professionals generally prefer slower accuracy to faster error.

Common Failure Modes

Several failure modes recur in legal spatial interpreting.

Frame collapse occurs when the interpreter loses track of the established spatial frame and begins placing things inconsistently. The building that was on the left is now referenced on the right. The car that was traveling north is now shown traveling east. Frame collapse creates contradictory spatial information that confuses viewers and corrupts the record.

The remedy is frame monitoring: consciously tracking the established frame and checking each spatial placement against it. Notes or diagrams can support this monitoring.

Precision inflation occurs when the interpreter renders vague source information with unwarranted precision. The witness says "somewhere around there" and the interpreter places a classifier at a specific, confident location. The interpretation is more precise than the source, which misrepresents the witness's certainty.

The remedy is precision matching: rendering vague information vaguely and precise information precisely. Signs like APPROXIMATELY, vague spatial gestures, and hedging expressions can convey uncertainty when the source is uncertain.

Precision deflation occurs when the interpreter renders precise source information with inadequate precision. The witness says "exactly six inches from the edge" and the interpreter renders "close to the edge."

The interpretation loses precision that was present in the source.

The remedy is precision preservation: using SASS, specific distance indications, and careful spatial placement to maintain the source's level of precision.

Perspective confusion occurs when the interpreter mixes observer viewpoint and character viewpoint without clear marking, leaving viewers uncertain whether spatial positions are allocentric (in the scene) or egocentric (from a character's perspective). A witness describing what they saw may speak egocentrically ("on my left"), and the interpreter must either maintain that egocentric frame or translate it to allocentric ("to the east") with appropriate marking.

The remedy is perspective clarity: choose a perspective, maintain it consistently within segments, and mark transitions clearly.

Cardinal Directions and Objective Reference

Legal testimony often uses cardinal directions (north, south, east, west), addresses, and other objective reference systems. These pose particular challenges for ASL rendering.

Fingerspelling direction terms (N-O-R-T-H, S-O-U-T-H, etc.) is one approach. This preserves the lexical content but may be cumbersome in rapid testimony and does not visually represent the directional relationship.

Establishing a visual compass maps cardinal directions onto signing space and then uses spatial reference for direction. This requires initial setup ("north is away from me, south is toward me, east is to my left, west is to my right" or similar) but then allows directional information to be shown visually through classifier movement.

Hybrid approaches combine fingerspelling for initial establishment with visual reference thereafter. "The car was heading N-O-R-T-H [classifier moving in the 'north' direction]" establishes the term and shows the direction.

The choice among approaches depends on context, but the key requirement is that the directional information is preserved, whether through lexical or visual means or both.

Cross-Examination and Spatial Challenge

Cross-examination often probes spatial testimony for inconsistencies. An interpreter who rendered the direct testimony must be prepared for spatial questions on cross.

"You testified that you were standing on the northwest corner. But earlier you said you could see the defendant's face clearly. If you were on the northwest corner and the defendant was traveling south, wouldn't you have been looking at the back of the car?"

This question challenges the spatial coherence of the testimony. The interpreter must render the challenge accurately, including its spatial logic. This requires understanding the spatial frame established during direct testimony and applying it to the cross-examination question.

If the interpreter's rendering of direct testimony was spatially inconsistent, the cross-examination may expose that inconsistency in ways that confuse the proceedings. Accurate rendering from the start prevents this problem.

The Interpreter's Spatial Responsibilities

Legal interpreters bear several spatial responsibilities.

Accuracy responsibility: The interpretation must accurately reflect the spatial content of the source. Errors in spatial rendering are errors in interpretation, regardless of whether the non-spatial content is accurate.

Transparency responsibility: The interpreter should not introduce spatial information that the source did not contain. If the interpreter needs to establish a spatial frame to render the testimony, that frame should be as neutral as possible, not committing to positions or relationships the source did not specify.

Clarification responsibility: When spatial information is unclear or when the interpreter is uncertain about accurate rendering, the interpreter should seek clarification rather than guessing. The right to clarification is established in interpreter ethics and legal protocols.

Consistency responsibility: The interpreter must maintain consistent spatial reference throughout the proceeding. Frames established early must be maintained through all subsequent testimony. Team interpreters must coordinate to ensure consistency across interpreter changes.

These responsibilities require spatial skills that go beyond casual conversational ability. Legal interpreters need advanced classifier and spatial competence, specific preparation for legal spatial challenges, and ongoing professional development in precision rendering.

Legal Spatial Precision Checklist

Before and during legal interpreting assignments involving spatial testimony, verify:

Preparation Phase

- Have I reviewed the case materials for spatial content (locations, directions, distances)?
- Do I know the physical layout of the relevant scene (intersection, building, room)?
- Have I established my compass orientation convention?
- Am I prepared to render specific distances and positions?

Frame Establishment

- Did I establish compass orientation explicitly before spatial testimony began?
- Did I place key landmarks in signing space before action descriptions?
- Is my scale consistent (did I decide how real-world distances map to signing space)?
- Can I return to established landmarks accurately throughout testimony?

During Testimony

- Am I maintaining topographic mode for spatial descriptions?
- Am I matching the source's precision level (not inflating vague descriptions, not deflating precise ones)?
- Am I checking my frame against the source as testimony continues?
- Am I using classifier predicates that preserve spatial relationships?
- If I realize my frame is wrong mid-testimony, do I know my correction protocol? (Options: subtle adjustment if minor and unnoticed; explicit correction if the error would affect understanding; request for clarification from speaker if procedurally appropriate)

Verification Opportunities

- Did I clarify ambiguous spatial content with the speaker when procedurally appropriate?
- Did I use breaks to verify understanding with deaf clients or witnesses when possible?

- Did I note any spatial content I was uncertain about for post-proceeding follow-up?

Error Recognition

- Did my frame drift or collapse under cognitive load?
- Did I inadvertently reverse any spatial relationships?
- Did I lose track of any established landmarks?
- If errors occurred, did I repair them appropriately?

This checklist operationalizes the principles discussed throughout this chapter. Regular use during preparation and self-review after assignments builds the precision habit that legal interpreting requires.

The next chapter examines medical interpreting, where anatomical precision creates different but equally demanding spatial accuracy requirements.

0.30 Chapter Thirteen

0.30.1 Medical Interpreting and Anatomical Precision

The surgeon explains: "The tumor is located in the posterior aspect of the left temporal lobe, approximately two centimeters superior to the petrous ridge. It extends medially toward the tentorial notch and has compressed the adjacent structures."

The patient needs to understand where in their brain the tumor sits, what structures it threatens, and why the proposed surgical approach makes sense. The interpreter faces a challenge unlike legal spatial description. Legal space is external: intersections, distances between people, paths of travel. Medical space is internal: organs, vessels, nerves, bones arranged in three-dimensional anatomical relationships that the patient cannot see and may never have visualized.

Medical interpreting demands anatomical precision that serves informed consent, treatment compliance, and patient autonomy. This chapter examines the specific spatial challenges of medical settings, strategies for rendering anatomical information, the integration of classifier predicates with medical terminology, and the ethical dimensions of anatomical accuracy.

The Nature of Medical Spatial Information

Medical discourse involves spatial information at multiple scales and in multiple systems.

Gross anatomy describes the large-scale organization of the body: organs, bones, major vessels, body regions. "The liver is in the right upper quadrant of the abdomen" is gross anatomical information. Gross anatomy is relatively accessible because patients have some familiarity with major body parts and can often feel or visualize the general regions.

Regional anatomy describes relationships within body areas: the structures of the shoulder, the contents of the pelvis, the layers of the abdominal wall. "The rotator cuff consists of four muscles that surround the shoulder joint" is regional anatomical information. Regional anatomy is more detailed than gross anatomy and may involve structures patients have not heard of.

Surgical anatomy describes the specific structures a surgeon will encounter and manipulate during a procedure. "We'll make the incision here, dissect through the fascial layers, identify and protect the nerve, then access the joint capsule" is surgical anatomical information. Surgical anatomy is highly specific and procedural.

Pathological anatomy describes abnormalities: where a tumor is, how an injury has affected structures, what degeneration looks like. "The herniated disc is pressing on the L5 nerve root" is pathological anatomical information. Pathological anatomy combines normal anatomical knowledge with understanding of what has gone wrong.

Radiological anatomy describes what imaging shows: CT scans, MRIs, X-rays, ultrasounds. "This shadow on the X-ray represents fluid in the pleural space" is radiological anatomical information. Radiological anatomy requires correlating two-dimensional images with three-dimensional anatomy.

Each type of medical spatial information poses distinct challenges for interpretation. The interpreter must render the spatial relationships accurately while making them comprehensible to a patient who may have limited anatomical knowledge.

Anatomical Orientation Systems

Medicine uses specific orientation terms that differ from everyday spatial reference. Interpreters must understand these terms and render them accurately.

Superior/inferior (above/below) reference the body's vertical axis in standard anatomical position. The heart is superior to the stomach; the bladder is inferior to the kidneys.

Anterior/posterior (front/back) reference the body's front-back axis. The sternum is anterior; the spine is posterior.

Medial/lateral (toward midline/away from midline) reference the body's left-right axis from center. The nose is medial to the ears; the shoulders are lateral to the neck.

Proximal/distal (closer to/farther from the trunk) reference position along limbs. The elbow is proximal to the wrist; the fingers are distal to the palm.

Superficial/deep reference distance from the body surface. The skin is superficial; the bones are deep.

These terms create a coordinate system for anatomical description. Rendering them accurately requires the interpreter to either use the technical terms (fingerspelling or established medical signs) or translate them into spatial depiction that preserves the directional information.

A common strategy combines both: the interpreter fingerspells or signs the technical term while simultaneously showing the spatial relationship through classifier placement or body reference. "The tumor is P-O-S-T-E-R-I-O-R [pointing to back of head/signing BACK-AREA]" provides both the technical term and the spatial information.

The Body as Anatomical Reference

Medical interpreting often uses the signer's own body as a reference for anatomical locations. This strategy is intuitive and efficient but requires careful execution.

Direct body reference points to or touches the relevant body part. "The incision will be here" [pointing to own abdomen in the appropriate location]. This works well for surface anatomy and accessible body regions.

Proportional body reference uses the body's proportions to indicate internal structures. The interpreter's body becomes a map, with external surface positions corresponding to internal organ positions. This requires anatomical knowledge: knowing where the liver actually is, not just where people vaguely gesture when they say "liver."

A crucial limitation: the interpreter's body is a generic model, not the patient's body. When interpreter and patient body types differ significantly (obesity, pregnancy, amputation, pediatric vs adult proportions, anatomical sex differences for reproductive or urological content), direct mapping from interpreter body to patient anatomy may create confusion. In such cases, strategies include: using constructed space to build an anatomical model separate from the interpreter's body, referencing diagrams or models when available, or verbally acknowledging that "on their body, this would be here" with appropriate spatial adjustment.

For sensitive anatomical regions (genitals, breasts, buttocks), interpreters should consider whether pointing at one's own body is the appropriate strategy at all, regardless of body-type match. Constructed space or diagram reference may be preferable as the default for these regions, preserving accuracy while respecting professional boundaries. The decision may depend on the medical context, the relationship between parties, and the specific information being conveyed.

Constructed body reference creates an anatomical model in signing space rather than on the body. The interpreter might establish "this is the heart" at one location, "this is the aorta extending upward" at another, building an anatomical diagram in space. This approach allows more flexibility in scale and visibility than direct body reference.

Cross-sectional reference may be necessary for some medical explanations. A CT scan shows the body in cross-section; explaining it may require the interpreter to create a cross-sectional frame ("imagine looking down at a slice through the abdomen at this level"). This frame differs from typical three-dimensional anatomical reference.

The choice among these strategies depends on what is being explained, the patient's anatomical sophistication, and what the medical provider is doing (are they pointing at images? demonstrating on a model? describing verbally?).

Classifier Strategies for Anatomical Description

Classifier predicates serve anatomical description in specific ways.

Entity classifiers for organs and structures represent anatomical parts as objects in space. CL:C for tubular structures (blood vessels, intestines), CL:S for compact organs (kidney-shaped, heart-shaped), CL:B for flat structures (diaphragm, membranes), CL:claw for irregular masses (tumors, organs with complex shapes). The classifier establishes what kind of structure and where it is located.

SASS for anatomical dimensions describes the size of structures, masses, or abnormalities. "The tumor is approximately three centimeters in diameter" can be shown with SASS indicating three-centimeter extent. Medical precision often requires specific measurements rather than vague size categories.

Relational classifiers show how structures relate to each other. One hand might represent the spine while the other shows a disc herniation pressing against it. One hand might represent an artery while the other shows where a blockage has formed. These two-handed constructions depict anatomical relationships that are often the key information in medical explanations.

Path classifiers show flow and movement through anatomical systems. Blood flowing through vessels, food moving through the digestive tract, nerve signals traveling along pathways. The path movement shows both the route and the direction of physiological processes.

Handling classifiers for surgical explanation show what the surgeon will do. “I’ll make an incision here, retract these tissues, visualize the nerve, and repair the damage.” The handling shows the procedural actions on the established anatomical frame.

Rendering Pathology

Explaining what has gone wrong requires showing normal anatomy and then showing the abnormality.

Establishing normal first creates a baseline that the pathology modifies. “Normally, the disc sits between the vertebrae like this. In your case, the disc has pushed out like this, pressing on the nerve here.” The normal frame makes the abnormal deviation clear.

Pathology as modification shows how disease or injury has changed normal anatomy. A tumor appears where tissue should be clear. A blockage interrupts where flow should be continuous. A fracture separates what should be connected. The classifier depiction of pathology modifies the normal anatomical frame.

Degree and extent matter for pathology description. How large is the tumor? How severe is the blockage? How displaced is the fracture? SASS and manner modification show degree. A large tumor takes up more space; a severe blockage shows complete obstruction; a badly displaced fracture shows significant separation.

Location precision is often critical for pathology. “The tumor is in the left temporal lobe” is less precise than “the tumor is in the posterior aspect of the left temporal lobe, two centimeters superior to the petrous ridge.” The more precise description localizes the pathology for treatment planning. Interpreters must preserve this localization precision.

Informed Consent and Spatial Understanding

Medical interpreting often serves informed consent: the process by which patients understand proposed treatments and agree to them. Spatial understanding is frequently essential to informed consent.

Understanding what will be done often requires spatial comprehension. “We will remove the gallbladder through small incisions” involves understanding where the gallbladder is, where the incisions will be, and how the removal will be accomplished. Inaccurate spatial rendering can mean the patient does not understand the procedure they are consenting to.

Understanding the risks often requires spatial comprehension. “There is a risk of nerve damage because the nerve runs very close to where we’ll be operating” requires understanding the spatial relationship between the nerve and the surgical site. If the interpreter renders this vaguely, the patient cannot assess the risk.

Understanding the alternatives may require spatial comparison. “We can approach the tumor from the front or from the side. The frontal approach has these advantages and risks; the lateral approach has these advantages and risks.” Understanding the alternatives requires understanding the spatial difference between approaches.

Informed consent is a legal and ethical requirement. Spatial interpretation errors that prevent genuine informed consent are serious failures, not minor inaccuracies.

Working with Visual Aids

Medical explanations often involve visual aids: anatomical models, diagrams, images, screens showing scans. The interpreter's role shifts when visuals are present.

Coordinating with visuals means the interpretation should align with what the provider is showing. If the provider points to a location on a model, the interpretation should reference that location. If the provider indicates a structure on a scan, the interpretation should connect the sign with the visual indication.

Supplementing visuals adds spatial information that helps the patient understand what they are seeing. The provider may point to a spot on a CT scan; the interpreter may additionally show where that spot corresponds on the body or how the cross-sectional view relates to three-dimensional anatomy.

Substituting for visuals may be necessary when the patient cannot see the visual clearly or when no visual is available. The interpreter creates the spatial frame that a visual would have provided.

Interpreting visual explanations requires understanding what the visual shows. An interpreter who cannot read an MRI image cannot accurately interpret a radiologist's explanation of that image. Medical interpreting in image-intensive settings requires some visual literacy in medical imaging.

Anatomical Terminology and Signs

Medical terminology for anatomy may have established ASL signs, may require fingerspelling, or may require created signs. The strategy affects spatial rendering.

Established medical signs exist for some anatomical terms. Signs for major organs, common conditions, and frequently discussed body parts have developed within Deaf communities and medical interpreting practice. Using established signs when they exist supports efficient communication.

Fingerspelling is often necessary for anatomical terms without established signs. Fingerspelling "petrous ridge" or "tentorial notch" preserves the technical term that may be important for medical records, second opinions, or patient research. Fingerspelling combined with spatial indication ("the P-E-T-R-O-U-S R-I-D-G-E [showing location]") provides both term and spatial understanding.

Descriptive constructions explain anatomy through description rather than terminology. Instead of fingerspelling "petrous ridge," the interpreter might describe it: "the bony ridge at the base of the skull, here" [showing location]. This approach sacrifices terminological precision for comprehensibility.

The choice among strategies depends on the patient's sophistication, the importance of exact terminology, and the communicative goals of the interaction. Informed consent conversations may prioritize comprehensibility; discussions with medically sophisticated patients may prioritize terminological precision.

Accuracy, Comprehension, and Patient Autonomy

Medical interpreting involves tension between accuracy (rendering exactly what the provider says) and comprehension (ensuring the patient understands). Spatial interpretation crystallizes this tension.

A provider's explanation may be accurate but incomprehensible to a patient without medical training. Rendering it accurately preserves the content but may not serve the patient's need to understand. Simplifying it for comprehension may distort or lose information.

The interpreter's role is not to decide for the patient what level of detail they need. The interpreter's role is to render what is said with accuracy and clarity, allowing the patient to ask questions, seek clarification, and make their own decisions.

