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Are structural metaphors structural?

1. Introduction

At first glance, the division into ontological and structural metaphors, as they have been presented by Lakoff and Johnson, is clear and unproblematic. For example, MIND IS A MACHINE has been classified as clearly ontological, and LIFE IS A JOURNEY, or ARGUMENT IS WAR as clearly structural. On closer inspection, however, one begins to wonder whether this classification is an adequate representation of the nature of the differences.

Lakoff and Johnson describe ontological (entity and substance) metaphors in the following way:

> "Our experience of physical objects and substances provides a further basis for understanding – one that goes beyond mere orientation. Understanding our experiences in terms of objects and substances allows us to pick out parts of our experience and treat them as discrete entities or substances of a uniform kind. Once we can identify our experiences as entities or substances, we can refer to them, categorize them, group them, and quantify them – and, by this means, reason about them." (Lakoff and Johnson 1980: 25). As mentioned above, one of the examples discussed by them at that point is THE MIND IS A MACHINE metaphor elaborated in our culture from THE MIND IS AN ENTITY." (Lakoff and Johnson 1980: 27).

An example of a structural metaphor, discussed by Lakoff and Johnson at some length, is ARGUMENT IS WAR metaphor which "structures (at least in part) what we do and how we understand what we are doing when we argue. (...) ARGUMENT is partially structured, understood, performed, and talked about in terms of WAR. The concept is metaphorically structured, the activity is metaphorically structured, and, consequently, the language is metaphorically structured." (Lakoff and Johnson 1980: 5).

In view of my main claim of OBJECTIFICATION (Szwedek 2000a, 2000b, 2001), it is necessary to take a closer look at structural and orientational metaphors, which I do later in the present paper, with the aim to possibly propose a re-analysis which would be consistant with OBJECTIFICATION.

In what follows, I propose to discuss the following issues: the physicist's view of the world, the ordinary man's view of the world; what we understand by structure, the nature of structural metaphors as described in Lakoff and Johnson, the nature of ontological metaphors, and conclusions.

2. A physicist's view of the world

However difficult it may be for even an educated person to understand, modern physics claims total unity of the world. For example, Capra writes that

> "In modern physics, the universe is thus experienced as a dynamic, insepara-
> ble whole which always includes the observer in an essential way." (Capra
> 1975: 81).

He explains that

> „Thus modern physics shows us once again – this time at the macroscopic
> level – that material objects are not distinct entities, but are inseparably linked
> to their environment; that their properties can only be understood in terms of
> their interaction with the rest of the world." (Capra 1975: 209).

Those views are by no means new in modern science, but I quote Capra because, particularly in consonance with the philosophies of the East, his words very forcefully express not only the compatibility of eastern and western thought, but primarily the difference between the scientists' 'real' // true representation of the world and the view of the world by a man-in-the-street, equipped only with 'naked-senses'.

He describes the disparity in the following way:

> "All these relativistic effects only seem strange because we cannot experi-
> ence the four-dimensional space-time world with our senses, but can only
> observe its three-dimensional 'images'." (Capra 1975: 171).

What is more Capra's words could be taken to run against the OBJECTI-FICATION hypothesis:

> "On the other hand, the theories of atomic and subatomic physics made the
> existence of elementary particles increasingly unlikely. They revealed a basic

interconnection of matter, showing that energy of motion can be transformed into mass, and suggesting that particles are processes rather than objects." (Capra 1975: 285).

However, if energy of motion can be transferred into mass, this is what we perceive as density (compare wind which we feel as air 'pressure'), that is matter in OBJECTS. As Capra adds

"Subatomic particles are dynamic patterns which have a space aspect and a time aspect. Their space aspect makes them appear as objects with a certain mass, their time aspect as processes involving the equivalent energy." (Capra 1975: 203).

