Language – a Complex Whole

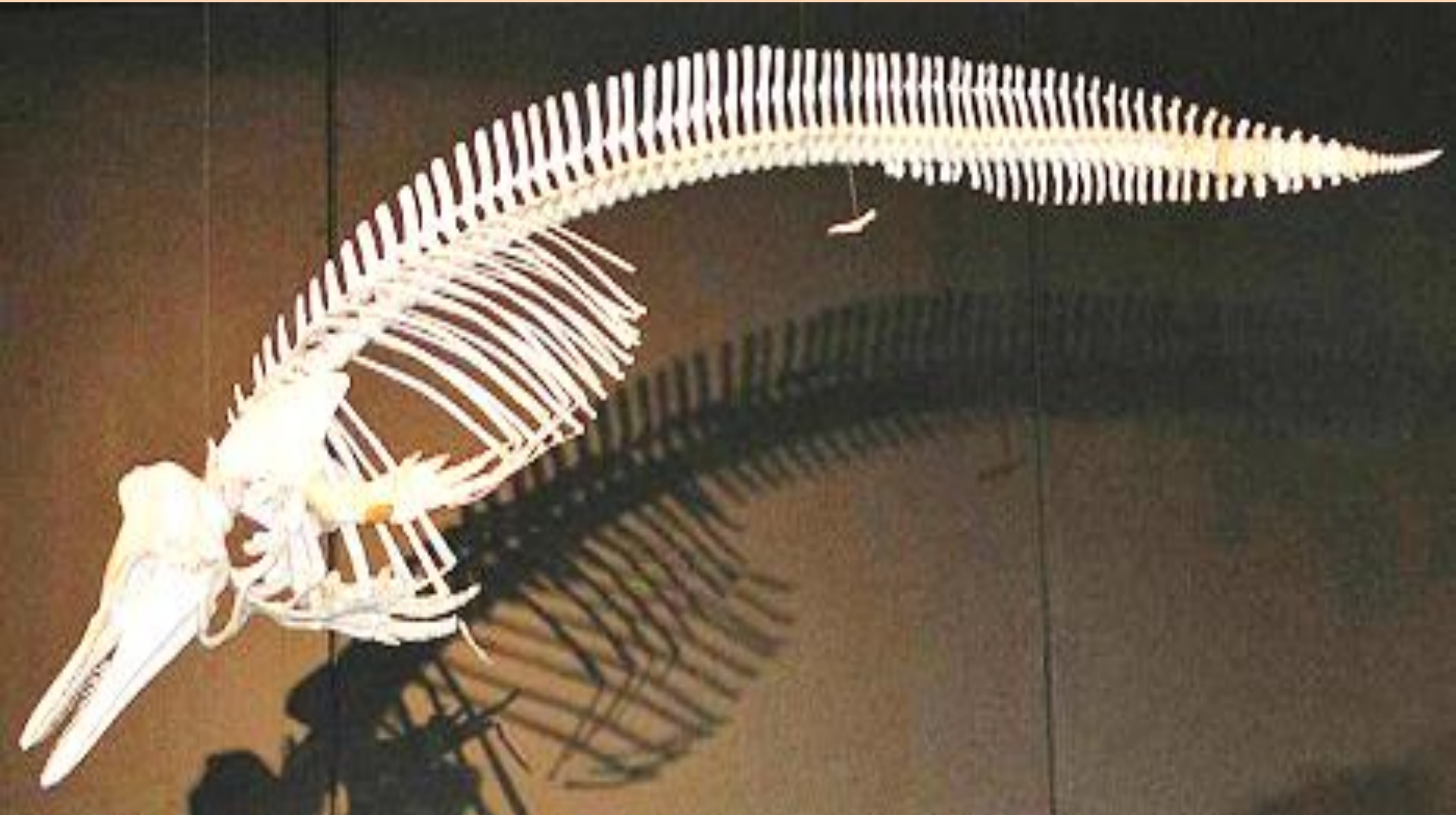# 2 ways of looking at things: Wide Angle & Zoom

The **WA** lens of **Dialectics** views things in their *unity* (*synthesis*), in their essential *interconnectedness*, *development*, *motion* & *change*:

The **zoom** lens of **analysis** focuses on fixed *parts* of the whole, in isolation from it:

White–beaked dolphin skeleton. Source: Zoologischen Museum Hamburg/Soebeeoearth.org

The Process of Cognition

To see clearly, **the Mind's Eye uses both lenses**:

Encountering something new, we first perceive it as a WHOLE – the 'first impression' (still vague; whole but low resolution image).

For deeper understanding, our Mind's Eye zooms in on PARTS of the WHOLE, examining them *separately* from the WHOLE, in high definition.

Then we 'zoom out' again, now seeing the WHOLE in higher resolution, provided by the close-ups (the **synthesis–analysis–new synthesis** cycle).

Modern Linguistics

The Sophists saw Language through the WA lens of 'first impression' – a vague & constantly changing image.

We have since gleaned a lot through the narrow windows of specialized linguistic analysis.

Yet, the ***Tätigkeit*** of Language has eluded us.

Analysis & Synthesis

are the ᴢᴏᴏᴍ & ᴡᴀ lenses our Mind's Eye must use, in order to get a clear picture.

Dialectical Analysis

COMBINES *the advantages* of both

Synthesis & Analysis

to give us a clear image of Language – *live*!

# To understand a complex whole, we must examine its smallest unit.

To identify it, we use both **Analysis** & **Synthesis**, for the smallest UNIT of a complex WHOLE must also be complex:

Word–meaning is the smallest unit of Language, because it has all the properties of the complex whole:

- **Psychological**: every word is already a generalization – an ACT of THOUGHT; meaning is the criterion of word
- **Physical**: the speech production mechanism & all linguistic structures are physical in nature; meaning comes into existence through words
- **Social**: the double function of every Sign is (1) to communicate (2) meaning
- **Historical**: words are the products of the collective mind of the society, living in Time.

