

# The Creative Discovery of Similarity

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## 1. Introduction

A traditional view of art and science would say that art creates while science discovers, that art makes or performs, while science knows. The thesis that I shall defend here is that both art and science make and know, for all knowledge is active and every action teaches something. Both science and art make creative discoveries. The object and first result of creative discovery is similarity (ὁμοίωσις). Homer discovered/created the similarity between the warrior and the lion. Newton discovered/created the similarity between the fall of an apple and the movement of the Moon. With similarity as a starting point, art explores spaces of possibility, makes metaphors, produces works and can reproduce or represent them. On this very same basis, science produces concepts, laws, classifications, theories and technical applications. Without the creative discovery of similarity, we would have neither art nor science.

Why is similarity so important? I shall deal with this in **Section 2**. Apparently, if there were a crisis in similarity, there would also be crises in conceptualization, induction, representation, metaphor, the very possibility of making repetitions of experiments or works of art, language as a whole and even numbers. Neither science nor art could survive such an annihilation of their bases.

Nevertheless, Nelson Goodman, in his text “Seven strictures on similarity”, lessens and relativizes the importance of similarity, as I shall set out in **Section 3**. However, if similarity failed, both art and science would be at risk, for we should not be able to find a basis for them in either identity or difference. I shall present this idea in **Section 4**, through a commentary on a text by Heidegger. With identity and difference ruled out, we come to wonder whether it is possible to reinstate similarity. In the light of some ideas proposed by Aristotle and Peirce, we shall tackle this question in **Section 5**. The main conclusion, set out in **Section 6**, will be that it is possible to reinstate similarity, but a similarity linked to creativity. Similarity thus reinstated will be the object and the result of a creative discovery and not of a simple discovery or of an arbitrary creation. This is the type of similarity that serves as the basis for science and art.

## 2. The Importance of Similarity

“The most skilful interpreter of dreams is he who has the faculty of observing resemblances [...] Speaking of ‘resemblances’, I mean that dream presentations are analogous to the forms reflected in water.”<sup>1</sup> Dreams are like images on troubled waters. In both cases there is a similarity between representing and the represented, but it is not obvious. A skilful interpreter is therefore needed. Two clear ideas remain: the first is that similarity is the base of any representation. The second is that interesting similarities – those that are not obvious – require a skilful interpreter to come to light.

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<sup>1</sup> ARISTOTLE, *Parva Naturalia* 464b 5 et seqq.

In *Rhetoric*, Aristotle clarifies the question further in these terms: “Metaphors must be drawn [...] from things that are related to the original thing, and yet not obviously so related – just as in philosophy also an acute mind will perceive resemblances even in things far apart”.<sup>2</sup> Similarity, again, is the key. Among the most important things, according to Aristotle, is the command of metaphor, which is the mark of genius.<sup>3</sup> The good metaphor is produced as the happy medium between obviousness and incorrectness; in that territory of balance similarity may come to light and with it there comes learning, “for to make good metaphors implies an eye for resemblances”.<sup>4</sup>

Among the great classics, Aristotle is not alone in emphasizing the importance of similarity. Galen, for example, understands that medical wisdom consists precisely in the recognition of similarities and attributes this idea both to Plato and Hippocrates.<sup>5</sup> References could continue, and certainly among more recent intellectuals. By way of indication, let us mention two more examples. According to David N. Stamos, biological species must be considered as relationships of similarity. To develop this idea he bases his position on a notion of relationships taken from Bertrand Russell.<sup>6</sup> A second example may be found in Quine. When he deals in his “Natural Kinds”<sup>7</sup> with what he calls “the perennial philosophical problem of induction”, he suggests that our innate skills for perceiving similarity have been learnt over the course of evolution; given that organisms incapable of perceiving similarity have had no descendants, we have inherited our skills from the most able. Quine is interested in the origin of our ability to perceive similarity quite simply because it seems to be at the basis of induction and of grouping objects in classes.

In short, as Nelson Goodman<sup>8</sup> points out, similarity is always there to solve philosophical problems, to overcome obstacles in science and art. Goodman looks at a number of cases where similarity seems to be the answer, for example, the problem of representation: how can we consider that a painting is a representation of a given landscape? One’s impression here is that similarity acts as a necessary condition and that it is perhaps sufficient in itself. Another case is the problem of the relationship between types and tokens: Are the letter *a* and the letter *A* both tokens of a single type letter? We tend to say that they are if they prove similar. And what can be said of repeated events? How can we be sure that something happens twice? How can we be sure that we have repeated a scientific experiment or the performance of a play? We are tempted to answer: “When the two events are similar.” Metaphor, too, as we have seen, seems to be based on similarity.

Let us take a step further. What we learn from experience would not stand up without similarity. Not even the predictions we make on the basis of experience

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<sup>2</sup> *Rhetoric* 1412a 12 et seqq.

<sup>3</sup> *Poetics* 1459a 5 et seqq.

<sup>4</sup> *Poetics*, 1459a 7 et seqq.