Capra's conclusions are in a way discouraging in the long perspective of cognition:

"All natural phenomena are ultimately interconnected, in order to explain any one of them we need to understand all the others, which is obviously impossible. What makes science so successful is the discovery that approximations are possible." (Capra 1975: 287).

This also applies to our perception:

"These dynamic patterns, or 'energy bundles', form the stable nuclear, atomic and molecular structures which build up matter and give it its macroscopic solid aspect, thus making us believe that it is made of some material substance. At the macroscopic level, this notion of substance is a useful approximation, but at the atomic level it no longer makes sense." (Capra 1975: 203).

Another scholar worth quoting at this point is Korzybski who described that situation with his powerful slogan: "The map is not the territory." (Capra 1975: 29 // Korzybski 1958). Capra concludes that

"It implies, ultimately, that the structures and phenomena we observe in nature are nothing but creations of our measuring and categorizing mind". (Capra 1975: 277)

As research shows (cf. Capra 1975, Żywiczyński 2002), the western thought comes amazingly close to the eastern philosophy. For the sake of comparison, take as an example, Aśvaghosza's words quoted by Capra:

„All phenomena in the world are nothing but the illusory manifestations of the mind and have no reality on their own." (Capra 1975: 277).

Aśvaghosza also writes that

"Out of mind spring innumerable things ... These things people accept as an external world ... What appears to be external, does not exist in reality; it is indeed mind that is seen as multiplicity; the body, property, and above-all these, I say, are nothing but mind." (after Capra 1975: 277).

In relation to language all this means that

„Both space and time become merely elements of the language a particular observer uses for his description of the phenomena" (Capra 1975: 63),

and further

„Since space and time are now reduced to the subjective role of the elements of language a particular observer uses for his or her description of natural phenomena, each observer will describe the phenomena in a different way." (Capra 1975: 167).

Those words are reminiscent of Werner Heisenberg's view that "every word or concept, clear as it may seem to be, has only a limited range of applicability." (Capra 1975: 28).

Capra's conclusions as to the role of language in science is rather pessimistic:

"Science, as we know it, requires a language based on some unquestioned framework. Semantically, therefore, an attempt to explain all concepts can hardly be called 'scientific'." (Capra 1975: 288).

3. Some experiential difficulties

The major difficulty in the cognition of the world is the limited nature of our senses which makes full cognition impossible. We are destined to perceive the world as our senses allow, in manageable chunks (cf. Beaugrande and Dressler 1981 on memory and chunks). As Langacker put it

"A person's conception of reality is itself a conceptual world that is build up of peripherally connected experience through complex sequences of mental operations. We construct our perception of the 'real world' bit by bit, stage by stage, from myriad and multifarious sensory and motor experiences. It consists of the organization we impose, through the progressive and interactive application of interpretive procedures, on both primary experience and the higher-order cognitive structures that derive from previous processing" (Langacker 1987: 114).

The outside world manifests itself to the cognitive agent through the sensorimotor data. It means that the cognitive agent does not have a direct epis-

temic access to reality, and further cognitive processing can only rely on the raw data received from the senses.

It is therefore appropriate here to repeat Capra's words that "the structures and phenomena we observe in nature are nothing but creations of our measuring and categorizing mind." (Capra 1975: 277) And Aśvaghosza's observation that

> "All phenomena in the world are nothing but the illusory manifestations of the mind and have no reality on their own." (Aśvaghosza quoted in Capra 1975: 277).

Another difficulty is the relations between the human self and the rest of the world. We like to divide the world into OURSELVES and THE REST OF THE WORLD, the latter of which we are 'objective', in our opinion, observers. However, modern physics has made it clear that we are as much part of the world as anything else, and we form a unity with what we call 'the rest of the world'. Physicists propose that rather than treating ourselves as "observers", we treat ourselves as "participants".

