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## Metaphors We Feel by: Interoceptive Sensations as Natural Phenomena

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*The paper deals with the issue of conceptualizing interoceptive sensations – perceptual signals originating in the internal milieu of the body and characterizing its physiological state. Unlike many other types of perceptual phenomena, interoceptive sensations lack their own vocabulary and can only be conveyed in speech through metaphor. The paper carries out an analysis of only one group of metaphors based upon the names of natural phenomena, which falls into two subgroups: weather/climatic phenomena and natural disasters. Providing examples from contemporary literary sources, the author reveals the functions of individual metaphors and studies their potential for qualifying the sensation, measuring it, tracing its dynamics and assessing possible consequences for bodily well-being.*

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Since the publication of G. Lakoff and M. Johnson's seminal work "Metaphors We Live By" in 1980, there has amassed a huge amount of knowledge about the metaphoric character of conceptualizations for different types of human experience. One of them, however, remains badly understudied and invites serious consideration. It pertains to the sphere of perception and is known in contemporary scholarship as *interoception*.

The term *interoception* was coined by the British physiologist Charles Sherrington in 1906 (Sherrington, 1906) to be later adopted by

psychologists. It denotes the perception of signals originating from the inside of the body and related to the activities of the viscera. These activities can be called inner-body events and include changes in the cardiac rhythm, fluctuations in the flow of bodily fluids, specific spasming of the stomach and intestines, the sensations of fullness or emptiness of inner-body organs (primarily the stomach, the bladder and the bowel) and scores of others, which we tend to take little notice of or disregard completely. Regrettably so, because specialists who deal with this type of sensations

claim that if we give ourselves the trouble to duly focus on our inner-body space, we will discover a sensorial picture which is no less varied, rich and nuanced than the one found at the interface between the body and the outside world.

The sensations that appear as a result of interacting with the outside world are known as extraceptive and form the Aristotelian classical pentalogy (visual, auditory, tactile, olfactory and gustatory). All of them have their own, albeit not very extensive and varied vocabularies. Since our childhood, we know how to verbalize what we see, hear, smell, touch or taste as we are specially taught to master the relevant terminology. By contrast, interoceptive sensations lack their own, specialized vocabulary, and it is due to this fact that there is a well-established, but mistaken tradition to consider them inexplicable. Much ink has been spilled on their “indescribability”, “resistance” or “inhospitality” to language, elusiveness, the ability to destroy language and other forms of linguistic rebelliousness (Woolf, 2012; Biro, 2010; Scarry, 1985). Indeed, we have to admit that they, as J. Bourke perceptively notes, “routinely test the limits of conventional language” (Bourke, 2014: 59). However, this “testing” often yields substantial results.

If we take an unbiased stance and do not allow ourselves to be straightjacketed by the already articulated opinions, we will discover that there is a plethora of language means that enable us to convey the subtlest nuances of our interoceptive sensations. The crucial point is that none of them is literal or term-like. They are all common, everyday words, which denote very simple, easy to understand experiences shared by all members of a certain cultural and linguistic community. Creating a specialized vocabulary for interoceptive sensations is an exercise in futility due to their own phenomenological properties. They belong exclusively to the subjective sphere of the individual, are absolutely

unavailable to anybody else, cannot be shared or verified, cannot even be measured and compared with a certain standard (Nagornaya, 2013). Using common words for very uncommon, unique experiences is an elegant cognitive and language solution. The mechanism that enables us to conceptualize inner-body experience in terms of better understood and much better structured outer-body experience is metaphor.

