LINGUISTIC METASTABILITY.
A case-study on Italian idioms.

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Idiomatic construction: a working definition

“A conventional construction whose meaning can shift, to some extent, between a **literal** and a **figurative** level, and whose use is shaped by specific formal, semantic, pragmatic, cognitive, affective, socio-cultural, discursive and situational factors” (see Cameron and Deignan 2006; Langlotz 2006; Torre 2013b).
Language as a dynamic system

• Traditional generative theories consider language as an innate code, made up of a list of abstract symbols and a set of formal rules to combine them (e.g. Fodor 1975; Jackendoff 1994; Pinker 1999);

• Nevertheless, nowadays an increasing number of studies show that language is a complex, dynamic system, which emerges from intersubjective experience and evolves over time, in an ongoing self-organizing process which involves different dimensions and time-scales (e.g. Elman 1995; Cowley et al. 2004; Ellis and Larsen-Freeman 2010; Hodges and Fowler 2010; Cowley 2011; Fowler and Hodges 2011).
Basic dynamic-systems principles

- **dynamic system**: a complex of aspects all evolving in a continuous, simultaneous, and mutually determining fashion;
- **state**: a set of variables that may change as a function of time;
- **phase space**: the set of all possible values variables can take;
- **trajectory**: the sequence of states generated by the dynamics;
- **attractor state**: a small stable set of the phase space toward which all nearby trajectories converge;
- **basin of attraction**: a set of points converging to the attractor over time
What is metastability?

The co-existence of numerous latent patterns of activity as latent potentials. “The probability of any particular pattern organizing into existence is a function of variables both internal and external to the system. A system becomes more flexible, and more metastable, as its capacity to concurrently hold many distinct latent patterns increases.” (Kello et al. 2008: 1218)
The inner structure of idioms

- Idiomatic constructions have often been dismissed as non-decomposable items of non-literal language, peripheral and uninteresting. (e.g. Chomsky 1980; Nicolas 1995).

- Against this view, in the last decades psycholinguistic and corpus-linguistic studies have shown that idioms can often undergo structural modification and display different variation patterns (e.g. Langlotz 2006; Naciscione 2010; cf. also Gibbs and Colston 2012).
Langlotz's (2006) criteria for the classification of idiomatic entry forms

• **Compositionality**: the derivational predictability or regularity of the composite structure by adding up the values of its component parts.

• **Figurative-literal isomorphism**: the contribution of a component structure to the overall compositional value.

• **Motivation**: a speaker's ability to make sense of an idiomatic expression by reactivating or remotivating its figurativity, i.e. to understand why the idiom has the figurative meaning it has, given its literal meaning.
Motivation patterns

- **Conceptual metaphor** (e.g. Lakoff and Johnson 1980).

- **Conceptual metonymy** (e.g. Barcelona 2000).

- **Conceptual blending** (e.g. Fauconnier and Turner 2002).

- **Emblems** (Langlotz 2006).
An empirical analysis

- A sample of 50 idiomatic constructions collected from Sorge's (2010) *dictionary* of Italian idioms.

- 70 to 100 *occurrences* per idiom, retrieved in the *ItTenTen* corpus, investigated via the online corpus-query system *Sketch Engine* ([http://www.sketchengine.co.uk](http://www.sketchengine.co.uk)).

- A *total* of 4,809 occurrences of idiomatic constructions in use.
An example

Essere un sepolcro imbiancato.

Be:inf a.msg sepulchre.sg whitewashed.sg

“to be a whitewashed sepulchre”, meaning to be a hypocrite and a fake.