When spatial information is complex, the interpreter may need to flag this: "The doctor is explaining the exact location of the tumor. It's quite technical. I'll interpret what she's saying, and please stop me if you need clarification." This framing preserves patient autonomy while acknowledging complexity.

Interpreters should avoid both over-simplifying (deciding the patient cannot understand technical anatomy) and over-complicating (adding technical detail the provider did not include). The goal is faithful rendering that supports the patient's ability to engage with their own medical care.

Training for Medical Spatial Competence

Medical interpreting spatial competence requires specific preparation.

Anatomical study provides the foundation. Interpreters working in medical settings should know basic anatomy: where organs are, how systems connect, what structures look like. This knowledge supports accurate spatial rendering and helps interpreters recognize when their understanding is insufficient.

Medical terminology extends to anatomical orientation terms. Knowing what "posterior" means, what "proximal" means, and how these terms apply to specific body regions is essential for accurate interpretation.

Visual literacy for medical imaging develops through exposure and study. Understanding what CT scans show, how MRI slices relate to anatomy, and what X-ray shadows indicate supports interpretation of image-based explanations.

Specialty-specific preparation addresses the spatial demands of particular medical fields. Cardiology involves the spatial relationships of heart chambers and vessels. Neurology involves brain regions and neural pathways. Orthopedics involves bones, joints, and biomechanics. Each specialty has its own anatomical focus.

Observation and practice in medical settings develops contextual competence. Shadowing medical interpreters, observing medical explanations, and practicing anatomical rendering builds skills that classroom learning alone cannot provide.

Rendering Symptom Quality: Pain and Sensation

Patients frequently describe pain and other sensations in terms that require movement morphology to convey accurately. "Throbbing," "stabbing," "shooting," "burning," "aching," "cramping": these quality distinctions matter for diagnosis and treatment. Spatial and movement components combine to render symptom descriptions effectively.

Location and radiation identify where symptoms occur and how they spread. "The pain starts here and shoots down my leg" requires showing the origin point and the path of radiation. Classifier movement shows the shooting or spreading pattern.

Quality through movement encodes the character of the sensation. Throbbing pain involves rhythmic, pulsing movement. Stabbing pain involves sharp, punctual movement. Shooting pain involves rapid linear movement along a path. Burning pain might be shown with spreading, intensifying movement. Aching pain might be shown with diffuse, sustained movement. Cramping pain involves intermittent tensing and releasing movement. The movement morphology principles from Chapter 11 apply directly to symptom depiction.

Additional common sensations frequently arise in medical encounters. Tingling or "pins and needles" might be shown with small, rapid, scattered movements. Numbness, the absence of sensation, may require explicit statement combined with location marking. Pressure or heaviness involves sustained, downward-weighted movement or hold. Electric or shock-like sensations involve abrupt, intense, linear movement. These mappings are not fixed conventions but productive applications of movement morphology to sensation description.

Intensity and duration add further dimensions. Severe vs. mild, constant vs. intermittent, brief vs. prolonged: manner and temporal contour modifications encode these aspects. A sharp, brief stabbing pain differs from a dull, constant ache, and the difference should be visible in the rendering.

Patient descriptions vary in precision. Some patients give medically sophisticated descriptions; others use imprecise or metaphorical language. The interpreter matches the source's precision level. If the patient says "it hurts," the rendering should be correspondingly general. If the patient says "I have sharp, stabbing pains that come every few minutes and last about thirty seconds," the rendering should preserve all that specificity. As with legal precision (Chapter 12), the interpreter should not "upgrade" vague descriptions to specific ones or "downgrade" specific descriptions to vague ones.

Symptom description is often the patient's primary contribution to the diagnostic encounter. Accurate rendering of symptom quality, location, intensity, and duration supports accurate diagnosis and appropriate treatment.

Conclusion

Medical interpreting demands anatomical precision that serves informed consent and patient autonomy. Anatomical orientation systems, body-based reference strategies, and classifier predicates for anatomical structures all contribute to accurate rendering of medical spatial information.

Pathology explanation requires showing abnormality against a normal baseline. Informed consent requires spatial understanding of procedures, risks, and alternatives. Visual aids may support or require supplementation through interpretation. Terminology strategies balance technical accuracy with comprehensibility.

Medical spatial competence requires anatomical knowledge, terminology fluency, and visual literacy developed through specific preparation and practice. The stakes are patient understanding and autonomous medical decision-making.

The next chapter examines technical and scientific interpreting, where complex spatial relationships extend beyond the human body to mechanisms, processes, and abstract structures.

0.31 Chapter Fourteen

0.31.1 Technical and Scientific Interpreting: Mechanisms and Processes

The engineer explains: "The combustion cycle has four phases. First, the piston moves down, drawing the fuel-air mixture into the cylinder through the open intake valve. Then the piston moves up, compressing the mixture while both valves are closed. At the top of the compression stroke, the spark plug ignites the mixture, forcing the piston down and generating power. Finally, the exhaust valve opens and the piston moves up again, expelling the burned gases.”

The deaf student in an automotive technology class needs to understand this cycle well enough to diagnose engine problems. The interpreter must render not just the words but the spatial relationships: piston up, piston down, valves open, valves closed, sequence and timing. The explanation is fundamentally spatial and mechanical. An interpretation that loses the spatial dynamics loses the content.

Technical and scientific interpreting extends spatial precision beyond human geography (legal settings) and human anatomy (medical settings) to mechanisms, processes, systems, and abstract structures. This chapter examines strategies for rendering technical spatial content, addressing mechanisms and machines, scientific processes and phenomena, and the abstract spatial structures that organize technical knowledge.

The Nature of Technical Spatial Content

Technical discourse involves spatial information about constructed and natural systems.

Mechanical systems involve parts that move, connect, and interact. Engines, transmissions, pumps, circuits, structures. Understanding mechanical systems requires understanding how components are arranged and how they affect each other through their arrangement.

Process systems involve sequences of events, states, or transformations. Chemical reactions, manufacturing processes, computational procedures, ecological cycles. Processes have spatial organization even when the “space” is metaphorical or abstract.

Structural systems involve static arrangements that bear loads, contain materials, or organize space. Buildings, bridges, vessels, containers. Structural understanding requires grasping how elements relate to each other and how forces flow through arrangements.

Abstract systems use spatial organization metaphorically. Data structures, organizational hierarchies, logical relationships, mathematical spaces. These systems are not physically spatial but are understood through spatial metaphors that interpreters must render appropriately.

Each type of technical spatial content poses distinct challenges. Mechanical systems require showing movement and interaction. Process systems require showing sequence and transformation. Structural systems require showing arrangement and relationship. Abstract systems require mapping conceptual structure onto spatial representation.

Depicting Mechanisms

Mechanisms are arrangements of parts that move in coordinated ways to accomplish functions. Depicting mechanisms requires showing both the parts and their movements.

Parts as entities uses entity classifiers to represent mechanical components. CL:C for cylindrical parts (pistons, shafts, rollers), CL:B for flat parts (plates, blades, surfaces), CL:S or CL:A for compact parts (gears, bearings, blocks). The classifier establishes what kind of part and where it is positioned in the mechanism.

Movement as mechanism function uses movement morphology to show how parts operate. The piston moves up and down. The shaft rotates. The valve opens and closes. The movement shows what the part does, not just where it is.

Interaction between parts uses two-handed constructions to show how parts affect each other. One hand represents the camshaft rotating; the other represents the valve being pushed open by a cam lobe. One hand represents the gear driving; the other represents the gear being driven. The interaction shows how movement transfers through the mechanism.

Timing and coordination shows when movements occur relative to each other. The intake valve opens as the piston starts its downward stroke. The spark fires when the piston reaches the top of its compression stroke. Simultaneity, sequence, and synchronization are rendered through the timing of classifier movements.

Scale and viewpoint must be managed for mechanism depiction. Most mechanisms cannot be shown at life scale; reduced observer viewpoint is typical. But some mechanisms benefit from character viewpoint (imagining being inside the mechanism, seeing what happens from the perspective of a part). The choice depends on what aspects need emphasis.

Depicting Processes

Processes are sequences of states or events that transform inputs into outputs. Depicting processes requires showing change over time.

Sequential stages are shown through temporal ordering of depictions. "First this, then this, then this." Each stage is depicted, then released, then the next stage depicted. The sequence shows the process order.

State changes show transformation within stages. A reactant becomes a product. A solid melts to liquid. A signal transforms from analog to digital. The classifier representation changes to show the state change, or the before and after states are contrasted explicitly.

Flow and movement shows material or information moving through a process. Fluid flows through pipes, signal propagates through circuits, material moves through manufacturing steps. Path classifiers trace these flows, showing routes and directions.

Cyclic processes return to their starting point and repeat. The combustion cycle, the water cycle, the feedback loop. Depicting cycles requires showing the return to origin and the repetition. Circular path movements or explicit "return to start" constructions can show cyclicality.

Branching and merging occurs in processes with multiple paths. Decision points split a process into branches; convergence points combine branches back together. Tree-like structures in signing space, with explicit splitting and merging movements, show these process topologies.

Abstract Spatial Structures

Many technical fields use spatial structures as organizing metaphors for non-spatial content.

Hierarchies organize information in levels: higher and lower, parent and child, general and specific. Organizational charts, classification systems, file structures. These are depicted vertically in signing space, with movement up or down indicating movement through the hierarchy.

Networks organize information in connected nodes: points linked by relationships. Computer networks, social networks, neural networks. These are depicted as points in signing space with connecting movements showing links.

Sequences organize information in order: before and after, first and last. Timelines, procedures, algorithms. These are depicted along an axis in signing space, typically the lateral or sagittal axis, with position indicating order.

Containment organizes information by inclusion: inside and outside, member and set. Categories, groups, scopes. These are depicted through enclosing gestures, spatial regions, and in/out movements.

These abstract spatial structures are not physical but are rendered through the same spatial resources that depict physical space. The interpreter maps conceptual structure onto signing space, using spatial relationships to represent logical relationships.

Classifier Strategies for Technical Content

Technical interpreting uses classifier predicates in specific patterns.

Component classifiers represent parts of systems. The classifier handshape suggests the component's shape or function; the position suggests its location in the system. Multiple classifiers build up a picture of the system's configuration.

Interaction classifiers show components affecting each other. Two-handed constructions with movement between hands show force transfer, signal transmission, or material flow. The interaction pattern shows the functional relationship.

State classifiers represent changing conditions. A classifier might change handshape to show a component changing state, or a new classifier might replace a previous one to show transformation.

Process classifiers combine entity and movement to show processes in progress. A classifier moving through space while changing represents a transformation that occurs over time and space.

Abstract classifiers use handshapes and movements to represent non-physical concepts. These are often established through explicit metaphor ("think of it as…") or through conventional mappings in technical fields.

Working with Technical Visuals

Technical explanations frequently involve diagrams, schematics, models, and demonstrations. The interpreter's role adapts to visual context.

Schematic diagrams use symbols and conventions that may not be self-explanatory. The interpreter may need to connect the schematic representation to the physical or conceptual reality it represents. "This symbol represents a resistor. In the actual circuit, it would be here."

Cutaway views show internal structure by removing exterior portions. The interpreter may need to clarify what the view shows. "We're looking at a cross-section, as if we cut the engine in half."

Animated demonstrations show processes in motion. The interpreter synchronizes interpretation with the animation, pointing out what to watch and explaining what the movement represents.

Physical models and demonstrations show systems directly. The interpreter coordinates signing with what the demonstrator is showing, often pointing or indicating rather than fully depicting what the audience can already see.

Mathematical representations (equations, graphs, diagrams) may require interpretation of both the symbols and their spatial relationships. The layout of an equation, the shape of a graph, the structure of a proof all have spatial organization that carries meaning.

Register and Audience

Technical interpreting spans registers from popular explanation to advanced research. Spatial strategies adjust accordingly.

Introductory explanation for non-specialists may require extensive setup, explicit connections between spatial representations and what they represent, and careful unpacking of implicit spatial assumptions.

Intermediate instruction for students in a field can assume basic spatial frameworks and concentrate on extending or applying those frameworks to new content.

Advanced discussion among specialists may use highly compressed spatial reference, assuming extensive shared knowledge. The interpreter must track this compressed reference and render it without expanding so much that the pace becomes incompatible with the discussion.

Mixed audiences require judgment about how much spatial setup to provide. The interpreter may need to provide more context than the source does for some audience members while not boring others with excessive explanation.

Building Technical Spatial Fluency

Developing technical spatial fluency requires domain-specific preparation.

Domain study provides foundational knowledge. An interpreter working in engineering settings should understand basic mechanical principles. An interpreter working in biology should understand basic cellular and organismal organization. This knowledge supports accurate spatial rendering.

Vocabulary development includes both terminology and spatial conventions. Technical fields have established ways of talking about spatial relationships that the interpreter must know. “Upstream” and “downstream” in process engineering, “high” and “low” in circuit descriptions, “parent” and “child” in data structures.

Visual literacy in technical diagrams and representations develops through exposure. Each field has conventions for visual representation that carry meaning. Learning to read schematics, flowcharts, and technical drawings supports interpretation of explanations that reference them.

Practice with technical content builds fluency in the patterns of technical spatial description. Interpret technical lectures, demonstrations, and explanations. Review for accuracy and clarity of spatial rendering. Identify areas needing improvement and target them.

Common Challenges in Technical Interpreting

Several challenges recur in technical spatial interpreting.

Invisible processes occur at scales or speeds that cannot be directly observed. Molecular interactions, electronic signal propagation, geological time scales. These must be represented through models and metaphors that the interpreter must render appropriately.

Complex three-dimensional structures may exceed what can be easily depicted in signing space. Protein folding, architectural structures, geological formations. Selective representation, multiple views, and explicit simplification help manage this complexity.

Dynamic systems with many interacting parts overwhelm sequential depiction. Everything happens at once, but signing happens in time. Summarization, selective focus, and explicit acknowledgment of simplification address this challenge.

Unfamiliar technical domains may include spatial content the interpreter does not understand well enough to render accurately. Recognizing the limits of one's knowledge and seeking clarification or preparation is essential.

Case Study: Interpreting a Chemistry Demonstration

A chemistry professor demonstrates an oxidation-reduction reaction. The professor shows two beakers containing solutions, pours one into the other, and the mixture changes color.

The spatial content includes: the arrangement of the demonstration apparatus, the action of combining the solutions, and (crucially) the molecular-level explanation of what causes the color change.

For the visible demonstration, the interpreter coordinates with what the audience can see, pointing out the beakers, describing the pouring action if needed, and noting the color change.

For the molecular explanation, the interpreter shifts to representing invisible processes. "At the molecular level, here's what's happening." Entity classifiers represent molecules; movement shows electron transfer; state change shows how the product differs from the reactants.

The spatial frame for the molecular explanation is explicitly constructed, not directly observable. The interpreter establishes this frame: "Let me show you the molecular view." Then the explanation operates within that frame.

When the professor moves between visible demonstration and molecular explanation, the interpreter marks these transitions clearly. "Now back to what we can see happening in the beakers."

Key Questions for Technical Interpretation

When preparing for or working in technical and scientific settings, ask yourself:

Before the assignment: Do I understand the spatial content well enough to represent it accurately? If a mechanism is involved, do I know how its parts move and interact? If a process is involved, do I understand the sequence and what transforms into what? If I am uncertain, what preparation do I need?

When establishing spatial frames: Am I making clear when I shift from visible demonstration to invisible explanation? Have I explicitly constructed the frame for molecular, cellular, or other non-observable processes? Will my audience understand what my spatial setup represents?

When depicting mechanisms: Am I showing how parts relate to each other? Is my scale consistent? When parts move, is the movement type accurate (rotation, reciprocation, oscillation)? Am I showing how output relates to input?

When depicting processes: Is my sequence correct? Am I showing what transforms and what remains constant? Are my state changes clear? Am I distinguishing cause from effect?

When coordinating with visuals: Am I pointing to the right elements at the right time? Am I helping my audience see what the speaker wants them to see? When the speaker moves to a new visual, am I transitioning clearly?

When overwhelmed by complexity: Can I identify the core spatial relationship the speaker wants to convey? What can I simplify without losing essential accuracy? Have I explicitly acknowledged simplification when appropriate?

These questions operationalize the principles of technical spatial fluency. Asking them regularly, in preparation and in practice, builds the diagnostic habit that expert technical interpreters develop.

The next chapter addresses error analysis and self-correction, providing diagnostic tools for identifying and remedying spatial and classifier difficulties.

0.32 Chapter Fifteen

0.32.1 Error Analysis and Self-Correction Protocols

A signer finishes a complex narrative and feels something went wrong. The spatial setup seemed clear at first, but by the end, the characters were in different positions than where they started. The viewer looked confused during the action sequence. Reviewing the recording, the signer sees the problem: halfway through, she reversed the positions of two characters without noticing. What started as John on the left and Mary on the right became John on the right and Mary on the left, and the entire second half of the narrative was spatially inverted.

Errors happen. The question is whether the signer can recognize errors, diagnose their causes, and develop strategies to prevent recurrence. This chapter provides a systematic approach to error analysis and self-correction for classifier and spatial grammar. We categorize common error types, present diagnostic procedures, and develop correction protocols that support skill development.

The Value of Error Analysis

Errors are information. They reveal the boundaries of current competence, the cognitive processes that produce signing, and the specific areas needing development. A signer who makes no errors has nothing to learn, but a signer who makes errors without analyzing them learns slowly if at all.

Error analysis involves three stages: recognition (noticing that an error occurred), diagnosis (understanding why it occurred), and remediation (developing strategies to prevent recurrence). Each stage requires specific skills and practices.

Recognition requires feedback. Signers cannot recognize errors they do not detect. Feedback can come from viewers who signal confusion or misunderstanding, from recordings that allow review, from team interpreters who notice problems, or from internal monitoring that detects inconsistencies during production.

