UNCERTAINTY PRINCIPLE AND SYMMETRY IN METAPHORS

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Abstract—Analogies taken from the humanities are common epistemological means in teaching and explaining phenomena in sciences. This paper, however, follows a more or less opposite approach by taking formal and functional analogies from the sciences (uncertainty principle and symmetry) in order to illustrate the phenomenon of metaphor in language in an attempt to get closer to its nature, behavior and function.

Interdisciplinarity characterizes current trends in sciences and humanities. This is not just a matter of fashion. Aristotle was still able to command all the sciences, and like a shepherd he could gather them as one flock into one sheepfold—philosophy. With Christianity and from the early Middle Ages onwards, scientific knowledge disintegrated into different branches of science and humanities in an accelerating way. This process has achieved an immensely high degree of specialization in the twentieth century. This trend has been accompanied by a stronger and stronger need for integration within each science as well as among all sciences [1, pp. 381-413]. This began as early as the twelfth century with the foundation of universities and was expressed in the name itself as the etymology shows [ unus (—one) + verto (—to turn): universus (—turned into one, combined into a whole)].

One of the unifying principles of an integrated system of knowledge of man and his world seems to be the concept of symmetry [2].

For more than 20 years I have walked under Norman and Gothic vaults and arches, which day after day imposed the ideas of reflectional, rotational and translational symmetries on my mind (Figs 1 and 2) [3]. Tension and dynamism in my wife's designs and tapestries (and perhaps in our marriage) may be the manifestation of a sophisticated balance of dominating reflectional, translational and color symmetries and of their absence as well (Figs 3 and 4) [4, 5]. Translational symmetry was probably responsible for the boredom of musical training in my childhood as well as for the nice melodies I cannot forget [6]. For almost 30 years I have been studying and teaching problems of rhythm, rhyme [7] and metaphor in literature and language and have tried to find the reason for their aesthetic functions. Yet, it was only recently that some works reminded me that a common core and connecting principle of all the above may be symmetry [2, 8-10].

In relation to human life the phenomenon of symmetry can be compared to health. If one is healthy he is not interested in it, does not take care of it and does not feel it. The presence of health is something unnoticed in life and the absence of it, i.e. illness, is something which is noticed and which directs all our attention, aims and wishes to health. Symmetry in nature and art surrounds us permanently, more or less unconscious in us and unnoticed by us, while the lack of it calls our attention to its replete omnipresence. Such is the linearity of time in human life, this unidirectional and irreversible passing and lethal asymmetry of the two endpoints in our lives—birth and death. This personal and irreversible process of the individual pushes the human mind towards the idea of a bilateral reflectional symmetry, i.e. to the hope and belief of another life to come with its antisymmetrical items of reward and punishment. According to this there was a paradise (lost) at the beginning of time and there will be a paradise (regained) at the end of time and the axis of reflection is a Messiah in the middle of time. His person is again a symmetry in itself, the incarnation of divinity (Deus → homo) and the deification of man (homo → Deus) [11].

If a linguist approaches these phenomena of symmetry exclusively from a linguistic point of view and deals with the meanings of expressions he says they are metaphors. A metaphor comprehends a "real life", of which the traditional name is literal sense, and an "uncertain life to come", called figurative sense [12, p. 3; 13, p. 552; 14].
Skipping a vast number of definitions for metaphor [15, pp. 300–331; 16, 17], I quote here a few examples beginning with Aristotle:

"Metaphor is the transference of a strange name".

in Bywater’s translation,

"Metaphor consists in giving the thing a name that belongs to something else" [18, 19];

and another one from I. A. Richards, a great twentieth century scholar of metaphor research:

"In the simplest formulation when we use a metaphor we have two thoughts of different things active together and supported by a single word, or phrase, whose meaning is a resultant of their interaction" [20, p. 93];

and two from two encyclopedias:

"Metaphor. A condensed verbal relation in which an idea, image, or symbol may, by the presence of one or more other ideas, images, or symbols, be enhanced in vividness, complexity or breadth of implication" [21]; "By common definition and by etymology a metaphor is a transfer of meaning both in intension and extension" [22].

Consequently, the term metaphor in its etymological and wider sense means every transference in language, i.e. tropes (Cicero: verborum immutatio—changing of words) [13, pp. 552, 553, 556] while traditionally its meaning has also been restricted to transference based on similitude, e.g. "he
is a lion”, which means he is as brave, as strong etc. as a lion (Cicero: verbum translatum—
transference of words) [13, pp. 552, 553, 556].