If we survey the scarce literature on the language of interoception, we will discover that only two groups of metaphors are widely recognized and have been studied with a certain degree of thoroughness. These are weapon metaphors (*drilling, piercing, cutting, etc.* sensations) and zoological metaphors (*gnawing, biting, stinging, etc.* sensations). Both groups are, indeed, widely represented in the discourse of sensations, and some metaphors have been so much conventionalized that they have become a part of the official vocabulary of pain (Melzack & Wall, 1996). Actually, all linguistic research into this vocabulary has been carried out within the conceptual framework of pain studies. Particularly notable are recent works by E. Semino from Lancaster University who heads an impressive research project into metaphors in end-of-life care (Semino, 2010). But no less important are contributions made by non-linguists: D. Biro, E. Scarry, J. Bourke, A. Glucklich and other psychologists, culturologists, sociologists, healthcare specialists and historians.

Giving them their due, I still have to say that much remains to be done, even if we confine ourselves to the study of pain language. But if we broaden the scope of research to cover all types of interoceptive sensations, we will have to admit that we are just at the beginning of a long path. There are extensive groups of motion, anthropological, mechanical, architectural, political, biological and other metaphors. This paper focuses exclusively on one group of metaphors which is represented

by words denoting natural phenomena in general and natural disasters in particular.

The corpus of examples was compiled through extensive reading of contemporary literature. It seems necessary to explain that working with the language of interoceptive sensations requires a lot of manual work. The use of electronic corpora is only possible when a certain inventory of language means has already been revealed and the researcher wants to enlarge the sample and make sure that the revealed means are more or less common. The subjective character of interoceptive experience and lack of special vocabulary give vast possibilities for language experimentation, and it is next to impossible to predict what common words the speaker will employ to articulate his or her experience. The sources I relied on date from the second half of the 20<sup>th</sup> century till nowadays and mostly belong to the so-called “low” genres, like horror, detective and love stories. This choice is accounted for by two factors: firstly, I was interested in how these sensations are verbalized in contemporary English, and secondly, I wanted to come as close to everyday verbal practices as is possible without conducting numerous surveys with native speakers. Low genre literature, I believe, reflects the state of common, everyday language practices, and the language means used in it are not only comprehensible for the majority of the language community, but constitute a certain part of its language repertoire.

The domain “natural phenomena” includes several relatively independent areas that can potentially serve as sources for metaphorical mappings onto the sphere of interoceptive sensations. The most important of them are weather and climatic phenomena (rain, snow, thunder, lightning, etc.) and natural disasters (earthquakes, tsunamis, tornadoes, volcano eruptions, etc.).

The subdomain “weather/climatic phenomena” is systematically represented in the interoceptive discourse by such lexical units as *lightning*, *thunder*, and *storm*.

The lightning metaphor is most commonly used for a momentary painful sensation of high intensity, which is characterized by suddenness: *A bolt of pain, ‘like lightning’, she said, went through her head and she heard a shotgun blast (S. King. Salem’s Lot); A new wave of pain shot like lightning up my arm (D.E. Johnson. Motor City Shakedown)*. In the Anglophone culture, the image of lightning has become somewhat canonical and is used to interpret pain not only in the verbal, but in the visual format as well. Thus, the symbol of the Trigeminal Neuralgia Association UK is a schematic image of a human head with red lightning piercing the forehead, cheek and lower jaw.

The rationale behind this metaphoric reading is that lightning possesses brightness and powerful kinetic dynamics, appears unexpectedly and is present in the perceptual field only for a short period. These characteristics, especially brightness and speed, fully correspond to the general notions of high intensity. As a result, they are easy to extrapolate onto the sphere of paroxysmal migraine pain. It is noteworthy that many people who suffer from migraines experience visual symptoms that they describe as flashes of light. This circumstance is another powerful cognitive argument in favor of the lightning metaphor. On the other hand, we can’t rule out the effect of retrojection: having mastered this cognitive technique while participating in discourse practices, the percipient might begin seeing lightning where it is actually absent (Kimmel, 2008: 99-101). Be that as it may, the lightning metaphor is widely used to verbalize paroxysmal headache: *And at that exact instant – as he said the last words – Sophie saw the fearful headache attack Höss with prodigious speed, like*

