Overview of Cognitive Grammar

Lecture 3

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What is Cognitive Linguistics?

- Cognitive linguistics is an approach to language that is based on our *experience* of the world and the way we *perceive* and *conceptualize* it.

Three major hypotheses of CL

- Language is not an autonomous cognitive faculty.
- Grammar is conceptualization.
- Knowledge of language emerges from language use.

From Croft & Cruse, *Cognitive Linguistics*

Language is not an autonomous cognitive faculty

- Linguistic knowledge — knowledge of meaning and form — is basically conceptual structure. *Semantic, syntactic, morphological, and phonological representation is conceptual.*

- The cognitive processes that govern language use are in principle the same as other cognitive abilities. *The cognitive abilities we apply to speaking and understanding language are not significantly different from those applied to other cognitive tasks, such as visual perception, reasoning, or motor activity.*

- This is not a denial of an innate human capacity for language, only the denial of an autonomous, special-purpose innate human capacity for language. Langacker claims to be "agnostic on the question of innateness." It is, however, reasonable to assume that general human cognitive abilities have an innate component.

Grammar is conceptualization

- Conceptual structure cannot be reduced to a simple truth conditional correspondence with the world.

- All aspects of conceptualization are subject to *construal*.

  - 1. to give the meaning or intention of; explain; interpret.
  - 2. to deduce by inference or interpretation; infer: *He construed her intentions from her gestures.*

- Therefore, grammar is construal

Knowledge of language emerges from language use

- The categories and structures in syntax, morphology, and phonology are *built up* from our cognition of specific utterances on specific occasions of use.

- This is an inductive process of *abstraction* and *schematization*.
  - (the inference of general laws from particular instances)

- This implies that the detailed analysis of subtle variations in syntactic behavior and semantic interpretation give rise to a different model of grammatical representation that accommodates idiosyncratic as well as highly general patterns of linguistic behavior.

Cognitive linguistics and cognitive grammar

- Langacker's theory of **Cognitive Grammar** is one approach to cognitive linguistics.

Cognitive Grammar

- It is no accident that Langacker calls this cognitive *grammar.*

- Its central claim is that grammar is a *symbolic* phenomenon, consisting of patterns for imposing and symbolizing conceptual structure.

From Langacker, *Foundations of Cognitive Grammar* vol. II

Foundations of Cognitive Grammar

- Language is dissociable from other facets of human cognition. Only arbitrarily can language be sharply delimited and distinguished from other kinds of knowledge and ability.

- Language emerges organically from the interaction of varied inherent and experiential factors — physical, biological, behavioral, psychological, social, cultural, and communicative — each the source of constraints and formative pressures.

Foundations of Cognitive Grammar

- A linguistic system comprises just three kinds of structures:
  - *Semantic*
  - *Phonological*
  - *Symbolic* (a symbolic structure residing in the relationship between a semantic and a phonological structure — its two *poles*)

The actual pronunciation, in all its rich phonetic detail

The actual meaning, in all its rich contextual detail

Restrictions on structures

- The *content requirement*:
  - limits permitted structures to (parts of) overtly occurring expressions
  - to *schematizations* of permitted structures (=abstraction)
  - to *categorizing* relationships between permitted structures
- The only structures posited are those that are directly apprehended (sound sequences and what they are understood to mean), or structures derived from such structures by the fundamental, well-established cognitive abilities of *abstraction* and *categorization*.
- CG is highly parsimonious

Linguistic knowledge

- Linguistic knowledge is not an algorithmic constructive device giving (all and only) well-formed expressions as "output".

- Linguistic knowledge is an array of *units* (i.e., thoroughly mastered structures — cognitive routines) available to the speaker for the categorization of *usage events*[1] (actual utterances in the full richness of their phonetic detail and contextual understanding).

[1]Both in comprehension and expression

- "A structured inventory of conventional linguistic units." (Langacker 1987)

Conventional units

- Units arise by a process of schematization based on the reinforcement of recurrent features, a commonality observable across a series of usage events.

- These units comprise the speaker's knowledge of linguistic convention.

What is grammar?

- A central tenet of cognitive grammar is that grammar reduces to *symbolic relationships between semantic and phonological structures*.

- Lexicon, morphology, and syntax form a continuum of meaningful structures.

- Every grammatical construct is attributed both **phonological** and **conceptual** import.

Cognitive semantics

- Cognitive semantics takes the *encyclopedic* approach.
- It rejects any strict or specific demarcation between semantics and pragmatics.
- It rejects the *conduit metaphor* that portrays expressions as containers holding meaning.

Cognitive semantics

- Instead, it portrays expressions as providing access to a potentially very large array of concepts, conceptual complexes, and even whole knowledge systems, which the expression *evokes*.

- Cognitive semantics views expressions as evoking (rather than containing) meanings, which emerge via an elaborate process of *meaning construction* drawing on all available resources — linguistic, psychological, and contextual.

Cognitive semantics

- A fundamental notion of cognitive semantics is that meaning does not reside in conceptual *content* alone.

- Rather, it also incorporates a particular way of *construing* and *portraying* that content.

- Our capacity to construe the same content in alternate ways is referred to as *imagery*.

Dimensions of imagery

- **Specificity** (*move* vs. *run* vs. *sprint*)
- **Scope** (*The door opened easily* implies an agent; *The door opened* does not)
- **Construal** relative to different background assumptions and expectations (*stingy* vs. *thrifty*)
- **Perspective, vantage point, orientation, subjectivity** and **objectivity** (subject vs. object of conception)

Dimensions of imagery

- Relative **prominence** accorded substructures:
  - Base and profile: *hub, spoke, rim* all invoke the configuration of a wheel as their base but profile different portions of it.
  - Expressions that designate relationships give varying degrees of prominence to the participants: **trajector** (the *figure* within a profiled relationship). Consider *above* and *below*. They have the same conceptual content and profile the same spatial configuration; their non-synonymy results from figure/ground organization: whether the higher participant is construed as being located in relation to the lower one, or conversely.

Grammar as image

- “Grammatical structure is conventionalized semantic structure; it involves images, hierarchies and layers of images, ranging from the relatively concrete images embodied by morphemes conveying ‘objective content’ to the more abstract ones represented in ‘grammatical’ morphemes and grammatical constructions. The grammatical structure of an expression is therefore a semantic object. It is a complex, multifaceted prism through which speakers view conceptual content for purposes of linguistic expression, a prism constructed from the symbolic resources of a language in accordance with higher-order architectural principles that themselves serve purposes of image and perspective.”

