

Climbing trees and seeing stars:
Combinatorial structure in comics and diverse domains.

Neil Cohn

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Ray Jackendoff.* (pp. 379-392) Cambridge: MIT Press.

CLIMBING TREES AND SEEING STARS

COMBINATORIAL STRUCTURE IN COMICS AND DIVERSE DOMAINS

BY NEIL COHN



Hi there, I'm Neil Cohn.

I'm proud to be able to say that Ray Jackendoff was my mentor throughout graduate school at Tufts University.

In Ray, I found a brilliant, challenging, and encouraging mentor whose expansive vision of cognition afforded the perfect perspective for my own studies.

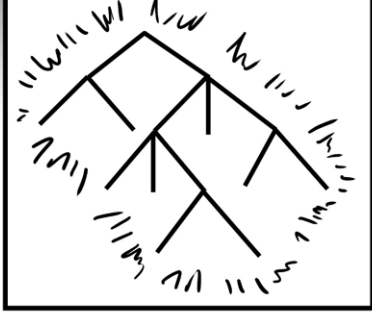


My own research explores the cognition of *visual narratives*, particularly those in *comics*.

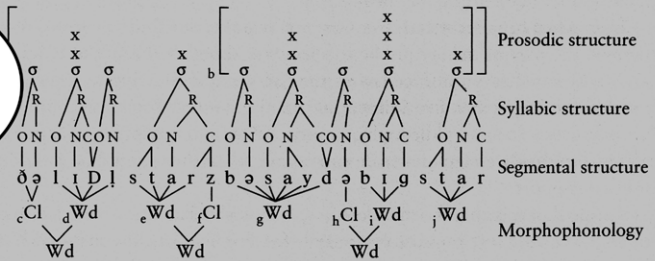


This "**visual language**" is built similarly to any other language, consistent with the structures Ray has discussed across domains.

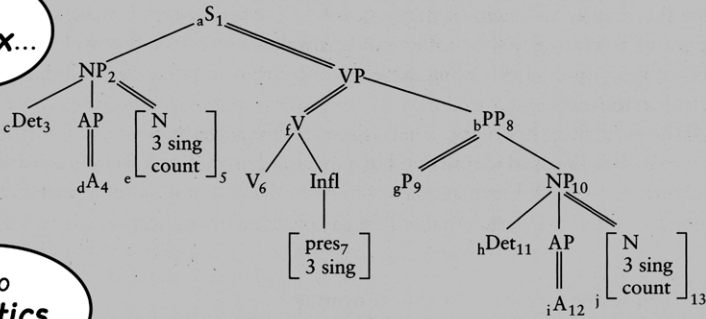
A key part of this picture is the role of combinatorial structure, which, as Ray's work has stressed, is not confined to linguistic syntax alone.



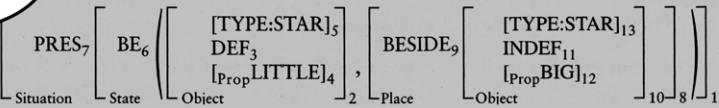
All levels of linguistic structure are combinatorial, from **phonology**...



...to **syntax**...



...to **semantics**...



...and **spatial structure**.



...which may be even clearer to see when David Marr does it.

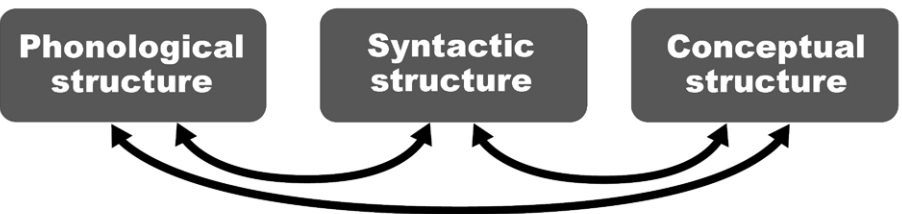
(A favorite of Ray's)

(Marr and Nishihara 1978, 278)



(Jackendoff 2002, 6)

And, these varying structures interface with each other into a **parallel architecture**.