(to some extent, “sepolcro imbiancato” can be seen as close to the English “holier-than-thou”).
An example

<table>
<thead>
<tr>
<th>Doc#</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>13566</td>
<td>ovviamente condoglianzan ma senza essere sepolti imbiancati &lt;/p&gt; &lt;p&gt; Postato da G.Fregonara</td>
</tr>
<tr>
<td>22119</td>
<td>è possibile un'altra politica? E noi, i sepolti imbiancati del cambiamento tranquillo,</td>
</tr>
<tr>
<td>27128</td>
<td>può benissimo adattarsi a molti sinistri sepolti imbiancati che qui scrivono. &lt;/p&gt; &lt;p&gt; Postato</td>
</tr>
<tr>
<td>31873</td>
<td>esclusione di colpi contro l'Ordine dei sepolti imbiancati . Il grande scrittore francese</td>
</tr>
<tr>
<td>32180</td>
<td>. Il Paese è molto più avanti dei tropp sepolti imbiancati che lo dirigono». In effetti</td>
</tr>
<tr>
<td>35117</td>
<td>, tropp comodi, tropp incurie, tropp sepolti imbiancati . Ma tanti altri preti, in alto</td>
</tr>
<tr>
<td>69619</td>
<td>a poche settimane dalle elezioni sono un sepalcro imbiancato . &lt;/p&gt; &lt;p&gt; 4. Scritto da: mary &lt;/p&gt;</td>
</tr>
<tr>
<td>70119</td>
<td>Non si sospetta neppure che essa sia un sepalcro imbiancato . L'immoralità - e innanzitutto</td>
</tr>
<tr>
<td>70199</td>
<td>è certo una casa riempita dal sole. È un sepalcro non imbiancato . Ma in un tempo di violenza</td>
</tr>
<tr>
<td>70199</td>
<td>insinuare il sospetto che la morale sia un sepalcro imbiancato ? D'altra parte, l'uomo vivrà</td>
</tr>
<tr>
<td>70199</td>
<td>di abitare quelli non imbiancati abiterà sepalcro imbiancati ? In nome della morale si condannano</td>
</tr>
<tr>
<td>70199</td>
<td>si è azzardati a dire che la morale è un sepalcro imbiancato : perché la &quot;buona fede&quot; è il</td>
</tr>
<tr>
<td>70199</td>
<td>sepalcro della &quot;malafede&quot;. Chi parla dei sepolti imbiancati guardava verso una morale sublime</td>
</tr>
<tr>
<td>70199</td>
<td>affermare che proprio le morali sublimi sono sepolti imbiancati ! &lt;/p&gt; &lt;p&gt; Attori, artisti e calciatori</td>
</tr>
<tr>
<td>86629</td>
<td>neppure ai conservatori. Una volta si diceva ' sepolti imbiancati '. Chissà se si dice ancora.</td>
</tr>
<tr>
<td>98316</td>
<td>detrimento della domanda interna.Sentire questi sepolti imbiancati spargere menzogne senza che</td>
</tr>
</tbody>
</table>
**An empirically-detected attractor state**

**Definition:** the bundle of (both lexical and syntactic) constructions which are statistically (and, in some cases, analogically or ironically) associated with the **keywords** of an idiom, together with the particular semantic, pragmatic, affective, and socio-cultural values related to their **co-occurrence**. If the bundle includes several possible structures, these may differ in terms of the attractive force they have.
An empirically-detected attractor state

The attractor emerges as a result of the constant, non-linear interaction of linguistic, cognitive, and socio-cultural factors in actual language usage events.
An empirically-detected attractor state

<table>
<thead>
<tr>
<th>Verbal form</th>
<th>Phrase order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present IIIpl (27%)</td>
<td>NP(S) V NP(SC) (39%)</td>
</tr>
<tr>
<td>Present IIIsg (25%)</td>
<td>V NP (SC) (18%)</td>
</tr>
<tr>
<td>Present IIpl (8%)</td>
<td>NP(S) (7%)</td>
</tr>
<tr>
<td>Present Ipl (7%)</td>
<td>NP(S) V AdjP(SC) (6%)</td>
</tr>
<tr>
<td>Infinitive (5%)</td>
<td></td>
</tr>
</tbody>
</table>
An empirically-detected attractor state

