

Metaphorical binominal constructions in the domain of nature

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CRAB project

CONSTRUCTIONS BINOMINALES EN OF ET MÉTAPHORE, 21 May 2025



Objective

To provide an overview & a basic theoretical frame for the research on binominal constructions

- consisting of two nominal constituents: **N1/nature-based classifier & N2**
- forming **a larger conceptual unit**

such as the expressions in 1 (a-d):

(1) a. Eng. *a tide of criticism*

b. It. *una montagna di debiti* ‘a mountain of debts’

c. Ru. *grad voprosov* ‘a hail of questions’

d. Pl. *morze rąk* ‘a sea of arms’

Metaphorical binominals

N1, lexical word denoting a natural phenomenon/element, i.e. TIDE, MOUNTAIN, HAIL, SEA

1. assumes a **functional role** within the construction: **syntactic head of the binominal**
2. N1 constitutes **the source domain** for semantic properties which are **metaphorically mapped onto N2**
 - a. Eng. *a tide of criticism* QUANTITY (large, ‘overwhelming’), MOVEMENT (rising/increasing)
 - b. It. *una montagna di debiti* ‘a mountain of debts’ QUANTITY, TEMPORAL ARRANGEMENT
 - c. Ru. *grad voprosov* ‘a hail of questions’ QUANTITY, ACTIONAL PROFILE (intensity)
 - d. Pl. *morze rąk* ‘a sea of arms’ QUANTITY, SPATIAL ARRANGEMENT

Topics for today

In particular, the following aspects will be discussed in detail:

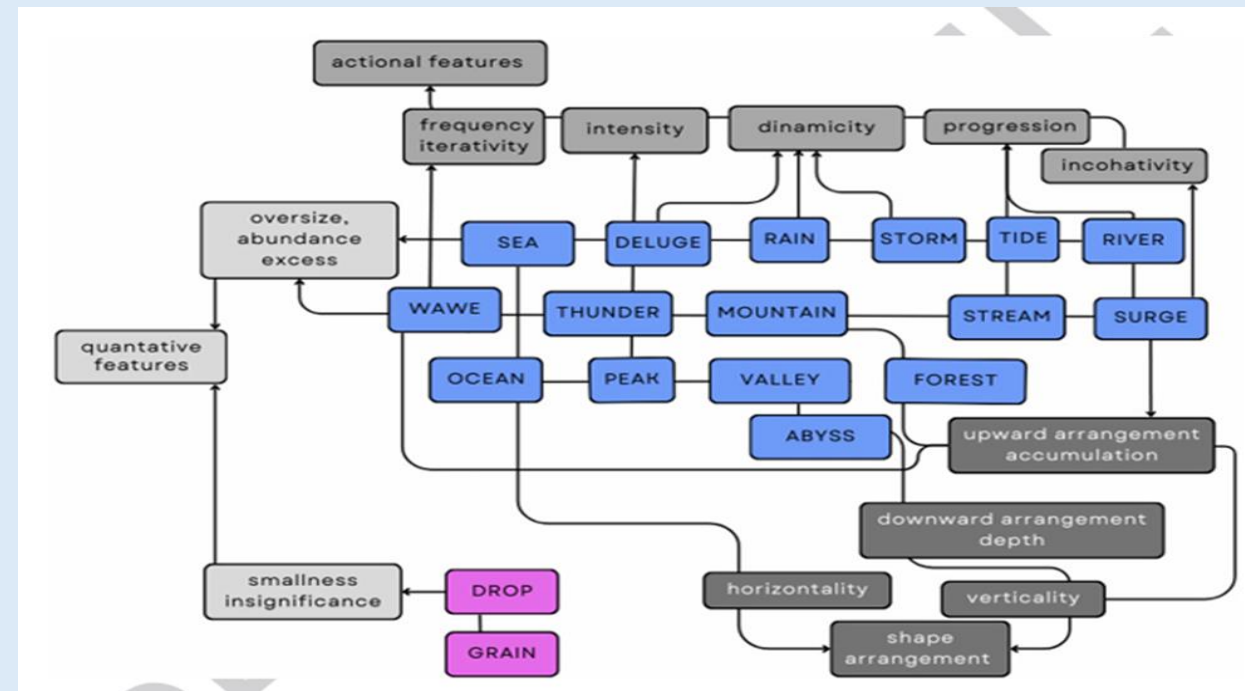
1. **syntactic** formats and the delimitation of **nature-based metaphorical** patterns
2. the process of **metaphorization and semantic mapping** of quantifying and/or qualifying traits from N1 to N2 within the binominal,
3. the **co-semiosis** between N1 and N2 in the construction of complex binominal meaning/interpretation
4. the **semantic versatility** of the binominal in use
5. **nature-based** metaphors
6. conclusive remarks