Diagnosis requires analytical frameworks. Knowing that something went wrong is not the same as knowing what went wrong or why. The categorization of error types provides frameworks for diagnosis. A signer who knows the category of error can investigate its cause.

Remediation requires targeted practice. Knowing the cause of an error suggests what practice would prevent it. Random practice helps generally; targeted practice addresses specific weaknesses efficiently.

Categories of Spatial and Classifier Errors

Errors in classifier and spatial grammar fall into several categories. Recognizing the category aids diagnosis and remediation.

Locus errors involve problems with spatial referent tracking. Subtypes include:

Drift: The locus for a referent gradually shifts from its original position. A character established on the left is referenced at center, then at center-right, then on the right.

Locus collision: Two referents end up at the same or overlapping loci. The interpreter establishes one character, then establishes another at the same position without releasing the first.

Reversal: The loci for two referents swap. John was on the left and Mary on the right, but now the signer treats left as Mary and right as John.

Abandonment: The signer stops using spatial reference for an established referent, switching to naming or fingerspelling when spatial reference would be appropriate.

Frame errors involve problems with the overall spatial organization. Subtypes include:

Frame collapse: The established spatial frame disintegrates. Directions, orientations, and positions become inconsistent, not just for one referent but across the entire construction.

Mode confusion: The signer mixes topographic space (where positions represent locations) with syntactic space (where positions track referents) inappropriately. A referent's syntactic locus is treated as if it were their topographic location or vice versa.

Scale inconsistency: Different elements are depicted at different scales within the same frame. A building is shown at one scale, a person at a different scale, creating impossible proportions.

Perspective errors involve problems with viewpoint. Subtypes include:

Perspective bleed: Observer viewpoint and character viewpoint elements mix inconsistently. The signer uses entity classifiers while showing character facial expressions in ways that create confusion rather than layered meaning.

Rotation failure: The signer shifts into character viewpoint without adjusting spatial reference for the character's orientation. References use observer-frame directions when character-frame directions are needed.

Unmarked shifts: The signer changes perspective without clear marking, leaving viewers uncertain whether they should interpret allocentrically or egocentrically.

Classifier errors involve problems with classifier selection or use. Subtypes include:

Category mismatch: The classifier does not match the referent's properties. Using a vehicle classifier for a bicycle (debatable but potentially problematic), or a four-legged animal classifier for a snake.

Perspective mismatch: The classifier type does not match the perspective. Using handling classifiers in observer viewpoint where entity classifiers would be appropriate, or vice versa.

Movement mismatch: The movement does not match the action being depicted. Making a vehicle classifier hop, or making a person classifier roll.

Movement errors involve problems with path, manner, or temporal contour. Subtypes include:

Path imprecision: The movement trajectory is unclear. The signer moves a classifier, but whether the path is straight or curved, direct or indirect, is ambiguous.

Manner monotony: All movements have the same speed, tension, and smoothness regardless of what is being depicted.

Temporal collapse: Durative and iterative actions are rendered as punctual, losing aspectual distinctions.

Diagnostic Procedures

When an error is recognized, diagnostic procedures identify its type and cause.

Immediate self-monitoring is the first diagnostic resource. During production, the signer may notice that something feels wrong: a spatial inconsistency, a confusion about where a referent was established, a mismatch between what was intended and what was produced. This monitoring catches some errors in real time.

Viewer feedback provides external diagnosis. A viewer who signals confusion, asks clarifying questions, or misunderstands the content may be responding to spatial or classifier errors. The nature of the confusion can indicate the error type. If the viewer confuses two referents, a locus error is likely. If the viewer misunderstands spatial relationships, a frame error is likely.

Recording review allows detailed diagnosis. Watching a recording of one's signing, preferably with the source material also available, reveals errors that were not noticed during production. Systematic review checks each dimension: Are loci maintained consistently? Is the spatial frame coherent? Are perspectives managed clearly? Are classifiers appropriate? Are movements accurate?

Comparative analysis compares the signer's production to a model or to the source. Where do they differ? What spatial or classifier information was lost, distorted, or added? This comparison identifies specific error instances.

Pattern analysis looks across multiple instances for recurring errors. Does this signer consistently reverse loci? Consistently lose frame coherence in extended discourse? Consistently use inappropriate classifiers for certain referent types? Patterns indicate systematic weaknesses that targeted practice should address.

The Self-Correction Process

Self-correction during production differs from post-production analysis. Real-time correction must balance accuracy against fluency; elaborate corrections disrupt communication.

Detection is recognizing that an error has occurred or is occurring. This requires ongoing monitoring of one's production against one's intention. Detection is harder under cognitive load, when the content is complex, or when the signer is fatigued.

Assessment is determining whether correction is necessary. Minor errors that do not affect comprehension may not warrant correction. Errors that create confusion or inaccuracy require correction. The stakes of the context affect this assessment: casual conversation tolerates more uncorrected error than legal testimony.

Execution is producing the correction. Several correction strategies exist:

Implicit correction simply produces the correct form without acknowledging the error. If the signer referenced John on the wrong side, they begin referencing him on the correct side. If the correction is smooth and the error was minor, viewers may not notice the adjustment.

Explicit correction acknowledges the error and provides the correct form. "Let me correct that. John is over here, not there." Explicit correction is clearer but more disruptive.

Frame reset abandons the problematic spatial organization and establishes a new frame. This is appropriate when errors have accumulated to the point where incremental correction cannot restore coherence.

Recovery is continuing fluently after correction. A correction that derails the discourse into extended apology or explanation may cause more disruption than the original error. Efficient correction makes the fix and moves on.

Remediation Strategies

Diagnosis identifies weaknesses; remediation addresses them. Different error types call for different remediation strategies.

For locus errors, practice locus precision and memory. Drills that establish loci and return to them after delays build the spatial memory that prevents drift. Exercises with multiple referents build the capacity to track several loci simultaneously. Recording and reviewing multi-referent narratives reveals locus maintenance problems.

For frame errors, practice frame establishment and maintenance in extended discourse. Begin with explicit frame setup before any content, then maintain the frame through progressively longer and more complex material. Exercises that require returning to a frame after digressions build frame persistence.

For perspective errors, practice pure perspective modes before practicing transitions. Produce extended content entirely in observer viewpoint, then entirely in character viewpoint, building fluency in each mode before attempting to manage transitions. Then practice explicit transitions with clear marking. Finally, practice smooth transitions where marking is minimal but sufficient.

For classifier errors, study the semantic features that govern classifier selection. Practice with novel referents, reasoning through the appropriate classifier based on features. Compare your choices to native signer models. Analyze mismatches to refine your understanding of the feature system.

For movement errors, practice path, manner, and temporal contour as separate skills before integrating them. Produce the same path with different manners. Produce the same action as punctual, durative, and iterative. Build a vocabulary of movement components, then combine them fluently.

Building Self-Monitoring Capacity

Self-monitoring is the foundation of self-correction. It can be developed through deliberate practice.

Attention splitting practices monitoring while producing. During practice sessions, maintain partial attention on what you are producing while also attending to the content you are rendering. This divided attention is cognitively demanding but becomes more automatic with practice.

Recording and immediate review builds the connection between production and observation. Record yourself, then immediately review the recording. Note the relationship between what you intended, what you felt you produced, and what you actually produced. Discrepancies between feeling and reality indicate monitoring gaps.

Feedback calibration uses external feedback to improve self-monitoring accuracy. Have a fluent viewer note errors, then compare their observations to your self-monitoring. Where did they see errors you missed? Where did they see no error where you thought you erred? This comparison calibrates your internal monitor.

Stress testing practices monitoring under cognitive load. When content is easy, monitoring capacity is available. When content is difficult, monitoring may collapse. Practice with increasingly difficult content, maintaining monitoring as long as possible. When monitoring fails, note what caused the failure and build capacity in that area.

Team Interpreting and Mutual Monitoring

In team interpreting, partners can provide monitoring that the active interpreter cannot provide for themselves.

Real-time support from the support interpreter can catch spatial errors as they occur. A discrete signal that a locus has drifted or that a frame is collapsing allows immediate correction before errors compound.

Feed provision can include spatial information that helps the active interpreter maintain coherence. If the active interpreter has lost track of a locus, the support interpreter can discreetly indicate the correct position.

Transition coordination ensures that spatial frames are maintained across interpreter changes. The incoming interpreter must know where referents have been established and what spatial conventions are in use. Pre-switch briefing or visible monitoring during the partner's turn provides this information.

Post-segment feedback allows partners to discuss errors and strategies between interpreting segments. This feedback is most useful when it is specific, behavioral, and actionable.

Error Documentation for Development

Maintaining records of errors supports long-term development.

Error logs record errors observed in practice or performance. Each entry notes what the error was, what type it was, what the context was, and what the likely cause was. Over time, the log reveals patterns.

Progress tracking compares error rates and types over time. Are certain error types becoming less frequent? Are new error types appearing as complexity increases? This tracking shows development trajectory and identifies persistent problem areas.

Targeted practice logs record what practice was done to address specific error types and what results followed. Did focused locus practice reduce locus errors? Did perspective drills reduce perspective bleed? This tracking connects practice to outcomes.

When Errors Have Consequences

In professional contexts, errors can have consequences beyond embarrassment. Legal, medical, and technical interpreting involve stakes where errors matter.

Error acknowledgment in high-stakes contexts may need to be explicit and on-record. An interpreter who realizes they made a spatial error in testimony may need to state the correction clearly for the record.

Error mitigation seeks to limit harm from errors that have occurred. If an error has created confusion, clarification may be needed even if it disrupts proceedings. The goal is accurate communication, not smooth performance.

Error reporting in some contexts requires informing supervising interpreters, agencies, or institutions about errors that affected service quality. This reporting supports quality improvement and protects all parties.

Error prevention through preparation is the best mitigation. Preparation for high-stakes assignments, review of materials, establishment of verification protocols, and conservative interpreting choices reduce error likelihood before errors can occur.

Conclusion

Error analysis and self-correction are skills that support ongoing development in classifier and spatial grammar. Recognizing errors requires feedback and monitoring. Diagnosing errors requires categorical frameworks that identify error types. Remediating errors requires targeted practice that addresses specific weaknesses.

Common error types include locus errors (drift, locus collision, reversal, abandonment), frame errors (collapse, mode confusion, scale inconsistency), perspective errors (bleed, rotation failure, unmarked shifts), classifier errors (category, perspective, and movement mismatch), and movement errors (path imprecision, manner monotony, temporal collapse).

Self-correction during production requires detection, assessment, execution, and recovery. Self-monitoring capacity develops through attention splitting, recording and review, feedback calibration, and stress testing. Team interpreting provides mutual monitoring resources.

Error documentation supports long-term development by revealing patterns and tracking progress. In high-stakes contexts, error acknowledgment, mitigation, reporting, and prevention protect accuracy and serve the communicative purpose.

This chapter concludes Part Four's examination of precision in professional contexts. Part Five synthesizes the book's content into integrated practice and assessment frameworks.

0.33 Part Five

0.34 Synthesis and Application

0.35 Chapter Sixteen

0.35.1 Integrated Practice Frameworks

The preceding chapters have analyzed classifier predicates and spatial grammar into their components: handshape selection, spatial locus management, perspective control, movement morphology, ground-figure organization, and professional precision requirements. This analytical decomposition serves learning by making the components explicit and addressable. But fluent signing does not feel like juggling separate components. Fluent signing integrates these elements into unified expression where the components disappear into the whole.

This chapter presents frameworks for integrated practice: approaches that build toward fluency by combining components into progressively more complex wholes. The goal is not just knowledge about classifier predicates and spatial grammar but competence in using them. Competence requires practice that moves beyond isolated drills toward integrated performance.

The Integration Challenge

Decomposition is necessary for learning complex skills but insufficient for performance. A beginning pianist must learn notes, fingering, rhythm, and dynamics separately, but playing music requires integrating them so completely that the separate elements are no longer consciously managed. The same principle applies to classifier and spatial grammar.

The challenge is that integration cannot be achieved simply by practicing components separately and hoping they will combine automatically. Some practice must specifically address integration: how components work together, how to manage multiple demands simultaneously, and how to produce unified constructions where the parts serve the whole.

Integration practice differs from component practice in several ways:

Component practice focuses on one element at a time: accurate handshape, precise locus, clear perspective marking. Integration practice combines elements: accurate handshape at a precise locus from a clear perspective, with appropriate movement, in coordinated ground-figure relationship.

Component practice can be relatively brief: a few minutes on handshape drills, a few minutes on locus drills. Integration practice requires sustained performance: extended narratives, complex descriptions, demanding interpretations.

Component practice emphasizes accuracy: getting the element right. Integration practice emphasizes fluency: maintaining accuracy while achieving natural pace and smooth coordination.

Component practice can tolerate artificial isolation: practicing handshapes without movement, practicing loci without referent content. Integration practice requires realistic context: practicing classifier use in actual discourse with actual communicative purposes.

Progressive Integration Sequences

Integration develops through progressive sequences that add complexity gradually.

Sequence 1: Entity classifier plus spatial locus

Stage A: Place single entity classifiers at specified locations. “Put the car here, the building there.” Focus on accurate placement without movement or extended discourse.

Stage B: Place multiple entity classifiers and maintain their positions while adding content. “The car is here. The building is there. The car approaches the building.” The movement connects the established positions.

Stage C: Extend to multi-referent scenarios with locus tracking. “The car is here. Another car is there. The first car moves toward the building while the second car moves in the opposite direction.” Maintain distinct loci through extended action.

Stage D: Add discourse complexity: narratives, descriptions, explanations that require sustained locus management for multiple referents over several minutes.

Sequence 2: Perspective integration

Stage A: Produce extended content entirely in observer viewpoint. Describe scenes, explain layouts, narrate action, all from outside the scene. Build fluency in observer-viewpoint classifier use.

Stage B: Produce extended content entirely in character viewpoint. Become characters, show their actions and experiences, use handling classifiers and constructed action. Build fluency in character-viewpoint classifier use.

Stage C: Practice explicit perspective transitions. Mark the shift from observer to character viewpoint and back. Make the transitions clear and consistent.

Stage D: Practice fluid perspective mixing. Move along the continuum between observer and character viewpoint within single narratives, using perspective strategically for communicative effect.

Sequence 3: Movement integration

Stage A: Practice path shapes with static handshape. Move classifiers through various trajectories: direct, arced, complex. Focus on clear, accurate path production.

Stage B: Add manner variation. Produce the same paths with different manners: fast, slow, smooth, jerky, tense, relaxed. Focus on manner differentiation.

Stage C: Add temporal contour. Produce actions as punctual, durative, and iterative. Show inception and termination. Focus on aspectual variation.

Stage D: Integrate path, manner, and temporal contour with handshape and spatial organization. Produce complete classifier predicates where all movement components serve the depiction.

Sequence 4: Ground-figure integration

Stage A: Practice non-dominant hand holds. Establish ground elements and maintain them while the dominant hand produces other content.

Stage B: Practice figure movement relative to ground. Show approaching, departing, moving along, and interacting with ground elements.

Stage C: Practice ground establishment, figure action, and ground release in coordinated sequences. Build and dismantle ground-figure constructions appropriately.

Stage D: Integrate ground-figure constructions into extended discourse where ground-figure relationships are part of larger spatial and narrative structures.

Scenario-Based Practice

Scenario-based practice provides realistic contexts for integration. Rather than practicing isolated skills, the learner works through scenarios that require multiple skills in combination.

Narrative scenarios require sustained spatial organization, perspective management, and movement depiction. A story with multiple characters in multiple locations over time demands integrated deployment of everything covered in Parts One through Three.

Example scenario: A mystery story where the detective moves through a building, interviews suspects, and reconstructs a crime. The practice requires: establishing the building layout topographically, tracking character loci syntactically, shifting into character perspective for interviews, using handling classifiers to show the detective's actions, maintaining frame coherence across scene changes.

Descriptive scenarios require spatial frame establishment, SASS deployment, and entity classifier coordination. Describing a complex object, environment, or system demands integrated use of descriptive resources.

Example scenario: Describing a new apartment to someone who will visit. The practice requires: establishing room layout, showing dimensions with SASS, placing furniture with entity classifiers, indicating traffic flow with movement, maintaining consistent orientation throughout.

Instructional scenarios require process depiction, step sequencing, and clear spatial organization.

Teaching someone how to do something demands integrated use of depicting resources.

Example scenario: Explaining how to parallel park. The practice requires: establishing the street layout, showing the car's starting position, depicting the sequence of movements with accurate paths and timing, showing the relationship between car movement and steering input.

Interpretive scenarios require real-time integration under the constraints of source material. Working from spoken or written sources demands integrating spatial and classifier skills with the additional demands of interpretation.

Example scenario: Interpreting a witness description of an accident. The practice requires: establishing the scene from the witness's description, placing referents accurately, showing movements as described, maintaining precision appropriate to legal context.

Complexity Scaling

Integration practice should scale complexity appropriately. Too simple and the practice does not prepare for real demands; too complex and the learner is overwhelmed.

Referent scaling adjusts the number of referents to be tracked. Begin with two referents, which the textbook model handles easily. Progress to three, then four, then five. At each level, maintain the practice until the level is comfortable before adding more.

Duration scaling adjusts how long the integration must be sustained. Begin with short productions: one minute, two minutes. Progress to longer productions: five minutes, ten minutes, thirty minutes. Sustained integration is more demanding than brief integration.

Cognitive load scaling adjusts the demands beyond spatial and classifier management. Begin with familiar content that requires minimal comprehension effort. Progress to unfamiliar content that requires understanding while also managing spatial production. Progress to real-time interpretation where comprehension and production must occur simultaneously.