The WHOLE is *more* than the sum of its **parts**.

$$H_2 + O \neq \quad H_2O$$
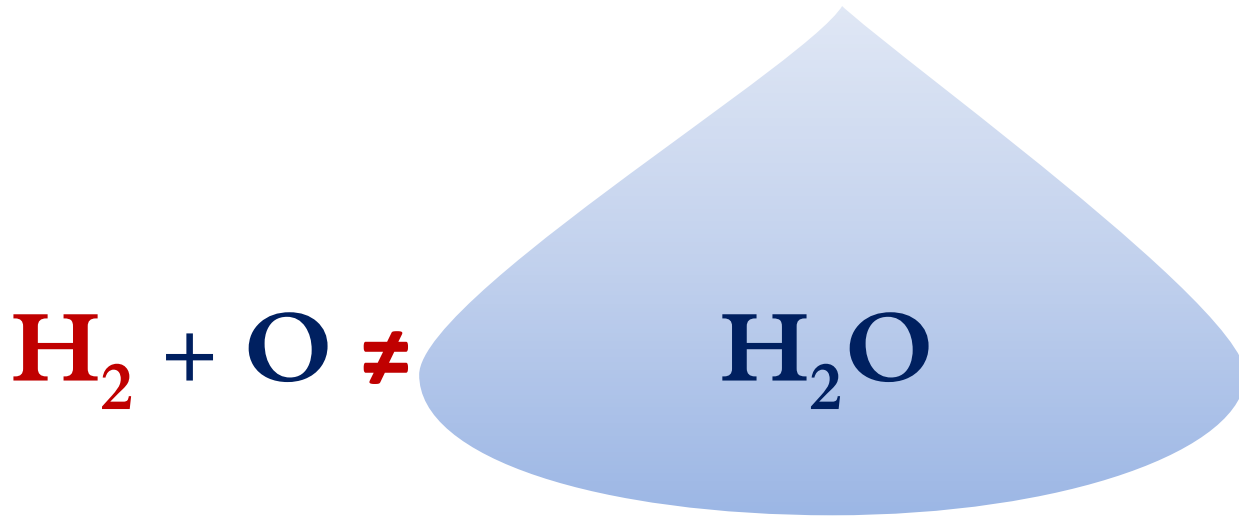
Water is **>** Hydrogen + Oxygen.

Word is more than the sum of its sounds & meaning.

The conception of word–meaning as a unit of both generalising thought and social interchange is of incalculable value for the study of thought and language.

Vygotsky: Language and Thought (1934)

Linguistic Implications (1)

Word–meanings are the products of the Mind –

'**Mind Is Their Measure**'

We make sense of our changing world in our own heads, living, thinking & communicating in Time.

Societies give us

– The smallest **units** of the Language they collectively create (the '*denotative*' word–meanings) and

– The conventional **rules** of combining them into unique *complex meanings* (sentence–mosaics) of our own.

Linguistic Implications (2)

Creations of the Mind, Linguistic Signs cannot be the concrete, 'fixed objects' Saussure believed they had to be, in order for our minds to grasp them:

> …In the historical evolution of language, the very structure of meaning and its psychological nature also change. From primitive generalisations, verbal thought rises to the most abstract concepts. **It is not merely the content of a word that changes**, **but the way in which reality is generalised and reflected in a word** (Vygotsky: 1934).

This explains semantic change / **grammaticalization**
(& related phonological/ morphological/ syntactic change)

In use, **words & their meanings are relatively independent of each other** (Vygotsky: 1934).

Words acquire their true meaning only in the **nexus** of the proposition, and in the context of use.

Linguistic Implications (3)

Word meaning is a 'unit of both generalising thought and social interchange' (Vygotsky: 1934).

Therefore, there is a correlation between our social and cognitive development, between our social interaction and our thinking ability:

Implications for the processes of **language acquisition** / **cognitive development**.

The WA lens of dialectics may also lead us to the discovery of **universal principles of grammar**.

The central tenet of *dialectical* linguistics:

Every word of Language is already a *generalization* – an *ACT* of thought.

This concept is fundamental to the dialectical view of Language – it breathes life into Saussure's Sign, infusing it with the living energy of human minds, all thinking & communicating their thoughts in Time, in order to survive.

This single proposition 'connects' all the 'dualities' of Language, merging all of them into one indivisible complex **WHOLE** of the **Sign**!

The Whole is more than the sum of its parts.

Language is more than the sum of its units & rules;

it is a *tool* that living, *thinking* human minds use to spin their *'webs of significance'*

(collective & individual).

Since **VERBAL THOUGHT** is **LANGUAGE**, its mechanism is the **mechanism of Language**, the 'Holy Grail' of linguistics!

How do humans *think*?

What do we do when we *think*?

'Though it be too obvious to escape observation, that different ideas are connected together; I do not find that any philosopher has attempted to enumerate or class all the principles of association; … To me, there appear to be only **three principles of connexion** among ideas; namely, **Resemblance, Contiguity** in time or place, and **Cause** or **Effect**.'

David Hume:
Essay Concerning Human Understanding (1748)

What do these make you think of? Why?

Mechanism of **Thought** (**G**)

Leaders of Florida's 'Chicken Church' want you to stop calling it the 'Chicken Church.'
http://huff.to/13Dp8jo

FB comments:

- It looks like not just a chicken, but a demented chicken! LOL

- When it stops looking like a chicken, we'll stop calling it the Chicken Church.

- Then why did you make it LOOK like a chicken?