**Syntactic formats and the
delimitation of
nature-based metaphorical patterns**

Binominal constructions

- Binominal constructions [N1 of N2] in which **N2 is prototypically linked to the metaphorical nature-based classifier N1 by a subordinate relationship** are very widespread in Indo-European languages (Slavic, Germanic or Romance languages)

- Examples of nature-based classifiers occurring in binominal constructions [N1 of N2]



Syntactic formats

The **subordinate relationship** can be realized in diverse syntactic ways:

- by a preposition - in Germanic, Romance and non-inflecting Slavic languages, e.g. Eng. *a sea of troubles*, Fr. *une mer de problèmes* Bg. *more ot problem*
NB. pattern possible also in inflecting Slavic languages, e.g. Ru. *dožd' iz deneg.GEN* ‘money shower,’ lit. ‘rain from money’
- by genitive case marking in inflecting Slavic languages, e.g. Pl. *morze problemów.GEN*, Ru. *more problem.GEN* ‘a sea of problems’

Other syntactic formats

- modifying N1 functioning as an adjective in the right-headed [N1 N2] constructions, e.g. Eng. **money** rain
- compounds, e.g. De. **Geldregen**, Se. **penningregn** ‘money rain’
- relational adjective derived from the source, nature-based domain, e.g. Pl. **burzliwa** dyskusja ‘a stormy discussion’, **mglista** idea ‘a foggy idea’, It. *amore* **tempestoso** ‘a tempestuous love’, It. *ricordo* **nebbioso** ‘a foggy recollection’, Eng. **thunderous** applause
- relational adjective for the target domain, e.g. Fr. *une marée* **humaine** ‘a human tide’, Pl. **ludzka** rzeka ‘a human river’ Pl. *burza* **hormonalna** ‘hormonal storm’, Ru. **deneznyj** dožd’ ‘a money rain’

Process of mapping

Source domain of nature

Natural phenomena, e.g., RAIN, STORM, THUNDER, WAVE, WIND, TIDE, EARTHQUAKE, FOG etc. & elements of the landscape, e.g., SEA, RIVER, STREAM, MOUNTAIN, FOREST, OCEAN, TREE etc.)



Target domain

Thunderous applause/A thunder of applause

Metaphorical binominal patterns

Metaphorical binominal constructions *N1 of N2*

- 1) N1 is a syntactic head which qualifies and-or quantifies the N2 (**‘metaphorical classifier’**) while the N2 is a semantic head which designates the referent of the binominal, e.g. Eng. *a river of people*, It. *un fiume di persone*, Pl. *rzeka ludzi*
- 2) Eng. *the river of life*, Pl. *rzeka dzieciństwa* ‘the river of childhood’, It. *il fiume della storia* ‘the river of history’. Here the N1 – being both a syntactic and semantic head of the construction - realizes the **RIVER-metaphor LIFE/ CHILDHOOD/ HISTORY IS A RIVER**. The temporal course of N2 is conceptualized as analogous to the natural course of a river.

NB: in both cases there is a metaphorical mapping, i.e. the **N1 river** maps on the N2 actional features of an ongoing, continuous or interminable ‘flowing’ process, but the examples in (1) are instances of metaphorical classification, while those in (2) structural metaphors.

Metaphorization and semantic mapping

- In nature-based binominal constructions, the first nominal constituent (N1) does not fulfil a **referential function** based on its lexical meaning, but it is used to **characterize the entity denoted by the second constituent (N2)** in terms of its **salient cognitive features**
- The relation between the two nominal elements is **metaphorical** in nature and basically consists in the mapping of certain conventional properties of the natural phenomenon/element in **N1 (conceptual SD)** onto the entity in **N2 (conceptual TD)**.
- The process of metaphorization based on the semantic mapping of perceptually and cognitively prominent, and thus conventionally shared, properties from the nature-based SD to other domains **has an intrinsic qualifying** nature which is not limited to quantification function; we propose to consider it as an instance of **nominal classification** (N1 is a classifier)

Complex semantic mapping

(2) Pl. *Burzy falujących włosów nie dało się najwidoczniej w żaden sposób opanować.*
(NKJP, Wyspy Szerszenia)

‘The storm of wavy hair could apparently not be contained in any way.’

The Polish binominal expression *burza włosów* ‘a storm of hair’ in (2) designates a huge amount of hair with a massive and irregular shape that is out of control. The classifier *storm* confers to the N2 *hair* a series of distinct, though interrelated, semantic properties such as:

- (i) being in a very large amount (quantity)
- (ii) being arranged in a disorderly and messy manner (spatial arrangement)
- (iii) having a dynamic feature of instability and shakiness (actional profile)

Hyberbolic quantity as diverse metaphors

(3) Pl. *Przy ulicy Nugat rośnie góra śmieci.* (NKJP, Dziennik Łódzki)

‘A mountain of rubbish is growing on Nugat street.’

