

# **T**he Terminological Metaphor in the Field of Cardiology

**Diana Dănișor, Ph.D.\***

**Octavian Istrătoaie, Ph.D.\*\***

\*University of Craiova, Faculty of Law, Romania  
danisordiana@yahoo.ro

\*\*University of Medicine and Farmacy Craiova, Romania  
droctavist@yahoo.com

## **Abstract**

The metaphorical dimension can be explored by a multiplicity of disciplines, yet it is hard to envision how medicine could embrace such a complex concept which is mainly ascribed to the field of literature, placed on the border between terminology and stylistics. In order to successfully integrate and harness this procedure in the field of medicine, these metaphors would have to serve intricate prerequisites of precision, non-ambiguity, conciseness and semantical correctness. They possess a unique pattern of functionality, that not simply defines a manner of speaking but more than that a manner of thinking. Within the field of cardiology, the terminological metaphor becomes structural, in the sense that it organises representations and experiences via simple or complex outlines of naming that have transcended time and space: it is actually the transparent metaphor of the family which can be understood in the absence of a significant intellectual effort as opposed to its corresponding medical term.

**Key-words:** cardiology, terminological metaphor, anthropomorphic metaphor, folk metaphor, translation metaphor.

Due to the fact that the cognitive processes of communication must be made known in areas of expertise, the metaphor represents a linguistic tool of materialisation by facilitating the construction of concepts, providing via analogy an imaginative system of support that binds it to an already known conceptual path (Gaudin, 2003). Contrary to the Wüsterian perception which perceives the metaphor as an irrational entity prone to vague and ambiguous subjective representations, deprived of scientific rigour, we view the metaphor as the path chosen by the scientists who are able to appreciate its capacity to produce knowledge and accurately name a given situation “thus obtaining a framework of reflectiveness and a vision that is perfectly adapted to the reality it compelled to describe” (Oliveira, 2005). In contrast to the rhetorical metaphor, the terminological metaphor becomes an instrument of manipulation regarding the area under analysis, constituting an ideal of intellectualisation through precision, conceptual systematization and emotional neutrality.

In the medical field, particularly the field of cardiology, the metaphor allows on the one side the swift and efficient dissemination of technical and scientific knowledge via the mediation of analogy, while on the other hand playing a part in the shaping of knowledge, providing the denominative support available for a specific notion.

### **The anthropomorphic metaphor**

This metaphor fulfils a formative function within the Romanian scientific language, and by resorting to this procedure we can demonstrate the capacity of the Romanian language to generate a functional terminology based on its own lexical resources (Toma, 2003: 120). The anthropomorphic metaphor (Ullmann, 1952), serves a dual purpose in cardiology: by starting from the names of organs in order to designate objects – eye (for water, glass, chains etc.), arm (for chair, river, mechanism etc.), and continuing with names of animals, plants or even objects in order to designate human organs: *heart cloth/coșul pieptului* (Toma, 2003: 119), *heart sac/cămașa (sacul) inimii* „pericardul” / *pericardium* (Vasici-Ungurean, 1846: 79). The metaphor

only affords meaning onto a part of the core structural domain, able to account for only a portion of the target domain: the specialised metaphor *heart pump/pompă cardiacă* (Oliveira, 2008). If the vast majority of anthropomorphic metaphors evoke form through analogy (bag, sac, pocket), there are certain situations where the metaphorical transpositions are purely of a sensorial nature (Ullmann, 1952: 277-284): weep “asthma” (Vasici-Ungurean, 1846: 28), for instance in terms of perceptive hearing. Sometimes the metaphorical transpositions make reference to colours: *the blue disease/boala albastră* or the tetralogy of Fallot which is a congenital disease of the heart, a cyanotic congenital heart malformation responsible for low oxygen levels in the bloodstream leading to cyanosis, which is a blue discoloration of the epidermis (sanatatea tv.ro, 2016), while the blue heart does by no mean name a medical condition but rather a sad burdened soul, sadness, melancholy, anger, depression, frustration, spite and pain (DEX, 2009).

### The folk metaphor

These metaphors are generally the product of ancient medical practices and scientific knowledge whose beginnings are no longer known in Romanian: heart cloth, heart sac (Druță, 2014, 1: 33-39). We are therefore able to see in these examples that the terminological metaphor triggers sensations in the current precise sense of the folk term enabling a coexistence with the ancient and communal within the new cultured, scientific dimension of that exact term (Toma, 2003: 126).