From Langacker, “Grammar as Image”

Basic cognitive processes

- **Association**: establishing psychological connections with the potential to influence subsequent processing

- **Automatization**: through repetition or rehearsal a complex structure is thoroughly mastered to the point that using it is virtually automatic and requires little conscious monitoring. A structure undergoes progressive **entrenchment** and becomes established as a **unit.**

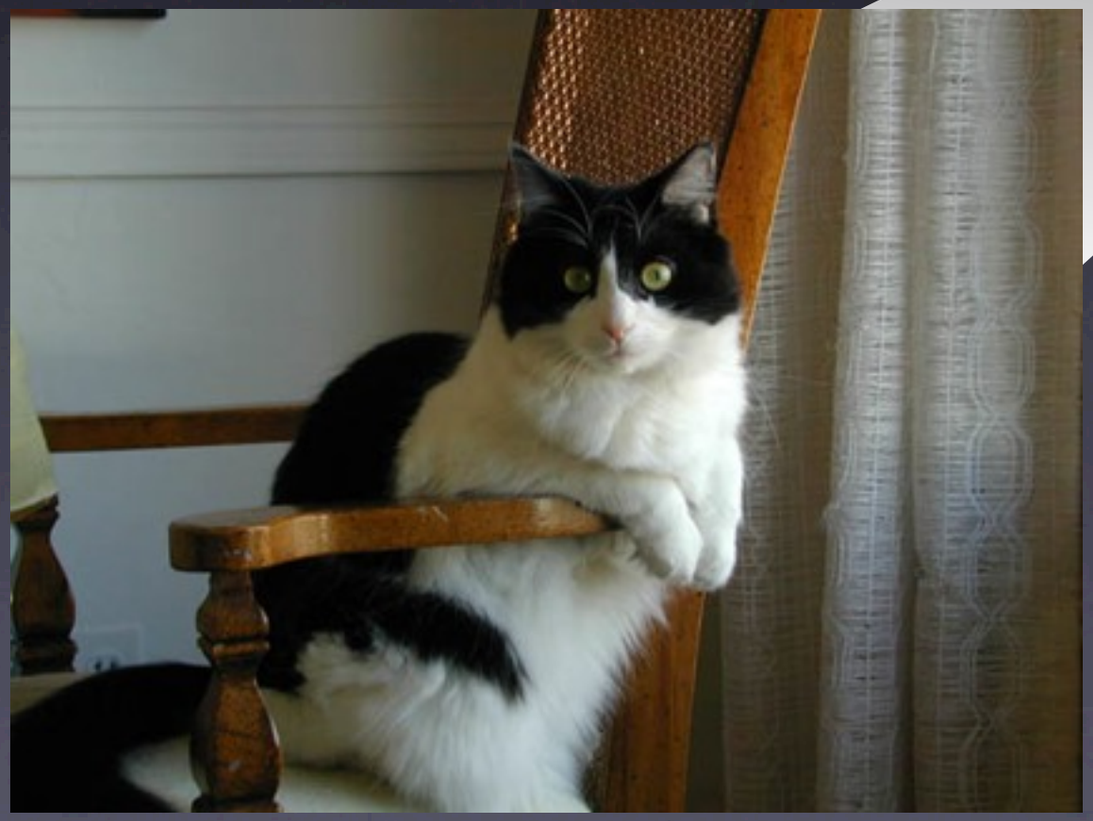
Basic cognitive processes

- **Schematization**: the process of extracting the commonality inherent in multiple experiences to arrive at a conception representing a higher level of abstraction. (**Usage events**: the actual pronunciations and contextual understandings).

- **Categorization**: the interpretation of experience with respect to previously existing structures. **Elaboration** and **instantiation**.

Schema

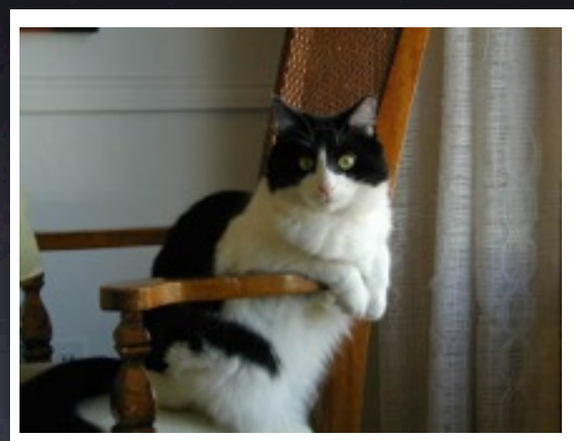
Max far:
less precision
and detail



Max close up: lots of detail

Winnie

Max



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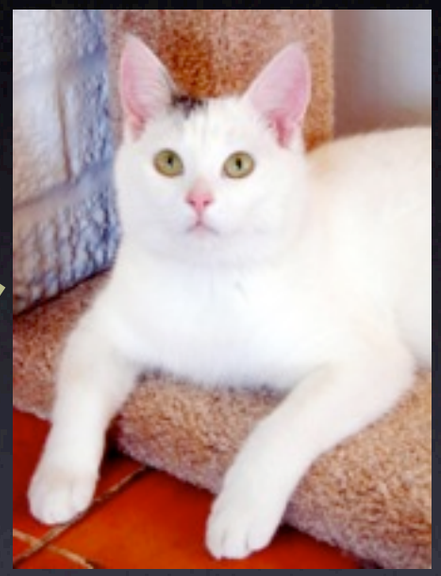

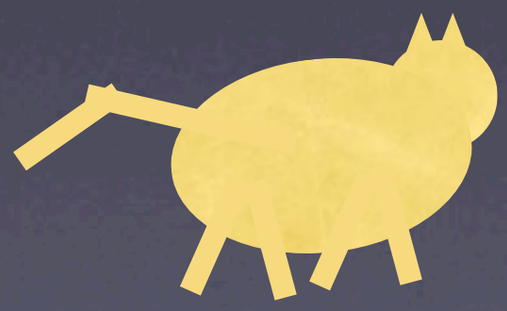

“schematic cat”

Restrictions on structures

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- CG is highly parsimonious

Grammar as symbolic assemblies

- Symbolic assemblies vary in the extent to which they achieve the status of units and become conventional within a speech community.