Precision scaling adjusts the accuracy required. Begin with conversational standards where minor errors are acceptable. Progress to professional standards where precision matters. Progress to high-stakes contexts where errors have consequences.

Feedback and Review Cycles

Integration practice requires feedback to be effective. Without feedback, the learner may develop fluency in producing errors.

Self-review uses recordings to evaluate one's own production. After integrated practice, review the recording with analytical attention. Check spatial frame maintenance, locus consistency, perspective clarity, classifier appropriateness, movement accuracy. Note areas needing work.

Peer review uses practice partners to provide external feedback. A partner watching live or reviewing a recording can identify errors the producer missed. Structured peer review uses the error categories from Chapter 15 to focus observation.

Expert review uses fluent signers or instructors to evaluate production. Expert reviewers can identify not just errors but stylistic weaknesses, missed opportunities, and developmental priorities.

Comparative review compares the learner's production to model productions. How would a fluent signer handle this scenario? What spatial choices did they make? How does the learner's production differ? This comparison reveals both errors and alternative approaches.

Feedback should be specific, behavioral, and actionable. "That was confusing" is not useful feedback. "Your locus for John drifted from left to center during the second scene" is useful feedback. It identifies what happened, where it happened, and implies what to work on.

Practice Environments

The environment for integration practice affects its effectiveness.

Solo practice allows self-paced work without the pressure of a viewer. The learner can stop, restart, and repeat without social awkwardness. However, solo practice lacks interactive feedback and may not prepare for the demands of real communication.

Partner practice provides a viewer who can signal comprehension or confusion. The partner does not need to be a fluent signer; any viewer who attends to the signing provides feedback through their comprehension. Partner practice introduces social and communicative pressure that more closely resembles real use.

Group practice provides multiple viewers and possibly multiple practitioners. Group settings can include structured exercises (everyone practices the same scenario), peer feedback (group members evaluate each other), and collective problem-solving (discussing challenging scenarios together).

Real-world practice uses actual communication situations for skill development. This might be low-stakes (signing with friends who sign), medium-stakes (interpreting in educational settings), or high-stakes (interpreting in legal or medical settings). Real-world practice provides authentic feedback but does not allow for stopping and repeating.

Simulated high-stakes practice creates artificial high-stakes conditions. Role-playing legal depositions, medical consultations, or technical lectures provides practice with demanding content under realistic pressure without actual consequences for errors.

Balancing Component and Integration Practice

Effective development balances component practice and integration practice. Neither alone is sufficient.

Component practice remains necessary even at advanced levels. When integration practice reveals a specific weakness, targeted component practice can address that weakness more efficiently than continued integration practice. A learner who keeps losing locus consistency during extended narratives might benefit from returning to locus drills before attempting more integration practice.

Integration practice must increase as skills develop. A beginner might spend 80% of practice time on components and 20% on integration. An advanced learner might spend 20% on components and 80% on integration. The goal is always fluent integrated performance, and practice should progress toward that goal.

Diagnosis guides allocation. Error analysis (Chapter 15) identifies whether problems are component-level (the skill is not available when needed) or integration-level (the skills are available but do not coordinate properly). Component-level problems need component practice; integration-level problems need integration practice.

Integration Benchmarks

Benchmarks help learners assess their progress in integration.

Fluency benchmark: Can you sustain integrated production for five minutes without breakdown? For fifteen minutes? For thirty minutes? The ability to maintain integration over extended duration indicates developing automaticity.

Complexity benchmark: How many referents can you track while maintaining other demands? How many perspective shifts can you manage in a single narrative? What level of content complexity can you handle while maintaining spatial accuracy? The ability to handle greater complexity indicates developing capacity.

Pressure benchmark: Can you maintain integration under time pressure? Under cognitive load? Under social pressure? The ability to maintain integration under challenging conditions indicates robust skill development.

Accuracy benchmark: What level of precision can you maintain during integrated production? Conversational? Professional? High-stakes? The ability to maintain precision during integration indicates developing control.

These benchmarks are not pass/fail tests but reference points for self-assessment and goal-setting.

Sample Practice Session Structure

A practice session might be structured as follows:

Warm-up (5-10 minutes): Review key component skills that will be relevant to the session's integration work. Locus drills, perspective shifts, movement patterns. Brief, focused, preparing the component skills for integrated use.

Integration exercise (20-30 minutes): Work through a scenario or set of scenarios that require integrated skill deployment. Record the practice for later review. Push slightly beyond comfortable complexity to promote development.

Immediate self-review (5-10 minutes): Review the recording with analytical attention. Identify errors and successes. Note patterns.

Targeted component work (5-10 minutes): Based on the review, practice specific components that showed weakness. Return to targeted drills briefly to address problems that emerged.

Second integration attempt (10-15 minutes): Attempt the same or a similar scenario again, applying what was learned from the review. Note whether the targeted component work improved the integrated performance.

Reflection and planning (5 minutes): Identify what to work on next. Set goals for the next session.

This structure balances integration and component work within a single session, uses feedback to guide practice, and promotes reflective development.

Conclusion

Integrated practice builds toward fluent performance by combining components into progressively more complex wholes. Progressive integration sequences add complexity gradually. Scenario-based practice provides realistic contexts. Complexity scaling adjusts demands appropriately. Feedback and review cycles ensure that practice improves performance.

Balancing component and integration practice, using appropriate practice environments, and tracking progress against benchmarks support effective development. Sample session structures illustrate how these principles translate into actual practice.

The next and final chapter addresses assessment and continuing development: how to evaluate classifier and spatial competence and how to sustain development beyond initial training.

0.36 Chapter Seventeen

0.36.1 Assessment and Continuing Development

A signer completes an interpreter training program. The coursework addressed classifier predicates and spatial grammar. The practice sessions built toward integration. The assessments confirmed competence at the program's expected level. Now what?

The signer enters professional practice and discovers that the demands exceed what training prepared. Complex spatial content in legal depositions, intricate anatomical explanations in medical consultations, abstract process descriptions in technical settings. Each challenge reveals gaps between current competence and required performance. Development must continue.

This final chapter addresses assessment and continuing development. We examine how classifier and spatial competence can be evaluated, both for certification purposes and for self-directed growth. We present frameworks for continuing development beyond initial training, addressing the reality that mastery is not achieved but approached through ongoing effort.

The Nature of Spatial and Classifier Competence

Competence in classifier predicates and spatial grammar is not a single ability but a constellation of related capacities.

Receptive competence is the ability to understand classifier predicates and spatial grammar when produced by others. This includes recognizing classifier types, tracking spatial reference, interpreting perspective shifts, and comprehending movement meanings. Receptive competence develops through exposure to fluent signing and through analytical attention to what fluent signers do.

Productive competence is the ability to produce classifier predicates and spatial grammar appropriately. This includes selecting appropriate classifiers, establishing and maintaining spatial reference, managing perspective, and generating meaningful movement. Productive competence develops through practice, feedback, and refinement.

Metalinguistic competence is the ability to analyze and discuss classifier predicates and spatial grammar. This includes knowing terminology, understanding theoretical frameworks, and being able to explain why particular choices are appropriate or problematic. Metalinguistic competence develops through study and reflection.

Strategic competence is the ability to deploy classifier and spatial resources effectively for communicative purposes. This includes knowing when classifiers are appropriate, choosing among spatial strategies, and adapting to context. Strategic competence develops through experience and through observing how skilled signers make choices.

These competencies are related but separable. A signer might understand classifiers well (receptive) but struggle to produce them (productive). A signer might produce classifiers effectively (productive) without being able to explain what they are doing (metalinguistic). A signer might know the theory (metalinguistic) without knowing how to apply it strategically (strategic).

Comprehensive assessment addresses all four competencies. Comprehensive development builds all four.

Assessment Approaches

Assessment of classifier and spatial competence uses various approaches depending on purpose and context.

Performance assessment evaluates what the signer can do in realistic conditions. The signer produces content that requires classifier and spatial resources. Evaluators judge the production for accuracy, appropriateness, fluency, and effectiveness.

Performance assessment is ecologically valid: it tests what matters in actual use. However, performance assessment can be resource-intensive (requiring evaluators, recording, analysis) and may not reveal why problems occur or what specifically needs improvement.

Analytical assessment evaluates the signer's understanding of classifier and spatial systems. Written or signed responses demonstrate knowledge of categories, principles, and appropriate use. Analytical assessment can reveal gaps in understanding that performance assessment might miss.

Analytical assessment is efficient and can address metalinguistic competence directly. However, analytical knowledge does not guarantee production ability. A signer who knows the theory might still struggle in practice.

Error analysis assessment examines the signer's errors to identify patterns and diagnose developmental needs. Rather than scoring overall performance, this approach categorizes errors (using frameworks like those in Chapter 15) to identify specific areas needing attention.

Error analysis is diagnostic rather than evaluative. It answers the question "what needs work?" rather than "how good is this?" This makes it valuable for developmental purposes but less useful for certification or summative evaluation.

Portfolio assessment collects samples of the signer's work over time, demonstrating development and current capability. The portfolio might include recordings of increasingly complex productions, self-analyses of strengths and weaknesses, and evidence of professional-context performance.

Portfolio assessment captures development trajectory and contextualizes performance. It allows evaluation of both process and product. However, portfolios are time-intensive to compile and evaluate.

Assessment Criteria

Assessment requires criteria: standards against which performance is judged. Different criteria emphasize different aspects of competence.

Accuracy criteria ask whether the production is correct. Are classifiers appropriate for their referents? Are spatial loci consistent? Are movements meaningful? Accuracy is relatively objective and essential:

inaccurate production is problematic regardless of other qualities.

Fluency criteria ask whether the production flows naturally. Is the pace appropriate? Are transitions smooth? Does the production feel effortful or easy? Fluency indicates automaticity and integration. Accurate but halting production suggests incomplete skill development.

Appropriateness criteria ask whether the production fits the context. Is the level of precision appropriate? Is the register appropriate? Are the choices strategic for this situation? Appropriateness is context-dependent and requires judgment.

Effectiveness criteria ask whether the production achieves its purpose. Does the viewer understand? Is the communication successful? Effectiveness is the ultimate criterion but can be influenced by factors beyond the signer's spatial and classifier choices.

Comprehensive assessment addresses multiple criteria. A production might be accurate but disfluent, fluent but inappropriate, appropriate but ineffective. Each pattern suggests different developmental needs.

Self-Assessment

Self-assessment is essential for continuing development because it does not require external evaluators and can be ongoing.

Self-monitoring during production provides real-time self-assessment. The signer notices errors, uncertainties, and successes as they occur. This monitoring requires attention capacity and develops with practice.

Recording and review allows self-assessment after production. The signer watches their own work with analytical attention, applying assessment criteria and error categories. This review requires honesty: the temptation to overlook problems or overestimate successes undermines the value.

Comparison to models uses fluent signer productions as benchmarks. How does your production compare? What do fluent signers do that you do not? What choices do they make that differ from yours? Model comparison reveals both errors and alternatives.

Tracking over time assesses development trajectory. Are you improving? In what areas? What problems persist? Longitudinal self-assessment reveals patterns that single-instance assessment cannot.

Self-assessment is limited by the signer's own knowledge and perspective. Errors the signer does not recognize cannot be self-corrected. External feedback complements self-assessment by revealing blind spots.

Certification and Credentialing

For interpreters, formal assessment connects to certification and credentialing. Various organizations assess interpreter competence, including classifier and spatial dimensions.

National certification (such as RID certification in the United States) involves performance assessment of interpretation skills. Classifier and spatial competence contribute to overall interpretation quality but are not typically assessed as separate dimensions.

Specialist certification (such as legal or medical interpreter certification) involves assessment of performance in specialized contexts. The precision requirements discussed in Part Four are particularly relevant here.

Educational assessment in interpreter training programs evaluates students against program outcomes.

Programs vary in how explicitly they assess classifier and spatial competence versus assessing overall interpretation performance.

The relationship between assessment and certification creates stakes that affect how signers approach development. Certification assessment is typically summative (did you pass?) rather than formative (what do you need to work on?). Signers benefit from separating certification preparation from developmental self-assessment.

Continuing Development Frameworks

Development does not end with certification or program completion. Mastery of classifier predicates and spatial grammar continues to deepen with experience and deliberate effort.

Maintenance practice prevents skill decay. Skills that are not used weaken over time. Signers who do not regularly use complex classifier constructions may find them less accessible when needed. Regular practice, even brief, maintains readiness.

Expansion practice extends capability to new domains. A signer comfortable with classifier use in narrative might work to extend that competence to technical explanation or medical description. Each domain presents characteristic challenges that require specific practice.

Refinement practice improves the quality of existing skills. A signer who can manage perspective shifts might work to make those shifts smoother, more subtle, or more strategically deployed. Refinement addresses nuance and elegance beyond basic correctness.

Integration practice continues to build fluency with combined skills. As new challenges arise, they reveal integration gaps that practice can address. The integration frameworks from Chapter 16 remain relevant throughout professional development.

Learning from Performance

Professional performance provides learning opportunities that deliberate practice cannot replicate.

Challenging assignments push the signer beyond comfortable competence. When an assignment requires spatial or classifier skills at the edge of capability, successful completion expands capability. Even unsuccessful performance provides diagnostic information.

Viewer feedback in professional contexts is often implicit but informative. A viewer who asks for clarification, looks confused, or misunderstands reveals production problems. Attending to viewer responses supports performance improvement.

Reflection on assignments extracts learning from experience. After a challenging assignment, the signer considers: What went well? What was difficult? What would I do differently? This reflection transforms experience into development.

Observation of peers reveals alternatives and possibilities. Watching other interpreters or signers handle challenging content shows approaches the observer might not have considered. Peer observation expands the repertoire of available strategies.

Mentorship and Feedback

Development accelerates with guidance from more experienced practitioners.

Formal mentorship pairs developing signers with experienced mentors who provide feedback, modeling, and advice. Effective mentorship for classifier and spatial development requires mentors who can articulate what they do and analyze what mentees produce.

Peer feedback provides perspectives from colleagues at similar developmental levels. While peer feedback lacks the expertise of mentor feedback, it can be more available and less intimidating. Structured peer feedback using specific criteria and error categories improves its usefulness.

Expert consultation addresses specific challenges that general mentorship might not cover. A signer struggling with medical spatial description might seek consultation from an interpreter who specializes in medical settings. Targeted consultation addresses targeted needs.

Workshops and continuing education provide structured learning opportunities beyond initial training. Workshops specifically addressing classifier predicates, spatial grammar, or professional context demands extend formal education into professional development.

Developmental Trajectories

Development follows trajectories from novice toward expert, though the trajectory is not linear and varies among individuals.

Novice signers are learning basic forms and building initial competence. Classifier handshapes, spatial locus establishment, and perspective basics are being acquired. Errors are frequent. Production is effortful and slow.

Intermediate signers can produce basic classifier constructions and manage spatial reference in simple contexts. Errors decrease for familiar content but increase with complexity. Integration is partial; component skills are available but do not always coordinate smoothly.

Advanced signers handle complex content with reasonable fluency. Multiple referents, perspective shifts, and extended discourse are manageable. Errors occur but are recognized and corrected. Strategic choices are made deliberately.

Expert signers demonstrate fluent, flexible, and strategic deployment of classifier and spatial resources. Complex content is handled without visible effort. Choices are appropriate to context. Errors are rare and quickly repaired. The signer can also mentor others.

These stages are descriptive, not prescriptive. Individual signers may be at different stages for different aspects of competence. Development is uneven, and targeted practice can accelerate progress in specific areas.

Sustaining Development

Long-term development requires sustained commitment and structures that support ongoing effort.

Goal setting provides direction. What specific aspects of classifier or spatial competence do you want to develop? Goals should be specific enough to guide practice and assess progress.

Practice routines create regular opportunities for development. Brief but consistent practice is often more effective than occasional intensive effort. Building practice into professional routine (warm-ups before assignments, review after assignments) embeds development in work.

Community engagement provides motivation and resources. Engaging with other signers, participating in professional organizations, and contributing to the field sustains commitment through connection.

Reflective practice makes experience educative. Without reflection, experience may simply repeat rather than build. Regular reflection on performance, challenges, and growth transforms practice into learning.

Documentation tracks development over time. Recording performances, maintaining error logs, and keeping development journals creates evidence of progress and identifies persistent challenges.

The Limits of Mastery

Mastery in classifier predicates and spatial grammar is not a destination but a direction. Even expert signers encounter challenges. New domains, unusual content, extreme precision requirements, and innovative uses of spatial resources all present opportunities for continued growth.

The appropriate stance is one of perpetual development: always working to improve, never assuming arrival. This stance is not self-critical but realistic. The complexity of classifier and spatial systems means there is always more to learn, more subtlety to achieve, more strategic deployment to develop.

This perpetual development is not burden but opportunity. The field rewards continued growth. Communication becomes more effective. Professional work becomes more satisfying. The craft deepens with practice.

Conclusion

Assessment of classifier and spatial competence addresses receptive, productive, metalinguistic, and strategic dimensions. Performance assessment, analytical assessment, error analysis, and portfolio approaches serve different purposes. Self-assessment supports ongoing development; formal assessment connects to certification.

Continuing development uses maintenance, expansion, refinement, and integration practice. Learning from performance, mentorship, and community engagement sustain development over professional lifetimes. Developmental trajectories move from novice through intermediate and advanced toward expertise, though the movement is uneven and individual.

The stance of perpetual development recognizes that mastery is approached but not achieved. This recognition is not discouraging but liberating: there is always more to learn, and the learning is itself rewarding.

This book has presented classifier predicates and spatial grammar as systematic, learnable, and endlessly deep. The systems are systematic: they have principles that can be articulated and applied. They are learnable: practice guided by understanding produces improvement. They are endlessly deep: mastery reveals new challenges at every level. May your development continue.