All 3 types of association = Generalization

Words are **generalizations** in the collective mind of the society:

Several memories of the same thing [connected in the mind **because** of their **similarity**] produce finally a single general **idea**/**sign** for all of them – a **generalization**.
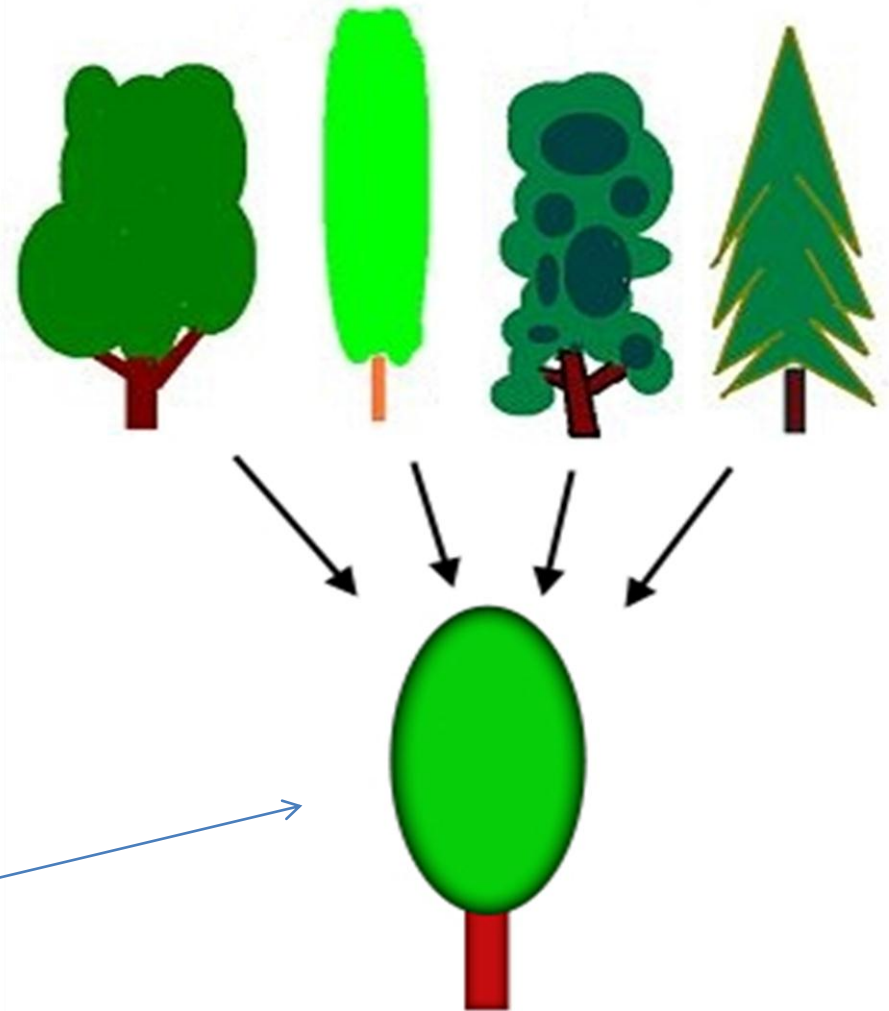
To generalize, we must see both similarities & differences:

In order to form a concept, we must be able **not only to connect**, **but also to abstract**, to single out characteristic elements, and to view them separately from the 'totality of the concrete experience in which they are embedded.'

Vygotsky: 1934

Cf. with processes, like *breathing* – both inhalation & exhalation; *metabolism* – both anabolism & catabolism, etc.

The Universal Principles of Human, Verbal Thought

Association by resemblance, contiguity in space/time, and by cause/effect is the **mechanism of generalization** (thinking).

This is the **Rational Language Mechanism** which Ferdinand de Saussure wished had existed, so it could be studied in its own right!

No single word is an assertion.

Aristotle: On Interpretation

We do not normally speak in isolated words.

To express a complex idea,

we must *say* something *about* something

– we must ***connect* (synthesize)**

what we speak *about* (Subject)

with

what we say about it (Predicate).

**The Verb is the 'connector' that
animates the sentence mosaic.**

Language – Thought

Every thought creates a *connection*, fulfills a function, solves a problem…

Thought is not merely expressed in words; it comes into existence through them. Every thought tends to *connect* something with something else, to establish a *relationship* between things.

(Vygotsky: 1934)

What are these connections, these relationships? – The sinews of GENERALIZATION.

These 'sinews' of generalization hold together all sentence mosaics whose meanings we see with our Mind's Eye;

NO 'SINEWS,' **NO COMPOUND MEANING**:
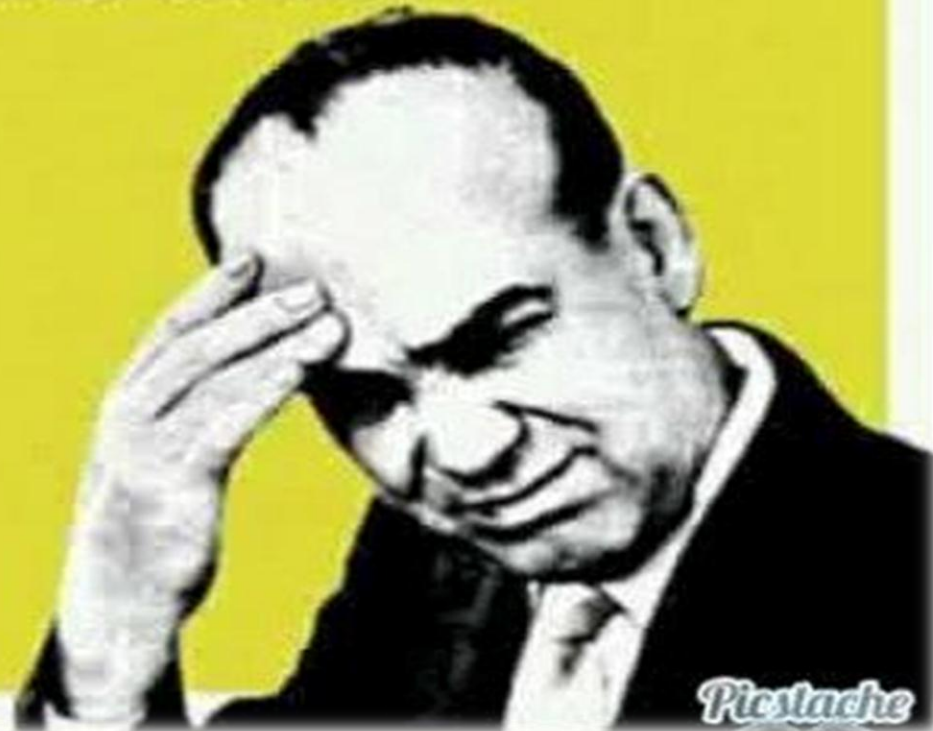
Synthesis & Analysis of word–meanings into sentence–mosaics, each with its own compound meaning, is what we do when we think / speak.