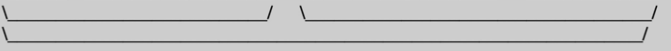


However, Ray's work has also highlighted combinatorial structure in other domains, such as the various levels of structure in music...

...metrical structure...

Metrical structure diagram showing 'x' marks above notes in the musical score for the sentence: "I once had a girl or should I say she once had me".

...grouping structure...

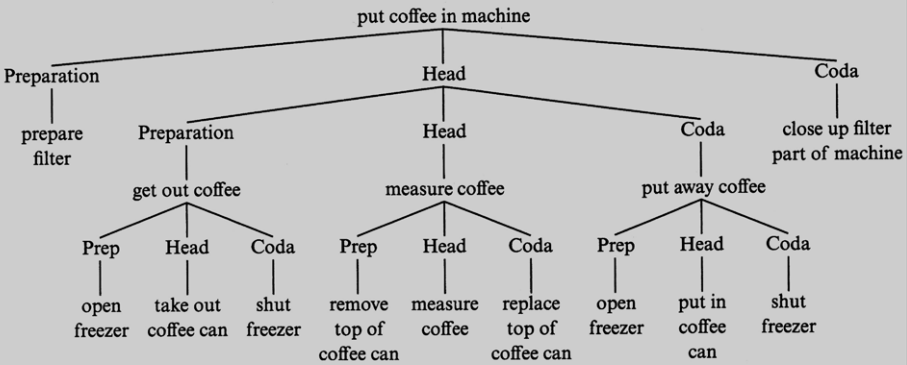


...or pitch structure.

Pitch structure diagram showing a tree structure overlaid on the musical score for the sentence: "I once had a girl or should I say she once had me".

(Jackendoff and Lerdahl 2006, 38, 56)

Or, the hierarchic organization of complex events.



(Jackendoff 2007, 128)

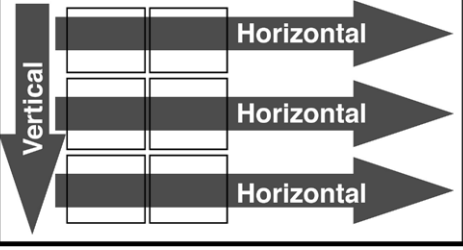


All of these domains involve the hierarchic embedding of structures within structures.

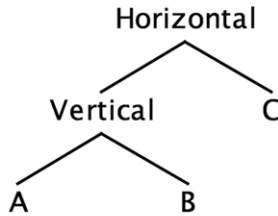
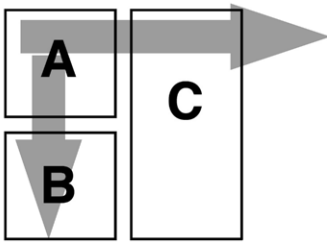
Along these lines, *visual narratives* have several levels of combinatorial structure, just like language...



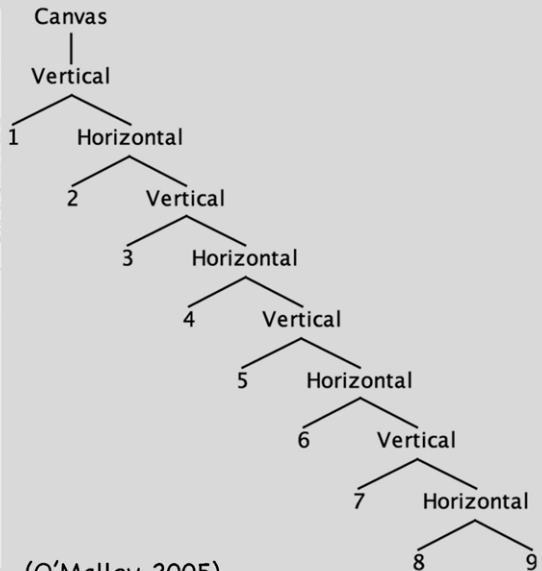
For example, a simple comic page often uses *horizontal* and *vertical* arrangements of panels.