0.37 Appendices

0.38 Appendix A

0.38.1 Notation System Quick Reference

This appendix consolidates the notation conventions used throughout this book. The system extends the Arm Angles framework to accommodate classifier predicates, spatial reference, and perspective marking. The notation is descriptive, not prescriptive: it provides a way to write about signing, not a way to write signing itself.

0.38.2 Notation House Rules

Before examining specific notation elements, these five rules govern all notation in this book:

Rule 1: Square brackets contain all predicate information. Everything after the classifier handshape goes inside brackets: locus, path, manner, temporal contour, orientation, and modifiers.

Rule 2: Comma separation inside brackets. Multiple elements within brackets are separated by commas: `CL:3[a→b, PATH:arc, SLOW, DURATIVE]`

Rule 3: Locus letters for discourse referents; zone labels for spatial placement. Use lowercase letters (a, b, c) when a referent has been established and will be referenced again. Use uppercase zone labels (LEFT-NEAR-HIGH) for one-off spatial descriptions or when you explicitly do not want to commit to a reusable locus.

Rule 4: Mode and viewpoint tags precede the construction. When specifying topographic/syntactic mode or observer/character viewpoint, place these tags in brackets before the classifier notation: `[OV][TOPO] CL:3[a→b]`

Rule 5: Non-dominant hand notation comes first in two-handed constructions. Write ground before figure: `ND:CL:B[GROUND, HOLD] + D:CL:3[a→b]`

Note on Self-Containment: This appendix is sufficient to decode all notation in this volume. Readers familiar with *Arm Angles in American Sign Language* will recognize the PROX/MID/DIST terminology; readers without that background can use this appendix directly. The *Arm Angles* volume provides deeper exploration of articulation patterns but is not required for understanding this book's notation.

0.38.3 Classifier Notation

Basic Classifier Indication

CL:handshape

The prefix "CL:" indicates a classifier handshape. Common classifiers include:

Entity classifiers: - `CL:3`: vehicle classifier (3-handshape) - `CL:1`: upright person/entity (1-handshape) - `CL:V`: legs/person walking (V-handshape) - `CL:bent-V`: four-legged animal (bent-V handshape) - `CL:Y`: aircraft with wings (Y-handshape)

Surface and volume classifiers: - `CL:B`: flat surface (B-handshape) - `CL:5`: spread surface (5-handshape) - `CL:C`: cylindrical object/curved surface (C-handshape) - `CL:S`: compact object (S-handshape) - `CL:claw`: irregular volume (claw handshape); alternate notation: CL:bent-5

Handling classifiers: - `CL:C`: cylindrical grip (C-handshape) - `CL:S`: fist grip (S-handshape) - `CL:F`: small object precision grip (F-handshape) - `CL:A`: compact handling (A-handshape) - `CL:open-A`: relaxed grip (open-A handshape) - `CL:bent-B`: edge handling (bent-B handshape)

Linear object classifiers: - `CL:G`: thin linear object (G-handshape) - `CL:I`: very thin linear object (I-handshape) - `CL:X`: hooked/bent linear (X-handshape)

Note: The same handshape may appear in multiple categories because category membership depends on deployment, not handshape identity.

0.38.4 Predicate Notation (Inside Brackets)

All information about location, movement, manner, and orientation goes inside square brackets after the classifier.

Minimal Form (location only)

`CL:3[a]`: vehicle at locus a

Path Notation

`CL:3[a→b]`: vehicle moves from locus a to locus b

When both endpoints are established loci, use letters with arrow. When endpoints are spatial zones, use zone labels:

`CL:3[LEFT→RIGHT]`: vehicle moves from left to right

Path Shape

Use the PATH: key when specifying trajectory shape:

- `PATH:direct`: straight line (default if unspecified)
- `PATH:arc`: curved path
- `PATH:zigzag`: irregular path
- `PATH:circle`: circular/return path
- `PATH:spiral`: spiraling path

Example: `CL:3[a→b, PATH:arc]`

Orientation

Use FACING> to specify direction:

- `FACING>left`, `FACING>right`
- `FACING>forward`, `FACING>back`

- `FACING>up`, `FACING>down`
  Example: `CL:3[a, FACING>right]`: vehicle at locus a, facing right

Manner Tokens

Manner tokens are uppercase, comma-separated, without keys:
Speed: - `SLOW`, `FAST`
Quality: - `SMOOTH`, `JERKY` - `TENSE`, `RELAXED` - `CAREFUL`, `CARELESS`
Effort (from Arm Angles framework): - `EFFORT+`: visible physical effort - `EFFORT-`: ease, minimal effort
Example: `CL:3[a→b, PATH:arc, SLOW, TENSE]`

Temporal Contour Tokens

Aspectual character of movement:
- `PUNCTUAL`: single, brief event
- `DURATIVE`: extended over time
- `ITERATIVE`: repeated
- `INCEPTIVE`: emphasis on beginning
- `TERMINATIVE`: emphasis on ending
  Example: `CL:3[a→b, SLOW, DURATIVE]`

Arm Involvement (Arm Angles Integration)

Specify which joints are engaged:
- `PROX`: proximal (shoulder-level articulation)
- `MID`: middle (elbow-level articulation)
- `DIST`: distal (wrist/finger articulation)
  Intensity modifiers: - `PROX+`, `MID+`, `DIST+`: salient/marked involvement - `PROX-`, `MID-`, `DIST-`: minimized involvement
  Example: `CL:3[a→b, PATH:arc, SLOW, PROX+]`: large, shoulder-involved arc movement

0.38.5 Spatial Locus Notation

Locus Letters (for discourse referents)

Lowercase letters indicate established, reusable loci:
- a, b, c, d…: primary referent loci
- a1, a2, a3…: sub-loci for related referents
  Elevation modifiers: - a^: elevated locus - a_: lowered locus

Spatial Zones (for one-off placement)

Uppercase multi-axis labels for spatial regions:

Lateral axis: LEFT, CENTER, RIGHT **Sagittal axis:** NEAR, MID, FAR **Vertical axis:** HIGH, NEUTRAL, LOW

Combined: `LEFT-NEAR-HIGH`, `RIGHT-FAR-LOW`

Locus Establishment

REFERENT[locus]

Example: `JOHN[a] MARY[b]`: John established at locus a, Mary at locus b

Reference to Established Locus

IX[locus] or simply the locus letter when context is clear

Example: `IX[a] WALK IX[b]`: the one at a walks to the one at b

0.38.6 Mode and Perspective Notation

Spatial Mode Tags

- `[TOPO]`: topographic mode (positions map real-world locations)
- `[SYN]`: syntactic mode (positions track referents without spatial mapping)

Viewpoint Tags

- `[OV]`: observer viewpoint
- `[CV]`: character viewpoint
- `[CV:name]`: character viewpoint, specific character

Perspective Transitions

- `[OV→CV]`: shift from observer to character viewpoint
- `[CV→OV]`: shift from character to observer viewpoint
- `[CV:John→CV:Mary]`: shift between characters

Partial Perspective

- `[CV:partial]`: partial character viewpoint, limited embodiment
- `[OV+CV:face]`: observer viewpoint with character facial expression

Constructed Action Notation

- `CA:full`: full constructed action, complete embodiment

- `CA:partial`: partial constructed action, limited embodiment
- `CA:face`: constructed action limited to facial expression
- `CA:hands`: constructed action showing character's manual action

0.38.7 Ground-Figure Notation

Hand Role Specification

- `ND:`: non-dominant hand
- `D:`: dominant hand

Ground-Figure Construction

ND:ground + D:figure

The non-dominant hand information always comes first.

Examples:

`ND:CL:B[GROUND, HOLD] + D:CL:3[a→b]`

Surface as ground, vehicle moving across.

`ND:CL:C[GROUND, HOLD] + D:CL:1[INTO]`

Container as ground, person entering.

Hold and Release Tokens

- `HOLD`: non-dominant hand maintains position
- `RELEASE`: non-dominant hand releases hold
- `CONTACT`: figure contacts ground

0.38.8 SASS Notation

Dimensional Specification

SASS:dimension(extent)

Examples: - `SASS:width(large)`: showing wide extent - `SASS:height(small)`: showing short height - `SASS:thickness(minimal)`: showing thin dimension - `SASS:diameter(medium)`: showing circular extent

Approximate Measurement

SASS:dimension(~measurement)

Examples: - `SASS:length(~6inches)` - `SASS:width(~2feet)`

Shape Tracing

SASS:shape

Examples: - `SASS:rectangular`: tracing rectangular outline - `SASS:circular`: tracing circular outline - `SASS:irregular`: tracing irregular contour

---

0.38.9 Scale and Precision Indicators

Scale

- `SCALE:reduced`: smaller than life-size (typical for observer viewpoint)
- `SCALE:life`: approximately life-size
- `SCALE:enlarged`: larger than actual

Precision

- `PRECISE`: exact, confident placement
- `APPROX`: approximate, uncertain placement
- `VAGUE`: deliberately imprecise

0.38.10 Complete Notation Examples

Simple Predicate

`CL:3[a→b]`

Vehicle moves from locus a to locus b.

Expanded Predicate

`CL:3[a→b, PATH:arc, SLOW, DURATIVE, FACING>right, PROX+]`

Vehicle moves in an arc from a to b, slowly, over extended time, facing right, with shoulder-level involvement.

Two-Handed Construction with Mode/Viewpoint

```
[OV][TOPO] ND:CL:B[GROUND, FACING>up, HOLD]
+ D:CL:3[a→b, PATH:direct, SLOW]
```

Observer viewpoint, topographic mode: non-dominant hand holds flat surface facing up as ground; dominant hand moves vehicle classifier directly from a to b, slowly.

Perspective Shift

`[OV] CL:1[a] ... [OV→CV:a] CA:hands[HANDLE-STEERING-WHEEL, TENSE]`

Observer viewpoint: person at locus a. Shift to character viewpoint (becoming the person at a): constructed action showing hands handling steering wheel with tension.

0.38.11 Advanced Cases

Some depicting constructions involve phenomena beyond the basic notation patterns. This section addresses handshape change, orientation change, two independent moving entities, and layered representation.

Handshape Change Within a Predicate

Some depicting verbs involve handshape aperture change during production (e.g., opening or closing). Notate the starting handshape outside brackets, with the change specification inside:

`CL:S[a, HS-CHANGE:S→5-open]`: fist at locus a opens to spread hand

Alternatively, when the change is the primary event:

`CL:S[HS-CHANGE:open]`: fist opens (handshape change is the predicate)

Orientation Change During Movement

When orientation changes during a path, use arrow notation for the FACING value:

`CL:3[a→b, FACING>left→forward]`: vehicle moves from a to b while turning from facing left to facing forward

Two Independent Moving Entities

When both hands represent separate moving entities (rather than ground-figure constructions), notate each hand's predicate:

`ND:CL:3[a→b, PATH:direct] + D:CL:3[c→d, PATH:arc]`

Two vehicles moving independently.

Layered Representation (Dual Mode/Scale)

When one articulator operates in token space while another operates in surrogate space (or when observer-frame elements combine with character-viewpoint elements), notate each layer:

```
[OV] ND:CL:B[GROUND, HOLD]
+ [CV] D:CA:hands[HANDLE-DOOR-HANDLE, TENSE]
```

Non-dominant hand holds observer-viewpoint ground while dominant hand shows character-viewpoint handling.

Note on per-articulator tags: In layered constructions, mode and viewpoint tags may apply to individual articulators rather than to the construction as a whole. This differs from simple constructions where a single tag governs the entire predicate. When analyzing layered representations, specify which articulator operates in which mode/viewpoint.

These advanced cases arise in complex discourse. The notation extensions preserve the core principles while accommodating phenomena that simple predicates do not exhibit.

0.38.12 Notation Principles

Readability over completeness: Not every parameter need be notated. Include what is relevant to the point being made.

Consistency within context: Whatever conventions are adopted should be maintained throughout a given discussion.

Descriptive, not prescriptive: The notation describes what occurs in signing; it does not specify the only way to sign something.

Combinable elements: Notation elements can be combined as needed to capture complex constructions.

Context-dependent interpretation: Some notation relies on context established earlier in a discussion. Refer back to establishment when referencing loci or frames.

This notation system serves analysis and discussion. Fluent signing does not involve conscious application of notation; the notation exists to make explicit what skilled signers do intuitively.

0.39 Appendix B

0.39.1 Practice Exercises by Chapter

This appendix provides structured practice exercises corresponding to each chapter. Exercises are designed for individual practice, partner work, or classroom use. Recording and reviewing your work is strongly recommended for all exercises.

0.39.2 Part One: Theoretical Foundations

Chapter 1: Beyond the Basic Taxonomy

Exercise 1.1: Feature Analysis Select ten common objects (cup, car, bicycle, snake, book, tree, airplane, chair, ball, river). For each, identify the semantic features that would govern classifier selection: dimensionality (linear, planar, volumetric), animacy, rigidity, and canonical orientation. Note which features are clear and which are ambiguous.

Exercise 1.2: Novel Referent Classification Consider these novel or uncommon referents: drone, skateboard, jellyfish, accordion, hammock. Analyze each by semantic features and propose appropriate classifier representations. Compare your proposals with a partner and discuss differences.

Exercise 1.3: Polymorphism Exploration Select three referents that can be represented with different classifier types (e.g., person, car, tree). Produce each referent using at least two different classifier approaches. Identify what communicative purpose each approach serves best.

Chapter 2: The Cognitive Architecture of Classifier Selection

Exercise 2.1: Mental Model Building Listen to or read a description of a room layout with furniture. Without signing, mentally construct the spatial arrangement. Then describe the room in ASL, establishing loci for each piece of furniture. Check your description against the original. Where did your mental model match? Where did it differ?

Exercise 2.2: Spatial Memory Drills Establish five loci for five referents (five family members, five buildings, five vehicles). After establishment, perform a distractor task (fingerspell the alphabet, count to 50). Then return to each locus in sequence, demonstrating that you remember which referent is where. Increase difficulty by adding more referents or longer distractor tasks.

Exercise 2.3: Perspective Identification Watch five minutes of ASL narrative by a fluent signer. Identify each instance of observer viewpoint and character viewpoint. Note the transitions between them. What markers signal the shifts?

Chapter 3: Topographic Space Versus Syntactic Space

Exercise 3.1: Mode Identification Watch interpreted content (legal, educational, narrative). Identify instances of topographic space (where positions represent actual locations) and syntactic space (where positions track referents without representing actual spatial relationships). Note any instances where mode seems unclear or mixed.

Exercise 3.2: Mode Commitment Describe a traffic accident scene in pure topographic mode: establish the intersection layout, place vehicles according to their actual positions, show movements that preserve spatial relationships. Then describe the same accident in pure syntactic mode: establish referents without spatial commitment, track who did what without representing where. Compare the two approaches.

Exercise 3.3: Mode Switching Practice a narrative that requires both modes. A deposition: the witness's description of the scene (topographic) and the parties involved (syntactic). Mark your mode transitions explicitly. Have a partner identify where you switch modes and whether the switches are clear.

0.39.3 Part Two: Spatial Anchoring Systems

Chapter 4: Establishing and Maintaining Spatial Loci

Exercise 4.1: Locus Precision Establish a locus for a referent at a specific location (e.g., "right, at mid-height, mid-distance"). Return to that exact locus after producing 30 seconds of other content. Record yourself and check: did you return to the same location, or did drift occur?

Exercise 4.2: Multi-Referent Tracking Tell a story involving four characters. Establish each at a distinct locus. Maintain those loci through at least two minutes of narrative involving interactions among all four characters. Have a partner track whether your loci remain consistent.

Exercise 4.3: Locus Recycling Practice a narrative where referents enter and exit. When a referent departs, their locus becomes available for a new referent. Manage at least three locus recyclings in a single narrative while maintaining clarity about who occupies which position at each point.

Exercise 4.4: Physical Anchoring Practice using your non-dominant hand to physically hold a referent's position while your dominant hand produces other content. Maintain the hold for extended periods, releasing only when discourse structure permits.

Chapter 5: Spatial Coherence Across Extended Discourse

Exercise 5.1: Chunked Narrative Tell a ten-minute story organized into distinct episodes. Each episode should have its own spatial frame. Practice clear frame boundaries between episodes while maintaining connections (anchor referents, consistent characters) across boundaries.

Exercise 5.2: Flashback Management Tell a narrative that includes a flashback. The flashback involves different spatial organization than the main narrative. Practice establishing the flashback frame, maintaining the main narrative frame, and returning cleanly to the main narrative.

Exercise 5.3: Digression and Return Practice academic-style discourse that includes digressions. Establish a spatial frame for the main topic. Digress to an example or tangent with its own spatial organization. Return to the main topic with the original frame intact. Increase digression length and complexity.

Exercise 5.4: Spatial Repair Deliberately introduce a spatial error (place a referent at the wrong locus, reverse two loci). Practice smooth repair: implicit correction (just using the correct locus), explicit correction ("let me fix that"), and frame reset (starting fresh). Which repair strategy works best for which error type?

Chapter 6: Perspective and Viewpoint in Spatial Constructions

Exercise 6.1: Pure Observer Practice Describe a five-minute scene entirely in observer viewpoint. Resist any shift into character perspective. Use only entity classifiers and observer-appropriate forms. Note where the temptation to shift into character viewpoint arises.

Exercise 6.2: Pure Character Practice Narrate a five-minute experience entirely in character viewpoint. Become the character throughout. Use handling classifiers, constructed action, and egocentric reference. Note where observer viewpoint would be more efficient.

Exercise 6.3: Transition Drills Practice rapid alternation between observer and character viewpoint. Describe a character's action from outside, shift into the character's experience, shift back outside. Make each transition as clear as possible. Gradually speed up the alternations while maintaining clarity.

