GENERAL LINGUISTICS

THE ROLE OF AFFORDANCES IN METAPHOR PRODUCTION AND COMPREHENSION: A VIEW OF METAPHORS OF EMOTIONS

РОЛЬ АФФОРДАНСІВ У ПРОДУКУВАННІ Й РОЗУМІННІ МЕТАФОРИ: ПОГЛЯД НА МЕТАФОРИ ЕМОЦІЙ

Vakhovska O. V.
Candidate of Philological Sciences,
Associate Professor,
Postdoctoral Researcher at the
Department of Germanic and Finno-
Ugric Philology
Kyiv National Linguistic University
Kyiv, Ukraine

Ваховська О. В.
кандидат філологічних наук, доцент,
докторант кафедри германської і
фіно-угорської філології
Київський національний
лінгвістичний університет
м. Київ, Україна

This paper shows that affordances have a role in metaphor production and comprehension, and fills the methodological gap we identify in our earlier work [11, p. 46] regarding the distinction between **metaphors** and **non-metaphors** in the way humans conceptualize emotions, understanding that emotions are non-material objects and intangible entities, or things, unlike physical objects that are material and tangible. The terms *an object*, *an entity*, and *a thing* are interchangeable in this paper.

In [11], we go together with the authoritative emotion research maintaining that emotions because of their ineffability as qualia are often conceptualized metaphorically. Indeed, we clearly work with the **conceptual metaphors** of fear, sadness, happiness, and relaxation/serenity, as we arrange the designated properties of each of the four **emotion concepts** into an ontology, which is data-driven, and specify that metaphor is a preferred conceptualization of each of the four **emotions**. In this paper, we will focus on happiness and on the HAPPINESS concept; yet, our account is intended to accommodate the other emotions and emotion concepts as well.

Semantics of lingual networks [1] is the theory of meaning that we adopt in our work. This theory is developed by Prof. Dr. S. A. Zhabotynska who shows that human **propositional thought** is structured by the finite set of 17 schemas that single out the primary conceptual entities along with the

basic attributes and relations that these entities can acquire in the world that is ontologically known by humans. The theory, to the best of our knowledge, reserves for metaphor one **conceptual schema** only – the comparison likeness schema «SMB/SMTH *is as if* SMB/SMTH-A CORRELATE» assumed to uniquely license metaphorical expressions in language, i.e. the other 16 conceptual schemas license non-metaphorical linguistic expressions.

In this light, only those 166 expressions in our data [11, p. 37] that are licensed to occur by the «HAPPINESS *is as if* SMB/SMTH-A CORRELATE» schema can be considered metaphorical. The expression *happiness is paper-thin*, e.g., manifests the HAPPINESS *is as if* A SHEET OF PAPER conceptual metaphor, where the mode indeed is **fictitious**, *sensu* I. Kant. However, the mode is equally fictitious in such expressions as *this money gives them happiness* (HAPPINESS *is as if* A PHYSICAL OBJECT), *there is so much happiness in the community* (HAPPINESS *is as if* CONTENT INSIDE A CONTAINER), etc. These expressions are licensed to occur not by the comparison likeness schema but by other schemas from the set; still, these expressions are metaphorical, which overrides the initial assumption. Note: these other schemas can license non-metaphorical expressions, too, e.g., *the teacher gives them a book* and *there is so much water in the vase*, where the mode is **actual**.

We therefore have to admit that for HAPPINESS not the comparison likeness schema alone but also other schemas license metaphorical expressions in language, each such expression manifesting a peculiar conceptual metaphor. The methodological issue, as we now see it, is what property exactly distinguishes a metaphor (*this money gives them happiness*) from a non-metaphor (*the teacher gives them a book*), provided that both these expressions are licensed by one and the same conceptual schema (the action schema «AG-agent *acts upon* PT-patient») but the former expression is metaphorical, i.e. it manifests a conceptual metaphor, whereas the latter is not. We suggest this property be sought in the peculiarities of **embodiment** of human conceptualizers of happiness rather than solely in the arrangement of abstract schemata in their propositional thought about happiness. We suppose this is not a property of human thought *per se*, but a property of the object about which humans think this thought: the object provides the **affordance** to think about it in particular terms, these terms being either metaphorical or not.

Objects in the experiential world – as humans **perceive** and know them – have affordances as their inherent property. Affordances are possibilities of actions that things in an environment deliver to humans [4]; e.g., a tomato has the affordance of being eaten, while a cup has the affordance of being filled: these are the susceptibility of things to be acted upon in particular

ways [10]. Affordances link to agency, forming a subset of powers whose ontological diversity ranges over the possibilities in things, i.e. dispositions and affordances, as much as those in agents, i.e. abilities [7]. Affordances elicit automatic behaviors in agents [3], whereby the agents either perform actions afforded by the objects they perceive, or plan, imagine and rehearse, or elseways represent them: perceiving an object by the senses prepares the motor system to engage with this object in a specific way [5; 9].