- **Entrenchment**: (pertaining to a particular speaker), entrenchment leads to *unit status*.

- **Conventionality**: (pertaining to a speech community), shared and known to be shared.

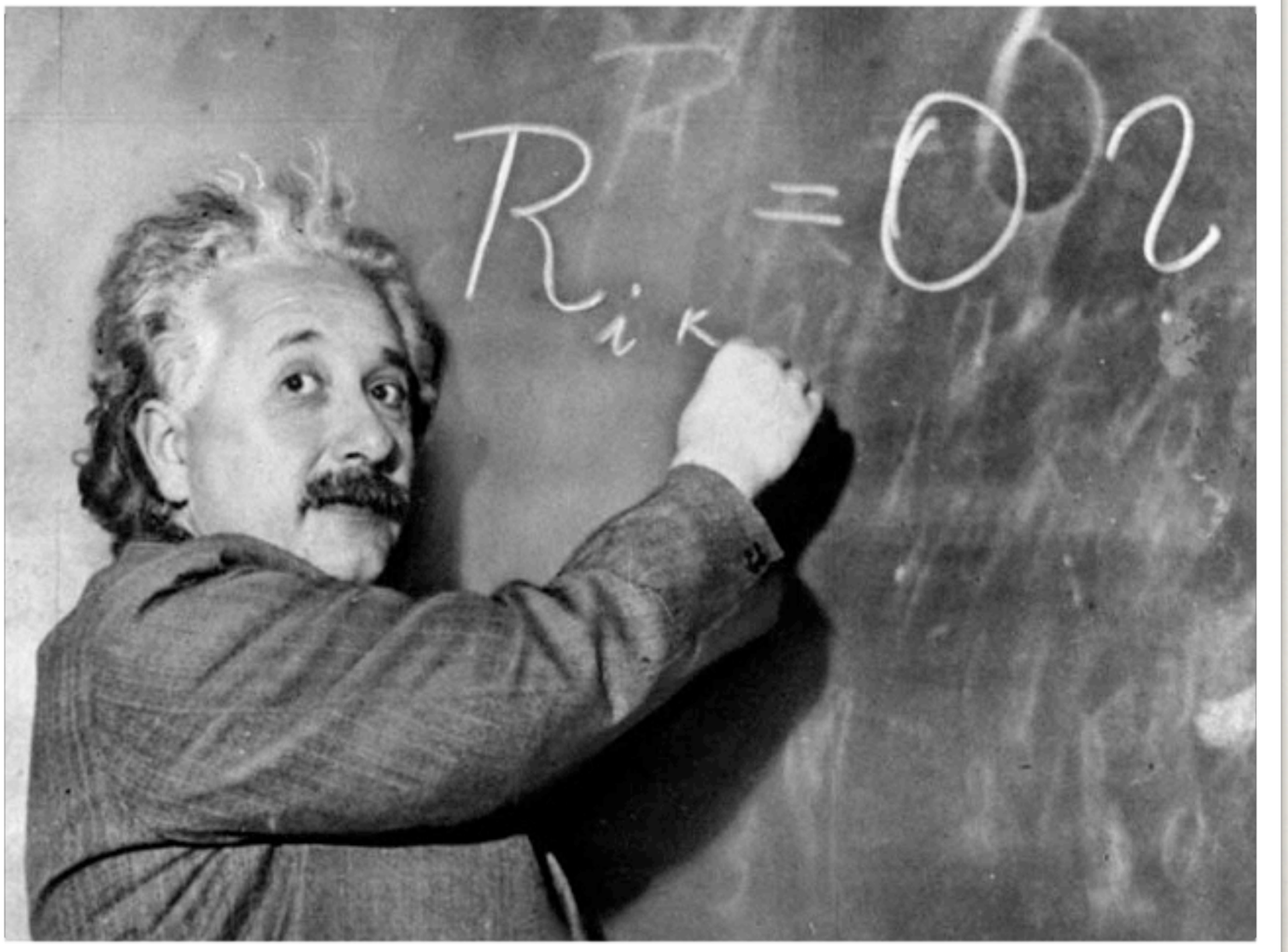
Entrenchment

- Non-linguistic motoric entrenchment
- Linguistic phonetic entrenchment
- Non-linguistic conceptual entrenchment
- Linguistic conceptual entrenchment