Yet, into each column and row, we can embed other columns and rows, making a *hierarchical* structure.



So, a page like this one from the comic *Scott Pilgrim* yields a *right-branching structure* of recursive embedding.



(O'Malley 2005)

The **narrative structure** of sequential images also can combine in complex ways. The basic schema resembles traditional notions of narrative...



An **Establisher** sets up the interaction of the sequence.



An **Initial** then sets the events in motion...



...which climax at the **Peak**...

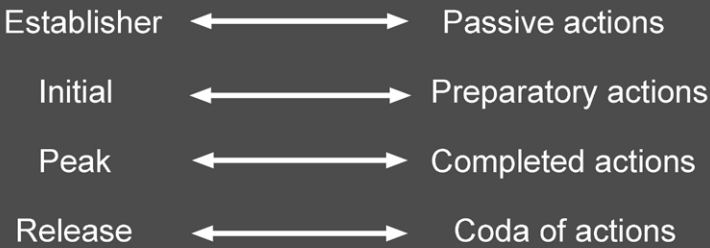


...followed by a resolution in the **Release**.

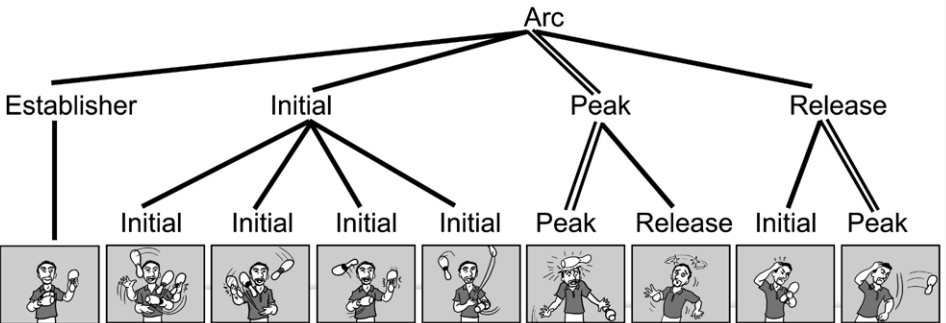
Just like syntactic categories, these narrative categories serve to organize meaning through prototypical correspondences to conceptual structure.

Narrative structure

Conceptual Structure



However, each of these categories can be expanded into another node...



...like here where **conjoined** panels all play the role of **Initials**...

...or the **Peak** and **Release** each expand into two panels with their own roles.

Let's look at one more convention in comics...

Speaking and thinking are often shown through particular *graphic morphemes*.



In English, the same meaning would be expressed with "she said..." or "he thought..." as frames by which we can embed an additional sentence. This can lead to perpetual embedding...

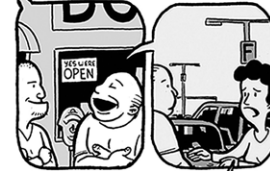
Ray loves trains.

Hildy knows that Ray loves trains.

Amy thinks that Hildy knows that Ray loves trains.

Beth wonders why Amy thinks that Hildy knows that Ray loves trains.

We can also do this with *speech balloons* or *thought bubbles*, but in this case the embedding happens *within* the visual morpheme, using them as *whole panels*.



Unlike in speech, though, we can playfully exploit the *visual-graphic modality* in ways unavailable to the linear nature of verbal speech — like wrapping this *recursion* onto itself!



Examples from
(Cohn and
Godek 2007)

Together,
this work recognizes
combinatorial structure
as a key part of cognition
across domains.

Such a view would
be impossible if we
limited ourselves to a
single perspective.

Studying language
alone would not lead us
to such a conclusion.

It has become a common
metaphor in science that
we view our material from
under a spotlight of
knowledge that frames
what we know about a
particular topic.

If we are lucky enough, we can then
grow the spotlight ever more to get a
better view of the bigger picture.