<sup>5</sup> GALEN: *On the doctrines of Hippocrates and Plato*, ed. and tr. by P. DELACY, Berlin, Akademie-Verlag, 1978. Cf. also L. MOLINA : *Galeno de Pérgamo. Ética y Fisiología. La fundamentación fisiológica de la psicología de la acción en Galeno* [“Galen of Pergamon. The physiological basis of the psychology of action in Galen”]. PhD thesis, University of Valladolid (in press).

<sup>6</sup> Cf. D. STAMOS, *The Species Concept: Biological Species, Ontology, and the Metaphysics of Biology*, Lanham, MD, Lexington, 2003; A. DENKEL, *Object and Property*, Cambridge, Cambridge University Press, 1996.

<sup>7</sup> W. V. O. QUINE, “Natural Kinds”, in W. V. O. QUINE, *Ontological Relativity and Other Essays*, Columbia University Press, New York, 1969, pp. 114-138.

<sup>8</sup> N. GOODMAN, “Seven strictures on similarity”, in M. DOUGLAS y D. HULL (eds.), *How classification works*, Edinburgh, Edinburgh University Press, 1992, pp. 13-23.

would be viable if we did not take for granted a certain similarity between experienced events and future ones. Similarity, then, is also in the basis of induction, of both inductive generalization and inductive prediction. We begin to suspect that induction, the capacity to repeat experiments and artistic events, the possibility of availing ourselves of metaphors and representations, all depends on similarity. It would be easy to take another step and put the relationship of similarity at the basis of qualities. How do we otherwise define a quality? Is it not the way in which two things are alike?

Goodman offers us all these supposed virtues of similarity as a decoy. He will immediately have us see that, according to him, similarity in fact solves none of the above questions.

Moreover, the apparent importance of similarity can be taken further: it reaches all our concepts and laws. This extension is already implicit in Goodman. If the relationship between tokens and types depended on a relationship of similarity, concepts themselves would also depend on it. Does the concept of house and its application not depend on similarity between the various objects that we call *house*? Does biological taxonomy not depend on the relationships of similarity between living things? And, of course, if concepts go out with similarity, with them there will also go a large part of language. Besides, are laws not formal schemes in which two events bear mutual similarity? The law of universal gravitation may be seen as how the fall of an apple is like the movement of the Moon.

But nihilistic infection also affects mathematics. That is, we can pare down the question still more and posit numbers themselves as a function of the relationship of similarity through the idea of repetition. When Borges criticizes Nietzsche's idea of the eternal recurrence, he does so with this argument: "Once the thesis of Zarathustra is accepted, I cannot understand how two identical processes fail to come together in one."<sup>9</sup> In other words, the recurrence can never be complete, for what recurs is something that happens for the second, third or fourth time, but between one recurrence and another, something changes: the number. Somewhere in the universe, the memory of the first recurrence must be kept as something different from the second. Somewhere there must be a recurrence meter. Otherwise, there would simply be no recurrence. But if the memory that counts the recurrences has to change from one to another, then the situation of the universe is not exactly the same at the two moments. Therefore, if there is memory, there is no exact recurrence as such. The dilemma is served whether there is memory or not: recurrence as the return of something identical does not happen. The most that we can say is that between two determined states of the universe there is similarity. And this is what allows us to say that they are indeed two. If the difference between them were absolute – something genuinely unthinkable – there would be no return, and therefore nothing to count. If the identity were absolute, there would not really be two, but one. Therefore, the same possibility of counting, of having one and then two, depends on a relationship of similarity.

Similarity appears, then, before our eyes as a sort of cohesive force that protects us from nihilism. Without physical forces everything would fall apart, until the universe dissolved into nothing. In the sphere of culture, if similarity were missing, concepts would be reduced to ashes, metaphors would be dissolved, laws

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<sup>9</sup> J. L. BORGES, "La doctrina de los ciclos" ["The Doctrine of Cycles"], en *Historia de la eternidad* ["A History of Eternity"], Madrid, Alianza, 1978, p. 94. ["author's translation"]

undone, copies separated from their models, representations isolated from the represented, each number would not be more than just one, prediction would not reach into the future and experience would teach us nothing. The Polish poet Wisława Szymborska would be proved right: “Nothing can ever happen twice / In consequence, the sorry fact is / that we arrive here improvised / and leave without the chance to practise [...] We’re different (we concur) / just as two drops of water are.”<sup>10</sup>

### 3. Deconstructing Similarity

Let us say it with Nietzsche’s words: “It is originally *language* which works on the construction of concepts, a labour taken over in later ages by science [...] Science works unceasingly on this great columbarium of concepts, the graveyard of perceptions [...] Anyone who has felt this cool breath [of logic] will hardly believe that even the concept – which is as bony, foursquare, and transposable as a die – is nevertheless merely the *residue of a metaphor* [...] What then is truth? A movable host of metaphors.”<sup>11</sup> Concepts are reduced to metaphors. This would not be serious if the metaphor had not previously been reduced to nothing, to a leap into the vacuum, thanks to the total lack of similarity between some spheres and others: “To begin with, a nerve stimulus is transferred into an image: first metaphor. The image, in turn, is imitated in a sound: second metaphor. And each time there is a complete overleaping of one sphere, right into the middle of an entirely new and different one.”<sup>12</sup>