Non-linguistic motor entrenchment

1969

Non-linguistic conceptual entrenchment



Non-linguistic conceptual entrenchment

1 x 6 = 6

2 x 6 = 12

3 x 6 = 18

4 x 6 = 24

5 x 6 = 30

6 x 6 = 36

7 x 6 = 42

8 x 6 = 48

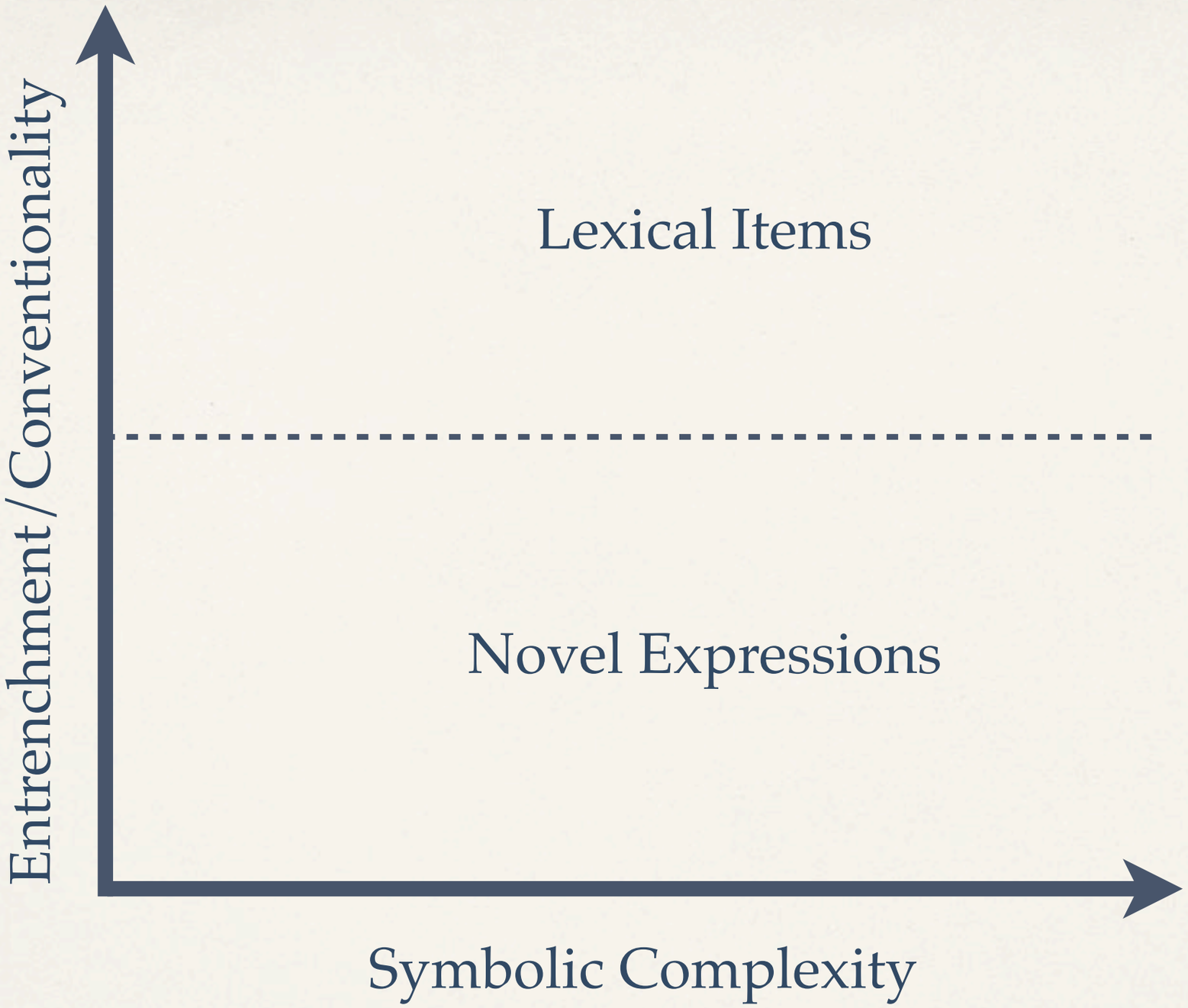
9 x 6 = 54

Linguistic Conceptual Entrenchment

- What is in the category ‘meat’?

Grammar as symbolic assemblies

- Full-fledged expressions are specific at the phonological pole.
- To the extent that expressions become entrenched and attain the status of conventional units, they constitute **lexical items**.
- "The lexicon" contains both lexical items and grammar, there is no *categorical* distinction, it is a gradient
- But a distinction can be drawn along the parameter of **specificity** (the flip side of schematicity)


Entrenchment / Conventionality
Lexical Items
Novel Expressions
Symbolic Complexity

Grammar as symbolic assemblies

- **Lexicon** resides in fairly specific symbolic assemblies, and **grammar** resides in more schematic ones.

- **Grammatical markers**: specific at the phonological pole, tend to be quite schematic at the semantic pole (otherwise they would be lexical items).

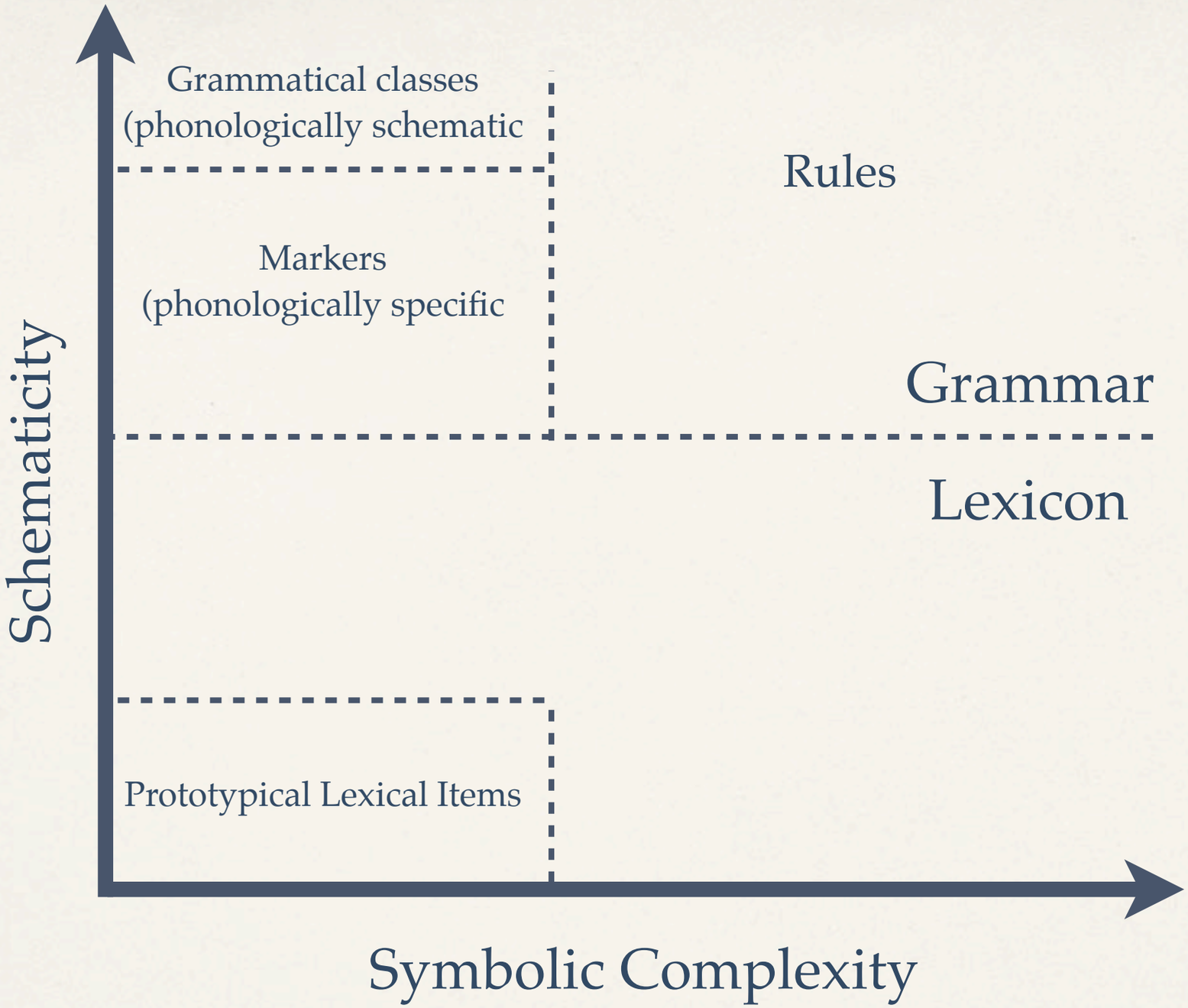
- **Grammatical classes**: Grammatical classes are symbolic, bipolar structures; thus, they have both phonological and semantic characterizations (though both may be highly schematic)

Grammar as symbolic assemblies

- **Grammatical rules**: the characterization of some pattern. In CG, rules take the form of schemas.