Despite the impressive achievements of modern physics – all this as represented in language – people have not stopped and will not stop making the distinction "I/the rest of the world", using our senses as technical apparatus (limited in their cognitive power), and using the mind to "mould" our observations. It is interesting to observe, I think, that despite such a common distinction we also, commonly, treat our body as external to "us", more as a part of the external world.

4. Ordinary man's view of the world

The world, as an ordinary man has become to see it, has for centuries been perceived as arranged hierarchically in the form of the Great Chain of Being. Despite certain reservations (see Krzeszowski 1997 for discussion) that model, in Lakoff and Turner's (1989) words is not only "essential to an understanding of the worldviews of classical authors like Plato and Aristotle, medieval authors like Dante and Chaucer, Renaissance authors like Shakespeare, and even Augustan authors like Pope", but it "still exists as a contemporary unconscious cultural model indispensible to our understanding of ourselves, our world, and our language." (Lakoff and Turner 1989: 167).

Discussions of the problems of the world model show how complex and diverse the structure of that world model is – from simple to structurally complex, from stable objects to events, from concrete to abstract, from clearly

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compositional objects with identifiable parts to continuous phenomena which we fragmentize for conceptualization, etc., with all possible crossclassifications. A question naturally arises how a human mind copes with this complexity and this diversity?

Space is in itself continuous – we identify objects in space by their motion, i.e. change of position in relation to other parts of space (objects). Notice that we cannot know in advance whether what we identify as a pencil on a table, is actually not an integral part of that table. Only when the pencil is moved without "taking" that table with it, do we learn that the pencil and the table are two separate objects. Moreover, while we relatively easily observe that one surface of a pencil touches part of the surface of the table, it might be a little more difficult for us to accept that the other surfaces of the pencil also touch some surface of the adjacent space – in that case the air surrounding the pencil – thus, at the same time the boundaries (surfaces) of the pencil are, or are adjacent to surfaces/boundaries of air. If this is a reasonable description of the structure of the world (general and vague as it may be), similar observations hold for the identification and structure of all objects in the continuous space – we identify a table, because it can be lifted (separated) from the ground, we can identify a leg of the table, because (sometimes) we can separate it from the top, and even if the table is made of one metal piece, and legs cannot be detached, we impose the 'typical' structure, identifying the vertical downward protrusions as legs, i.e. parts of the table, easily understood as separate objects with all kinds of properties, and so on, and so forth.

I think the term 'structure' is commonly understood in a rather limited way, as a collection of elements (parts) of an object, or the composition of the substance of which it is made. For example, we commonly say, referring to the structure, that a car has a chassis, wheels, body, engine, etc. We can describe the structure of a stone as granular (composed of smaller, identifiable particles), or describing a car we can add that the body or the engine is made of aluminum, or steeel. Sometimes we can add certain overall properties of the object (nice-looking car, heavy stone,...), sometimes also refer to the functional properties (sports-car; racing car, corner-stone). This is rather a simplified description that we use quite frequently. Obviously, we are all aware of many other properties and functions of objects and their parts. We all know that part of the concept of a car as having wheels is our knowledge that their function is to move the car forward by rotating.

Despite a clear difference in nature between THINGS (objects) and RELATIONS (properties and processes), in most general terms both are viewed as having the same, or similar structure: boundaries (spatial vs. tem-

poral), dimensions (e.g. *long stick* vs. *long journey*), container structure (e.g. *in a pot* vs. *in a race*), component parts (e.g. *front, end* vs. *start, finish*). At this point I do not intend to address the question of whether those structures are inherent or imposed (mapped from other domains, which is a major question of the Invariance Hypothesis). If all phenomena have structure, inherent or otherwise, it is legitimate to ask whether the distinction into ontological and structural metaphors is valid, and if so what are the grounds for this distinction.