Exercise 6.4: Dialogue Scene Practice a dialogue scene between two characters. Shift fully into each character when they speak. Manage the spatial rotation that character switching requires. Practice with characters positioned left/right, then with characters positioned front/back.

0.39.4 Part Three: Classifier Predicates in Depth

Chapter 7: Entity Classifiers and Semantic Features

Exercise 7.1: Feature-Based Selection Given a list of referents, justify your classifier selection based on semantic features. Referents: canoe, eagle, worm, refrigerator, cloud, wheelchair, giraffe, envelope, chandelier, submarine. Explain your reasoning for each.

Exercise 7.2: Dimensionality Contrast Practice representing the same referent with classifiers emphasizing different dimensional features. A pen: linear (CL:1), cylindrical (CL:C handling). A building: volumetric block, planar facade. Note how the classifier choice affects what aspects of the referent are highlighted.

Exercise 7.3: Entity Classifier Movement Practice entity classifier predicates with varied movements. A vehicle: straight path, curved path, stopping, starting, parking, colliding. A person: walking straight, turning, approaching, departing, falling. Ensure movements are appropriate for the entity type.

Chapter 8: Handling Classifiers and Implied Objects

Exercise 8.1: Grip Analysis Hold ten different objects (cup, pen, book, phone, basketball, needle, hammer, plate, key, bag). For each, analyze your grip: hand configuration, finger involvement, thumb position, grip tightness. Produce handling classifiers that accurately represent each grip.

Exercise 8.2: Implied Object Identification Have a partner produce handling classifiers without naming the objects. Identify what object is implied by the grip, handling manner, and action. Discuss which grips clearly specify objects and which are ambiguous.

Exercise 8.3: Weight and Manner Practice handling the same object type with different properties. A box: light box, heavy box, fragile box. Notice how your grip, arm involvement, and movement manner change. Ensure these differences are visible in your classifier production.

Exercise 8.4: Two-Handed Handling Practice complex handling that requires both hands: opening a jar, carrying a tray, using scissors, threading a needle. Coordinate the hands appropriately for each action.

Chapter 9: Body Part Classifiers and Constructed Action

Exercise 9.1: Continuum Exploration Represent "a person walking" at five points along the classifier-to-constructed-action continuum: pure entity classifier (CL:V), entity with body lean, entity with face and body, partial constructed action, full constructed action. Identify what each level accomplishes.

Exercise 9.2: Non-Human Embodiment Practice constructed action for non-human characters: a dog, a bird, a fish, a robot, a tree in wind. Identify which body parts map to which aspects of the non-human entity. Discuss the limits of anthropomorphic representation.

Exercise 9.3: Head and Eye Classifiers Practice head and eye gaze as representational resources. A character looking around, searching, making eye contact, avoiding eye contact, reacting with head movement. Note how these body part classifiers integrate with facial expression.

Exercise 9.4: Perspective Mixing Practice narratives that move fluidly between entity classifiers (observer viewpoint) and constructed action (character viewpoint). A chase scene: show the chaser and chased with entity classifiers, become the chased character experiencing fear, return to observer viewpoint for the outcome.

Chapter 10: Size and Shape Specifiers

Exercise 10.1: Dimension Encoding Practice SASS constructions for objects of various sizes: a postage stamp, a book, a door, a wall, a football field. Calibrate your arm extension to represent different scales. Have a partner guess the approximate size from your SASS production.

Exercise 10.2: Shape Tracing Trace the outlines of various shapes: rectangle, circle, oval, triangle, L-shape, irregular polygon. Ensure your hand orientation and movement clearly indicate which dimension you are encoding at each moment.

Exercise 10.3: SASS Integration Describe objects using SASS before placing entity classifiers. A table: show dimensions with SASS, then represent with classifier. A building: show height and width, then represent its location. Practice smooth transitions from description to representation.

Exercise 10.4: Comparative SASS Practice comparisons using SASS. Show two objects of different sizes, side by side or in sequence. Show growth (something getting larger). Show shrinkage. Show gradual size variation across a range.

Chapter 11: Movement Morphology

Exercise 11.1: Path Vocabulary Practice producing distinct path shapes with classifier predicates: direct, arced (upward, downward, lateral), zigzag, spiral, complex (straight then turn then straight). Have a partner identify which path you produced.

Exercise 11.2: Manner Variation Practice the same path with different manners: slow/fast, smooth/-jerky, tense/relaxed, careful/careless, effortful/easy. Ensure the manner differences are clearly visible. Have a partner identify the manner from your production.

Exercise 11.3: Temporal Contour Practice the same basic action with different temporal contours: punctual (happened once, briefly), durative (continued over time), iterative (repeated). Show inception and termination emphasis. Ensure aspectual differences are clear.

Exercise 11.4: Integrated Movement Produce complete classifier predicates with specified path, manner, and temporal contour. A car driving slowly and carefully along a winding road for a long time. A person running fast and desperately in a straight line, then stopping suddenly. Combine all movement components.

0.39.5 Part Four: Precision Mapping in Professional Contexts

Chapter 12: Legal Settings and Spatial Accuracy

Exercise 12.1: Frame Establishment Using a real intersection familiar to you, or one described verbally by a partner (street names, compass directions, positions of relevant landmarks), establish a complete spatial frame in ASL before any action description. Practice making the frame maximally clear. Instructors may prepare intersection diagrams for classroom use, or students may use online mapping tools to obtain aerial views of actual intersections.

Exercise 12.2: Precision Matching Interpret testimony with varied precision levels. Some statements are specific (“exactly three feet”); some are vague (“somewhere around there”). Ensure your rendering matches the precision level of the source, neither inflating nor deflating.

Exercise 12.3: Frame Maintenance Under Load Render spatially complex testimony while managing cognitive load. Have someone read testimony to you at normal pace while you interpret, maintaining spatial frame throughout. Increase complexity until frame maintenance becomes difficult.

Exercise 12.4: Cardinal Direction Mapping Practice establishing compass orientations in signing space and maintaining them through extended testimony. North as away from signer (or another consistent mapping). Render movement directions accurately relative to your established compass.

Chapter 13: Medical Interpreting and Anatomical Precision

Exercise 13.1: Anatomical Reference Practice using your body as anatomical reference. Point to where the liver actually is (not where people casually gesture). Point to where different vertebrae are. Verify your anatomical knowledge is accurate enough for professional use.

Exercise 13.2: Orientation Terms Render explanations using anatomical orientation terms: superior/inferior, anterior/posterior, medial/lateral, proximal/distal. Combine fingerspelling the terms with spatial indication of their meaning.

Exercise 13.3: Pathology Depiction Practice explaining pathology: normal anatomy first, then abnormality. A herniated disc: show normal spine, show disc bulging and pressing on nerve. A tumor: show normal tissue, show abnormal growth and its location.

Exercise 13.4: Surgical Explanation Practice rendering surgical procedure explanations. Establish anatomy, show where incisions will be made, show what will be done inside, show closure. Use handling classifiers appropriately for surgical actions.

Chapter 14: Technical and Scientific Interpreting

Exercise 14.1: Mechanism Depiction Practice depicting a simple mechanism: a lever, a pulley, a gear system, a pump. Show the parts and how they interact. Show what happens when force is applied.

Exercise 14.2: Process Sequences Practice depicting processes with multiple stages. A manufacturing process: raw material → transformation → product. A chemical reaction: reactants → reaction → products. Show sequence, timing, and relationships.

Exercise 14.3: Abstract Structures Practice rendering abstract spatial structures: a hierarchy (organizational chart), a network (social connections), a sequence (timeline), a containment relation (categories). Map conceptual structure onto signing space.

Exercise 14.4: Scale Shifting Practice explanations that shift between scales. A chemistry demonstration: visible (beakers, color change) to molecular (invisible, schematic). An ecology lecture: landscape level to organism level to cellular level. Mark scale shifts clearly.

Chapter 15: Error Analysis and Self-Correction

Exercise 15.1: Error Recognition Watch recordings of your own signing. Using the error categories from this chapter (locus drift, frame collapse, perspective bleed, etc.), identify and categorize your errors. Track patterns across multiple recordings.

Exercise 15.2: Correction Practice Deliberately produce an error, then practice correcting it using different strategies: implicit correction, explicit correction, frame reset. Determine which correction strategy is smoothest for each error type.

Exercise 15.3: Self-Monitoring Under Load Practice monitoring your production while under cognitive load. Sign increasingly difficult content while maintaining awareness of your spatial and classifier accuracy. Note where your monitoring fails and why.

Exercise 15.4: Peer Feedback Protocol With a partner, practice structured peer feedback. One person signs; the other observes with attention to specific error categories. Provide specific, behavioral feedback. Switch roles. Calibrate your self-monitoring against external feedback.

0.39.6 Part Five: Synthesis and Application

Chapter 16: Integrated Practice Frameworks

Exercise 16.1: Progressive Complexity Practice a scenario at increasing complexity levels. Start with two referents, two loci, observer viewpoint only. Add referents, add perspective shifts, add ground-figure constructions, add extended duration. Build to maximum manageable complexity.

Exercise 16.2: Scenario Marathon Complete multiple scenarios in sequence without breaks: a narrative, a spatial description, a technical explanation, an interpreted segment. Maintain quality across scenario types. Build endurance for varied integrated demands.

Exercise 16.3: Timed Integration Practice scenarios with time constraints. Complete a spatial description in under two minutes. Complete a narrative in under five minutes. The time pressure reveals where your integration is not yet automatic.

Exercise 16.4: Full Session Structure Complete a full practice session following the structure in Chapter 16: warm-up, integration exercise, self-review, targeted component work, second attempt, reflection. Maintain this structure across multiple sessions and track development.

Chapter 17: Assessment and Continuing Development

Exercise 17.1: Self-Assessment Protocol Using the competency categories (receptive, productive, metalinguistic, strategic), assess your current level in each. Identify your strongest and weakest areas. Set specific development goals for your weakest areas.

Exercise 17.2: Benchmark Testing Test yourself against the benchmarks in Chapter 16: fluency (sustained duration), complexity (number of referents/shifts), pressure (cognitive load tolerance), accuracy (precision level). Document your current benchmark levels.

Exercise 17.3: Development Planning Create a six-month development plan. Identify specific skills to develop, practice activities to pursue, feedback sources to use, and benchmarks to achieve. Review and adjust the plan monthly.

Exercise 17.4: Peer Observation Observe a fluent signer handling challenging spatial content. Note their strategies: how they establish frames, manage perspective, select classifiers, execute movements. Identify techniques you can incorporate into your own practice.

0.39.7 Using These Exercises

Frequency: Regular brief practice is more effective than occasional marathon sessions. Fifteen minutes daily produces better development than two hours weekly.

Recording: Record yourself whenever possible. Review recordings with analytical attention. The gap between what you think you produced and what you actually produced is where learning happens.

Feedback: Seek external feedback to complement self-assessment. Peers, mentors, and fluent signers can identify errors and alternatives your self-monitoring misses.

Progression: Master easier exercises before attempting harder ones. Build component skills before demanding integration. Increase complexity gradually.

Application: Connect exercises to real use. Practice scenarios that resemble contexts where you actually sign. The transfer from practice to performance is easier when practice is realistic.

Documentation: Track your practice: what you worked on, what you learned, what remains challenging. This documentation supports long-term development planning.

0.40 Appendix C

0.40.1 Self-Assessment Rubrics

This appendix provides rubrics for self-assessment of classifier and spatial grammar competencies. Each rubric describes performance at four levels: Developing, Competent, Proficient, and Advanced. Use these rubrics to identify your current level and set development goals.

0.40.2 Rubric 1: Spatial Locus Management

Dimension: Establishing spatial loci accurately and maintaining them consistently throughout discourse.

Developing

- Establishes loci but positions are vague or inconsistent
- Loci drift noticeably during discourse, even for primary referents
- Struggles to maintain more than two simultaneous loci
- Returns to loci are approximate rather than precise
- Frequently loses track of which referent is at which locus

Competent

- Establishes loci with reasonable precision
- Maintains loci consistency for primary referents through short discourse segments
- Can manage three simultaneous loci with effort
- Some drift occurs during extended or complex content
- Recognizes when drift has occurred, though correction may be delayed

Proficient

- Establishes loci with clear precision
- Maintains loci consistency through extended discourse with minimal drift
- Can manage four or more simultaneous loci
- Returns to loci are precise and confident
- Self-monitors for drift and corrects quickly when it occurs

Advanced

- Locus establishment appears effortless and maximally clear
- Maintains perfect consistency through extended complex discourse
- Manages multiple loci without visible cognitive effort
- Uses locus precision strategically (precise when it matters, relaxed when appropriate)
- Models exemplary locus management that others can learn from

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0.40.3 Rubric 2: Spatial Frame Coherence

Dimension: Establishing and maintaining coherent spatial frames across discourse segments.

Developing

- Spatial frames are unclear or not consciously established
- Frame organization breaks down quickly under complexity
- Mixes topographic and syntactic modes without awareness
- Cannot sustain a frame through scene changes or digressions
- Frame errors accumulate without recognition

Competent

- Establishes spatial frames with conscious effort
- Maintains frames through moderate complexity and duration
- Distinguishes topographic from syntactic mode when prompted
- Can manage one frame boundary (scene change, flashback) with explicit effort
- Recognizes frame breakdowns after they occur

Proficient

- Establishes clear, efficient spatial frames
- Maintains frames through extended and complex discourse
- Consistently distinguishes and appropriately uses topographic and syntactic modes
- Manages multiple frame boundaries smoothly
- Monitors frame coherence during production and prevents most breakdowns

Advanced

- Frame establishment appears natural and efficient
- Maintains coherence through maximally complex discourse structures
- Shifts between modes strategically for communicative effect
- Frame management is invisible to viewers; the frame simply works
- Can teach frame management principles to others

0.40.4 Rubric 3: Perspective and Viewpoint Control

Dimension: Managing observer and character viewpoints appropriately and transitioning between them clearly.

Developing

- Perspective is often unclear or unmarked
- Mixes observer and character elements without awareness (perspective bleed)
- Transitions between perspectives are confusing
- Spatial reference errors occur when shifting into character viewpoint (rotation failure)

- Cannot sustain pure observer or pure character viewpoint for extended periods

Competent

- Can produce extended content in pure observer viewpoint
- Can produce extended content in pure character viewpoint
- Transitions between perspectives are marked but may be heavy-handed
- Some perspective bleed occurs during complex narratives
- Rotation adjustments during character viewpoint require conscious effort

Proficient

- Moves smoothly along the observer-character continuum
- Perspective transitions are clear without being intrusive
- Perspective bleed is rare and quickly corrected
- Manages multiple characters in character viewpoint with appropriate spatial rotation
- Uses perspective strategically to serve communicative goals

Advanced

- Perspective management appears effortless and perfectly calibrated
- Transitions are subtle yet clear; the viewer always knows the perspective
- Can maintain complex perspective mixing (partial embodiment, layered perspectives)
- Perspective choices consistently enhance the discourse
- Demonstrates mastery that serves as a model for others

0.40.5 Rubric 4: Classifier Selection and Use

Dimension: Selecting appropriate classifiers based on referent features and using them effectively.

Developing

- Limited classifier repertoire; relies on a few common classifiers
- Classifier selection sometimes mismatches referent features
- Cannot articulate why one classifier is more appropriate than another
- Classifier handshapes may be inaccurate
- Movement inappropriate for entity type (vehicle hopping, person rolling)

Competent

- Adequate classifier repertoire for common referents
- Selection generally appropriate for referent features
- Can explain basic selection principles

- Handshapes are accurate for familiar classifiers
- Movement generally appropriate, occasional mismatches

Proficient

- Extensive classifier repertoire including novel applications
- Selection consistently appropriate, based on semantic feature analysis
- Can articulate selection reasoning using linguistic frameworks
- Produces all classifier handshapes accurately
- Movement always appropriate; manner conveys intended meaning

Advanced

- Deploys classifiers productively for any referent, including unfamiliar ones
- Selection is optimal, not just appropriate, for communicative context
- Demonstrates deep understanding of classifier systems
- Innovates appropriately when conventional classifiers do not fit
- Classifier use is a model of fluent, strategic deployment

0.40.6 Rubric 5: Movement Morphology

Dimension: Producing classifier movements with appropriate path, manner, and temporal contour.

Developing

- Paths are imprecise; unclear whether straight or curved, direct or indirect
- Manner variation is limited; most movements have similar quality
- Temporal contour is not differentiated; most movements appear punctual
- Movement does not clearly convey the intended action
- Arm involvement does not correlate with depicted effort or scale

Competent

- Paths are clear and intentional
- Manner variation is present; can produce fast/slow, smooth/jerky
- Temporal contour differentiation is present; punctual differs from durative
- Movement generally conveys intended action
- Some correlation between arm involvement and depicted properties

Proficient

- Paths are precise and varied; complex paths executed cleanly
- Manner variation is nuanced; subtle differences visible

- Temporal contour is fully controlled; all aspectual distinctions available
- Movement clearly and effectively conveys action, manner, and aspect
- Arm involvement consistently supports movement meaning (Arm Angles integration)

Advanced

- Can produce any requested path type on demand with precision
- Manner variation is expressive and serves discourse-level goals
- Temporal contour choices consistently support narrative structure and emphasis
- Movement depictions are compelling, accurate, and economical
- Path, manner, and temporal choices are strategic rather than default

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0.40.7 Rubric 6: Ground-Figure Constructions

Dimension: Using two-handed constructions with non-dominant hand as ground and dominant hand as figure.