It would seem that deactivating similarity would be tantamount to taking the nihilist path. Is this what Goodman does: deactivate similarity? “Similarity, I submit, is insidious [...] Similarity, ever ready to solve philosophical problems and overcome obstacles, is a pretender, an impostor, a quack. It has, indeed, its place and its uses, but is more often found where it does not belong, professing powers it does not possess.”<sup>13</sup>

Firstly, according to Goodman, similarity is not enough for representation. There are things that look alike and we do not say that one is a representation of the other. By way of example, we can cite the case of identical twins. It is more doubtful if it is a necessary condition. This Goodman does not directly deny, but he relativizes it reminding us that: “similarity is relative, variable, culture-dependent”.<sup>14</sup>

Secondly, similarity does not help us find tokens of a single type. The similarity between letters from different fonts is quite disconcerting. Something analogous could be said about the different instances or repetitions of musical or theatrical works, cultural events or scientific experiments.

This leads Goodman to put forward the third restriction regarding the functions of similarity: “Similarity does not provide the ground for accounting two occurrences, performances of the same work, or repetition of the same behaviour or experiment.”<sup>15</sup> Here we encounter again the problem of recurrence, which links up

<sup>10</sup> W. SZYMBORSKA, *Nothing Twice (Nic Dwa Razy)*, trans. by S. BARANCZAK and C. CAVANAGH, <http://math.univ-lille1.fr/~alvarez/Szymborska.html>.

<sup>11</sup> F. NIETZSCHE, *On Truth and Lies in a Nonmoral Sense*, trans. by E. S. NELSON <http://faculty.uml.edu/enelson/truth&lies.htm>. Italics in the original.

<sup>12</sup> Ibid.

<sup>13</sup> N. GOODMAN, o.c., p. 13.

<sup>14</sup> N. GOODMAN, o.c., p. 14.

<sup>15</sup> N. GOODMAN, o.c., p. 15.

with that of time and number. According to Goodman, similarity is not in things, but in “our purposes and interests”.<sup>16</sup>

In the fourth place, Goodman informs us that similarity does not serve as a basis for metaphor, either. In other words, a metaphor is not an elliptical simile. The interpretation of a simile entails almost as many difficulties as that of a metaphor. The difference between them, for Goodman, is negligible.<sup>17</sup> *Contextualism*, which emerges from Goodman’s work, abandons the search for general principles of interpretation of the metaphor in favour of local, contextual, indications, which illuminate each particular case.

In the fifth place, similarity does not account for induction in general or inductive prediction in particular. Goodman says that the statement that the future will be similar to the past is in fact an empty statement: “No matter what happens, the future will be in some way like the past.”<sup>18</sup> Yet this tells us nothing, for we do not know in what way or aspect the future will be like the past.

Sixthly, Goodman states that dyadic relationships of similarity between particulars do not serve to define the class of particulars that have a single quality in common. Although each pair of elements of a certain domain has a quality in common, there may be no property common to all the elements of the domain.

Finally, similarity, according to Goodman, cannot match up to the possession of common characteristics. It is thought that similarity between two entities may be defined as a function of the possession by both of them of at least one common property, at least the fact that each is an entity. Similarity would then be a relationship as universal as it was useless.

Rather than abolishing similarity, we are beginning to see that what Goodman is doing is relativizing it: “If we experiment twice, do the differences between the two occasions make them different experiments or only different instances of the same experiment? The answer [...] is always relative to a theory.”<sup>19</sup> By relativizing similarity, what Goodman achieves is to substitute it as the basis of knowledge. In fact, there is something more basic here, something regarding which similarity is relative: a culture, a theory, interests or purposes – in short, a subject.

To sum up, similarity is relative and variable, and depends on the selection we make of the relevant properties and how we ponder them. Movement is also relative, but for all that, physics has not abandoned the concept. It happens that once we fix a certain system of reference, the concept of movement ceases to be ambiguous and starts being useful. For similarity, however, according to Goodman, the same is not true. Once we fix the properties we are talking about and the importance we give them, similarity loses all its usefulness. It becomes superfluous. From that moment on, the statement “*a* is similar to *b* as a function of property *p*” is reduced to “*a* and *b* possess property *p*”. “To say that two things are similar in having a specified property in common is to say nothing more than they have that property in common.”<sup>20</sup>

By now we shall be wondering whatever happened to the supposed usefulness of similarity. “It has, indeed, its place and its uses,” Goodman said. So, similarities have no place in philosophical studies, but “they are still serviceable in the streets.”<sup>21</sup>

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<sup>16</sup> N. GOODMAN, o.c., p. 16.

<sup>17</sup> N. GOODMAN, *Languages of Art*, Indianapolis and New York, Bobbs-Merrill, 1968, pp. 77-78

<sup>18</sup> N. GOODMAN, “Seven strictures on similarity”, in M. DOUGLAS y D. HULL (eds.), *How classification works*, Edinburgh, Edinburgh University Press, 1992, p. 17.