5. Structural metaphors

In his 1993 paper, Lakoff discusses a structural metaphor LOVE IS A JOURNEY in terms of ontological correpondences:
The lovers correspond to travelers.
The love relationship corresponds to the vehicle.
The lovers' common goals correspond to their common destinations on the journey.
Difficulties in the relationship correspond to impediments to travel. (see Lakoff 1993: 207-244).
Thus,

> "The LOVE-AS-JOURNEY mapping is a set of ontological corespondences that characterize epistemic correspondences by mapping knowledge about journeys onto knowledge about love." (Lakoff 1993: 207).

On the same page he writes that "metaphors are mappings, that is, sets of conceptual correspondences." (Lakoff 1993: 207)

One has to infer that if structural metaphors are defined in terms of mappings as sets of (ontological, conceptual or other) correspondences between elements of structure of the source and the target domains, then this is what would distinguish structural from ontological metaphors which are not characterized in terms of (ontological, conceptual or other) correspondences between elements of structure of the source and the target domains.

Lakoff and Turner put it quite clearly:

> "Take, for example, the LIFE IS A JOURNEY metaphor that we discussed in chapter one. Our understanding of life as a journey uses our knowledge about journeys. All journeys involve travelers, paths traveled, places we start, and places where we have been. Some journeys are purposeful and have destinations that we set out for, while others may involve wandering without any destination in mind. To understand life as a journey is to have in mind, consciously or more likely unconsciously, a correspondence between a trav-

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eler and a person living the life, the road traveled and the "course" of a life-time, a starting point and the time of birth, and so on." (Lakoff and Turner 1988: 60).

In order to expose the problem of distinction or lack thereof between onto-logical and structural metaphors, we need to compare the mechanisms of these metaphorizations. We will analyse the LIFE IS A JOURNEY structural metaphor, and MIND IS A MACHINE ontological metaphor.

The ontological correspondences in the LIFE IS A JOURNEY metaphor can be represented in the following way:
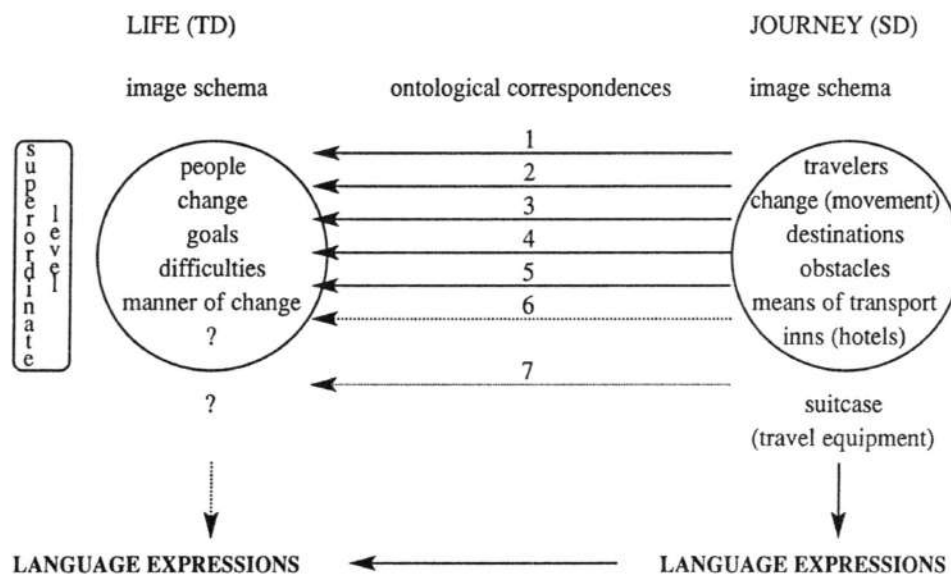

Figure 1. Conceptual metaphor

Some of the language expressions representing those ontological corre-spondences are as follows:

The baby is on the way; we come into this world; we take different routes // paths, being at a crossroads, we go our own ways, we go ahead with our plans, at the end of the trail, work our way around obstacles, making one's way in life, giving life some direction, his immediate goal is the diploma, he is making no progress in life, his life is on the rocks, stormy life, life in the fast lane, our paths cross or split, end of life, departure, he's gone, he left us.