- As patterns in the formation of symbolically complex expressions, patterns ('rules') are symbolically complex as well as schematic.

- Complex expressions consist of specific symbolic assemblies, and the rules that describe them are schematic assemblies that embody their common features (i.e., they are schemas)

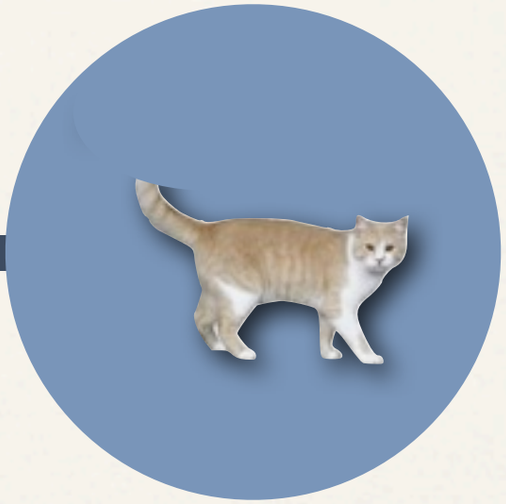

Grammatical classes
(phonologically schematic
Rules
Markers
(phonologically specific
Grammar
Lexicon
Schematicity
Prototypical Lexical Items
Symbolic Complexity

Grammatical Classes

- What is the nature of grammatical classes, for example, *nouns* and *verbs*?

- Within cognitive grammar, grammatical classes are symbolic, having both **phonological** and **conceptual** content.

‘cat’




‘-s’
• • •


Noun


Verb

Conceptual Characterization

- The fundamental dogma of modern linguistic theory is that grammatical classes cannot be defined semantically.

- What is the problem?

Prototype vs. Schema

- Most attempts have looked at **prototypical** nouns and verbs: objects, properties, location (nouns), and actions (verbs).

- The CG claim pertains to the **schematic** level of description rather than the prototype level

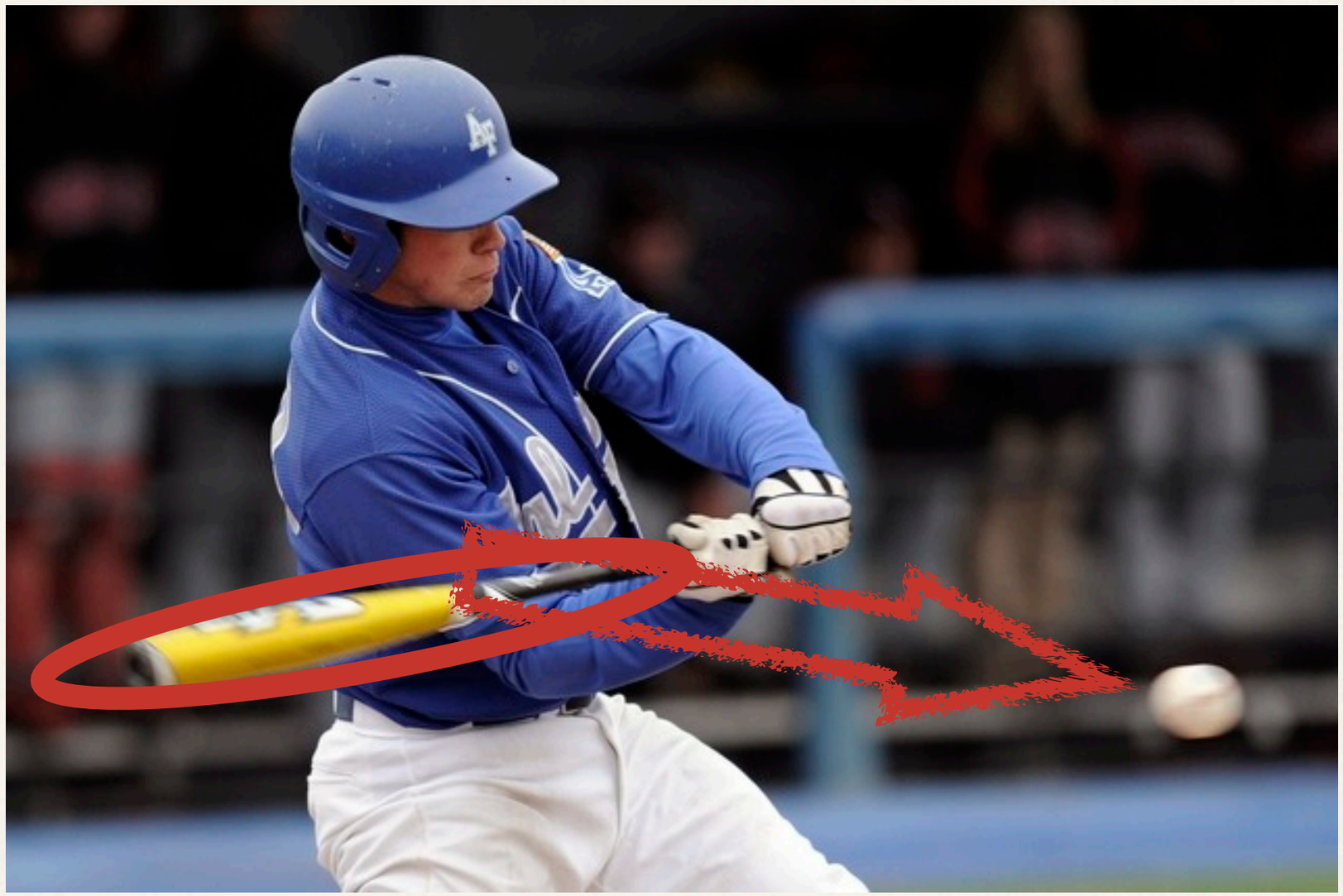
Objectivist vs. conceptual semantics

- Objectivist semantics ignores cognition and our capacity for *construing the same situation in alternate ways*.