Affordances relate to knowledge that is termed **modal**, in the sense that this knowledge is constrained and informed by human embodiment: it retains information about sources of its origin, and is empirical [13]. The notion has gone mental, since affordances are now considered as **things that suggest mental actions**, too [6; 8]: these things are non-material; e.g., proto-thoughts afford being developed into full-fledged thoughts once the thinker's **experience** of the world accumulates, or inchoate thoughts afford being articulated in inner speech, or emotions afford being labeled and verbally reported on by the emoters. Note: thoughts in Chinese Buddhism are themselves regarded as senses and make a singular form of perception. Importantly, the affordance view of perception holds that humans literally see the possibilities offered by objects as part of the content of their perception [13]; cf. our view that the interpretation of words of language is image-driven, whereby humans literally see with their mind's eye the mental images that the words convert into [12].

Environments are physical but also mental, with humans navigating both. Affordance character of physical objects is **mapped onto** that of mental objects, which may explain why happiness is operationalized as a physical object, serving human conceptualizers of happiness with the epistemic affordance to give it to somebody else: happiness is thought about, and seen with the mind's eye, as an object having certain properties, which in itself is **metaphorical**. The concept of happiness is embodied. HAPPINESS thus is treated non-metaphorically in one conceptual schema only – the identi-fication classification schema «ID-identified *is* CL-classifier,» as happiness is an emotion [11, p. 37, 44]; here, a kind relates to its type. Once happiness is thought about using any of the other 16 schemas, this conceptualization is metaphorical, as happiness ontologically is not a physical object, in contrast to a book. Then, what produces a metaphor is not the conceptual schema using which one thinks about a particular object but the nature of this object in terms of its affordances. One's modal knowledge that this object ontologically does not have this affordance serves one's awareness and comprehension of a metaphor if one encounters a linguistic expression that yet presumes this affordance in this object. Cf. Prof. Dr. N.V. Nikitin's view [cited from 11, p. 38] on the role that the negimplication of word meaning has in the production and comprehension of metaphors.

As our work [11] ultimately aims at a **formalization** of metaphors of emotions using ontologies, affordances as a parameter – rather, as a weight [2] – must be introduced into the computational model, which makes a prospect for our research.

Bibliography:

1. Жаботинська С. А. Семантика лінгвальних мереж у навчальному комбінаторному тезаурусі. *Studia Philologica. Філологічні студії*. 2019. № 13. С. 17–27. doi: 10.28925/2311-2425.2019.13.3

2. Ballout M., Krumnack U., Heidemann G., Kühnberger K.-U. Opening the black box: analyzing attention weights and hidden states in pre-trained language models for non-language tasks. *Explainable Artificial Intelligence*. 2023. P. 3–25. DOI: 10.1007/978-3-031-44070-0_1

3. Frith C. D., Wolpert D. M. Abnormalities in the awareness and control of action. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2000. № 355(1404). P. 1771–1788.

4. Gibson J. J. The theory of affordances. *Perceiving, acting, and knowing. Toward an ecological psychology* / R. Shaw, J. Bransford (eds.). Hillsdale: NJ, Lawrence Erlbaum Associates, 1977. P. 67–82.

5. Jeannerod M. Motor cognition: what actions tell the self. Oxford : Oxford University Press, 2006. 224 p.

6. Jorba M. Husserlian horizons, cognitive affordances and motivating reasons for action. *Phenomenology and the Cognitive Sciences*. 2020. № 19(5). P. 847–868. doi:10.1007/s11097-019-09648-z

7. Maier J. Abilities. *The Stanford Encyclopedia of Philosophy* / E. N. Zalta, U. Nodelman (eds.). 2022. https://plato.stanford.edu/archives/fall2022/entries/abilities/ (Referred to on November 5, 2023).

8. McClelland T. The mental affordance hypothesis. *Mind*. 2020. № 129(514). P. 401–427. doi:10.1093/mind/fzz036

9. Rizzolatti G. *Mirrors in the brain: how our minds share actions and emotions*. New York : Oxford University Press, 2008. 242 p.

10. Scarantino A. Affordances explained. *Philosophy of Science*. 2003. № 70. P. 949–961.

11. Vakhovska O. V. Metaphors of emotions: towards a data-driven formalization. *Messenger of Kyiv National Linguistic University. Series Philology*. 2021. № 24(1). P. 33–48. doi: 10.32589/2311-0821.24%20(1).2021.236030

12. Vakhovska O. V. The sin of the translator: on words and mental images in translation. *Amazonia Investiga*. 2022. № 11(54). P. 178–188. https://doi.org/10.34069/AI/2022.54.06.17

13. Vetter B. Perceiving potentiality: a metaphysics for affordances. *Topoi*. 2020. № 39(5). P. 1177–1191. doi:10.1007/s11245-018-9618-5