The field of cardiology sees that pathologies are frequently described through two or more terms (Oliveira, 2005: 50(4)), resorting to metaphorical resources, providing explanation through the necessity of describing realities observed through the utilisation of a term that will generate a better understanding of a savant concept which is more difficult to comprehend.

The metaphor of the *heart in a vise/inimă în platoșă*, for example, is less opaque for the profane than its correspondent *constrictive pericarditis/pericardita constrictivă*, serving the function to simplify the

meaning of the disease which consists of “an inflammation of the pericardium characterised by a significant thickening of the pericardium’s elements, thus creating a layer which constricts the heart and restricts its proper functions”[csid.ro].

*Sabot heart-cœur en sabot/inima în sabot* is the metaphor which appeals to visual memory, inducing a radiological aspect characteristic to a heart affected by the right ventricular hypertrophy of pulmonary stenosis, serving as an explicative analogy which acts as a substitute for the scientific languages inability to render the medical concept “palpable” enough. We therefore have to resort to metalinguistic tools to explain the rather obscure term of right ventricular hypertrophy, by ensuring a wider accessibility to more academic cardiologic terms which can be more easily envisioned with the help of the terminological metaphor.

*The broken heart/inima frântă* metaphor is used mainly to describe a huge disappointment in love. However, this is not a simple metaphorical image, there is also a syndrome which shares this particular name: stress induced cardiomyopathy or the Tako-tsubo syndrome, a recently described clinical entity which defines an acute cardiac disorder similar to an ischemic heart disease which links coronary syndrome to heart failure in various degrees without organic coronary lesion and generally with spontaneous resolution. Today’s medicine demonstrates what poets, writers, artists and musicians altogether have been saying for centuries, that the heart can become physically ill as a result of intense spiritual suffering (Dănișor & Istrătoaie, 2015, 1: 140-147).

*The senile heart/inima senilă* is the metaphor for senile cardiomyopathy which is the cardiac sclerosis constantly encountered in the case of the elderly, generated by atherosclerosis (scritub.com).

### **The translation metaphor**

Sharing a pattern with other languages, these metaphors result from complex translation operations, mainly from Greek and Latin,

but also from modern European languages, especially English but also French (Frînculescu, 2010).

The term *artery/arteră* which names the vessels that transport the blood pumped by the heart ventricles towards the tissue of the organism, has the following dictionary definition: “Blood vessel that enables the circulation of blood from the heart to various tissues and organs” [DEX 2009], owes its etymology to the French word *artère*, the Latin *arteria*, and the Greek *ἀρτηρία* (Scriban, 1939). The Greek term, from which the Latin and the French terms originate, is one of the oldest medical terms. The formation of the word which literally means “tube that carries air”, is closely linked to ancient Greek philosophy. According to this philosophy, the world is made up of four basic elements: air, water, earth and fire. The fifth element, *pneuma* (breath), is considered as “the breath of inspiration”, as it enters the body during the breathing process, making a being alive and moving. According to the Greeks, the purpose of the vessels was to deliver air during breathing. If the vessel was severed, it became empty of air and so the blood could enter the circulatory system. If initially the term was used to signify the trachea and its ramifications, it was later applied to the artery themselves.

The meaning of a metaphorical term is often hidden in Latin or Greek. We aim at analysing the term *mitral valve/valvă mitrală* in order to see that it is a metaphor created in French and borrowed by the Romanian language, based on two Latin words: *valve* “a valve from a door or window”, and *mitra*, which in Ancient Rome was used to signify a hairstyle that would also become popular in the Middle Ages describing “a ceremonial hairstyle of clerics” (Lillkung, 2014).