(4) Pl. *Nasze miasto, nasz kraj, nasza Ziemia toną w morzu śmieci.* (NKJP, Zielone Brygady)

‘Our city, our country, our Earth are all drowning in a sea of rubbish.’

Although the two binominals express the meaning of an excessive and potentially critical accumulation of rubbish, the metaphorical construction of such a complex meaning is qualitatively and cognitively dissimilar, i.e. vertical accumulation having a massive pyramidal form vs horizontal and boundless space surrounding speakers

The Process of Co-Semiosis

- The selection of traits in the semantic mapping does not only depend on the type and meaning of a nature-based classifier (N1).
- The process of metaphorization is also **semantically shaped by the inherent nature of the denoted entity (N2)**, precisely by its lexical meaning, including specific connotative and ontological features, and other general properties of N2 grounded in the distinction between concrete/abstract, animate/inanimate, countable/uncountable.
- The binominal interpretation emerges thus from a **complex interaction between its constituents, N1 and N2**, as a result of the bidirectional process of contextual co-semiosis based both on **source and target features**.

Example 1: the same N2

The expressions *a sea of people* and *a river of people* have the same N2 but do not depict exactly the same metaphorical meaning.

- The CONTAINER-like classifier **sea** confers to the N2 its prominent feature of an **immense spatial extension** and the binominal configures a large number of human beings as a **horizontally extending entity which fills up a space**.
- The classifier **river** maps onto the animated N2 its salient characteristic of being in **constant, progressive motion**. The expression describes a large number of human beings going across a space in a **compact and continuous manner**.

Example 2: co-selection

- Source features interact with the selection of N2s, and, vice versa, N2s tend to select a N1-classifier compatible with their semantics.
- Human beings are, for instance, preferably conceptualized through **RIVER-metaphor** or **SEA-metaphor** and not through **MOUNTAIN-metaphor** mapping a feature of down-up, vertical accumulation in space, because such a spatial configuration is cognitively incompatible with the concept of animated human beings.
- Conversely, **MOUNTAIN-metaphor** can be used to categorize a large accumulation of human dead bodies.
- Similarly, consider, the preferred classifiers for **people and their heads**: *a river of people versus a sea of heads*

The role of specific contextual factors

(6) Pl. *Pamiętam **morze głów**, które rozciągało się jak wzrok sięgał.* (NKJP, Gazeta Krakowska)

‘I remember **the sea of heads**, which stretched as far as the eye could see.’

(7) Pl. ***Przez Most Brooklyński** płynęła **rzeka głów**.* (NKJP, Dziennik Łódzki)

‘**A river of heads** flowed **across the Brooklyn Bridge**.’

The co-text and binominal interpretation

The interpretation of the binominals also **depends on the co-text**. For instance, *a river of blood* may indicate a large number of physically flowing blood such as a severe bleeding caused by an injury in (6) or a metaphorical flow interpretable in a metonymical sense as a bloodshed due to armed conflicts (7) or an extreme violence (8).

(6) Pl. *Z jego palca trysnęła rzeka krwi.* (NKJP, Był Pałac)

‘A river of blood gushed from his finger.’

(7) Pl. *Przez osiemnaście wieków płynie rzeka krwi.* (NKJP, Dziesięć przykładów) ‘For eighteen centuries a river of blood has flowed.’

(8) Pl. *Z telewizora wylewa się rzeka krwi.* (NKJP, Gazeta Wyborcza)

‘A river of blood pours out of the television set.’

To conclude

- the binominal meaning arises as a result of contextual semiosis **based both on source and target cognitive features.**
- However, the metaphors drawn on natural phenomena are also **semantically shaped by contextual factors** and **acquire their ultimate sense in the co-text.**

Nature as a SD in metaphor

- **Landscape and natural phenomena** are metaphorically used to structure human experience
- They contribute to the formation of **image schemas** – basic mental patterns derived from everyday bodily experience (e.g. container, path, or force) – that help us conceptualize abstract ideas (**Langacker** 2008: 32)
- Many metaphors described in **Conceptual Metaphor Theory** (**Lakoff & Johnson** 1980, **Kövecses** 2010, 2020) originate from the domain of nature and have become **conventionalized**:

HISTORY IS A RIVER → the river conceptualizes an uninterrupted, onward process

DIFFICULTY IS A MOUNTAIN → the mountain symbolizes obstacles, effort, and challenge

A HUMAN BEING IS A ROCK → the rock conveys strength, support, and stability

Nature-based metaphors in binominals

- **Temporally Bounded Atmospheric Phenomena**
 - **Dynamic:** DELUGE, RAIN, STORM, WAVE, SURGE, TIDE
 - **Static:** MIST, DEW, FOG
- **Landscape Elements**
 - **Dynamic:** SEA, OCEAN, RIVER
 - **Static:** MOUNTAIN, PEAK, VALLEY, ABYSS, FOREST