*a stroke of lightning that had found a conduit through the gravel merchant's letter down to that crypt or labyrinth where migraine sets its fiery toxins loose beneath the cranium (W. Styron. Sophie's Choice).*

This metaphor, however, appears productive when describing other paroxysmal sensations that possess high intensity and space dynamics: *A new wave of pain shot like lightning up my arm (D.E. Johnson. Motor City Shakedown); Shocks of pleasure skittered through her limbs like lightning (E. Dreyer. Never a Gentleman); Not agony as yet; just a quick lightning-stroke up from the gut and into the throat, like acid indigestion (S. King. Full Dark, No Stars).*

Another metaphor, which is regularly employed in the interoceptive discourse, is the thunder metaphor. As this phenomenon is mostly of an acoustic character, the thunder metaphor appears particularly relevant for interpreting sensations that are accompanied by sound. Thus, it is used to describe quickened heartbeat or quickened pulse associated with the cardiac rhythm: *Sweating, sighing, heart thundering, Cass stumbled and sprawled out against the wall, canceling out his second's gain (W. Styron. Set This House on Fire); His heart thundered in his chest (S. King. Apt Pupil); rage thundered in my temples (P. Cornwell. Point of Origin).*

I'd like to point out that thunder is rarely an independent, isolated natural phenomenon. As a rule, it is a part of a meteorological complex that may also include rain, wind and lightning. This experiential, and respectively, cognitive proximity enables us to make complex metaphorical mappings, with one interoceptive episode being described with several metaphors. Illustrative of this type of strategy is the following context, which describes symptoms of impending heart attack: *But then he felt thunder in his chest and lightning down his arm and terror everywhere,*

*too much terror to walk, too much terror to breathe (F. Ackerman. Break, Break, Break).*

Being part of a meteorological complex, thunder on its own is never perceived as a dangerous phenomenon, unlike, say, lightning. However, its connection with the other weather phenomena enables us to interpret it as a precursor of a more serious problem or even danger. Due to it, we can use the thunder metaphor to conceptualize the initial stage of a sensation that can potentially develop into a serious somatic problem: *At last she began to feel tingles of sensation – bone-deep and as ominous as distant thunder – in her arms (S. King. Gerald's Game).*

Another weather phenomenon that can be converted into a cognitive and verbal resource is the storm. The storm embraces all the weather conditions listed above. It is defined as “an occasion when a lot of rain falls very quickly, often with very strong winds or thunder and lightning” (MEDAL<sup>1</sup>). The storm metaphor is a productive means of interpreting complex, multicomponent sensations that undergo qualitative and quantitative changes in the course of a single perceptual episode: *a fresh cramp moved into her side like a storm-front (S. King. Gerald's Game); She was having trouble hearing anything over the storm inside her (A. Garrett. Good Housekeeping).*

Quite common are metaphors denoting natural disasters. Chief among them is the flood metaphor, whose popularity is easy to explain. All “hydraulic” images strongly correlate with lay notions of fluid circulation inside the body. As is well known, in the Middle Ages Europe witnessed a wide spread of the so-called humoral theory, which was based on the idea of four types of fluids or “juices” inside the body. This theory was not only discussed within the professional medical circles, but actively used in practice and popularized in everyday discourses. What testifies to the wide circulation of this theory within the

Anglophone culture is the emergence of two phraseological units dating back to the Middle Ages: *good humor* (literally “good bodily juice”) and *bad humor* (literally “bad bodily juice”), which are still widely used. Moreover, according to some research, the common perception of the body as a container filled with liquid was shaped under the influence of the humoral theory and demonstrates a high degree of stability despite its scientific invalidity (Paster, 1993: 7-10).