- For example, it ignores our ability to construe *events* as abstract *objects* through **conceptual reification**.

Initial characterizations

- The importance of **profile**:
  - What determines an expression's grammatical category is not its overall conceptual content, but the nature of the profile in particular.



Nouns and Verbs

- Grammatical classes are characterized at the prototype and schematic level.

- The prototypes consist of **experientially-grounded conceptual archetypes**.

- **Noun Prototype**: archetype functioning as category prototype is the conception of a physical object.

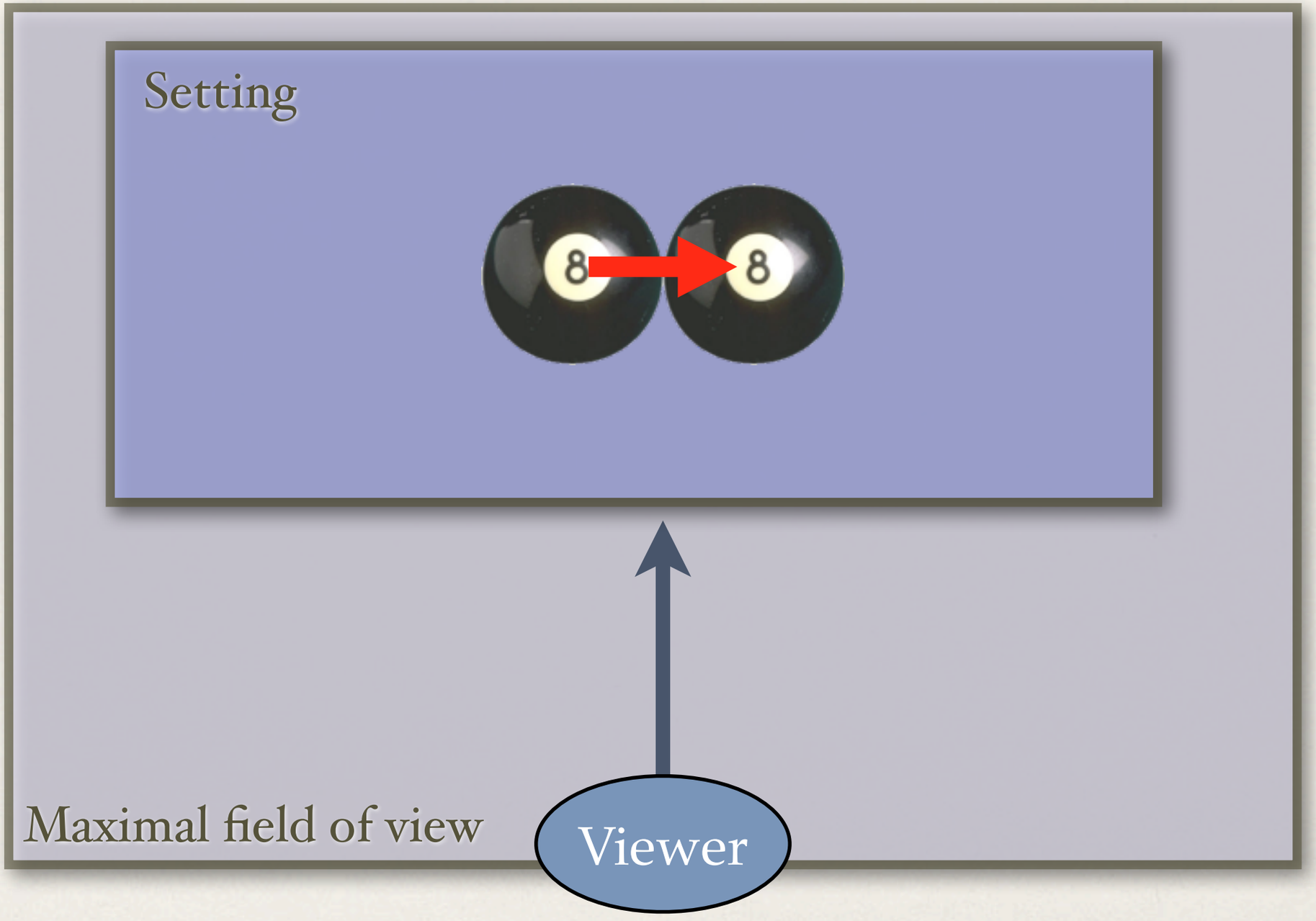
- **Verb Prototype**: participants interacting energetically in a "force-dynamic" event.

Nouns and Verbs

- **The Billiard-ball Model**

- "We think of our world as being populated by discrete objects. These objects are capable of moving about through space and making contact with one another. Motion is driven by energy, which some objects draw from internal resources and others receive from the exterior. When motion results in forceful physical contact, energy is transmitted from the mover to the impacted object, which may thereby be set in motion to participate in further interactions."

Billiard Ball/Canonical Event Model



Noun Archetype

- A physical object is composed of material substance
- We think of an object as residing primarily in space, where it is bounded and has its own location
- In time, an object may persist indefinitely, and it is not thought of as having any particular location in this domain.
- An object is **conceptually autonomous** in the sense that we can conceptualize it independently of its participation in any event.

Verb Archetype

- An energetic interaction is not itself material, consisting instead of change and thus the transfer of energy

- An event resides primarily in time; it is temporally bounded and has its own temporal location.

- By contrast, an event's location in space is more diffuse and also derivative, as it depends on the location of its participants.

- This is so because an event is **conceptually dependent**; it cannot be conceptualized without conceptualizing the participants who interact to constitute it.