<sup>19</sup> N. GOODMAN, o.c., p. 16.

<sup>20</sup> N. GOODMAN, o.c., p. 20.

<sup>21</sup> N. GOODMAN, o.c., p. 22.

In my opinion, we should follow Goodman *almost* to the end in his path to deconstructing similarity. But can this be done without draining the cup of relativism? And without reaching the nihilistic dissolution of science and art? Will it not be necessary to find an emergency substitute for similarity, like for instance identity?

#### 4. Identity and Difference

Actually, Goodman himself steers us towards identity when he says that the relationship of similarity can be eliminated in favour of the relationship of “having something in common”. This second relationship is no less problematic than that of similarity. The property that two things have in common must be one and the same. That is, something identical exists in the two things. It would be of no use for a property of one of the things simply to be *like* a property of the other. We would have relapsed into a relationship of similarity. Therefore we are dealing with what is strictly the *same* property, identical unto itself, in two different entities, however Platonic that may sound. We do eliminate similarity, but identity comes to replace it. Let us see if this replacement is advantageous.

One of the most profound and influential studies of identity is owed to Martin Heidegger. A lecture given in 1957, together with another text from the same period, has been published with the title *Identity and Difference*. The book proves interesting both for its content and for the influence that it has had. In the orbit of Postmodern philosophy, this text became especially fashionable, understood as the beginning of the so-called *philosophy of difference*. Let us say that, together with identity, we also receive difference: “The close relation [*zusammengehörigkeit*] of identity and difference will be shown in this publication to be that which gives us thought,” says Heidegger.<sup>22</sup>

Let us remember that we are searching for the force that can keep *linked* (*logos/legein*) the structures of art or those of science. Well, “what the principle of identity, heard in its fundamental key, states is exactly what the whole of Western European thinking has in mind – and that is: the unity of identity forms a basic characteristic in the Being of beings. Everywhere, wherever and however we are related to beings of every kind, we find identity making its claim on us. If this claim were not made, beings could never appear in their Being. Accordingly, there would then also not be any science. For if science could not be sure in advance of the identity of its object in each case, it could not be what it is. By this assurance, research makes certain that its work is possible. Still, the leading idea of the identity of the object is never of any palpable use to the sciences.”<sup>23</sup>

Let us try to interpret Heidegger’s text in the following terms. The identity of the beings that sciences deal with is a condition of their possibility. If each thing were not one and the same unto itself, it would be difficult to think in terms of any kind of science. The world – and the term is exaggerated – would be a chaos totally refractory to intelligence. On the other hand, however, the simple identity of each being unto itself is still not very useful to science or to language. For this task, a form of identity is needed that connects the beings, that takes them out of their individuality, puts them in contact and joins them together. This kind of identity would be identity in concept – any two horses or any two drops of water are just that, and can be

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<sup>22</sup> M. HEIDEGGER, *Identity and Difference*, Chicago, University of Chicago Press, 2002, p. 21, trans. by J. STAMBAUGH.

<sup>23</sup> M. HEIDEGGER, o.c., p. 26.

respectively bundled together in the same concept, thanks to their basic identity; they are essentially manifestations of one and the same Idea. We could speak here of the logical identity (*logikos*), as opposed to the physical identity (*physikos*) of any concrete being unto itself.

But this type of logical identity, or identity according to the concept, has come in for fierce criticism from some Postmodern thinkers. The basis of the criticism lies in the fact that identity thus understood leaves differences in the shade and makes the peculiarities of each being and each process, never exactly the same as another, pass to a second level of the reality. Difference is thus forgotten.

Forgetting it has been, according to Postmodern thinkers, compatible with an attempt at the practical imposition of identity over difference. Postmodernity can be seen, in fact, as the fruit of the cultural and vital malaise with a reason that forgets difference. Postmodern thought has become set on the basis of this critique since its roots in Nietzsche and Heidegger.

But the path opened by Heidegger goes further and deeper. When he speaks of identity, through a quote from Parmenides, he sets out the problem of the identity of being and thinking: "For the same is perceiving (thinking) as well as being."<sup>24</sup> Man, as the locus of thought, and being belong to each other: "Man is essentially this relationship of responding to Being, and he is only this [...] Being is present and abides only as it concerns man through the claim it makes on him."<sup>25</sup>

Heidegger's ideas on identity and difference are interesting in themselves. In this regard, what we have gathered so far will be sufficient for the rest of the argument. But they are also interesting for the effect that they had. The Heideggerian critique of the forgetting of difference, and the struggle for its reinstatement, found an immediate echo among other thinkers. Among them, those who stand out for their work on the notion of difference are Gilles Deleuze and Jacques Derrida.