One of the most common and ridiculous superstitions of the Western civilization has been that
metaphors (or tropes in general) are to adorn style [20, p. 90; 23, p. 359]. It is a tradition which
may be traced back to a superficial reading of Quintilian and a fatal misunderstanding as a
consequence of it: “... there are some (i.e. tropes) which are intended solely to the purpose of
embellishment” (eruntque quidam tantum ad speciem accomodati) [24, p. VII. VI. 5] (present
author’s italics). Several times he makes clear distinctions between tropes, which are to express
meaning(!) and those which are to ornament speech: “... some are for the sake of meaning, others
for the sake of decoration” (... quosdam gratia significationis, quosdam decoris assumi)
[24, p. VIII. VI. 2]; “... tropes employed to express our meaning involve ornament as well, though

Fig. 2. The splendid vaulting of St Benedict’s Chapel at the Archabbey of Pannonhalma, Hungary. (Photo: A. Alapfy.)

Fig. 3. Struggle for Light; tapestry, wool, 150 × 150 cm. Designed and woven by S. Őrsi, 1978.

Fig. 4. The Seventh Door; tapestry, wool, 122 × 172 cm. Designed and woven by S. Őrsi, 1985.
the converse is not the case” (... qui significandi gratia adhibentur esse et ornatum, sed non idem accidet contra); “... to make our meaning clearer ... or to produce decorative effect ...” (quia significantius est aut quia decentius) [24, p. VIII. VI. 6].

Though Quintilian was interested in the type which decorates speech, he was still aware of the other type as well. In doing so he relied on Aristotle, for whom the information-giving nature of metaphor was of vital importance [25]:

“We will begin by remarking that we all naturally find it agreeable to get hold of new ideas easily: words express ideas, and therefore those words are the most agreeable that enable us to get hold of new ideas. Now strange words simply puzzle us; ordinary words convey only what we know already; it is from metaphor that we can best get hold of something fresh.” [26]

In any case metaphor has been a “disturbing enigma” for scholars [12, p. 13] since Aristotle. There are at least three reasons for this:

(1) nature of metaphor;
(2) birth and behavior of metaphorical relations in speech/text;
(3) effect, function and relation of metaphor concerning human personality (thinking, emotions, instincts etc.).

According to different approaches of various disciplines to metaphor, theories have been labeled as comparison (Quintilian), analogy (Aristotle), interaction (Black, Richards), improper usage (Locke, Wittgenstein), opposition, logical absurdity (Beardsley), matter of emotion (Carnap), intuition (Wheelwright), substitution, similarity, juxtaposition, identity, tension, collision, fusion, deviance, anomaly, mistake etc. [12, p. 3; 15, pp. 300-331; 22, 27]

This simple list of the technical terms of theories refers to the essence of metaphor: “the literal meaning does not disappear” [12, p. 13] but goes hand in hand with the figurative meaning in every moment (cf. comparison of two, interaction between two, tension between two etc.). The result is a tension in our mind, an oscillation [15, p. 313]. Is it a matter of empirical falsity or semantic anomaly [34], of relation of denotata and/or of significata [29, p. 50], of intension and/or of extension [22]? When one says “Peter is a lion”, he sets up a contradiction according to the rules of traditional logic, as he transgresses logical categories: “Peter is a man”, “A lion is a lower animal”, consequently “A man is a lower animal”! Yet we have no problem in understanding the sentence “Peter is a lion”. Suddenly we recognize common features in Peter and in the lion (tertium comparationis) [19, pp. 90-92; 30, pp. 27; 38; 153]; (ground) [20, p. 93; 28, 35, pp. 25-47, 33]. We do not care about all the potential features of the two meanings, but simply make some of the virtual features actual (brave, strong etc.) [35, p. 44]. At this stage another problem arises: which features are actualized? Brave, strong or some others or both? Do we delete all of the potential and some of the virtual features? [15, pp. 302, 314]. At once we realize that the interpretation of metaphor is not totally uncertain, yet it is not as certain as the sentence “Peter is six feet tall” can be true. In addition we feel it is not just a matter of intuition vs reasonable thinking or experience. We know that our interpretation of a metaphor depends on context, situation, culture and education, personal age and historical period, just like everyday classifying (see below) [36]. That is why for speakers of European languages “my ducky”, for example, may or may not be a nice thing to say to a woman but “my little elephant” certainly is not (cf. the meanings of head in English, French, German and Hungarian) [37].

