

BEYOND AND ACROSS SCIENCES, LANGUAGES AND CULTURES

PERSPECTIVES ON INTERSPECIFIC AND INTRASPECIFIC INTERACTIONS IN ACADEMIC COMMUNITIES

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Key words: *interspecific and intraspecific interactions, scientific metaphor, academic community*

INTRODUCTION

The current trend towards spanning across the boundaries of sciences, in reinterpreting concepts that have been introduced within one field and re-contextualizing them opens up new directions of research that we embrace without reserve. The prerequisite for having the results of such a study acknowledged is proving that we know and understand the concepts as they have been originally conceived and used, in order to build new associations and attribute them other functions.

To this purpose, we shall bring into discussion some definitions, characteristics and taxonomies of inter/intraspecific interactions and behavioural processes from ecology, human ethology, comparative psychology and social psychology. In connecting concepts such as neutralism, mutualism, antagonism, competition, social dominance and hierarchy etc. with a particular context of situation, i.e. academic interactions, we will be re-interpret them as cognitive linguistic constructs (scientific metaphors) and identify their specific manifestations.

MATERIAL AND METHODS

The study of human behavioural processes in particular contexts and social environments has been recurrent in natural and human sciences.

Defined as "the biology of human behaviour", human ethology aims at investigating "complex behavioural sequences of individuals and interactions among people and groups of people, studying behavioural patterns in their natural context and thereafter proceeding to experimental analysis" (Eibl-Eibesfeldt 5).

Comparative psychology also proposes a systematic comparative study of human and animal (innate and learned) behavior, based on

the evolutionary pressures which have led to similar or distinct communicative and social behavior patterns (see Malim, Birch and Hayward, 1996 for a sociobiological approach to such behaviours).

Social psychologists Smith and Mackie have tried to bridge the gap between different human sciences and advanced the idea that people's behaviour depends on their perceptions and interpretations of social situations. Thus, we are guided by the social motives, the interpersonal relationships and the emotional attachments to group membership.

Although such theories may contribute to our understanding human behavioural processes interactions, we have chosen to approach our topic from the point of view of ecology and cognitive linguistics.

The first theory that represents the focal point of our study underlines the importance of the interspecific and intraspecific relations among species in structuring biological communities.

The **interspecific interactions** are established among individuals of different species and can be:

1. *positive interspecific* interactions, characterized by the fact that at least one of the species obtains a benefit from another species without damaging the second individual or altering the course of its life.
- *Commensalism* means that an individual obtains a benefit from a different species without damaging it.
- *Mutualism* occurs when an individual obtains a benefit from another species and, at the same time, the second species obtains a benefit from the first one.

- *Symbiosis* (*symbiotic* organisms belong to different species and have mutual benefit from a relationship).
- 2. *neutral interspecific interactions* without direct damage or benefit from any of both species.
 - *Competence* occurs when two different species into a community have the same needs for one or more factors from the environment (Nahle, 2006);
- 3. *negative interspecific interactions* in which one of the species obtains a benefit in detriment of other species.
 - *Predation* occurs when an individual from one species (*predator*) kills at once to another individual of another species for feeding from it.
 - *Parasitism* implies that a species (*guest* or a *parasite*) obtains a benefit from another species (a *host*) provoking a gradual damage that does not cause the immediate death of its victim.

The **intraspecific interactions** involve organisms of the same species. Their best known forms are:

- *Social dominance* (the stratification of groups into a society based on the influence that one individual or one group of individuals has on the other individuals or groups into the same society);
- *Social hierarchy* (the stratification of the individuals with the domination of an individual);
- *Territoriality* (the demarcation and defence of a physical area by an individual or by a group of individuals);
- *Intraspecific competition* "happens when two or more individuals of a population try to obtain a factor needed by all individuals from the environment where they inhabit" (Nahle, 2006), either intentionally and harmfully (if it occurs as a struggle between two or more individuals of a population) or unintentionally (if the competition only implies a natural application of abilities to achieve a required factor).

The second theory on which our article draws conceives our normal conceptual system as metaphorically structured, a fact which entails that most concepts are understood and described in terms of other concepts (Lakoff & Johnson 1980: 56). In a cognitive linguistic perspective, metaphor becomes a means of structuring our entire experience in the world, our real perceptions, conceptualizations, motivations, desires and actions that compose most of what we experience (Lakoff & Johnson 1980: 145-146). The experiences are products of human nature

and all concepts correspond to natural kinds of experience. We conceptualize the abstract or the non-physical in terms of the physical or we use concepts corresponding to natural kinds of experience so as to define other concepts metaphorically: substances, seeing, madness, food, etc. (Lakoff & Johnson 1980: 118)

Social psychologists also consider that our world of experience and social environments influence us as much as we influence them and that "the intertwining of social processes with cognitive processes is the essential tension of human social behaviour" (Eliot and Mackie, 2000).