Wisdom: Knowledge of the *Causes*

Aristotle

Trying to make sense of things we perceive, we ask questions:

Who? What? Which? Where? When? Why?

Traditionally, words that answer these questions in the sentence are called '**Parts of Speech**' – '**Parts of Thought**' might be a more accurate name for these word functions ☺:

Nouns – [Who? What?] associations by resemblance, cause/effect & contiguity

Adjectives – [Which? Which kind?] association by resemblance

Adverbs – associations either by resemblance [How?],

by contiguity in space/time [Where? When?], or

by cause/effect [Why? With what consequence?, etc.]

If languages had a mechanism which were entirely **rational**, *that mechanism could be studied in its own right.*

Saussure

'It seems that many apparently arbitrary aspects of language can be explained by relatively natural cognitive constraints – and hence that language may be rather less arbitrary than at first supposed'
Christiansen/Chater: 2007

The sinews of Generalization limit the arbitrariness of linguistic structures.

Generalizing sentence analysis (Gnalysis) uses these universal principles of human understanding to make sense of how words/phrases/clauses relate to each other in the sentence mosaic.

GENERALIZATION:

THE RATIONAL MECHANISM OF LANGUAGE

The **Rational** Language Mechanism

Two basic principles of sentence structure:

1. **Synthesis** of word–meanings into the 'nexus' of the sentence [**S**/**V**/**C**] – connecting what we speak about with what we say about it by resemblance (*It is easy!*), contiguity (*I live in PNG*), or cause/effect (*We can think because of Language*).

2. **Analysis** – zoom in on the main sentence constituents, adding 'pixels' to the S, V, or C (by R, C, or C/E)

Synthesis & *Analysis*

We usually put some 'meat' on the 'bare bones' of the nexus $(S/V/C)$:

S   V $C_{(DO)}$
Doctors // treat // patients

S   V $C_{(DO)}$
Young doctors // **carefully** treat // **sick** patients

S   V $C_{(DO)}$ S_2 V_2 $C_{2(DO)}$
Young doctors // **carefully** treat // **sick** patients, *because they want them to get better*.

Why?

Logical Connections in Generalization (Relations of Synthesis & Analysis)

In order to form a concept (*generalization*), we must not only connect, but also abstract, single out parts of it. Different societies developed their own ways of building their word mosaics through the synthesis and analysis of word–meanings.

The relations between words in a sentence are of 2 kinds:

1. those of **synthesis** (syntagmatic relations) &
2. those of **analysis** (associative relations).

Relations of Synthesis into 'nexus' (WA)

Syntagmatic, linear relations between words in the sentence often express perceived resemblance, contiguity, or causal relations between what we speak about (S), what we say about it (the predicate), and/or parts of both.

Different grammars express these relationships in different ways: word order, inflections and/or prepositions, verb tenses/conjugations, aspect & modality, etc.

Relations of **Analysis** (**Zoom**)

Are those between the main sentence constituents & the words/phrases/clauses that add 'pixels' to them:

- **Adjectives** describe nouns by resemblance,
- **Adverbs** describe verbs by resemblance, contiguity in space/time, or cause/effect (adverbs of manner may also 'zoom in' on adjectives).

   ****Nouns** name things by all 3 kinds of association; they name the Subject(s) or Object(s) of the Verb.

Relations of Synthesis & Analysis

Shape the composite meanings of sentence–mosaics, and influence the meanings of words that make them up.

In fact, words and their meanings are relatively independent of each other within the nexus of the sentence, ***in use***, as would be the case in an exchange along these lines:

- You effing idiot!
- I love you, too!