Developing

- Ground-figure constructions are avoided or poorly executed
- Non-dominant hand drops prematurely, losing ground reference
- Relationship between ground and figure is spatially incoherent
- Cannot coordinate ground establishment, figure action, and release
- Two-handed constructions feel awkward and effortful

Competent

- Ground-figure constructions are used when appropriate
- Non-dominant hand maintains position adequately
- Spatial relationship between ground and figure is clear
- Can coordinate establishment, action, and release in simple cases
- Two-handed constructions require visible effort but are successful

Proficient

- Ground-figure constructions are used fluidly
- Non-dominant hand hold is natural and sustained appropriately
- Complex spatial relationships are clearly depicted
- Smooth coordination of all phases of ground-figure constructions
- Two-handed constructions appear natural, not effortful

Advanced

- Ground-figure constructions are deployed strategically and elegantly
- Hold duration and release timing are perfectly calibrated
- Novel ground-figure relationships are created when needed
- Constructions contribute to overall discourse clarity and impact
- Ground-figure use is a model of skilled signing

0.40.8 Rubric 7: Size and Shape Specifiers (SASS)

Dimension: Using SASS constructions to accurately convey dimensions and shapes.

Developing

- SASS constructions are limited to basic size indications
- Dimensional encoding is imprecise (unclear which dimension)
- Arm extension does not scale appropriately with depicted size
- Shape tracing is vague or incomplete
- Cannot integrate SASS with other classifier constructions

Competent

- SASS constructions cover common dimension and shape needs
- Dimensional encoding is usually clear
- Arm extension correlates with size in obvious cases
- Shape tracing is recognizable
- Basic integration with entity classifiers

Proficient

- SASS constructions are precise and varied
- Dimensional encoding is consistently clear and accurate
- Arm extension scales appropriately across the full size range
- Shape tracing is accurate for complex shapes
- Smooth integration with entity classifiers and other constructions

Advanced

- SASS constructions achieve maximum precision when needed
- Dimensional encoding is strategic (precise or vague as appropriate)
- Arm involvement conveys not just size but also substance and weight
- SASS contributes to technical and descriptive discourse at professional levels
- SASS use is a model of descriptive signing

0.40.9 Rubric 8: Professional Context Precision

Dimension: Achieving the spatial accuracy required in legal, medical, and technical settings.

Developing

- Unaware of precision requirements in professional contexts
- Spatial rendering loses significant source information
- Cannot distinguish contexts requiring high versus low precision
- Verification and clarification protocols not used
- Errors in professional contexts go unrecognized

Competent

- Aware that professional contexts require higher precision
- Spatial rendering preserves most source information
- Can identify when high precision is required
- Uses some verification and clarification strategies
- Recognizes many errors, though not always in real time

Proficient

- Consistently meets professional precision standards
- Spatial rendering accurately preserves source information
- Calibrates precision appropriately to context
- Uses verification and clarification protocols systematically
- Monitors accuracy during production and corrects as needed

Advanced

- Consistently preserves measured distances, cardinal directions, and uncertainty markers in professional contexts
- Uses clarification protocols appropriately and efficiently under time pressure
- Spatial rendering is accurate, clear, and never requires viewer inference about precision level
- Calibrates precision automatically based on context cues
- Could serve as a model for teaching professional-level spatial accuracy

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0.40.10 Using These Rubrics

Self-Assessment Protocol:

1. Select a rubric dimension relevant to your current development focus.

2. Record yourself performing a task that requires that competency.
3. Review the recording with the rubric in hand.
4. Identify which level description best matches your performance.
5. Note specific evidence from your recording that supports your assessment.
6. Identify what would need to change to move to the next level.
7. Design practice activities targeting those changes.
8. Repeat the assessment after focused practice to track development.

Calibration:

Self-assessment is susceptible to both overestimation and underestimation. Calibrate your self-assessment by:

- Comparing your assessment to feedback from fluent signers or instructors
- Assessing recordings made at different times to check consistency
- Having a peer independently assess your recording using the same rubric
- Being specific about evidence; vague impressions are less reliable

Development Planning:

Use rubric assessments to guide development planning:

- Identify your lowest-rated dimensions as priority areas
- Set specific goals: "move from Competent to Proficient in Perspective Control"
- Design practice activities targeting the specific changes needed
- Reassess periodically to track progress
- Adjust goals as you develop

Realistic Expectations:

- Movement between levels takes time; expect weeks or months, not days
- Development is often uneven; you may advance in some dimensions while plateauing in others
- Proficient and Advanced levels may require years of development
- Continued assessment and targeted practice sustain development over professional lifetimes

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0.41 Appendix D

0.41.1 Glossary of Terms

This glossary defines key terms used throughout this book. Terms are organized alphabetically. Cross-references to related terms appear in parentheses.

Allocentric reference. A spatial reference system organized around external landmarks or coordinates rather than the observer's body. Contrasts with egocentric reference. Topographic space typically uses allocentric reference.

Anchor referent. A referent that is maintained across spatial frame boundaries, providing continuity between discourse segments. Anchor referents help viewers track the relationship between frames.

Animacy. A semantic feature distinguishing living from non-living entities. Animacy affects classifier selection; some classifiers are appropriate only for animate referents (e.g., CL:V for walking legs) while others are appropriate only for inanimate referents.

Arm Angles. The analytical framework developed in *Arm Angles in American Sign Language* (Sweenie and Boles, 2026) examining how shoulder, elbow, and wrist positioning carries meaning in ASL. This book extends that framework to classifier predicates.

Body part classifier. A classifier that uses a portion of the signer's body to represent a corresponding body part of a depicted character or entity. Examples include using two fingers (CL:V) to represent legs or the signer's head to represent a character's head. (See also constructed action.)

Character viewpoint. A perspective in which the signer adopts the vantage point of a character within a depicted scene. The signer's body represents the character's body; spatial reference is egocentric relative to the character. Contrasts with observer viewpoint.

Classifier predicate. A predicate structure in which a handshape (the classifier) represents a category of referent, and the hand's position and movement in signing space predicate information about that referent (location, motion, action). Classifier predicates are morphologically complex structures combining handshape, movement, location, and orientation.

Cognitive load. The mental effort required for a task. High cognitive load during interpreting or signing can impair spatial frame maintenance, locus tracking, and self-monitoring.

Constructed action. A representation technique in which the signer becomes a character, with the signer's body representing the character's body, the signer's face showing the character's expression, and the signer's actions representing the character's actions. Also called role shift. Constructed action exists on a continuum with body part classifiers.

Contrastive loci. Spatial positions used to contrast referents, typically establishing one referent on the left and another on the right. Contrastive placement emphasizes the contrast between referents.

Dimensionality. A semantic feature describing the geometric extension of a referent: linear (extended primarily in one dimension), planar (extended in two dimensions), or volumetric (extended in three dimensions). Dimensionality affects classifier selection.

Distal articulation. Movement involving primarily the fingers and wrist, with minimal involvement of the elbow and shoulder. Contrasts with proximal articulation. From the Arm Angles framework.

Dominant hand. The hand that typically carries the primary linguistic content, executes more complex movements, and serves as the figure in ground-figure constructions. For most signers, the dominant hand is the right hand.

Drift (locus). Gradual, unintentional shift in the position where a referent's locus is indicated. A common error pattern in spatial reference.

Durative. A temporal contour indicating that an action extends over time, depicted through sustained or slow movement. Contrasts with punctual and iterative.

Egocentric reference. A spatial reference system organized around the observer's body: left/right, front/back, up/down relative to the self. Contrasts with allocentric reference. Character viewpoint typically uses egocentric reference.

Entity classifier. A classifier that represents an entire entity viewed from outside, showing its position or movement in space. Entity classifiers operate primarily in observer viewpoint. Examples: CL:3 for vehicles, CL:1 for upright persons.

Figure. In ground-figure constructions, the element that moves, acts, or is the focus of attention. The figure is typically represented by the dominant hand and moves relative to the ground.

Frame (spatial). A coherent organization of signing space for a discourse segment, including established loci, the topographic or syntactic mode in use, the perspective in effect, and the spatial relationships established. Frame boundaries occur when discourse moves to a new scene, time, or topic requiring different spatial organization.

Frame collapse. An error pattern in which the established spatial frame disintegrates, with positions, orientations, and relationships becoming inconsistent.

Ground. In ground-figure constructions, the stable element relative to which the figure moves or acts. The ground is typically represented by the non-dominant hand and maintained through holds.

Ground-figure construction. A two-handed classifier construction in which the non-dominant hand represents a stable ground element while the dominant hand represents a figure that moves relative to that ground.

Handling classifier. A classifier that represents an object through the signer's depiction of handling or manipulating it. The handshape shows how the hand grips the object, implying the object's properties. Handling classifiers operate in character viewpoint.

Hold. Maintaining a handshape and position for an extended period while other signing continues. In ground-figure constructions, the non-dominant hand holds the ground position.

Iconicity. A relationship between form and meaning in which the form resembles or depicts the meaning. Classifier predicates are highly iconic; the hand's shape and movement resemble the entity and action depicted.

Iterative. A temporal contour indicating that an action repeats, depicted through repeated movement. Contrasts with punctual and durative.

Locus. A position in signing space associated with a referent. Once established, the locus can be referenced to indicate or predicate about that referent without repeating the referent's name.

Locus collision. An error pattern in which two referents end up established at the same or overlapping spatial positions, creating confusion about which referent is being indicated. Distinguished from real-world collisions (events that signers might depict) by the "locus" prefix.

Manner. The qualitative aspects of movement: speed, tension, smoothness, rhythm. Manner is one component of movement morphology in classifier predicates.

Mental model. A cognitive representation of spatial relationships that supports reasoning about space. Effective spatial signing both relies on and constructs mental models.

Metalinguistic competence. The ability to analyze and discuss language structure, including terminology, frameworks, and explicit knowledge about linguistic systems. Contrasts with productive and receptive competence.

Mode (spatial). The function that spatial organization serves in a given discourse segment. Topographic mode uses space to map real-world locations. Syntactic mode uses space to track referents without representing actual spatial relationships.

Movement morphology. The system by which movement in classifier predicates carries meaning, including path (trajectory), manner (quality), and temporal contour (aspectual character).

Non-dominant hand. The hand that typically carries secondary content, maintains holds, provides ground elements, and executes simpler movements. For most signers, the non-dominant hand is the left hand.

Observer viewpoint. A perspective in which the signer views a depicted scene from outside, as an external observer. Spatial reference is typically allocentric. Contrasts with character viewpoint.

Orientation. The direction that a classifier or entity is facing. Orientation is one of the phonological parameters of classifier predicates.

Path. The trajectory through space that a moving classifier traces: straight, arced, complex. Path is one component of movement morphology.

Perspective. The vantage point from which a scene or action is depicted. Primary perspectives are observer viewpoint (external) and character viewpoint (internal/embodied).

Perspective bleed. An error pattern in which elements of observer viewpoint and character viewpoint are mixed inappropriately, creating confusion about the spatial frame.

Polymorphism. The phenomenon of a single referent being representable by multiple classifier types, each appropriate for different aspects or communicative functions.

Precision calibration. Adjusting the specificity of spatial reference to match context: high precision for professional settings, conversational precision for casual discourse.

Productive competence. The ability to produce language forms accurately and appropriately. Contrasts with receptive competence and metalinguistic competence.

Proximal articulation. Movement involving the shoulder and large arm movements, with engagement of the upper arm. Contrasts with distal articulation. From the Arm Angles framework.

Punctual. A temporal contour indicating that an action is viewed as a single, brief event, depicted through quick, bounded movement. Contrasts with durative and iterative.

Receptive competence. The ability to understand language when produced by others. Contrasts with productive competence and metalinguistic competence.

Reduced scale. A depiction in which the signing space represents a larger real-world space, with referents shown smaller than life size. Observer viewpoint typically uses reduced scale.

Register. The degree of formality in language use, correlated in ASL with arm positioning patterns (from Arm Angles framework) and other factors.

Rigidity. A semantic feature describing whether a referent maintains a fixed shape or can deform. Rigidity affects classifier use and movement depiction.

Role shift. See constructed action.

Rotation failure. An error pattern in which a signer shifts to character viewpoint without adjusting spatial reference for the character's orientation, resulting in directional errors.

SASS (Size and Shape Specifier). A classifier construction that describes the physical dimensions or shape of a referent iconically, through hand configuration and spacing that represents the referent's extent.

Semantic feature. A component of meaning that categorizes referents and affects linguistic behavior, such as classifier selection. Features relevant to classifiers include dimensionality, animacy, and rigidity.

Signing space. The three-dimensional area in front of the signer where signs are produced and spatial reference is organized.

Spatial coherence. Consistency in spatial organization throughout a discourse segment, including maintained loci, stable frame organization, and clear perspective.

Spatial frame. See frame (spatial).

Spatial grammar. The grammatical systems in ASL that use signing space for linguistic functions: establishing reference, tracking referents, indicating relationships, and organizing discourse.

Spatial locus. See locus.

Strategic competence. The ability to deploy linguistic resources effectively for communicative purposes, including knowing when and how to use different options.

Syntactic space. A mode of spatial organization in which positions in signing space track referents for grammatical purposes without representing actual spatial relationships. Contrasts with topographic space.

Temporal contour. The aspectual character of movement in classifier predicates: punctual, durative, or iterative, with possible modifications for inception or termination.

Topographic space. A mode of spatial organization in which positions in signing space represent actual locations and spatial relationships in the depicted world. Signing space functions as a map. Contrasts with syntactic space.

Viewpoint. See perspective.

0.42 Appendix E

0.42.1 Annotated Bibliography

This bibliography provides guidance for further study in classifier predicates, spatial grammar, and related topics. Entries are organized thematically. Annotations describe each work's relevance and accessibility.

0.42.2 Foundational Works in ASL Linguistics

Klima, Edward S., and Ursula Bellugi. *The Signs of Language*. Cambridge, MA: Harvard University Press, 1979.

The landmark study that established ASL as a full natural language with its own phonology, morphology, and syntax. Essential background for understanding the linguistic context within which classifier systems operate. Accessible to readers without extensive linguistic training.

McCaskill, Carolyn, Ceil Lucas, Robert Bayley, and Joseph Hill. *The Hidden Treasure of Black ASL: Its History and Structure*. Washington, DC: Gallaudet University Press, 2011.

The foundational study of Black ASL, documenting linguistic features and sociolinguistic variation in African American Deaf communities. Essential reading for understanding community variation in ASL, including potential variation in classifier use. Provides crucial context for avoiding overgeneralization about ASL norms.

Stokoe, William C. *Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf*. Studies in Linguistics, Occasional Papers 8. Buffalo: University of Buffalo, 1960.

The foundational work that initiated linguistic analysis of ASL. Stokoe's analysis of sign parameters established the framework that later research on classifiers extends. Historical importance as the beginning

of ASL linguistics as a field.

Valli, Clayton, Ceil Lucas, Kristin J. Mulrooney, and Miako Villanueva. *Linguistics of American Sign Language: An Introduction*. 5th ed. Washington, DC: Gallaudet University Press, 2011.

The standard introductory textbook in ASL linguistics. Provides accessible coverage of phonology, morphology, syntax, and discourse, including classifier systems. Essential background for readers new to linguistic analysis of ASL.

0.42.3 Classifier Systems

Emmorey, Karen, ed. *Perspectives on Classifier Constructions in Sign Languages*. Mahwah, NJ: Lawrence Erlbaum Associates, 2003.

A collection of research articles on classifier systems across signed languages. Includes theoretical debates about classifier categorization, cross-linguistic comparisons, and acquisition studies. Academic in tone but accessible to motivated readers.

Supalla, Ted. "The Classifier System in American Sign Language." In *Noun Classification and Categorization*, edited by Colette Craig, 181-214. Philadelphia: John Benjamins, 1986.

A seminal analysis of ASL classifiers proposing a detailed classification system. Supalla's categories and terminology have been widely influential. This chapter is essential background for understanding how classifier systems have been analyzed.

Engberg-Pedersen, Elisabeth. *Space in Danish Sign Language: The Semantics and Morphosyntax of the Use of Space in a Visual Language*. Hamburg: Signum, 1993.

Though focused on Danish Sign Language, this work provides extensive analysis of spatial grammar applicable to ASL. Particularly valuable for understanding how space functions grammatically beyond classifier predicates.

Zwitserlood, Inge. "Classifiers." In *Sign Language: An International Handbook*, edited by Roland Pfau, Markus Steinbach, and Bencie Woll, 158-186. Berlin: De Gruyter Mouton, 2012.

A comprehensive overview of classifier research across signed languages. Synthesizes findings and theoretical debates. Useful for readers seeking a current scholarly perspective on classifier typology.

0.42.4 Spatial Grammar and Reference

Emmorey, Karen. *Language, Cognition, and the Brain: Insights from Sign Language Research*. Mahwah, NJ: Lawrence Erlbaum Associates, 2002.

Examines the cognitive and neural foundations of spatial language in ASL. Particularly valuable chapters on spatial mapping, mental imagery, and the relationship between linguistic space and perceptual space. Accessible to readers interested in cognitive dimensions.

Taub, Sarah F. *Language from the Body: Iconicity and Metaphor in American Sign Language*. Cambridge: Cambridge University Press, 2001.

Develops a systematic framework for analyzing iconicity in ASL. Taub's image-schema-form mapping model explains how iconic signs connect meaning to form through intermediate schematic structures. Essential reading for understanding why the same referent can be classified differently in different contexts, as different schemas extract different features as relevant. The framework is central to Chapter 2 of this volume.

Liddell, Scott K. *Grammar, Gesture, and Meaning in American Sign Language*. Cambridge: Cambridge University Press, 2003.

A major theoretical work arguing that ASL spatial reference involves gradient, gestural elements alongside categorical linguistic elements. Liddell's "Real Space blends" framework offers an alternative to purely grammatical analyses. Theoretically sophisticated but accessible.

Perniss, Pamela M. *Space and Iconicity in German Sign Language (DGS)*. Nijmegen: MPI Series in Psycholinguistics, 2007.

Though focused on German Sign Language, provides extensive analysis of spatial reference and perspective that applies to ASL. Particularly valuable for understanding how perspective (character vs. observer) affects spatial organization.