Deleuze's philosophy is characterized by the deliberate attempt to invert the notions of identity and difference. Traditionally, difference was taken as something secondary and derived from identity. In order for differences to be able to exist, there must be entities that are identical to each other between which differences may be established. For Deleuze, it is the reverse, with differences generating identities. Identity takes a secondary role now, being a by-product of differences. Indeed, the identity of an entity would be made up of an indefinite set of differences, which at the same time make it up internally (*internal differences*) and distinguish it from other entities. These other entities, in turn, are primarily bunches of differences. Difference relates to difference without the mediation of identity. Deleuze reminds us that differences are present even among entities of the same kind. Therefore, if philosophy wishes to get to things as they are, it cannot settle for the general, but has to go to the primary and the constitutive: differences.

The French thinker draws up a genetic model of difference. In this way, the relationship between the general and the concrete is not a logical relationship of subsumption but a physical one of actualizing and differentiation. White light contains virtually or potentially all the colours. Each one of them is the actualization by differentiation of what was already there potentially.

I think that the attempt to rescue difference may be valued positively, along with that of the dynamic and vital aspects of reality and the denouncing of the excesses of an identitary reason. We hear Deleuze's voice against a background of

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<sup>24</sup> Parmenides' text as quoted by Heidegger, o.c. p. 27. Brackets in the original.

<sup>25</sup> M. HEIDEGGER, o.c. p. 31.

Bergsonian resonances leading us to the mobile, the fluid, the concrete, the diverse, the living. Nevertheless, we should ask ourselves if from the basis of difference alone we shall ever be able to regain identity. The question is important. Without minimum stability, without identifiable objects, the action of science and art would become impossible.

Jacques Derrida's work shows us very clearly that the identity that has to wait to be produced or defined through differences never comes, and will always keep us waiting, for differences break down indefinitely into more levels of differences. For this idea, Derrida coined the neologism *différance*<sup>26</sup>, pronounced like *différence* but differently spelt. With this play on words, Derrida mixes the two meanings of *différer* (differ and defer or postpone), for the meaning of a word is something that we get by distinguishing it by means of differences from others in its semantic environment. But the meanings of those other words are in turn gathered from new networks of differential relationships. And so it goes on. So the meaning of the first word is something that never comes. Will something analogous not happen in any circumstance where we try to reach the meaning or the identity from the force of difference alone?

In short, forgetting differences distances us from the real world, from things themselves. If reason assumes it, then it becomes separate from life and experience, from developments, from time, from the diverse, from the plural, from the concrete and real. But the unilateral peaking of difference does not auger well for good results, but for fragmentation, deconstruction, relativism and, finally, nihilism. Heidegger was right when he invited us to think of identity and difference *together*. Let us remember that: "The close relation of identity and difference will be shown in this publication to be that which gives us thought." How can this be done? Would the mediation of similarity be useful to this end? Do we even know if similarity can be reinstated after the process of deconstruction to which it has been subjected?

## 5. Reinstating Similarity

Similarity can only be reinstated if we assume Goodman's criticism and construct it from there. The elements of that criticism that in my opinion should be admitted and assumed are the following:

Firstly, the fact that Goodman recognizes the day-to-day usefulness of similarity, its value "in the streets", is of itself significant. From my point of view, from that point the degradation of the concept of similarity does not follow. The daily meaning of things is often a very solid and healthy basis on which to make philosophy. Goodman's observation should be taken as a symptom, fallible but valuable, which comes to philosophy from common sense – a symptom that suggests what to look for and how to look for it. What is most probable is that we cannot forgo similarity, in the streets or in philosophy. And if philosophy has problems with this concept then the problem is more likely to lie with philosophy than in the streets.

Secondly, many of Goodman's arguments point to the relativity of similarity. Indeed, it is a relationship, so it is not at all strange that it should be relative. However, after Goodman, we can no longer see it as a simple dyadic relationship between entities. As he suggests, it is a triadic relationship, where the subject is an

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<sup>26</sup> The word "Différance" was the title of a lecture given by Derrida to the French Philosophical Society on the 27<sup>th</sup> January 1968.



indispensable pole. It would have to be set within the Peircean category of *thirdness*.<sup>27</sup> There could be applied to it, *mutatis mutandis*, what Peirce says of semiosis: “All dynamical action, or action of brute force, physical or psychical, either takes place between two subjects [...] or at any rate is a resultant of such actions between pairs. But by ‘semiosis’ I mean, on the contrary, an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs.”<sup>28</sup> But, as we shall see later, this relative character of similarity is not so perturbing as it might seem. It will not even prevent us from discovering its objective side.

Thirdly, we have to renounce, as Goodman and Peirce indicate, the attempt to redefine a similarity in terms of properties shared by two entities, or of dyadic relationships. It is not possible. And if it were, it would be tantamount to simply eliminating similarity in favour of the possession of identical properties, with all the difficulties that this notion would entail. This idea of irreducibility of similarity inexorably evokes the notion of *family resemblance* (*familienähnlichkeit*) introduced by Ludwig Wittgenstein: “We see a complicated network of similarities overlapping and criss-crossing [...] I can think of no better expression to characterize these similarities than ‘family resemblances’.”<sup>29</sup> On the one hand, it cannot be analysed in dyadic relationships, while on the other it has an interesting productive capacity. From the observation of a family resemblance between entities, we can construct several schemes of coinciding and different properties, concept, classifications, laws. We shall see that, even if we accept this, no slide towards irrationalism or extreme constructivism need follow.