Meaning as Use

Word–meanings, the social 'currency of thought exchange,' are the tiles we put together to create our sentence mosaics /composite meanings. Each tile in a mosaic acquires its 'meaning' only in the context of the whole pattern:
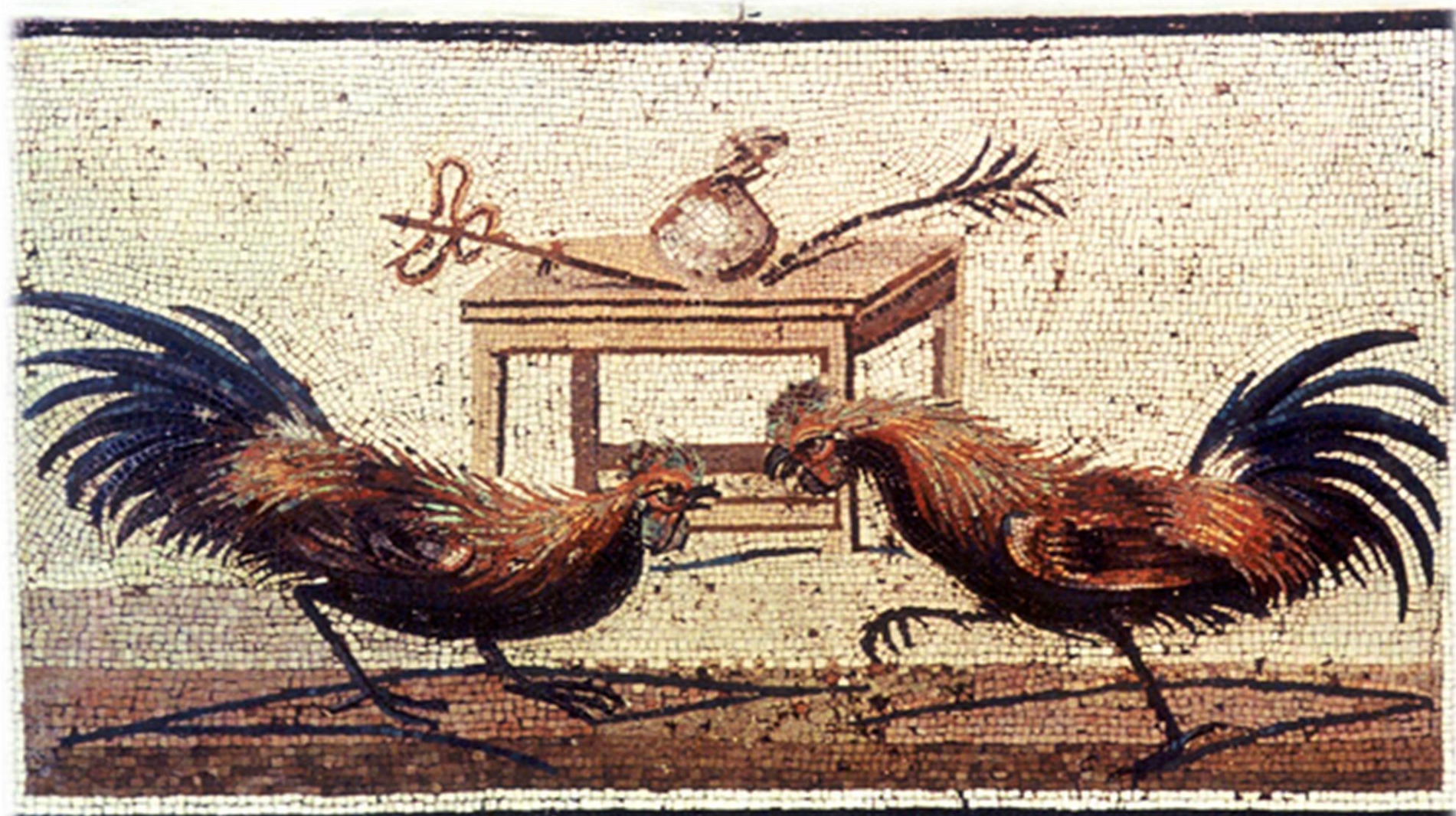
Meaning–as–Use

We use the words /social Signs to create composite sentence mosaics that we 'see' through our Mind's Eye, & share them with others.

The 'vision' of each Mind's Eye is subjective:

- some are 20/20, some – myopic, others – long–sighted;
- some '*see red*', others can hardly keep their 'eye' open, or just want to keep it shut, etc.

Yet, our common 'currency' ensures some exchange of value (always a relative concept ☺).

In *use*, *words* form **chunks of meaning** that can be 'seen' differently by different minds.

We make sense of things in our own heads:

Santa's sexual harassment trial takes a dramatic change for the worse

Indeterminacy of Meaning

A little old man shuffled slowly into an ice cream parlor and pulled himself slowly, painfully, up onto a stool..

After catching his breath, he ordered a banana split.

The waitress asked, kindly, 'Crushed nuts?'

'No… Arthritis.'

Descriptions of Language don't explain its '*Causes*'

We do not regard any of the senses as Wisdom; yet surely these give the most authoritative knowledge of particulars. But they do not tell us the **'why'** *of anything – e.g.,* **why** *fire is hot; they only say that it is hot. …* ***Wisdom is knowledge about certain principles and causes***.

Aristotle: *Metaphysics*, Book I

The **WHY**s, the '***causes***' of Language & its behavior elude the descriptive method:

- The zoom lens of structuralism describes 'fixed' structures, it can't explain them

- Historical /Comparative linguistics describes HOW languages change – but it cannot tell us **WHY**.

- Semantic theories view ***meaning*** as an objective fixed ***entity***, & try to pair linguistic expressions with these entities (their 'meanings'), but – **WHY** do meanings change? **Why** is ambiguity so inherent in language?

Descriptive Linguistics can't explain INDETERMINACY of MEANING

Semantic theories view sentences of language (and their parts) as the 'bearers' of some objective meaning and try to pair sentences to their 'correct' meanings.

Compositionality

The principle of compositionality, an axiom in most contemporary work in semantics, holds that **the meaning of a complex expression is fully determined by its structure and the meanings of its constituents**.

This is the result of fundamental misconception of the nature of Language.

Descriptive Linguistics can't **explain** SYNTAX:

Parts of Speech are viewed as categories of lexical items, defined by their morphological or syntactic behavior. The traditional 'fixed' functions of noun, verb, adjective and preposition are assigned to a word, and to the phrase it occurs in, based on formal syntactic distribution tests, as well as on the word's morphology.

Yet, 'looks can be deceptive' – also in syntax!