JOURNEY has a clear structure, elements of which are entities and rela-tions among them. Travellers are objects moving through space, and conse-

quently in time, they enter into many relaions with one another, as well as with other entities, such as roads, obstacles, homes, baggage, etc. As expected in the case of a more concrete source domain, literally, in a very physical sense *we take a certain road, route or course, we leave are homes, make progress, reach destinations, sometimes find ourselves at crossroads, encounter obstacles, move* in various ways: *wade through swamps, drive on a bumpy road, go on stormy waters, march vigorously, crawl, etc.*

The essential elements of a journey are physical entities: travellers and space, here the road (in all its possible varieties and with all its elements). All other elements of a journey are dependent on travellers (e.g. destinations-places, baggage, etc.) and the road (e.g. obstacles, crossroad, etc.). All of them are physical, and thus spacial, entities. The temporal dimension is secondary here, only a consequence of movement in physical space.

What links JOURNEY and LIFE are definitely the participants. In both cases they are physical entities. And here is where the similarities end. In contrast to JOURNEY, all other elements of LIFE are abstract. The 'road' is temporal, not spacial, 'destinations', 'obstacles', 'baggage', etc. are all psychological – 'goals', 'difficulties', 'experience'. Destinations, obstacles, baggage are secondary, in the sense that they are participant-dependent, or perhaps features of the participants.

Thus what remains of the main correspondences are the participants, space and time. As I indicated above, the common element in the two concepts, JOURNEY and LIFE, are the travellers. Space is more salient in the concept of JOURNEY, and time is more salient in LIFE. It seems therefore reasonable to conclude that the main difference (with all the consequences) lies in the salience of space in JOURNEY and time in LIFE.

As is well known time is conceptualized in terms of space. Thus, when *we go through life*, we refer to movement through time, we move through 'temporal space'. Likewise, *crossroads in life* are not places, but moments at which we hesitate as to the further course, and *baggage* is our *experience*.

Thus, what allows mapping from JOURNEY to LIFE are first of all the participants, and secondly, the inseparability of space-time dimensions. However, what makes it possible to transfer space elements to time concept, is the difference between time and space. The difference between space and time makes it possible to transfer space elements to time concept. Disregarding the fact that JOURNEY and LIFE focus on // are based generally on different domains (spacial vs temporal), we can say that the ontological mapping of the structure allows us to transfer and use expressions from the SD in the TD. This is basically the essence of structural metaphors.

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6. Ontological metaphors

Let us now take a closer look at the nature of ontological metaphors as illustrated by MIND IS A MACHINE conceptual metaphor.

Lakoff and Johnson 1980 give the following examples:
We're still trying to grind out the solution to this equation.
My mind just isn't operating today.
Boy, the wheels are turning now!
I'm a little rusty today.
We've been working on this problem all day and now we're running out of steam.

All the examples refer to various elements of a machine and relations among them. Thus we have elements like *wheels, steam,* and relations *turning (of wheels), parts getting rusty, parts not operating* (refering to the whole *machine*).

In that respect MACHINE is like JOURNEY. Very concrete // physical object, with a number of elements and relations among them. Just like moving travellers are necessary in JOURNEY, each machine has necessary parts. Tired travellers (older people in LIFE) can be compared to a rusty machine. Baggage is an additional aspect relating to travellers, similar to steam, fuel. etc. which are additional aspects of a machine (in the sense that a machine without fuel and steam is still a machine). *Grinding out* is like making progress.