The flood metaphor is naturally most relevant for interpreting and verbalizing intensive emotions. It correlates with the traditional “liquid inside the container” model, described by Z. Kövesces, G. Lakoff, M. Johnson and others (Kövesces, 2000; Lakoff & Kövesces, 1987; Lakoff & Johnson, 1999). Quite telling is the example *A flood of unreasonable anger washed through her* (D. Koontz. *The Eyes of Darkness*). The emotion here is described as flood that rushes through the body.

This metaphor can also be used to describe sensations of a purely somatic, physical character. In the context below, it describes the general physical condition of exhaustion: *deep fatigue floods through my bones and muscles – including that doughty love-muscle which at last begins to flag and droop after its tenacious vigil* (W. Styron. *Sophie’s Choice*).

My corpus contains a context in which this metaphor describes the process of regaining sensitivity after a lengthy state of general numbness: *Halston sat and waited. Feeling continued to flood back into his body in a series of pins-and-needles incursions* (S. King. *The Cat from Hell*). One can’t but note incorrectness, paradoxicalness of the created image. The discrete character of “pins-and-needles incursions”, even when the impact is made several times, in a “series”, clearly contradicts the continuity, indivisibility of the flood. In this case, apparently, the profiled semantic property of the

“flood” is the ability to “fill the entire space”. Cf.: to flood – *to cover or fill something completely, to spread into something* (OALD<sup>2</sup>). It seems that *flood* here loses the properties of a purely “hydraulic” metaphor. A more classical variant of the metaphor is presented in the following description: *Heat flooded his throat and tried to close it. Heat flooded his face* (S. King. *Needful Things*). Particularly telling is the first part of the utterance: the image of a flood filling the throat is an efficient cognitive instrument that helps us to comprehend and interpret respiratory problems.

Interoceptive discourse provides numerous examples of metaphorical usage of other disaster words. One of them is *eruption*. The dynamic properties of this natural phenomenon, its intensity and destructive potential make it an effective means of conceptualizing pain: *She roared again, and a blinding bright pain erupted inside my skull* (S. Fletcher. *Flight of the Dragon Kyn*); *Pain erupts in my chest, as if my aorta has just exploded* (W.J. Williams. *The Fourth Wall*). The pain, described as eruption, occurs unexpectedly, is characterized by a high degree of intensity at the onset of the interoceptive episode and, emerging in one point of the inner-body space, often spreads to the areas around it. The eruption metaphor is also a popular means of conceptualizing emotions, mostly negative: *Bandicut nearly erupted with frustration* (J.A. Carver. *Neptune Crossing*); *The letter made her erupt with rage, though she never told him* (R. Robinson. *The Finish Line*).

A noteworthy example of the disaster metaphor is the use of the word *earthquake* in the following context: *I am often angry at others, friends, foes, and family alike, and like to hold, and nurse, these angers for as long as humanly possible, until I can almost feel them eating at my liver, like an earthquake with numerous, sustained aftershocks* (M. Blumenthal. *She and I*). The description itself cannot be deemed

particularly well-turned, as the experiment with mixing the zoological (*eating*) and disaster (*like an earthquake*) metaphors failed to generate a holistic, harmonious image. However, the attempt to use the earthquake metaphor itself is notable, especially if we take into consideration its expanded character. The sensation is clearly localized in the inner-body space and is interpreted as destabilization of the inner-body architectonics, which can lead to resonance sensations of lower intensity in other parts of the body. I tend to believe that this technique might be used when describing paroxysmal painful sensations, especially those of an irradiating character, but I failed to find other examples of this kind.

I came across the earthquake metaphor in the description of an absolutely different type of sensation. In the context below an expanded tectonic metaphor is used to describe orgasm: *His lips touch mine, then pull back so quickly I am not convinced they ever landed, except for the volcanic eruption of my nerve endings where he made contact. Oh, and the earthquake from those nerve endings through my body, via the place where hiccups begin to the place where orgasms end. That's how I know he kissed me: I could measure my body's reaction on the Richter scale* (K. Harrison. *The Starter Marriage*). In fact, what we have here is an experiential scenario, which is fully extrapolated onto the sphere of interoceptive sensations. Indeed, volcanic eruptions are often accompanied by earthquakes, and in our mind these two events are closely associated, which allows for a complex metaphorical mapping. A further tangibility to the sensation is given by the attempt to measure it, the measurement being formulated in terms of the original scenario (*Richter Scale*).