Generalizing syntactic analysis (G–nalysis)

G–nalysis uses the mechanism of meaning creation, Generalisation, to identify the logical relations between words and groups of words in the sentence mosaic, and to show how the natural way we think expands simple ideas into larger chunks of meaning.

Because this method of sentence analysis (g–nalysis) uses the way the human brain thinks naturally, it is really easy to understand, and use.

Parts of Speech–**Thought** Are Universal

The functions of words in the sentence express our perceptions of **universal logical relationships** between things in our 4D world.

Since the mechanism of human Thought – **generalization** – is universal, word functions in different languages cannot be different.

In use, word–meanings form 'chunks' of composite meanings, which function together as an Adjective, Adverb, or Noun in the nexus. If the Adjective, Adverb, or Noun has sentence structure (S/V/C), it is a dependent clause; if not, then the 'chunk' of word meanings is a Noun, Adjective, or Adverb phrase.

G–nalysis focuses on the **universal 'sinews'**
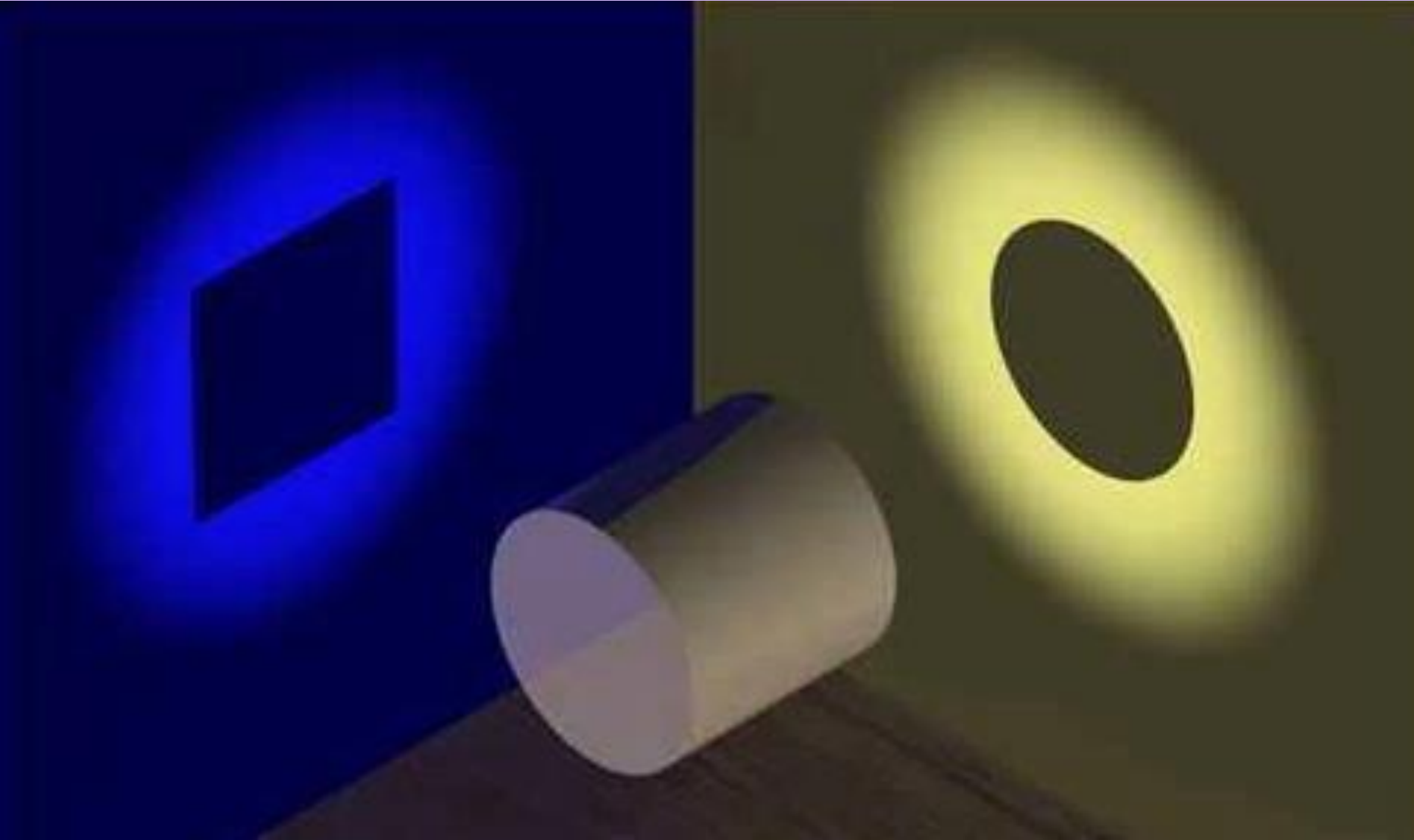(*perceived* **relationships** between all the words/groups of words in the sentence)

2 steps:

1. **ID all S/V/Cs in the main clause**

2. **ID all relations between words & 'chunks' of words by asking logical qs**
(phrases & clauses can do adjective, adverb, & noun 'jobs' in the sentence)

G–nalysis exposes the 'sinews' of generalization in individual minds

G–nalysis accommodates ambiguity

'Tool Box' of Concepts for G–nalysis

- **Parts of speech**
  - Revision of verbs: function, tenses, voice, modality, conjugation

- **Sentence**
  - **S/V/C** [Compliment can be: *Zero*, *PN*, *PA*, or *DO/IO*]
  - **4 types** of sentence structure [simple, compound, complex & compound–complex]