<table>
<thead>
<tr>
<th>MEANING POLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination of motivation patterns</td>
</tr>
<tr>
<td>conceptual metaphor: PEOPLE AS CONTAINERS</td>
</tr>
<tr>
<td>implying: PERSONAL QUALITIES AS CONTENT</td>
</tr>
<tr>
<td>elaboration: BAD QUALITIES AS DISGUSTING CONTENT</td>
</tr>
<tr>
<td>conceptual metonymy: OBJECT FOR EMOTION</td>
</tr>
<tr>
<td>elaboration: ROTTEN FLESH FOR DISGUST</td>
</tr>
<tr>
<td>implying: TOMB AS A CONTAINER OF DISGUSTING CONTENT</td>
</tr>
<tr>
<td>conceptual metonymy: WHITENESS FOR EMBELLISHMENT</td>
</tr>
</tbody>
</table>
Idiomatic constructions in dynamic-systems terms

- Idiomatic expression = **dynamic system**;
- Each particular usage-event of the idiom = **state**;
- The set of possible uses of the idiom = **phase space**;
- The amount of all the observed instances of usage of the idiom = **trajectory**;
- The combination of motivation patterns = **basin of attraction**.
The behavioral tendencies of Italian idioms

- Idioms in use show several variation patterns, which differ with regard to distinct aspects of their form and/or meaning. Sticking to Langlotz's (2006) three-way scheme, we can say that idiomatic form can be modified in terms of morphosyntax, syntax, and the lexicon, whereas idiomatic meaning can vary with regard to polysemy, adaptation, and ambiguation.

- The variational behavior of idiomatic constructions can be observed and evaluated from a quantitative perspective, since some idioms are quite flexible, and thus more likely to undergo modification, whereas some others are more rigid, and thus display a tendency to be more stable.

- Idiomatic variants can also be the object of qualitative considerations, as they range from plain lexicogrammatical adaptations to striking instances of wordplay. They can be thus seen as distributed along a cline of conventionality and conspicuousness.
Each construction can be seen as a **dynamic system**, regulated by a principle of **causal circularity** (e.g. Kelso 1995; Deacon 2003), whereby:

- On the one hand, a bundle of formal, semantic/pragmatic, cognitive, affective, socio-cultural, discursive, and situational factors works as an **attractor state**, toward which the occurrences of an idiomatic construction tend to converge;

- On the other hand, the **trajectory** of occurrences of the construction in context constantly (re-)shapes the attractor state, in a self-organizing fashion.
Metastabilities in a network of attractor states

This persistent tension lies at the roots of linguistic variation and leads the system into a state of **metastability**, where linguistic events can be seen as networks of attractor states. In this landscape, the utterances tend to converge to specific constructions (the attractors states) over time, but they remain sensitive to the real-time dynamics of the ongoing interaction (e.g. Rączaszek-Leonardi 2013; Torre 2013c, 2013d). From this perspective, the linguistic system **simultaneously** displays a certain degree of stability and plasticity (Bressler and Tognoli 2006; Kello et al. 2008; Kelso 2008, 2012)
Metastabilities in a network of attractor states

Language can be conceived as a **constantly evolving** dynamic system, characterized by inherent flexibility, fuzziness, emergence, and context-dependence (Elman 1995, 2004; Rączaszek-Leonardi and Kelso 2008; Torre 2014). Linguistic interactions are then driven by the interplay of form, meaning, and contextual factors, which lead to the formation of **relatively stable complex patterns** (Rączaszek-Leonardi 2013; Torre 2013d).
Multiple time-scales and a fractal architecture?

- The balance between rigor and flexibility proper of a dynamic-systems perspective allows the analyst to loosen the traditional dichotomy between synchrony and diachrony, providing a more integrated account of linguistic phenomena underlining the fact that their patterns are the emergent result of the persistent interplay of several factors over distinct scales of time (e.g. Rączaszek-Leonardi 2010; Torre 2013a; cf. Leonardi 2014).

- Since the same mechanisms seem to be working at different dimensions, time-scales, and levels of granularity, the linguistic system appears to display a self-similar structure, a consideration which can be extended to the broader eco-socio-cognitive “picture”. Consequently, a fractal architecture seems to be able to describe the enormous level of intricacy which characterizes human linguistic and social interactions (Van Orden et al. 2010; Wallot and Van Orden 2011; Thibault 2011, 2014).
Multiple time-scales and a fractal architecture?


References


References


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References


THANK YOU!

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