I managed to discover a single but interesting example of the sandstorm metaphor: *He beat at the thought with agonized horror, the heat rolling*

*and billowing in his head like a sandstorm* (S. King. *The Stand*). The qualitative and quantitative characteristics of the sensation are explicated in the words *heat*, *roll* and *billow*. The sandstorm metaphor merely reinforces the imagery of the utterance, putting all the characteristics together and enabling the addressee to complete the multimodal image which appears in his or her mind.

The same author uses the metaphor of a forest fire when describing torturous symptoms of intestinal flu: *My head was splitting; there was a forest fire in my guts* (S. King. *11.22.63*). It is noteworthy that the image of a fire is quite a common way of metaphorical representation of the specific “burning” sensation in the viscera. Cf.: *Suddenly a horrid pain came to his chest, like unexpected fire* (W. Styron. *Lie Down in Darkness*); *Instantly her stomach was on fire and she wanted to spit the stuff back into the bottle, but it was too late* (T.C. Boyle. *Little Fur People*). Forest fire, however, is associated with a considerable speed of spreading, high intensity and enormous destructive impact. That's why in this case the author describes not merely a sensation that has certain properties, but a quickly progressing condition, which causes considerable suffering and has a destructive impact on the entire organism.

I do not pretend to be exhaustive, as the format of a paper imposes certain limitations both on the length and profundity of theoretical grounding and on the number of examples. However, the material provided is sufficient to arrive at certain conclusions.

It appears obvious that the domain of natural phenomena is a highly productive resource for conceptualizing interoceptive sensations. Unlike the well studied weapon and animal metaphors, whose main (if not only) function is to convey the qualitative characteristics of a sensation, the natural phenomena metaphors enable the

speaker to create a much more panoramic view, providing him/her with a tool that helps to qualify the sensation, measure it, trace its dynamics and assess possible consequences for bodily well-being. A significant proportion of examples provided contain the metaphor in its “light” form with a simile marker (*like, as if*), which, as some believe (Bowdle & Gentner, 2005), is characteristic of the initial stages of

metaphor conventionalization. It means that the natural phenomena metaphors do not belong to the core of interoceptive metaphors and are going through the stage of cognitive and language testing. However, their brightness and considerable explanatory power give us reason to expect their entrenchment in the mental space of interoception and increasing conventionalization in language.

<sup>1</sup> MEDAL: Macmillan English Dictionary for Advanced Learners (2002). Oxford.

<sup>2</sup> OALD: Oxford Advanced Learner's Dictionary (2008). Oxford.

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## **Метафоры, которыми мы чувствуем: интероцептивные ощущения как явления природы**

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*В настоящей статье рассматривается проблема концептуализации интероцептивных ощущений – особого типа перцептивных процессов, связанных с восприятием сигналов, поступающих из внутренней среды организма и характеризующих его физиологическое состояние. В отличие от экстероцептивных ощущений (зрения, слуха, осязания, обоняния и вкуса) интероцептивные ощущения лишены собственного терминологического словаря и единственным средством их концептуализации является метафора. В статье рассматривается лишь одна группа метафор, представленная наименованиями погодных явлений и природных катаклизмов. Материалом исследования послужили современные англоязычные литературные источники. В статье описываются функции отдельных метафор, анализируется их способность к передаче качественных и количественных характеристик определенного ощущения и оценивается возможность их конвенционализации в рамках современной англоязычной лингвокультуры.*

*Ключевые слова: интероцептивные ощущения, концептуализация, вербализация, метафора.*

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