62 (3/2021), pp. 35–64 | **The Polish Journal** DOI: 10.19205/62.21.2 | **of Aesthetics**

Jean-Yves Béziau*

Imaging Philosophical Discourse

Abstract

I first present a general analysis of the different types and kinds of philosophical discourses. The second part examines why images have been and are still rejected in philosophy. In the third part, I explain the different ways to fruitfully use images to develop philosophical thinking and discourse, in particular by giving various significative examples.

Keywords

Imagination, Picture, Symbolism, Plato's Cave, Illusion, Perception, Meaning, Advertisement, Propaganda, Children



Elle était sage comme une image mais elle avait beaucoup de fantaisie sans jamais toutefois sombrer dans les phantasmes et n'avait pas peur des fantômes !

Baron de Chambourcy

^{*} Federal University of Rio de Janeiro, Brazil Email: jyb.logician@gmail.com





1. Philosophical Discourse

1.1. General Considerations about Speaking and Writing

Nowadays in philosophy, like in other academic fields, researchers generally give courses and lectures, and also write papers and books. We have the following table:

Speaking	Courses
	Lectures
Writing	Papers
	Books

There are many different ways to proceed. On the one hand, each person has his/her own *style*. On the other hand, there are different available *techniques*. Images can both be used when speaking and when writing. Although they are widely used in science, few philosophers use them.

Some scholars are more *speaking scholars*, and others are more *writing scholars*. One of the most famous philosophers, Socrates, did not write anything, like Buddha and Jesus. However, their followers wrote a lot. This was the case of Socrates's follower, Plato and his student Aristotle. René Descartes also wrote quite a lot but did not speak too much, Schopenhauer even less. Quine, as he admitted (see Quine 1985),¹ was a terrible speaker but a good writer; see, e.g. *Methods of Logic* (1950). Heidegger was a good teacher, and some of his books, such as *What is a Thing?* (1962), are close to the teaching he was giving, showing a harmony between writing and speaking.

In Wittgenstein's case, there is a disparity between his teachings, which his students transcribed and the elaborated notes he wrote. Ray Monk describes Wittgenstein's teaching style at Cambridge as follows:

His lecture style has often been described, and seems to have been quite different from that of any other university lecturer: he lectured without notes, and often appeared to be simply standing in front of his audience, thinking aloud. Occasionally he would stop, saying, 'just a minute, let me think!' and sit down for a few minutes, staring at his upturned hand. Sometimes the lecture would restart in response to a question from a particularly brave member of the class (Monk 1990, 289).

1.2. Oral Presentations

Apart from teaching courses or giving presentations of lectures at seminars and conferences, we can distinguish four different techniques which are nowadays used for oral presentations by professors/researchers in all fields:

	Waiving hands
Speaking	Writing on the board
	Reading
	PowerPoint

This table represents a pretty exhaustive description of the situation, but the four categories are not necessarily exclusive. For example, someone may write on a board and waive hands between different intervals. To make this table exhaustive and exclusive, we can call a "boarding speech", a speech where writing on the board is predominant, the same with the other three categories.

¹ I had the pleasure to attend the last talk of Quine, at the *20th World Congress of Philosophy* in Boston, USA in 1998.



Boarding lectures are rare in philosophy, but philosophers use the board in the classroom. Mathematicians use the board both in the classroom and for conferences. In philosophy, whether continental or analytic, there is still a strong tradition of *reading lectures*, despite the emergence of PowerPoint. *Reading speeches* in mathematics would make no sense. Analytic philosophers also use some symbolic formulas, but far less than mathematicians. They often perform *reading lectures* giving *handouts* to the audience.

For a broad audience, w*aiving speeches* are nowadays standard, including in philosophy, cf. TED talks. They have a theatrical dimension that can degenerate into the sophistry of persuasion.

There are also philosophical discussions on TV where people are seated, interviewed or debating with colleagues.



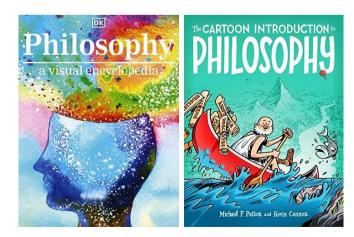
These discussions require a *mise-en-scène*, generally alternating plans *américains* with *close-ups* and *shots/reverse shots*. Although the visual aspect is important, images dealing with the subject of the talk/discussion are not in general used in these TV shows.

However, this is done in videos whose quantity has increased due to YouTube channels, including philosophical videos.



1.3. Written Works

Most written works in philosophy, papers or books are only black and white scriptures. There are some exceptions for introductory books or books for young people, where images are used:



	Aphorism
Writing	Dialogue
	Story
	Declarative

The techniques of writing in philosophy have been quite diverse and still are. Here is a table:

The first important writing philosopher, Plato, used dialogues, influenced by Socrates and Greek theatre. Most of the time, his dialogues include stories in the form of myths or allegories. The dialogue tradition has been used subsequently (see Bénatouïl and Ierodiakonou 2019) but has progressively vanished and is not much used nowadays. Hegel's dialectic is a dialogue of reason with itself...