The phenomenon of transgression of existing categories is common both in poetic metaphors as well as in new inventions in sciences. If one says “A wolf is an animal” he will classify animal as genus and wolf as a species somewhere under the genus animal. But if he says “A man is a wolf” he will not follow everyday or scientific biological experience and we could say again that he has violated the logical rules of classifying or a kind of tabula Porphyriana based on it [38, pp. 202-250, 229]. Everyday and scientific classifying themselves may also be totally different without being really illogical. Everyday classifying, not unlike metaphorical classifying, may depend on age, education, culture and social status, period, genre and mental condition (see above).

When my 3-year-old daughter consistently called every animal, even a fish on the kitchen table, bow-tow and every plant and flower kertyschoo, the naming was funny yet the classifying perfect, i.e. animal kingdom, vegetable kingdom [15, pp. 300–331; 39–45]. Similarly, when in Hebrew both
an eagle and a bee were called *oph*, that categorizing seems naive to us at first glance because we translate *oph* as *bird* in our system of categories. The ancient Hebrew system was unlike ours however. The meaning of *oph* was "flying being with wings" and thus, the classifying was again perfect [15, p. 317]. The same can be found in the distinction of *meat* and *fish* (*caro* vs *piscis*) in Catholic moral theology from the ancient times throughout the Middle Ages up until modern times. From the viewpoint of fast (Lent), common sense and even local tradition were authoritative in deciding what was meat and what was fish [46]. Thus, every animal that lived and breathed on the surface of the earth was looked at as *meat*—mammals, birds etc. Every animal that lived in and around water was *fish*. Therefore, during Lent people were allowed to eat frogs, turtles, cockles, shellfish, crayfish, beavers, wild ducks, crakes, seagulls etc. This distinction, which included even mammals in the term *fish* had nothing to do with science. Yet, there is a clear logic in it: the place of life [1, p. 402]. Something similar happens in verbal jokes as well [47].

As far as metaphorical language is concerned it provides a more holistic view of man and his ideas in everyday life even though it is not precise in a scientific way, not to mention the fact that it was the unusual associations and unexpected relations which helped develop natural sciences as well, as pointed out in the story of Newton’s apple. Every invention or new idea in science is a kind of rebellion against and a violation of existing categories just like the language of children, poets and early civilization myths. In each case there is something in common: the introduction of new categories as a result of a new system of classifying. Therefore, a metaphor is much more than simply a break in the semantic isotopy of a text [15, p. 312; 48–50]. “No advance was possible in the intellectual life of man without metaphor.” [51]

The importance and the problems of metaphor which I have tried to sketch above may be responsible for the two extreme views on interpretation: one says metaphors make language totally obscure, while the other says they can be analyzed as exactly as facts in sciences [15, p. 323]. In an attempt to reach a more differentiated understanding of the problem of metaphor I introduced the uncertainty principle to the question in 1981 [52].

Then I suggested that every manifestation of a human being, first of all an artistic one, is *potentia* which is actualized, i.e. interpreted, by the recipient, another human being (in case of language). Consequently, what a man says is always polyvalent. It is the circumstances (who, what, to whom, where, why etc.) that make his utterance more or less definite. Let us try to compare metaphorical language with scientific language. The latter tends to be accurate, so that it expresses extremely little with one word and thus achieves exactness and totally excludes ambiguity. Metaphors, on the other hand, tell us a lot, but inexplicitly, ambiguously and in an undefined manner. Abstract language is subsidiary and artificial. Metaphors are not simply there to decorate language but to achieve conciseness, serve totality in cognition and reduce the number of signs. For instance, the wording of the label on a bottle of Tokay wine “Rex vinorum et vinum regum” (Wine of kings and king of wines) could be scientifically explained, at least in theory, but the process would fill books. Even in chemistry and physics approximations are often the only practicable way. Thus, for example, to make an exact calculation and provide a description of all possible wave functions of an iron atom would fill an entire library and that of a uranium atom would require more paper and ink than there is matter in the solar system. Or take, for example, the term “electron cloud” in the description of atomic structures which is one of the most telling metaphors among the many used in natural sciences [53]. It is important in my analogies here that metaphors are always “cloudy” in common experience [35, p. 47].