- **Clause**: an **S/V/C** that functions as an Adjective, Adverb or Noun in the main clause
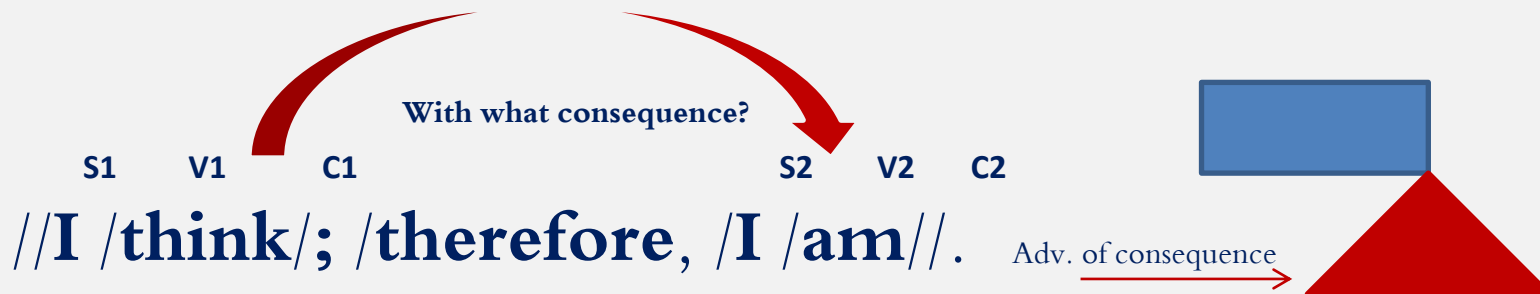
- **Phrase**: a group of words that function together as an Adjective, Adverb or Noun in the main clause

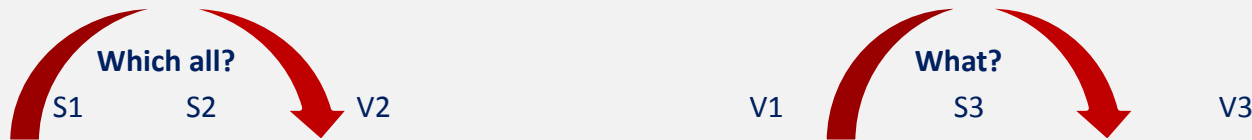# **Generalizing** sentence analysis

G–nalysis focuses on how **words & groups of words** function together in the nexus of the main sentence; 2 steps:

- ID all nexal patterns
- ID clause/phrase/word functions through the WA view of the whole, and asking 'common sense'/ logical questions about its parts

Diagram nexal patterns (independent ; dependent)

With what consequence?

S1   V1   C1   S2   V2   C2

//I /think/; /therefore, /I /am//.

Adv. of consequence

G–nalysis Examples

Which all?   What?

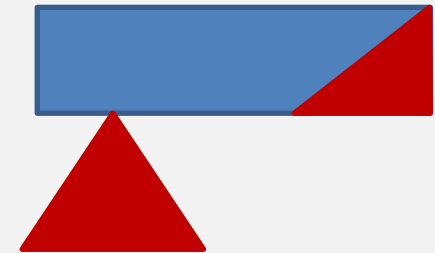S1   S2   V2   V1   S3   V3

//All /who were there/saw /what /happened//.

S/V/C # 1:   All saw [what happened]

S/V/C # 2:   Who were there

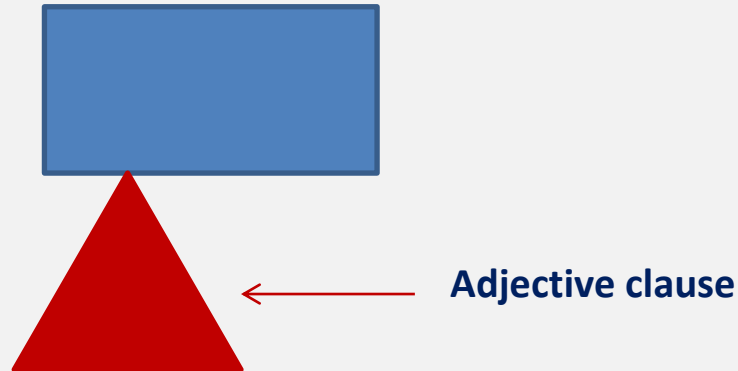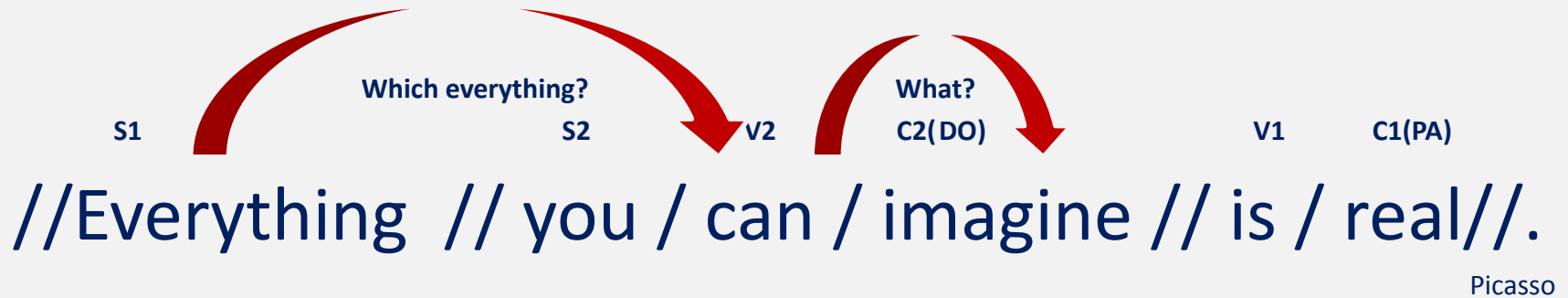S/V/C # 3:   what happened