Under one
interpretation,
Ray's work might
suggest growing the
biggest spotlight
possible...

If the career of Ray Jackendoff has taught us anything though, it's that we should not *limit ourselves to a single viewpoint.*

From language and music to consciousness, vision, and social relationships to event structure and values...

...all of these things can inform our broader picture of the mind.

Meaning and the Lexicon

The Parallel Architecture 1975-2010

Ray Jackendoff

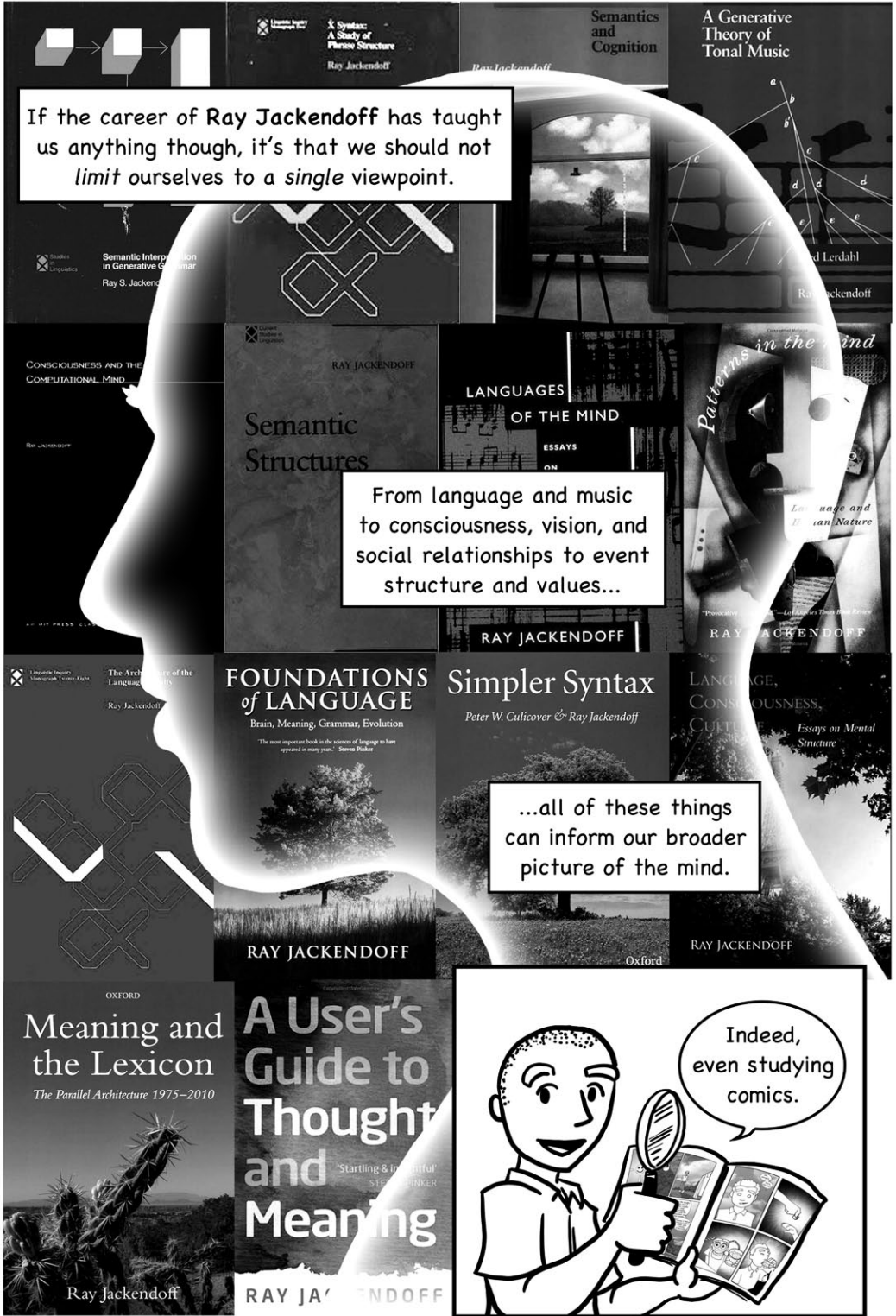
A User's Guide to Thought and Meaning

'Starting & insightful'
STEPHEN YIP

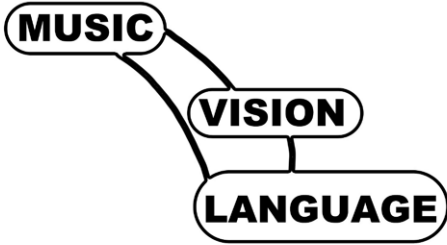
RAY JACKENDOFF



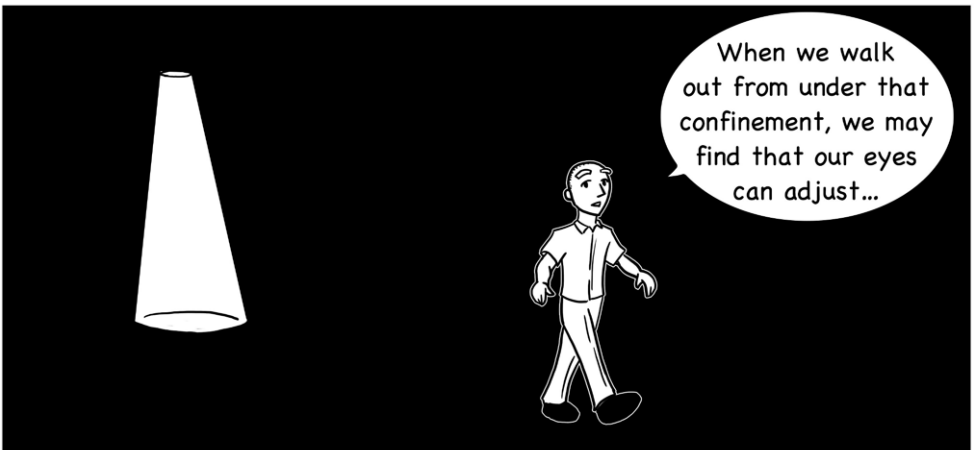
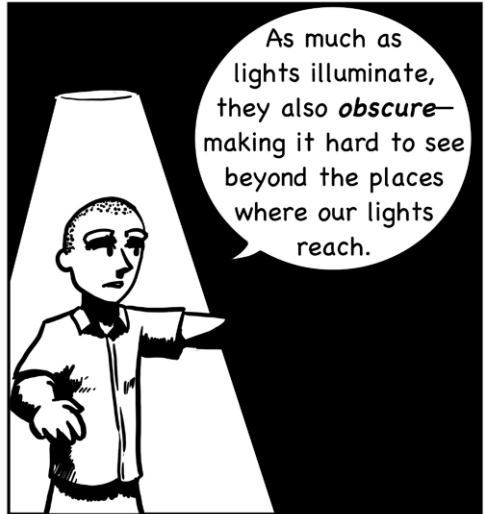
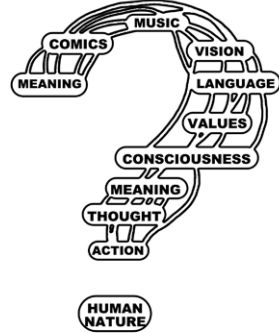
Indeed, even studying comics.



Ray's explorations into *music* and *vision* directly changed his theories of *language*, and his work on *language* directly informs work *outside of linguistics*.



He didn't just expand his "spotlight," he looked to the work in other fields to provide answers to *Big Questions* that connect all of these disciplines.



...and hopefully we'll be able to look up and see the *beauty* of the *night sky*.



If we're lucky, we may even be able to see a *little star* beside a **big star**...



...and in them we can find our place alongside Ray's contribution to our understanding of cognition.



Note

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