Just as elements and aspects of a JOURNEY are mapped onto LIFE, and consequently expressions referring to JOURNEY are used to refer to LIFE, elements and aspects of MACHINE are mapped onto MIND, and expressions referring to MACHINE are used to refer to MIND. Both source domains have a similar or the same physical status, and the same global structure (parts and relations // functions) which are transferred conceptually and linguistically to the target domains. The MIND IS A MACHINE metaphor is analysed below in the same way as the LIFE IS A JOURNEY metaphor.
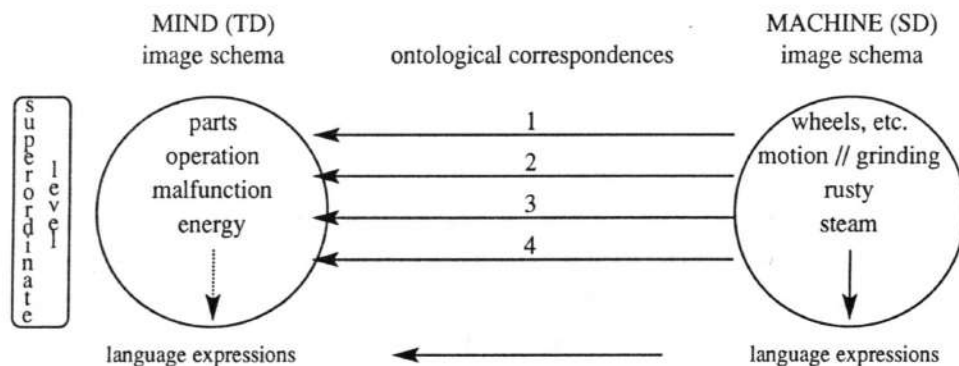

Figure 2. Conceptual metaphor

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What I think makes the problem even more complex is that, although, as language expressions show, mind is commonly conceptualized as an OBJECT, at the same time it is quite clear that it is a process (see Langacker 1987). Since what is important for us in any machine is not its structure (at least, for ordinary people), but how it functions, there is a shift of emphasis on the process. If mind is a process, and the all important aspect of machine, its functioning, is also a process, one has to wonder whether this is a truly ontological metaphor, or a camouflaged, or as I would say OBJECTIFIED process. It is not impossible to assume that there are two powerful, though conflicting aspects of mind allowing for two conceptualizations: as a process through its function, and through a powerful projection from the brain as a location of mind.

The other problem is that MIND as such has no structure of its own. Elements with which I compared the elements of a MACHINE, are elements of a higher, more abstract level: wheels (more specific) are parts (more general); steam is a source of energy; or a set of implications (perhaps also metonymic in nature), e.g. rusty parts do not function as expected (rusty stands for malfunction); grinding (more specific) is operation // motion (more general). Thus, while both LIFE and JOURNEY have some physical grounding (for example, people – living and travelling), in MIND IS A MACHINE metaphor, only MACHINE has some recognizable structure. This means that all elements (of structure and function) of MIND must be taken from the source domain (OBJECT, PARTS, FUNCTION, MACHINE, etc.).

7. Conclusions

The comparison of an example of a structural metaphor LIFE IS A JOURNEY with an ontological metaphor MIND IS A MACHINE, clearly shows that the two are based on a similar, if not the same mechanism of ontological correspondences. Another similarity is that, although LIFE and MIND are processes, they are conceptualized as OBJECTS – countable entities, with physical properties, treated as persons, etc. This is reflected in the nominalized form of the names of domains. At first glance it seems that JOURNEY and LIFE differ from MIND and MACHINE in that the first are processes, and the latter are objects. It is clear, however, that MIND is a process – objectified at a very deep level of conceptual system (perhaps through a powerful projection from BRAIN). On reflection we could also easily conclude that for everyday user, what is more important in a machine is not its actual structure, but its function – in other words, also a process.

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One, possibly significant difference is in the nature of the target domains. Although LIFE is an abstract concept, it involves physical elements – people. In contrast, MIND is fully abstract, and there does not seem to be any physical element with which it could be associated, at least not as directly as people with LIFE, possibly only through the projection from BRAIN. Thus, in the first case, the target domain has a structure onto which the structure of the source domain is mapped. In that latter case, the target domain does not have any structure and it gets the structure of the source domain. Whether this difference is sufficient to distinguish between ontological and structural metaphors is a problem for further research.