Emergence of the Archetypes

- The result of four basic cognitive abilities:
  - Grouping
  - Reification
  - Apprehending relationships
  - Tracking relationships through time

The Noun Schema

- **Grouping**: factors that encourage grouping:
  - Contiguity
  - Similarity
  - Recognition of familiar configurations
- **Reification**: once a group is established, it can function as a single entity at higher levels of conceptualization

The Noun Schema

- **Thing:** any product of grouping and reification

- **Noun**: an expression that profiles a *thing*

Verb Schema

- Presupposes two fundamental cognitive abilities:
  - capacity for apprehending relationships
  - capacity for tracking relationships through time

The Verb Schema

- Scanning
  - Even though an event consists of component relationships, or **states**, the states are not individuated nor separately examined at the level of conscious awareness. Instead, we conceptualize an event as seamlessly unfolding, with each state developing organically out of its predecessor.
- Scanning pertains to both objects and events, resulting in both being perceived as continuous: continuous in space (objects) or in time (events)

The Verb Schema

- The scanning of events constitutes our capacity to **track relationships through time**.

- Conceived time vs. processing time

  - We conceive **of** time when we conceptualize an event. But our conceptualization, as mental activity, happens **through** time.

The Verb Schema

- In some cases, the component states of an event are mentally accessed through *processing time* in the order of their occurrence through *conceived time*.

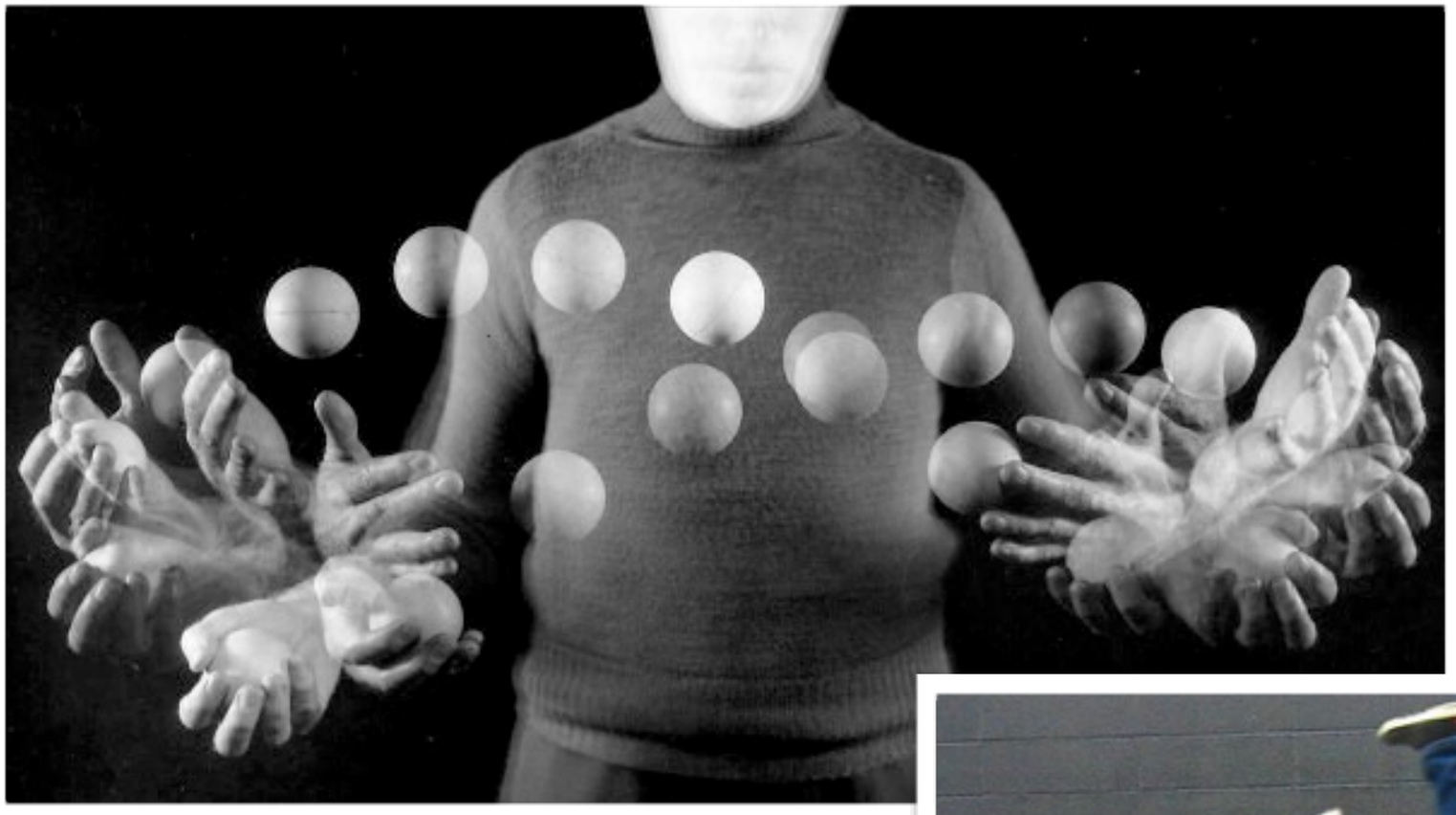
- Also, in these cases, only one component state is strongly activated at a given processing moment.

- **Sequential scanning**: the component states (of an event) are sequentially accessed through processing time such that, at a given instant in *processing time,* the only state that is in focus is the one obtaining at the corresponding instant in *conceived time*.