There is an uncertainty in the question of metaphor as well. We know exactly the two “names” (*man*–*wolf*), yet we cannot link them adequately (Fig. 5). Therefore, a literary analysis or any everyday interpretation cannot come near anything like a mathematical or scientific one (except in the case of the uncertainty principle of physics), which totally eliminates ambiguity and establishes equivalences and equations. Any interpretation must retain some degree of uncertainty. It sets only the limits within which ambiguity may exist and alternatives (fierce, hostile etc.) may be chosen. It offers end values (*man* and *wolf*) and the oscillation of mind can spring into existence in any channel (fierce, hostile etc.) between them. Consequently, the number of interpretations is not unlimited [37]. Ambiguity and tension remain within certain limits. For example in the famous metaphorical saying “Homo homini lupus”——“Man is to man a wolf” Plautus: Trinumumus II.4 [54, 38, pp. 202–250, 229], the channel can be wild, hostile, inimical, fierce etc., but obviously not
mild, friendly, serving, adoring etc. Otherwise it would perhaps say: “Homo homini deus”—“Man is to man a god”, as Erasmus quotes it as a proverb: “Homo homini aut deus, aut lupus”. The oscillation of mind here seems to correspond to connections between different parts of the brain. A metaphor makes the whole man react. In metaphorical thinking, the scholastic principle can be altered in the following way: “Nihil est in intellectu quod simul non sit in anima, corpore et sensibus”—Nothing is in the mind that is not simultaneously in the soul, body and senses (see below also).

This can be illustrated by an analogy from chemistry, too. In a molecule, which is constructed of atoms, we know that there are certain electrons which are shared between atoms and that there are others which belong to individual atoms, at least to a good degree of approximation. In a metaphor, we also know which items of meaning can be common (hostile, fierce etc.) and which cannot (mild, nice etc.), but we can never be certain of the actual common one or ones (hostile and/or fierce etc. and/or both and/or others). This depends on the individual, his age, education etc. [38, p. 219]. So we must take into consideration both bonding and nonbonding electrons, using the molecular language vs features of meaning [10]. It seems much easier and certainly more clear-cut to describe the affinity and repulsion of electron pairs with one another than those in the meaning of a metaphorical expression. Wolves may be fierce both toward other animals and toward each other, may quarrel over prey and with each other etc. These relations are also defined much more by education, common sense etc. than biology. The two meanings in the metaphor remain the same, just as the two nuclei remain unchanged in the chemical bond, whereas the relationship between the two meanings is subject to various conditions, just as the bonding between the two atoms can be described, at best, by a probability distribution function of the electrons, and is more sensitive to changes on various conditions than the nuclear positions. While we know the number of chemical bonds in a molecule, we do not even know the number of features in a metaphor. We can speak of positions of greater and smaller symmetries and this is why, for example, “my little elephant” can be nice in one language and culture and insulting in another. The problem of certainty and uncertainty in the nature of metaphor can be revealed more closely if we take the concept of symmetry into consideration in a more detailed way.

It is all the more necessary that we do this because metaphor was discovered as an example of symmetry as early as, at least, Shubnikov and Koptsik, though they share the common European
opinion of a narrow interpretation of the use of metaphor and restrict it to poetic language (cf. the remarks above on Quintilian):

"A specific feature of poetry such as the metaphoric content of its language develops within a unified scheme of groups of projective transformations. Writing the Aristotelian metaphor in the form of ratio

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\text{What age is so} \quad \frac{\text{evening is}}{\text{for life}} = \frac{\text{for day}}{\text{we find that other tropes (poetic comparisons and contrasts) are formed in an analogous manner.}}
\]

[23, p. 359]

The concept of antisymmetry in grammatical metaphors as the unusual and parallel use of Hungarian plural suffixes was raised by Frnagy [15, p. 310].

Scientific investigations of metaphor go back to Aristotle, just as the concept of symmetry goes back to Greek thinking. The word $\delta \sigma\mu\mu\varepsilon\tau\rho\iota\alpha$ had various meanings, the most important of which were: commensurability, due proportion, symmetry, one of the characteristics of beauty and goodness, fixed proportion, suitable relation, convenient size and harmony of life [55].