Fourthly, Goodman’s treatment of metaphor should also be borne in mind. The interpretation of metaphor presents the same difficulties as that of the simile and of so-called literal language itself. It cannot be done in an automatic or algorithmic way. It seems that all the creative strength of human intelligence must be set at the service of this interpretation.

As we shall see, even if we accept all of these Goodman’s points, as I think is fair, it will be possible to avoid both the deconstruction of similarity and the drift into nihilism. In my opinion, some of Heidegger’s points should also be accepted, especially his well-thought-out emphasis on the joint consideration of identity and difference, and his denouncing of the forgetting of difference. As for Deleuze, I have already pointed out how valuable his genetic perspective is, along with his understanding of differentiation as actualization.

To sum up, we could say that a theory of similarity should *i*) avoid the drift into nihilism, *ii*) assume Goodman’s restrictions, *iii*) facilitate the joint thinking of identity and difference as Heidegger requests, and *iv*) respect the characteristics of difference contributed by Deleuze. The task of completing a theory of similarity is beyond the scope of the present text. But the main outlines can be established here.

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<sup>27</sup> “Firstness,” Peirce clarifies, “is the mode of being of that which is such as it is, positively and without reference to anything else. Secondness is the mode of being of that which is such as it is, with respect to a second but regardless of any third. Thirdness is the mode of being of that which is such as it is, in bringing a second and third into relation to each other”. (C. S. PEIRCE, “A Letter to Lady Welby”, in C. S. PEIRCE, *Collected Papers*, 8.328, 1904).

<sup>28</sup> C. S. PEIRCE, “Pragmatism in Retrospect: A Last Formulation”, en J. BUCHLER (ed.), *Philosophical Writings of Peirce*. Nueva York, Dover, 1955, p. 282.

<sup>29</sup> L. WITTGENSTEIN, *Philosophical investigations*, § 66 y 67.

In the first place, I shall refer to the distinction between the logical (*logikos*) and physical (*physikos*) points of view.<sup>30</sup> It is tantamount to the distinction between the point of view of the general, of conceptual systems, and the point of view focussed on the thing itself, or the real and concrete. The Spanish philosopher Xavier Zubiri clarifies the meaning that the *physical* has here: “ ‘Physical’ is the original and ancient expression for designating something which is not merely conceptual, but real.”<sup>31</sup> This distinction would be bereft of meaning if being and thinking were indeed one and the same. Affirming the identity of being and thinking means forgetting or denying difference. Everyday experience of the search for knowledge is the experience of effort, of the making of mistakes, of inaccuracy. The fallible, contrived and unpredictable nature of human knowledge makes us see that there is a difference between being and thinking.

In a complementary way, achievements and acquisitions, moments of lucidness and even our very survival clearly indicates that the gap between being and thinking is not unbridgeable. Reality is not concept. Nevertheless, the two are not totally refractory to each other, they may be linked thanks to the creative work of a subject. Nature is not identical to the concept, but it is intelligible, in a contrived, unpredictable, not algorithmic, fallible but reviewable and critical way. It is therefore probable that the very relationship between being and thinking may be better described through the concept of similarity. We are not talking about a given similarity and nothing else, like the one Goodman rightly criticizes, but one drawn up by the subject, the fruit of his creativity.

Secondly, the distinction between the *logikos* and *physikos* points of view will have to be applied to the very notions of identity and difference. Identity, from the physical point to view, is the relationship that each entity has with itself. It is true that the beings around us are subject to change. But change need not always mean loss of identity. Beings can change some of their properties over time without losing their physical identity.

When, on the other hand, we think about the identity of properties through substances, and we consider under a unique concept different entities that have a property in common, then we are thinking of identity in logical or conceptual terms, outside time and physical processes. Both types of identity are cardinal in human knowledge, the former as a condition of possibility and the latter as a result of conceptual construction and as tool of *explication* and *application*.<sup>32</sup>

On the other hand, we can also detect a logical and a physical way of looking at difference. This distinction goes back to Aristotle at least. It is present especially in his biological works.<sup>33</sup> That is, we can understand difference either in the comparative sense, like the *difference between* one animal and another, or in the constitutive sense, like the *difference as from* the undifferentiated. This second meaning is near to the notion of difference as proposed by Deleuze. In the first meaning, an object is defined by its differential relationship with other objects. An animal is defined by those features that distinguish it from others. This kind of difference is, so to speak,

<sup>30</sup> ARISTOTLE, *Physica* 204b 1-12. Cf. also *Metafísica*, Z and H.

<sup>31</sup> X. ZUBIRI, *La inteligencia sentiente* [“Sentient Intelligence”], Madrid, Alianza, 1980, p. 22. [English translation from <http://www.zubiri.org/works/englishworks/si/SIIC1.htm> ]

<sup>32</sup> In his *Différence et Répétition* (Paris, PUF, 1968), Deleuze uses several notions linked by the root *pli*, like *complication*, *réplication* and *implication*, which transmits the idea of “fold” (French *plier*).