If we were to consider this translation, the metaphor would by no means be insightful considering that it would have to describe a piece of human anatomy. But there is another possible translation. Specialised sources in the field of the History of science tell us that the term *valva* holds a modified meaning in academic language where it is translated as “flap” being used by a multiplicity of disciplines, particularly in mechanics where it generally signifies “an apparatus that regulates the flow of fluids according to the principle of the

valve.” In hydraulics, the term designates an apparatus that ensures the passing of the water current in one direction only. The first correct model of the heart and blood circulation was formulated by 17<sup>th</sup> century British scholar, William Harvey [themitralvalve.org, 1628], based on his own observations derived from watching the draining and irrigation systems of Dutch canals. Starting from this clarification, the analogy of the medical term valve seems more evident, especially if we consider the fact that it represents anatomical structures which regulate the flow of blood and lymph so that their drainage occurs in only one direction. The meaning of the French term is therefore provided by the translation of the Latin term *valva* with the significance of “hydraulic flap”. *Mitralis* is translated in French as *mitrale*, from the Latin *mitre*, and transferred into Romanian with all of its subsequent meanings. The term was introduced in the 16<sup>th</sup> century by an important Flemish physician, Vésale, in order to specify a certain type of valve: *the mitral valve/valva mitrală* which is “the valve that occupies the mitral orifice and prevents the reflux of blood flow into the atrium during ventricular contractions” [lexilogos]. The two valves work as a non-return flap for blood. Because once closed, these valves are similar to a bonnet, that would explain the analogy of Vésale (Van Mieghem, Piazza, Anderson RH et al., 2010, 6: 617-626). We are therefore given the true content of the metaphor which seemed illogical from an etymological standpoint.

The terms *auricle/auricul* and *atrium/atriu* are synonymous describing “each of the two upper chambers of the heart” (DEX 2009). In Romanian, they have a double etymology, the first from French and the second from Latin. The *atrium*, in a Roman house was the main square chamber, covered by an open roof in the centre in order to allow rain and light [lexilogos]. According to Gaffiot, from an architectural point of view, the *atrium* was the “entrance hallway” (Gaffiot, 1934). The metaphorical use of this architectural term is explained by considering the heart’s functioning mechanism: the conceptualisation of blood flow through the heart is originally connected to the blueprint according to which the human body is a building, the blood literally entering the heart through the vestibule,

or the *atrium/atriu*. *Auriculum* places emphasis on shape, the appearance of the chambers of the heart that look similar to a bandaged ear. Medical terminology uses both terms, considered perfect synonyms, a preference for one and the other is inconsequential.

The collocations *myocardial stunning/siderare miocardică* and *myocardial hibernation/hibernare miocardică* from the vocabulary of cardiology, express newly coined terms in connection to myocardial ischemia. These terms originate from English (myocardial stunning and myocardial hibernation), where they were used from the beginning of the 80s by specialists Braunwald, Kloner, Rahimtoola and Rutherford (Frînculescu, 2010: 155). Iulia Frînculescu concludes that the term *myocardial stunning/siderare miocardică* comes from French (*sidération myocardique*), as a “probable French creation regarding the inability to comprehend the original English verb *to stun*” (Frînculescu, 2010: 166), while *myocardial hibernation/hibernare miocardică* allows the principle of multiple etymology, its form being identical in both English and French: *myocardial hibernation - hibernation myocardique*.

Medical literature accepts both terms: “Near the infarction area you can find a myocardial portion that can be stunned or hibernating. The hibernating myocardium is a viable one with a diminished function and a reserve coronary flow. The stunned myocardium is a viable, nonfunctional myocardium with a normal coronary flow” (epathology.ro). The VS dysfunction becomes global if the ischemia is prolonged which leads to persistent VS functional anomalies after the disappearance of the ischemic episode associated to the phenomenon of myocardial stunning (Ghaleh & Monnet, 2012, 21(2): 325-330). The ischemic episode is usually transitory, and its intensity depends on the duration and aggressiveness of the ischemic episode. His must be differentiated from hibernation which is defined as the altering of myocardial functions triggered by the reduction of coronary blood flow, in the absence of myocardial cellular lesions, reversible only through reperfusion (Arai, Grauer, Anselone, et al. 1995, 92: 244-52).

## Conclusion

We can state the fact that the terminological metaphor, embedded to its scholarly synonymy, enriches the concept, clarifying it. The metaphorical term will facilitate an alternate cognitive approach, a superior adaption of discourse in accordance with the audience it is addressed to. Usually, the metaphorical term enables the ability to explain a complex element by comparing it to a more familiar term, which makes the discourse of the specialist more attractive and comprehensive for non-professionals.

As it is an integral component of specialised language, the terminological metaphor is destined to function only inside a specialised discourse, addressed to an enclosed social milieu, providing the linguistic key for cognitive conceptualisation (Oliveira, 2002, 35-46).

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