Bibliography

Beaugrande R. de and Dressler W., 1981: *Introduction to Text Linguistics*. London and New York: Longman

Capra F., 1975: *The Tao of Physics. An Exploration of the Parallels Between Modern Physics and Eastern Mysticism*. Shambhala: Boulder.

Krzeszowski T., 1997: *Angels and Devils in Hell*. Warszawa: Wydawnictwo Energeia.

Lakoff G., 1993: *The contemporary theory of metaphor*. In: Andrew Ortony (ed.) 202-251.

Lakoff G. and Johnson M., 1980: *Metaphors We Live By*. Chicago and London: The University of Chicago Press.

Lakoff G. and Turner M., 1989: *More than Cool Reason: A Field Guide to Poetic Metaphor*. Chicago: University of Chicago Press.

Langacker R., 1987. *Foundations of Cognitive Grammar*. Vol. I. *Theoretical Prerequisites*. Stanford, California: Stanford University Press.

Lewandowska-Tomaszczyk B. and Turewicz K. (eds), 2001: *Cognitive Linguistics To-day*. Frankfurt am Main: Peter Lang Verlag.

Oleksy W. (ed.), 2002: *Language, Function, Structure, and Change*. Frankfurt am Main: Peter Lang Verlag.

Ortony A. (ed.), 1993: *Metaphor and Thought*. Cambridge: Cambridge University Press.

Puppel S. and Dziubalska-Kołaczyk K. (eds), 2000: *Multis Vocibus de Lingua*. Poznań: Dziekan Wydziału Neofilologii Uniwersytetu im. Adama Mickiewicza.

Szwedek A., 2002: *Shared or inherited entailments among metaphors*. In: Wiesław Oleksy (ed.). 2002: 61-65.

Szwedek A., 2001: *Objectification: From Object Perception To Metaphor Creation*. In: B. Lewandowska-Tomaszczyk and K. Turewicz (eds).

Szwedek A., 2000a: *Senses, perception and metaphors (of Object and Objectification)*. In: S. Puppel and K. Dziubalska-Kołaczyk (eds), 123-133.

Szwedek A., 2000b: *The ontology of metaphors: the sense of touch in language formation*. Scripta Periodica 4, 193-199.

Żywiczyński P., 2002: *Cognitive Character of the Buddhist Theory of Language*. (Unpublished PhD dissertation. Nicholas Copernicus University, Toruń.)

Streszczenie

Lakoff i Johnson (1980) zaproponowali podział metafor na trzy typy: strukturalne, orientacyjne i ontologiczne. Niniejszy artykuł omawia typowe przykłady metafory ontologicznej (UMYSŁ TO MASZYNA) i strukturalnej (ŻYCIE TO PODRÓŻ) w poszukiwaniu odpowiedzi, czy taki podział jest uzasadniony. Analiza wyrażeń oraz odpowiedników ontologicznych wskazuje na podstawowe podobieństwa między tymi typami metafor: obie domeny źródłowe mają strukturę i ta struktura jest przeniesiona na domeny docelowe. Można także potraktować różnicę między procesami (PODRÓŻ, ŻYCIE) a obiektami (przedmiotami: MASZYNA, UMYSŁ) jako pozorną lub drugorzędną. Oczywiste jest jednak, że UMYSŁ to w rzeczywistości proces (zobiektyfikowany), a to, co dla użytkownika jest najistotniejsze w MASZYNIE, to nie struktura, ale jej funkcjonowanie, czyli także proces. Odpowiedź na pytanie, czy te różnice wystarczą do uzasadnienia podziału metafor na strukturalne i ontologiczne, wymaga dalszej, dokładnej analizy.