Winston, Elizabeth. "Spatial Mapping in Comparative Discourse Frames." In *Language, Gesture, and Space*, edited by Karen Emmorey and Judy S. Reilly, 87-114. Hillsdale, NJ: Lawrence Erlbaum Associates, 1995.

Analyzes how signers use space to structure comparative and contrastive discourse. Provides evidence for discourse-level functions of spatial organization beyond referent tracking.

0.42.5 Constructed Action and Perspective

Metzger, Melanie. "Constructed Action and Constructed Dialogue in American Sign Language." In *Sociolinguistics in Deaf Communities*, edited by Ceil Lucas, 255-271. Washington, DC: Gallaudet University Press, 1995.

Introduces and analyzes constructed action in ASL discourse. Essential background for understanding the relationship between constructed action and classifier predicates, particularly body part classifiers.

Dudis, Paul G. "Body Partitioning and Real-Space Blends." *Cognitive Linguistics* 15, no. 2 (2004): 223-238.

Analyzes how signers use different body parts simultaneously for different representational functions. Valuable for understanding the body part classifier continuum with constructed action.

Cormier, Kearsy, Sandra Smith, and Martine Zwets. "Framing Constructed Action in British Sign Language Narratives." *Journal of Pragmatics* 80 (2015): 47-67.

Though focused on British Sign Language, provides detailed analysis of how constructed action is marked and integrated into narrative. Applicable insights for ASL perspective management.

0.42.6 Movement and Morphology

Sandler, Wendy. *Phonological Representation of the Sign: Linearity and Nonlinearity in American Sign Language*. Dordrecht: Foris, 1989.

A detailed analysis of movement in ASL phonology. Background for understanding how movement functions as a morphological component in classifier predicates.

Brentari, Diane. *A Prosodic Model of Sign Language Phonology*. Cambridge, MA: MIT Press, 1999.

Proposes a comprehensive model of sign phonology including detailed treatment of movement. Technical but essential for readers seeking deep understanding of movement structure.

0.42.7 Professional Interpreting

Humphrey, Janice H., and Bob J. Alcorn. *So You Want to Be an Interpreter? An Introduction to Sign Language Interpreting*. 4th ed. Seattle: H & H Publishing, 2007.

Comprehensive introduction to sign language interpreting. Provides context for understanding interpreter demands that Part Four of this book addresses.

Stewart, David A., Jerome D. Schein, and Brenda E. Cartwright. *Sign Language Interpreting: Exploring Its Art and Science*. 2nd ed. Boston: Allyn and Bacon, 2004.

Covers interpretation theory and practice. Useful background for understanding the professional contexts in which classifier precision matters.

Russell, Debra, and Sandra Hale, eds. *Interpreting in Legal Settings*. Washington, DC: Gallaudet University Press, 2008.

Addresses challenges specific to legal interpreting. Essential reading for interpreters working in legal settings where spatial precision is critical.

0.42.8 Related Works by the Authors

Sweenie, Janna, and David Boles. *Arm Angles in American Sign Language: A Comprehensive Guide to Shoulder, Elbow, and Wrist Positioning*. New York: David Boles Books, 2026.

The predecessor to this volume. Analyzes how arm positioning carries meaning in ASL, providing the foundation that this book extends into classifier predicates and spatial grammar. Essential companion reading.

0.42.9 Acquisition and Pedagogy

Schick, Brenda S. "The Acquisition of Classifier Predicates in American Sign Language." PhD diss., Purdue University, 1987.

Studies how Deaf children acquire classifier systems. Provides insight into the developmental progression that L2 learners may partially recapitulate.

Newport, Elissa L., and Richard P. Meier. "The Acquisition of American Sign Language." In *The Crosslinguistic Study of Language Acquisition*, vol. 1, edited by Dan I. Slobin, 881-938. Hillsdale, NJ: Lawrence Erlbaum Associates, 1985.

Overview of ASL acquisition research. Provides context for understanding how classifiers fit into the overall acquisition process.

Mirus, Gene, Christian Rathmann, and Richard P. Meier. "Proximalization and Distalization of Sign Movement in Adult Learners." In *Modality and Structure in Signed and Spoken Languages*, edited by Richard P. Meier, Kearsy Cormier, and David Quinto-Pozos, 103-131. Cambridge: Cambridge University Press, 2002.

Studies arm positioning patterns in L2 learners, providing evidence for the developmental relevance of the Arm Angles framework.

0.42.10 Cognitive and Neuroscientific Perspectives

Emmorey, Karen, and Brenda Falgier. "Conceptual Locations and Pronominal Reference in American Sign Language." *Journal of Psycholinguistic Research* 28, no. 3 (1999): 255-282.

Investigates the cognitive representation of spatial loci. Provides evidence for how locus information is mentally processed.

MacSweeney, Mairéad, Bencie Woll, Ruth Campbell, Philip K. McGuire, Anthony S. David, Steven C.R. Williams, John Suckling, Gemma A. Calvert, and Michael J. Brammer. "Neural Systems Underlying British Sign Language and Audio-Visual English Processing in Native Users." *Brain* 125, no. 7 (2002): 1583-1593.

Neuroimaging study of sign language processing. Provides evidence for the neural basis of spatial processing in sign language.

0.42.11 Cross-Linguistic Studies

Aronoff, Mark, Irit Meir, and Wendy Sandler. "The Paradox of Sign Language Morphology." *Language* 81, no. 2 (2005): 301-344.

Compares morphological systems across signed languages, including classifier systems. Provides cross-linguistic perspective on ASL classifier structure.

Jepsen, Julie Bakken, Goedele De Clerck, Sam Lutalo-Kiingi, and William B. McGregor, eds. *Sign Languages of the World: A Comparative Handbook*. Berlin: De Gruyter Mouton, 2015.

Comprehensive reference covering signed languages worldwide. Useful for understanding how ASL classifier systems compare to those in other signed languages.

0.42.12 Using This Bibliography

For beginners: Start with Valli et al., *Linguistics of American Sign Language*, for background, then Supalla's chapter for classifier specifics.

For practitioners: Humphrey and Alcorn provide interpreting context; Russell and Hale address legal interpreting specifically.

For theoretical depth: Liddell's *Grammar, Gesture, and Meaning* and Emmorey's *Language, Cognition, and the Brain* provide sophisticated theoretical perspectives.

For research: The edited volumes by Emmorey (*Perspectives on Classifier Constructions*) and Pfau, Steinbach, and Woll (*Sign Language: An International Handbook*) provide access to current research.

For integration with this book: Sweenie and Boles, *Arm Angles in American Sign Language*, is the essential companion that provides the foundation this book extends.

0.43 Appendix F

0.43.1 Sample Syllabi for Instructors

This appendix provides sample syllabi for courses using this textbook. Three formats are offered: a semester-long course (15 weeks), an intensive workshop (one week), and a modular approach for integration into existing courses. Instructors should adapt these frameworks to their contexts, student populations, and learning objectives.

0.43.2 Syllabus A: Semester Course (15 Weeks)

Course Title: Advanced Classifier Morphology and Spatial Grammar

Course Description

This course provides advanced study of classifier predicates and spatial grammar in American Sign Language. Students analyze the cognitive and linguistic foundations of spatial reference, develop productive competence in classifier constructions, and apply spatial accuracy to professional interpreting contexts. Prerequisite: Intermediate ASL proficiency or equivalent.

Required Text

Sweenie, Janna, and David Boles. *Depicting Space: Advanced Classifier Morphology and Spatial Grammar in American Sign Language*. New York: David Boles Books, 2026.

Recommended Text

Sweenie, Janna, and David Boles. *Arm Angles in American Sign Language: A Comprehensive Guide to Shoulder, Elbow, and Wrist Positioning*. New York: David Boles Books, 2026.

Course Schedule

Week 1: Introduction and Foundations - Reading: Chapter 1 (Beyond the Basic Taxonomy) - Topics: Course overview; traditional classifier taxonomy; critique and reconceptualization - Practice: Exercise 1.1 (Feature Analysis)

Week 2: Cognitive Architecture - Reading: Chapter 2 (The Cognitive Architecture of Classifier Selection) - Topics: Mental models; spatial cognition; grounding spatial grammar in cognition - Practice: Exercise 2.1 (Mental Model Building), 2.2 (Spatial Memory Drills)

Week 3: Topographic and Syntactic Space - Reading: Chapter 3 (Topographic Space Versus Syntactic Space) - Topics: Modal distinction; when to use each mode; mode switching - Practice: Exercise 3.1 (Mode Identification), 3.2 (Mode Commitment)

Week 4: Establishing Spatial Loci - Reading: Chapter 4 (Establishing and Maintaining Spatial Loci) - Topics: Locus mechanics; precision; multi-referent tracking - Practice: Exercise 4.1 (Locus Precision), 4.2 (Multi-Referent Tracking) - Assessment: Locus maintenance quiz (recording submission)

Week 5: Extended Discourse Coherence - Reading: Chapter 5 (Spatial Coherence Across Extended Discourse) - Topics: Frame management; chunking; repair strategies - Practice: Exercise 5.1 (Chunked Narrative), 5.2 (Flashback Management)

Week 6: Perspective and Viewpoint - Reading: Chapter 6 (Perspective and Viewpoint in Spatial Constructions) - Topics: Observer vs. character viewpoint; transitions; rotation - Practice: Exercise 6.1-6.2 (Pure perspective practice), 6.3 (Transition drills) - Assessment: Perspective management performance

Week 7: Entity Classifiers - Reading: Chapter 7 (Entity Classifiers and Semantic Features) - Topics: Semantic features; classifier selection; polymorphism - Practice: Exercise 7.1 (Feature-Based Selection), 7.3 (Entity Classifier Movement)

Week 8: Midterm Assessment and Review - Midterm performance assessment - Review and feedback - Individual development planning

Week 9: Handling Classifiers - Reading: Chapter 8 (Handling Classifiers and Implied Objects) - Topics: Grip configuration; implied properties; arm involvement - Practice: Exercise 8.1 (Grip Analysis), 8.3 (Weight and Manner)

Week 10: Body Part Classifiers and Constructed Action - Reading: Chapter 9 (Body Part Classifiers and Constructed Action) - Topics: The classifier-to-CA continuum; non-human embodiment - Practice: Exercise 9.1 (Continuum Exploration), 9.4 (Perspective Mixing)

Week 11: SASS and Movement Morphology - Reading: Chapters 10-11 (SASS; Movement Morphology) - Topics: Dimensional encoding; path, manner, temporal contour - Practice: Exercises 10.1-10.2, 11.1-11.3

Week 12: Legal Interpreting Context - Reading: Chapter 12 (Legal Settings and Spatial Accuracy) - Topics: Precision requirements; frame establishment; verification - Practice: Exercise 12.1-12.2 (Legal precision exercises)

Week 13: Medical and Technical Contexts - Reading: Chapters 13-14 (Medical Interpreting; Technical Interpreting) - Topics: Anatomical precision; mechanism depiction; process description - Practice: Exercises 13.1-13.2, 14.1-14.2

Week 14: Error Analysis and Self-Correction - Reading: Chapter 15 (Error Analysis and Self-Correction Protocols) - Topics: Error categories; diagnostic procedures; correction strategies - Practice:

Exercise 15.1-15.2 (Error recognition and correction)

Week 15: Integration and Final Assessment - Reading: Chapters 16-17 (Integrated Practice; Assessment and Development) - Final performance assessment - Individual feedback and development planning

Assessment

- Participation and weekly practice: 20%
- Locus maintenance quiz (Week 4): 10%
- Perspective management performance (Week 6): 15%
- Midterm assessment (Week 8): 20%
- Final performance assessment (Week 15): 25%
- Self-assessment portfolio: 10%

0.43.3 Syllabus B: Intensive Workshop (5 Days)

Workshop Title: Classifier Predicates and Spatial Grammar Intensive

Description

This five-day intensive workshop covers core classifier and spatial grammar competencies for working interpreters and advanced ASL students. Participants should arrive with intermediate ASL proficiency and be prepared for intensive practice.

Materials

Participants receive digital access to *Depicting Space* and selected exercises from Appendix B.

Schedule

Day 1: Foundations and Spatial Systems

Morning (3 hours) - Theoretical foundations: classifier reconceptualization, cognitive architecture - Topographic vs. syntactic space distinction - Demonstration and analysis

Afternoon (3 hours) - Locus establishment and maintenance - Multi-referent tracking practice - Paired practice with feedback

Day 2: Perspective and Core Classifiers

Morning (3 hours) - Observer and character viewpoint - Perspective transitions - Demonstration and analysis

Afternoon (3 hours) - Entity classifiers: selection and movement - Handling classifiers: grip and manner - Intensive practice rotations

Day 3: Advanced Classifiers and Movement

Morning (3 hours) - Body part classifiers and constructed action continuum - SASS constructions - Demonstration and practice

Afternoon (3 hours) - Movement morphology: path, manner, temporal contour - Ground-figure constructions - Integration practice

Day 4: Professional Contexts

Morning (3 hours) - Legal interpreting precision requirements - Frame establishment for complex testimony - Practice with legal scenarios

Afternoon (3 hours) - Medical and technical interpreting challenges - Anatomical reference; mechanism depiction - Practice with professional scenarios

Day 5: Integration and Assessment

Morning (3 hours) - Error analysis and self-correction - Integration practice with feedback - Individual coaching

Afternoon (3 hours) - Performance assessment - Individual feedback sessions - Development planning

Pre-Workshop Preparation

Participants complete Chapter 1-3 readings before arrival.

Post-Workshop Resources

Participants receive access to additional exercises and self-assessment rubrics for continued development.

0.43.4 Syllabus C: Modular Integration

Purpose

These modules allow instructors to integrate classifier and spatial grammar content into existing courses. Each module is designed for 2-3 class sessions.

Module 1: Spatial Reference Foundations

For integration into: ASL Linguistics, Intermediate ASL

Session 1: - Reading: Chapter 3 (Topographic Space Versus Syntactic Space) - Content: Modal distinction; when and why spatial modes differ - Activity: Mode identification in video samples

Session 2: - Reading: Chapter 4 (Establishing and Maintaining Spatial Loci) - Content: Locus mechanics and maintenance - Activity: Locus practice drills (Exercises 4.1, 4.2)

Module 2: Classifier Types and Selection

For integration into: ASL Grammar, Advanced ASL

Session 1: - Reading: Chapter 7 (Entity Classifiers and Semantic Features) - Content: Semantic features governing selection - Activity: Feature analysis for novel referents (Exercise 7.1)

Session 2: - Reading: Chapter 8 (Handling Classifiers and Implied Objects) - Content: Grip, manner, and implied properties - Activity: Grip analysis and practice (Exercises 8.1, 8.2)

Session 3: - Reading: Chapter 9 (Body Part Classifiers and Constructed Action) - Content: Classifier-to-constructed-action continuum - Activity: Continuum exploration (Exercise 9.1)

Module 3: Movement and Description

For integration into: ASL Linguistics, Discourse Analysis

Session 1: - Reading: Chapter 11 (Movement Morphology in Classifier Predicates) - Content: Path, manner, temporal contour as morphology - Activity: Movement component drills (Exercises 11.1-11.3)

Session 2: - Reading: Chapter 10 (Size and Shape Specifiers as Productive Morphology) - Content: Dimensional encoding; integration with classifiers - Activity: SASS precision practice (Exercises 10.1, 10.3)

Module 4: Perspective Management

For integration into: ASL Narrative, Interpreter Training

Session 1: - Reading: Chapter 6 (Perspective and Viewpoint in Spatial Constructions) - Content: Observer vs. character; transitions - Activity: Pure perspective practice (Exercises 6.1, 6.2)

Session 2: - Content: Perspective mixing; narrative applications - Activity: Dialogue and narrative practice (Exercises 6.3, 6.4)

Module 5: Professional Precision

For integration into: Interpreter Training, Legal/Medical Specialization

Session 1: - Reading: Chapter 12 (Legal Settings and Spatial Accuracy) - Content: Precision requirements; frame establishment - Activity: Legal scenario practice (Exercises 12.1, 12.2)

Session 2: - Reading: Chapter 13 (Medical Interpreting and Anatomical Precision) - Content: Anatomical reference; pathology depiction - Activity: Medical explanation practice (Exercises 13.1-13.3)

Session 3: - Reading: Chapter 14 (Technical and Scientific Interpreting) - Content: Mechanism and process depiction - Activity: Technical explanation practice (Exercises 14.1, 14.2)

Module 6: Error Analysis and Development

For integration into: Interpreter Training, Practicum

Session 1: - Reading: Chapter 15 (Error Analysis and Self-Correction Protocols) - Content: Error categories; diagnostic procedures - Activity: Error recognition in peer videos (Exercise 15.1)

Session 2: - Reading: Chapter 17 (Assessment and Continuing Development) - Content: Self-assessment; development planning - Activity: Individual development planning using rubrics (Appendix C)

0.43.5 Implementation Notes

Video Resources: All courses using this text benefit from access to fluent ASL models. Instructors should compile video resources showing skilled classifier use for analysis and modeling.

Recording Equipment: Many exercises require students to record themselves. Ensure students have access to recording devices and viewing capability.

Practice Partnerships: Pair and group work supports feedback and motivation. Build in structured partner practice time.

Assessment Calibration: Use the rubrics in Appendix C to calibrate assessment across instructors and over time. Discuss borderline cases to develop shared standards.

Differentiation: Students enter with varied backgrounds. Use diagnostic assessment early to identify students needing additional support or ready for acceleration.

Connection to Practice: Especially in interpreter training contexts, connect classroom exercises to professional scenarios students will encounter.

Ongoing Development: Frame this material as foundational to ongoing professional development, not as terminal competency. Students should leave with tools and frameworks for continued growth.