<sup>33</sup> It is especially noticeable in *De Partibus Animalium*, Book 1. In this text, Aristotle makes a profound critique of Plato’s taxonomy, arrived at by the division (*diairesis*) of the species (*eidos*) by difference (*diaphora*).

horizontal.<sup>34</sup> Aristotle inherited this meaning of difference from Plato and kept it up. But he added another, more properly biological. In this regard, the object differentiates vertically, from something undifferentiated, generic, material. In this same regard, the concept is used today in embryology and cell biology to speak of cellular differentiation, the process whereby more differentiated tissues are formed from more undifferentiated ones. The first meaning of the notion of difference is more comparative, classificatory and static, while the second is more dynamic and constitutive. The first is principally logical and the second physical. Both prove necessary, as was the case of the two meanings of identity. Without difference in the physical sense, there would be no identifiable objects, only an undifferentiated magma – or directly nothing. For its part, difference in the second sense, the logical sense, is the key to establishing comparisons and drawing up classifications.

Aristotle does not forget difference, then. He values it so much that he states: “The difference is the form in the matter” (*to eidos en te hyle*).<sup>35</sup> That is, from a physical point of view, the last difference (the extreme of differentiation) has more content than the species, is nearer to matter, is more real and is identified, in the last instance, with the form of the substance, with its identity.

This observation allows us to clarify the relationship between identity and difference in the physical sense of the two. Neither has priority: the identical is constituted by differentiation, and difference is always the difference of an entity which is identical unto itself. In Heideggerian terms, they belong to each other.

And thirdly, we know that neither the physical identity of each substance unto itself, nor the differences alone, serve to construct the concept, the law, metaphor, language or artistic representations. Identity and difference are ontological presuppositions of all this. But similarity is the force that unites things in concepts and representations.

Let us underline the idea that it is possible to interpret Aristotelian form as individual form, qualitatively different from one individual to another, even between individuals of the same species. Recently David Balme has reactivated this interpretation on the basis of Aristotle’s biological texts.<sup>36</sup> This qualitatively and quantitatively individual form is the last difference. And on the basis of individual forms, human creativity has to draw up conceptual systems and works of art. This is only possible thanks to similarity.

Now, the similarity we were talking about cannot be a dyadic relationship between objects, available in the world to be used and consumed by science and art. It is rather a triadic relationship between two objects and an active subject. It is one of those triadic relationships that Peirce talks about. Without a subject there would not actually be any similarity.

Both in Aristotle and in Peirce, similarity is understood as a relationship between three poles. Also from the Platonic point of view, the relationship of similarity is triadic, it demands reference to an Idea. Aristotle keeps the triadic scheme but the third pole is no longer an Idea, but a human subject who creatively actualizes a similarity that exists in the objects as a real possibility. Theodor Scaltsas<sup>37</sup>

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<sup>34</sup> Cf. M. FURTH, “Aristotle’s Biological Universe: An Overview”, in A. GOTTHELF y J. LENNOX, *Philosophical Issues in Aristotle’s Biology*, Cambridge, CUP, UK, 1987, p. 51.

<sup>35</sup> *De Partibus Animalium* 643a 24 [author’s translation].

<sup>36</sup> This question is presented and discussed at length in A. Marcos, *Aristóteles y otros animales* [“Aristotle and Other Animals”], Barcelona, PPU, 1996, chap. 3.

<sup>37</sup> T. SCALTSAS, *Substances & Universals in Aristotle’s Metaphysics*, Ithaca, NY, Cornell University Press, 1994, pp. 197-8.

states that, for Aristotle, the similar is not what two substances have at the same time, for example a common property, but what can be abstracted from both of them by an active subject. Consequently, similarity is not one of those relationships that Peirce calls relationships of “brute force” among pairs, but a triadic relationship. This triadic relationship now comes out of the setting of Platonism and comes to rely, not on immobile Ideas, but precisely on the activity of a subject.

In this regard, Goodman is right to emphasize the relative character of similarity. Nevertheless, that character does not strip similarity of an objective basis. If it lacked an objective basis we could establish any relationships of similarity we wished at whim between any objects in any way. We know from experience that this is not so, that sometimes reality simply says no to our desires to connect, that our classifications are sometimes erroneous, that laws do not always predict correctly, that the theories, models and metaphors with which we try to understand reality are not always satisfactory. This is due to reality also having its word to say. In fact, similarity has an objective basis. It is rooted in reality as possibility. Here we can again quote Peirce: “For although I have always recognized that a possibility may be real, that it is sheer insanity to deny the reality of the possibility of my raising my arm, even if, when the time comes, I do not raise it.”<sup>38</sup>

In the case of similarity, its objective possibility derives physically from genesis. That is, things that have identity of origin, that have been generated by the same progenitor, manufactured by the same machine or craftsman, *can* be seen as similar by a creative subject. Genesis is the physical basis for similarity. But the objective possibility of two things being seen as similar is only actualized thanks to the creativity of a subject.