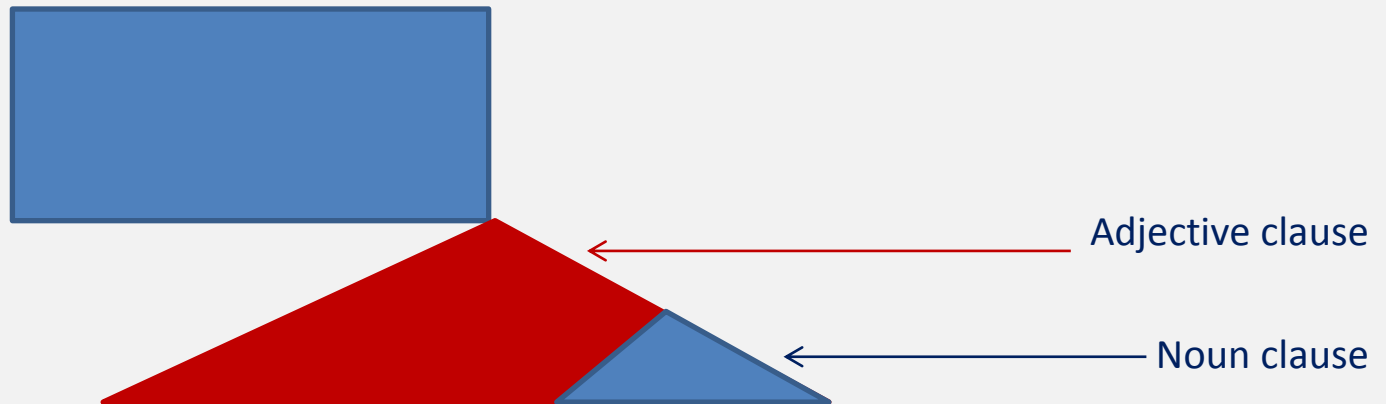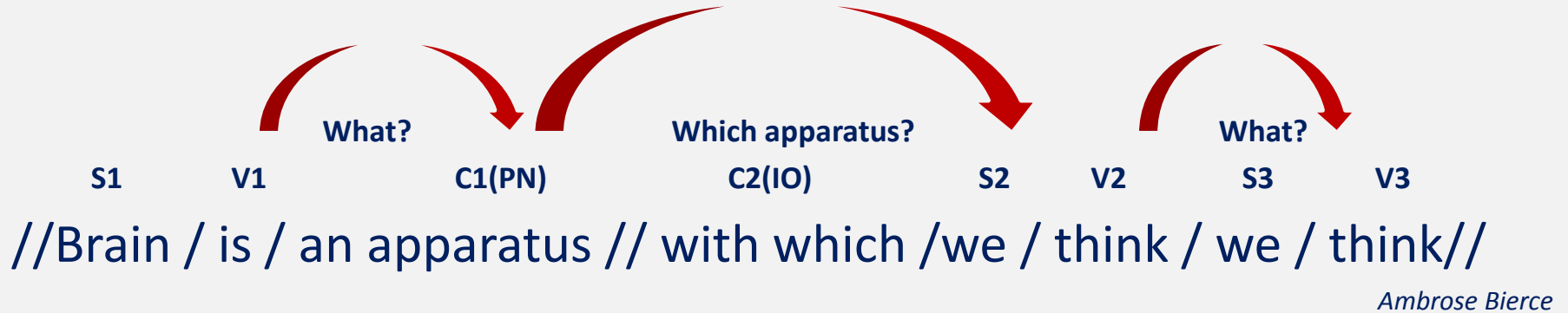Main S/V/C: All saw what happened.

Dependent SVCs:

- who were there = Adjective clause (describes 'All')

- what happened = Noun clause (names what all saw)

G–nalysis Examples

Which everything?

What?

S1   **S2**   **V2**   **C2(DO)**   **V1**   **C1(PA)**

//Everything // you / can / imagine // is / real//.

Picasso

← **Adjective clause**

G-nalysis Examples

What? **Which apparatus?** **What?**

S1   V1   C1(PN)   C2(IO)   S2   V2   S3   V3

//Brain / is / an apparatus // with which /we / think / we / think//

Ambrose Bierce

Adjective clause

Noun clause

The same logical relationships in all languages

Examples of how different languages express the cause/effect relationship between two clauses:

I think, therefore I am.

Je pense, donc je suis. [French]

Cogito, ergo sum. [Latin]

Nne aposi, eguko nne. [Telei of Southern Bougainville]

Saya pikir, mahanya Saya ada. [Bahasa Indonesia]

Ah de tink, so na mi. [Krio of Sierra Leone]

The universal principles of human understanding operate in all languages: different tactics, same strategy!

- **Japanese**: Ware omou, yueni ware ari.

- **Latvian**: Es domāju – tādēļ es esmu.

- **German**: Ich denke, also bin ich.

- **Spanish**: Yo pienso, entonces yo soy.

- **Dutch**:   Ik denk, daarom ik besta.

- **Russian:** Я мыслю, следовательно, я существую.

- **Greek**:   Σκέφτομαι άρα υπάρχω .

Generalization shapes *Syntax*

Language embodies not only **what** we think, but also **how** we do it – associating ideas by resemblance, contiguity & cause/effect.

G–nalysis helps students see the logic of language.

Man is an animal suspended in the webs of significance he himself has spun.

Max Weber (1864–1920)

Human civilization is inconceivable without language; this is why acquisition of good language skills has always been regarded as the cornerstone of education in all human societies.

Social webs of meaning support and nurture us, until we mature and become adult 'spinners' in our own right.

G–nanysis helps students become better spinners of their

'webs of significance.'

Conclusion

- **Dialectics makes syntax easy & fun**, because it uses the natural way we think to discover the 'mechanics' of spinning complex meanings.

- **Because g–nalysis is easy to understand and use**, students enjoy it and soon become expert 'web spinners.'

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