In a summing up of the cognitive linguistic perspectives on metaphor, Kövecses (2005: 5) has achieved a systematization of the elements used in building a metaphor:

- *Source domain* (a concept that is metaphorically used to provide the means of understanding another concept – Lakoff, 1987);
- *Target domain* (the conceptual domain that we try to understand);
- *Experiential basis* ("some embodied experience");
- *Neural structures* (neural connections between the source and target domains);
- *Relationships between the source and the target* („a source domain may apply to several targets and a target may attach to several sources" – Kövecses, 2005: 6);
- *Metaphorical linguistic expressions* (derived from connecting the two conceptual domains);
- *Mappings* (basic, and essential, conceptual correspondences, between the source and target domains);
- *Entailments* (the additional mappings besides the basic correspondences);
- *Blends* (conceptual materials that are new with respect to both the source and the target – Fauconnier and Turner, 2002);
- *Nonlinguistic realizations* (in social-physical practice and reality);
- *Cultural models* (culturally specific mental representations of aspects of the world).

The link between these theories is represented by the association between the target domain of the academic community and the source domain of inter and intraspecific types of interactions, based on some conceptual correspondences which we shall further bring into discussion.

RESULTS AND DISCUSSIONS

The intraspecific relationships have been approached by sociologists and specialists in communicative interactions and organizational management as long as both social dominance and social hierarchy are very well represented in the structure of these communities. Power/horizontal relationships are clearly marked in the relations of subordination to the heads of departments, deans and rectors, just as the horizontal ones involve cooperative contacts *within the same department, between chairs and faculty members*. We can even explore the manifestations of territoriality, considering that there is a functional delimitation of spaces, whose usage is regulated at different levels and intrusion or trespassing are sanctioned. This type of invasion of territory may be linguistically rendered in metaphorical terms (*X took my room*).

The interspecific relationships in the academic environment can be perceived either as relationships between members of different academic institutions or between departments within the same institution. These interactions "range from antagonistic to cooperative and have either positive, negative, or neutral effects on the persons involved" (see *Encyclopædia Britannica Online*, 2010). We can easily establish an analogy with the biological communities whose organization and stability depend on different kinds of interaction: "in antagonistic relationships the interaction is detrimental to individuals of either one or both species; in commensal relationships (commensalism) one species benefits while the other remains unaffected; and in mutualistic relationships (mutualism) both species benefit" (EBO, 2010).

This means that we can metaphorically refer to the relationships between members of the academic communities as evolving and shifting from mutualism to antagonism.

In the interpretation of the interactions between academic institutions, the Erasmus program can be perceived as a form of mutualism, as long as the roles that are attributed to the participants in such student and professor exchanges are exactly the ones of host and visitor or resident and the benefits the participants derive from the interaction are variable. There is another metaphorical role attributed to those who manipulate other individuals and exploit an existing relationship without reciprocating an advantage: cheaters. They can be found at all levels of interaction and they are reputed as users of different deceptive devices to exploit mutualistic interactions.

Specialists admit that the effect of parasitism and predation on the organization of communities is underexplored even in ecology. Because resources are often limited, members of the academic communities often compete against one another for them. In searching for the correspondences between the biological species and the academic staff, we turn concepts related to the major ways in which species feed on one another (parasite and host, hunter and prey, feeding, capture, survival, attack and defence) into metaphorical constructs. Thus, we can use *the metaphors of parasitism and predation* to refer to the way in which the structure of the academic community is affected by parasitic lifestyles and predator-prey interactions. Though we may refer to some professors as highly specialized predators and accuse some cannibalistic practices, all that the victims lose is prestige, positions, but never their lives, as it happens in the ecological systems.

In competitive interactions, members of different departments or universities compete for a specific resource (and we may speak of interspecific competition), or members of the same organisational structure compete with one another for a resource (intraspecific competition). Professors and students compete for all kinds of resources, specific to this environment: scholarships (for students), grants and contracts (for professors), new learning facilities, better funding and sponsorships etc. We may also use the metaphors of exploitation competition when some individuals compete by capturing resources faster than their competitors and that of interference competition, when there is an aggressive attempt to exclude one another from particular habitats.

We feel that the best scientific (ecological) metaphor to represent the type of relationship between professor and students is in commensal interactions: thus, students seen as commensal organisms benefit from their contacts with the professors (hosts) and the latter are not affected in providing food (for thought), support etc.

CONCLUSIONS

The reciprocal evolutionary changes in interacting members of the academic communities can be metaphorically called coevolutionary processes. We could observe that the way in which such interactions are shaped depends on variable factors such as population characteristics (age, competencies of the individuals etc.), composition of the community and context (context of situation and cultural context).

The tendency towards mutualistic or antagonistic relationships is unpredictable. As far as the intraspecific interactions are concerned competition is a very powerful form of interaction in the organization of such communities and those involved either tolerate the presence of the others or aggressively exclude them.

ABSTRACT

This article proposes a topic that has seldom been investigated by other specialists than biologists, behaviourists, psychologists, sociologists and anthropologists. It is a daring attempt at offering an inter- and transdisciplinary perspective on the types of interactions manifested in the academic environment (between faculty members, between professors and students, between teaching staff and representatives of other university departments etc.). To this purpose, we combine the scientific conceptual framework of inter- and intraspecific relations, human vs. animal behaviour and social behaviour with the conceptual domains, representations and mappings of metaphors which are analysed with cognitive linguistic tools.

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