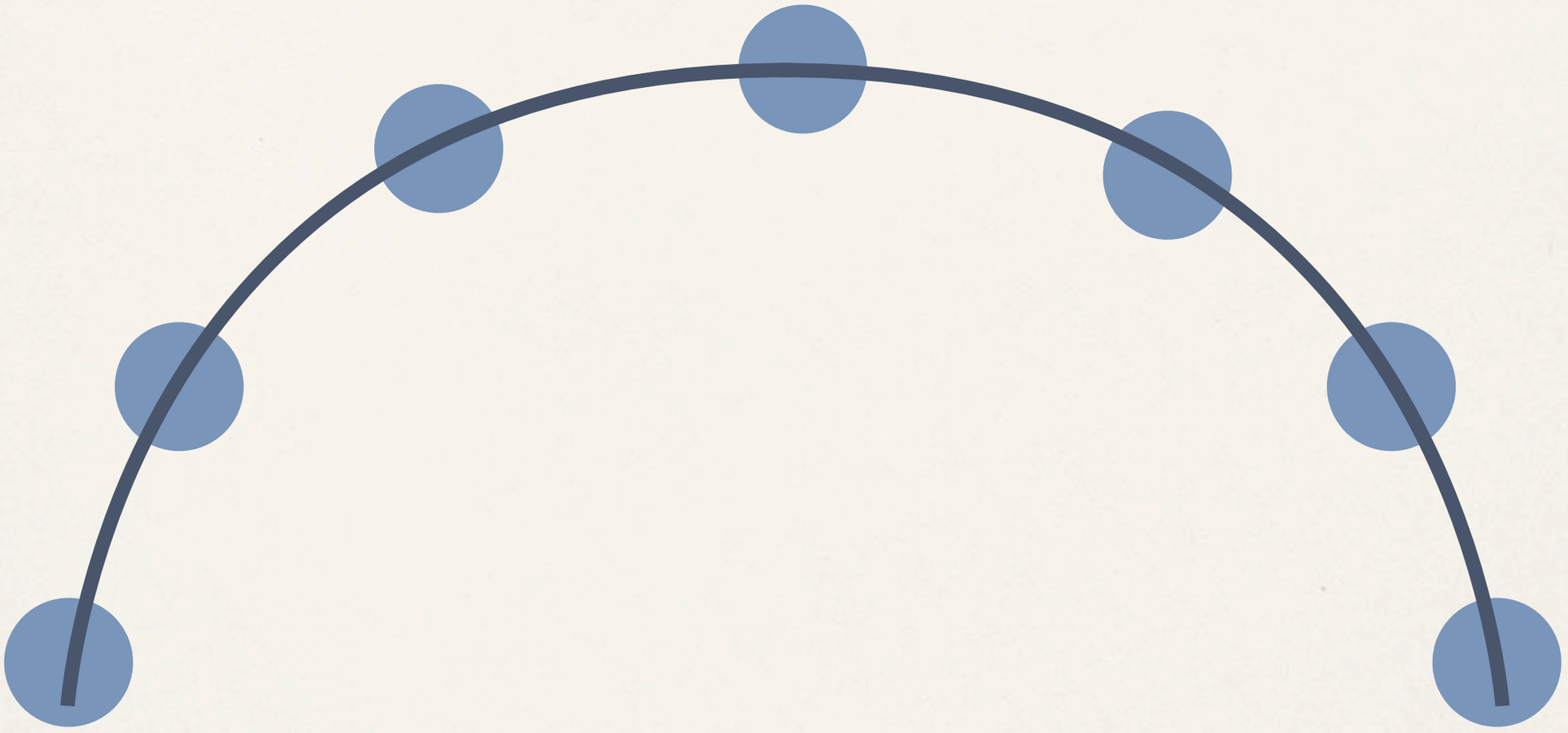
Sequential Scanning

The Verb Schema

- There is another mode of scanning.
- It is no longer the case that only one component state is focused at a given moment of processing time.
- While the states are still accessed in natural sequence, they undergo **summation**: they are mentally superimposed, resulting in their *simultaneous activation*.
- They form a gestalt, comparable to a multiple-exposure photograph.
- This is called **summary scanning**.



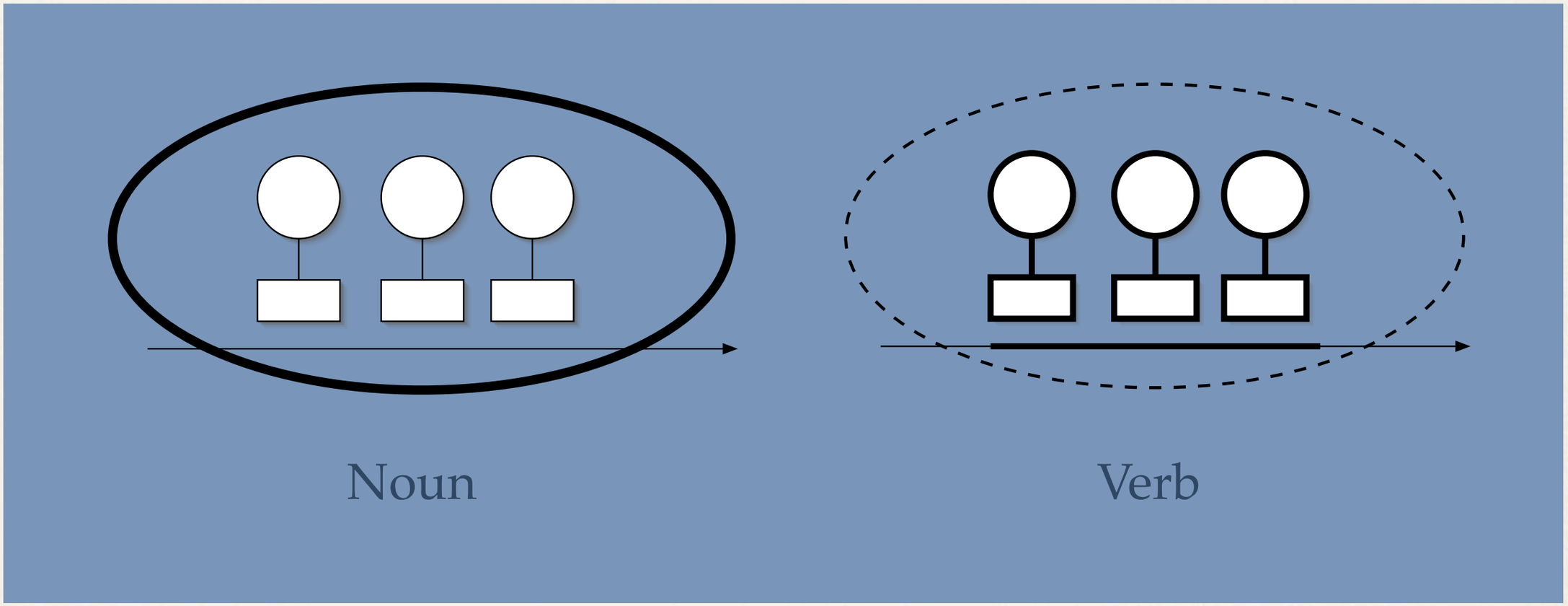
Summary Scanning
“activated holistically”



The Verb Schema

- **Process**: a complex relationship that develops through conceived time and is scanned sequentially along this axis.

- **Verb**: an expression that profiles a process.



Noun: an expression that profiles a thing

Verb: an expression that profiles a process