In today's literature of symmetry a kind of wider sense corresponds to the Greek meanings: "A broader interpretation allows us to talk about degrees of symmetry, to say that something is more symmetrical than something else" [10]. In this sense we "call objects equal in relation to some particular feature if both objects possess this feature" [23, p. 1] and thus "we introduce the idea of two objects being more or less equal" [23, p. 1]. This type of symmetry is called "material symmetry" [9] and applies to metaphor while the so-called "geometrical symmetry", "as a special kind of geometric law" [23, pp. 4, 2] and geometric regularity does not [4, 10, 56]. I use the terms bilateral, rotational, translational and color symmetries as well as asymmetry in the sense in which they are generally accepted and established in the literature [2, 10, 23, p. 359; 57–60].

If we consider the symmetry of the sentence "A wolf is an animal" from a logical point of view, i.e. we categorize the animal as genus, the wolf as a species of it, we shall find reflectional symmetry and asymmetry in their extensional relation as the set of animals includes the set of wolves (Fig. 6). A similar symmetry and asymmetry can be found in their intensional relation but in a reciprocal way, as the set of features of a wolf includes a set of animal features (Fig. 7). This symmetry and asymmetry is also present in a simple sketch of the dichotomic structure or binary oppositions of the so-called Tabula Porphyriana (or Arbor Porphyrianus):

The symmetry is in the feature being which exists in both; the asymmetry, or at best antisymmetry (traditionally called differentia specifica), is in the features living–inanimate, with the feature living existing in one and missing in the other etc. This is why it could also be looked at as antisymmetry.
Now let us see what happens if we say "A man is a wolf". We disregard the system of Tabula Porphyriana in this sentence, regardless of whether our tabula is based on science or is determined by culture, language etc. (see the examples of fish, bird etc. above), as if wolf were a genus and man a species of it:

while according to the common system, man and wolf are both species somewhere under different generi, as can be seen quite clearly even in a mere sketch:

Yet, we cannot say that the sentence "A man is a wolf" is simply illogical and violates the rules of thinking and of language because we—in a European culture—can understand it without difficulty. The solution to the problem, I think, is in the existence of the above-mentioned uncertainty in the symmetry and asymmetry of the meanings in the sentence, not to mention that it is symmetrical and asymmetrical even in its acoustic or written form:

where the copula is is the axis of reflection or the border of translation. Metaphorical relation is a kind of mirror which is polished semantically, socially and culturally (cf. the example "little elephant" above).

Now let us suppose that the two meanings (man—wolf) are two different and amorphous objects opposite each other. They can both be turned in space separately in every direction. Both have certain parts on their surfaces which are identical or similar either in shape or color (fierce, hostile etc.). Consequently, if we turn them continuously there will be certain moments and stages when identical or similar parts face each other (fierce—fierce etc.) or are back to back. The two objects (man—wolf) in and of themselves are asymmetric, but in the above-mentioned moments and stages symmetries arise between parts. This is when we discover common features of man and wolf (hostile, fierce etc.). The probability of such turnings depends on the number of identical or similar parts, on the speed and direction of the turnings and the cleverness of the person who is turning them (cf. the problem of the Rubik cube, and see Fig. 8). If one is clever, the probability of symmetrical stages in an interval grows and the frequency and probability of the returning of such stages will be more or less stabilized (cf. the problem of certainty and uncertainty of metaphor as discussed above). This means that a clever person can identify more common features of man and wolf more quickly than others. We can make this play more complicated and refined and put a lens between the objects. In this case the work of the lens will also depend on the distance of the objects from the lens and on the nature of lens itself. Such lenses can be culture, education, age etc., as above. Therefore, let us add omnidirectional motion in space to the earlier rotation of the two objects. Then theoretically there will be more possible stages of symmetry as the lens can enlarge or reduce shapes, i.e. a square of this size ☐, for example, can be symmetrically adequate with this size ☐ etc. (see Fig. 9). If the lens in question happens to be a fish-eye then a shape ○ can be symmetrical with ☐. That is why "my little elephant" can be nice—depending on the cultural lens.
The two meanings in metaphor are amorphous in comparison with one another. Yet, there are more or less symmetrical items (fierce, hostile etc.) in them while others are asymmetrical. The existence of items belong to the possibility of the objective, external world (cf. *potentia* above). Whether they appear or are thought or recognized as symmetries (cf. *actualization* above) depends on two main groups of conditions: one is the rotational and omnidirectional motion, which is the brightness and cleverness of the speaker; the other is the mirror or lens/lenses and the objects, the type of lens, the type of amorphous object—which is the individual's language, culture, education, age, historical period, social status, context, situation etc. (cf. the “circumstantiae” in classical rhetoric) [13, pp. 91, 139, 377, 399 etc.]. These result various values which can be subdivided as aesthetics, knowledge-invention, emotional tension, humor, poeticity etc. The two main factors (motions and lens + object) define the borders of metaphor–nonmetaphor in an exact and precise way. Within these borders one stage, one moment (*fierce* or *hostile* or *wild* etc.), i.e. the appearance of metaphor/symmetry, is more or less uncertain.