Mapping of actional features

- **Dynamic phenomena:**
 - DELUGE, RAIN, STORM → DYNAMICITY & INTENSITY
 - TIDE, RIVER → PROGRESSION
 - SURGE → INCOHATIVITY
 - WAVE → ITERATIVITY
- **Also, static landscape elements** may convey actional features:
 - MOUNTAIN → ACCUMULATION over time / LIFTING from a burden

RU Nagnulas', izvlekaja **iz svalennoj v besporjadke gory obuvi** rezinovye tapočki. (RNC, parallel RU-ENG)

'She bent down, extracting rubber slippers **from a chaotic mountain of shoes.**'

EN **She bent down and extracted a pair of rubber slippers from a tangled heap of footwear.**

✓ The participial modifier **svalennoj v besporjadke** ('piled up in disorder') transforms the static noun 'mountain' into a dynamic representation of **ACCUMULATION**.

Conventional nature-based metaphors

- In binominal constructions, the original literal meaning of the nature-based (de)nominal element is typically bleached and reinterpreted metaphorically:
- **a flood of emails** → FLOOD quantifies the volume of emails
- **a stormy relationship** → STORM qualifies the emotional intensity of the relationship
- **a wave of protests** → WAVE conveys the cyclical or recurring nature of the protests
- These examples illustrate how natural elements are metaphorically used to express **quantity, quality, or dynamic aspects** of human experience.

Nature-based metaphors and their semantic versatility

- However, these metaphors are also semantically shaped by contextual factors, including communicative context.
- In certain settings (e.g., newspaper headlines or event titles), both the literal and metaphorical meanings of N1 can be accessed simultaneously.

un fiume di libri 'a river/a lot of books' → Title of an exhibition in Florence about the books saved from the Arno flood in 1966



una montagna di errori 'a mountain/a lot of errors' → The headline refers to the collapse of the Marmolada glacier, caused by an accumulation of human errors.

Nature-based metaphors and embodied cognition

- The use of nature-based metaphors is rooted in the theory of **embodied cognition** :
 - individuals' physical experiences and interactions with the environment play a crucial role in the representation of reality (Lakoff & Johnson 1999)
- Key factors influencing the occurrence of nature-based metaphors:
- **Familiarity**: e.g. People in mountainous regions intuitively associate **mountains** with **grandeur or accumulation**.
 - **Selective productivity**: **not all familiar natural elements** are equally productive:
 - **SEA** is more commonly used than **OCEAN** to express quantity (e.g., **a sea of troubles**)
- **Concreteness**: Nature images helps make **abstract concepts** (e.g., excess, overwhelm) more tangible.
 - **A mountain of homework** → more vivid than **a lot of homework**

Metaphorical quantifiers

- large-scale phenomena like MOUNTAINS, SEAS, STORMS are used as **multal quantifiers**:
 - express **large, overwhelming quantities** of something
- Support **orientational metaphors**:
 - MORE IS UP → MORE IS A MOUNTAIN
 - MORE IS OUTWARD EXTENT → MORE IS A SEA
- Carry both **positive** (ABUNDANCE) and **negative** (EXCESS) connotation
- Scarce productivity for **paucal quantifiers**
 - DROP, GRAIN → **Partitive function**: a small amounts of something
RU **kaplja ŝčast'ja, krupica opyta**; ENG **a drop of happiness, a grain of experience**
 - Languages often derive paucal quantifiers from **food domain** (**a crumb of common sense**) or **Insignificant entities** (**without a shred of meaning**)

Conclusive remarks

- **Focus on Binominal Structures [N1 of N2]**
- **Pattern: N1 from nature domain** maps onto N2 **quantitative, qualitative, or actional** features
- **Languages considered:** Slavic (Polish, Russian), Romance (Italian), Germanic (English)
- **Research Goal:** develop a functional-cognitive framework explaining metaphorization process and semantic mappings of these binominals
 - **Key concepts:**
 - **Co-semiosis** between N1 and N2
 - **Importance of co(n)text** (even communicative setting) in shaping interpretation
 - **Conventionalization** of nature-based metaphors into **multal quantifiers**
- **Findings:** Nature-based metaphors are **cross-linguistically relevant** and grounded in **embodied cognition**
 - These constructions exhibit both **shared** patterns and **language-specific** traits
- The framework lays the groundwork for further cross-linguistic research—e.g., into **paucal quantifiers** and **qualitative nature-based metaphors**

THE CRAB PROJECT

CRAB = Cross-Linguistic Research on Analogy in Binominals
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