In the way we have characterized similarity, its discovery will always be creative. Metaphor can be understood indeed as a creative discovery.<sup>39</sup> For Aristotle, metaphorization is a privileged way of creatively discovering similarity, in science and in poetry. It is a discovery, because in substances there already exists the possibility of being seen as similar. It is creative, because that possibility can only be actualized by the action of a subject.<sup>40</sup>

E. Bustos says in reference to the theory of metaphor that the Aristotelian solution consisted in appealing to similarity.<sup>41</sup> Eleanora Montuschi<sup>42</sup> assures us that according to Aristotle, the good metaphor is unpredictable. Nevertheless, one’s attention is also drawn to the fact that, once a previously unsuspected similarity is noticed, it becomes obvious, and even the object of convention. This fact may be explained if we think that what we notice creatively does not consist merely of “arbitrary phantoms”.<sup>43</sup> What is noticed may be real and therefore, once the similarity is demonstrated, it can more easily be *recognized*. In this regard, Aristotle stated that

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<sup>38</sup> C. S. PEIRCE, *Collected Papers*, 1932-35, vol 4, p. 579.

<sup>39</sup> Cf. A. MARCOS, “The Tension between Aristotle’s Theories and Uses of Metaphor”, *Studies in History and Philosophy of Science*, 1997, 28: 123-139.

<sup>40</sup> *Poetica* 1459a 5-9. Cf. also *Rhetorica* 1410b 10-20 and 1412a 10-12.

<sup>41</sup> E. BUSTOS, “La teoría aristotélica sobre la metáfora” [“The Aristotelian Theory of Metaphor”], in D. SÁNCHEZ and J. DOMÍNGUEZ (eds.), *Historia de la relación filosofía-literatura en sus textos* [“History of the Relationship between Philosophy and Literature through its Texts”] (Suplementos de Anthropos, nº 32), Barcelona, Anthropos, 1992, p. 20.

<sup>42</sup> E. MONTUSCHI, *Le Metafore Scientifiche* [“Scientific Metaphors”], Milan, Franco Angeli, 1993, p. 26.

<sup>43</sup> E. BUSTOS, o.c., p. 21

metaphor is more than anything what lends clarity<sup>44</sup> and what puts the object before our eyes and makes the similarity clear.<sup>45</sup>

Thanks to similarity, we can ascend from the game of physical identities and differences to the game of concepts and representations, with its logical relationships of identity and difference. We do it by actualizing the similarities that exist as possibilities in reality, realizing the creative discovery of similarity.

## 6. Conclusion

We have tackled the question of similarity as a creative discovery and also its connection with the notions of identity and difference. At first sight and using common sense, the value of similarity for science and art is more than evident. Nevertheless, Nelson Goodman drastically restricts and relativizes the philosophical importance of similarity. But without similarity, as we have seen, the sphere of culture is at risk of annihilation, and the joint thought of identity and difference becomes impossible.

The line of argument presented here is based on the Aristotelian distinction between the physical and logical points of view. From the physical point of view, identity and difference are one and the same thing. As Heidegger says, they belong to each other. On the other hand, on the logical plane, identity groups things in concepts and processes in laws, while difference separates, compares, classifies. Between the two planes, the logical and the physical, there is no total disconnection, as a sceptic might allege, but nor is there full identity in the Parmenidean style. The Parmenidean extreme generates what we know as *philosophies of identity*, while the sceptic extreme generates the so-called *philosophies of difference*, although it might be more accurate to call them respectively *philosophies of logos* and *philosophies of physis*. According to the former, reality ends up frozen in concepts; the dynamic, temporal and individual aspects are obviated or falsified. Reason forces life. For the latter, the edifice of knowledge ends up evaporated, fragmented, deconstructed and finally useless. Life dissolves reason. The former tend towards scientism and the latter towards aestheticism. But both equally hinder the joint thought of art and science.

Here, on the contrary, it has been sustained that there exists a certain distance and also a certain connection between the physical and logical planes, and that this kind of relationship occurs thanks to similarity. Similarity has been thought out through the metaphors of the middle ground and water. Water in the liquid state, intermediate between ice and steam, maintains the cohesion, the connection between the parts, but at the same time permits fluidity.

In coherence with this image, similarity itself cannot be understood statically, it cannot be seen as something simply given. In this regard, Goodman's protests are quite right. So, we have reinstated similarity as a triadic relationship, following Peirce's inspiration, where the activity of the subject is indispensable. This serves to gather up the creative and pluralist features of similarity, which can connect entities in multiple ways, in different orders.

But the relationship of similarity stands also at the objective pole, it has a real basis according to which not all the thinkable connections are correct. This agreement is feasible thanks to the distinction between the potential and the actual. Reality is made up of the actual and also by certain spaces of possibility. In this way,

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<sup>44</sup> *Rhetorica* 1405a 8 et seqq.

<sup>45</sup> *Rhetorica* 1411a 25 et seqq,

similarities exist in objective reality as possibilities, and become actual only thanks to the creativity of a subject. Similarity again becomes useful, both in the streets and in philosophy.