By means of this model the nature, behavior and effect of metaphor can be described—I am convinced—more precisely and exactly than ever. It comprehends several different characteristics of metaphor which have been emphasized separately by various approaches, and provides an explanation of the tension, oscillation, cognitive and emotional procedures, invention and poeticity, and the role of science and art in our mind and life. It also alludes to the relationship between the external world and the world in language (cf. Petőfi’s TeSWest theory: text structure—world structure) [61], which is a kind of symmetry as complicated as symmetry in metaphor. Besides, it reminds us of the external, formal symmetry of the shape of neocortex, which is the material source of the metaphorical operations discussed above. There may also be a functional connection between metaphoric thinking and the structure and working of the brain.
Since Sperry's experiments the research of left and right hemispheres has become fashionable [15, p. 324; 62, 63]. It is widely known that the left hemisphere is the center of abstraction and speech, while the right hemisphere is the center of music and iconic thinking. It is also well-known that there has been a contradiction in localizing certain functions in the brain. Lashley's experiments seemed to prove there is no special place of memory in the brain, while Penfield succeeded in connecting certain senses to certain neurons [62, pp. 201–204]. If certain parts of the neocortex are cut out, other parts may take over their functions—primarily in childhood. This contradiction and uncertainty of definite localization and the possibility of the changing place of functions seems to correspond to the unpredictability in metaphorizing which is, at the same time, predictable within certain limits in its special symmetry, as we have seen above. The brain as a whole (including the limbic system, the center of emotions and other parts) is the same in every man, though not regarding the level of neurons and their connections. A certain connection is established within one man's brain but not in another's, though the neural possibilities are more or less equally given (cf. determination by age, education, culture etc. above). If the neural connection is produced, it is not sure that the neural route is the same. The length and number of intermediate connections on it can be different and can exist in parallel [64]. This also seems to correspond to the special uncertainty and symmetry of semantic features in metaphor which can be produced by various rotations etc. in our model. Consequently, both the nature of the brain and the nature of the metaphorizing mind include a kind of risk, not unlike human life itself [65, pp. 1, 9], which is not limitless in either case (see the introductory remarks to this paper). Degrees of risk in finding symmetry in language and art consist of a wide range of chances (cf. Figs 1–4). The use of metaphor in language—as I hope I have proven—is a "carefully calculated risk" [65, p. 94] as metaphor connects known and unknown as a means of requiring a knowledge of unknown via known [26, 38, p. 217], art and inventions are also adventures into an unknown part of the world with the purpose of making it known. In the symmetry of metaphor—one could say—the unknown is reflected by the known. At the same time the concept and existence of symmetry itself ensures the limits of risk. This anxiety and hope is expressed by Black and Boyd:

"No doubt metaphors are dangerous—and perhaps especially so in philosophy. But a prohibition against their use would be a wilful and harmful restriction upon our power of inquiry." [35, p. 47];

"The use of metaphor is one of many devices available to the scientific community to accomplish the task of accommodation of language to the casual structure of the world" [66].

This accommodation by metaphors belongs to the most routine of human acts, so much so that it is taken to extremes even when used without similarity, e.g. in the physics of quarks where there are technical terms like "naked charm state" and "naked bottom state" [1, pp. 381–413; 67]. That is why I think Petőfi is perfectly right in saying that "normal and figurative messages can be handled in the same way" (see also the everyday and scientific classifying above) [68]. I also hope that the introduction of the correlation of the uncertainty principle and symmetry in metaphor may be fruitful and stimulating for modeling facts in natural sciences. The risk of certainty and uncertainty, the struggle to reduce it and keep it to a limited extent, to evaluate and ramify it in metaphor has removed the concept of metaphorical symmetry from the geometrical one. Yet, the key to the enigma of metaphor may also be the uncertainty principle in symmetry.

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