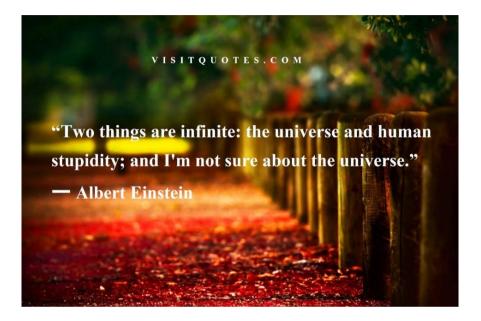
Aristotle was the first to promote *declarative writing* systematically. Declarative writing can be argumentative, but Aristotle was not a sophist! Declarative writing can be more or less *descriptive*, more or less *normative*. It can present, explain, discuss, comment, justify a theory, for example, the theory of causality.

We have to remember that the distinction between a thought and its assertion was clearly emphasized only by Frege at the end of the 19^{th} century by the introduction of his famous stroke: \vdash (1879); and that contrarily to what Bertrand Russell funnily claimed, a written sentence, starting with a capital letter and ending with a full period, is not necessarily an assertion.

Aphorisms are terse sayings/writings that can vary in their affirmative tenure and length and how they are combined with other aphorisms or writings. There are famous aphorisms from Pre-Socratic philosophers, like Anaximander's one: "The undetermined is the structure of everything."² Before that, there were the "proverbs" of Solomon, like the proverb 3:13: "Joyful is the person who finds wisdom, the one who gains understanding." Wittgenstein in the *Tractatus* (1921) presented a series of terse writings organized in the form of a tree. This organization is not the same as the one promoted by Spinoza in his *Ethics* (1674), plagiarizing mathematical discourse. However, it is more structured than Spinoza's *Tractatus Intellectus Emendatione* (1662), Pascal's *Thoughts* (1670), Nietzsche's *Gay Science* (1882), or Descartes's *Rules for the Direction of the Mind* (1628).

² This aphorism was commented by Heidegger (1946), but he focused on another aphorism by Anaximander. Marcel Conche gave a one-year class at the Sorbonne in 1987-88 on Anaximandre, mainly concentrating on this aphorism.

Among terse writings, there are also quotations. Their statute is often ambiguous because it often has been extracted from a text, and the source is not secured. There are nowadays a lot of "illustrated" quotes on the internet, but the relation of the image and the meaning of the quote is often random:



Quine put the following quote from Lewis Carroll at the beginning of his book *Philosophy of Logic* (1970): "Contrariwise, if it was so, it might be; and if it were so, it would be; but as it isn't, it ain't. That's logic."

Philosophical aphorisms could be accompanied/supported by images, but this is not generally the case. However, *Alice's Adventures in Wonderland* is an illustrated book (originally by Carroll himself, but the famous version is with drawings by John Tenniel). The following famous short dialogue

"Would you tell me, please, which way I ought to go from here?" "That depends a good deal on where you want to get to," said the Cat. "I don't much care where—" said Alice. "Then it doesn't matter which way you go," said the Cat.

has been pictured:



Jacques Lacan claimed that *Alice* was the forerunner of *bande dessinée* (comic strip), see (Estèbe 2001). Two questions arise: is *Alice* a philosophical book? In which sense are the images used in *Alice*?

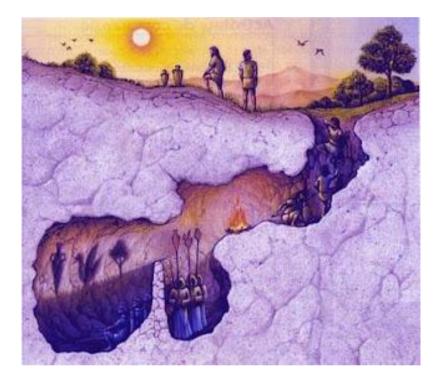
2. Against Using Images in Philosophy?

This part will critically examine some "reasons" why images have been rejected in philosophy.

2.1. The Illusion of Perception

In Ancient Greece, there was a rejection of *sense data*. In contrast, in Indian civilization, the main alternative beyond appearances is the religious world. In Greece, what was promoted is understanding, knowledge and wisdom, with reason as the primary "tool." Plato is famous for having promoted this

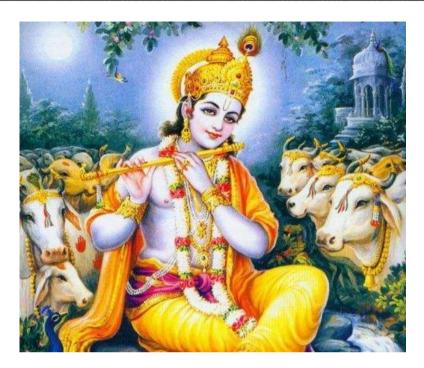
"view" by presenting the visual allegory of the cave, placed between two rational declarative discourses about the rejection of direct perception, one at the end of book VI of *Politeia*, and the other being comments/explanations after the metaphorical image of the cave has been described.³



The rejection of sense data does not necessarily mean the rejection of images. For example, in Hinduism, images are widely used to access/express a reality different from what is directly experienced in everyday life. The idea is not picturing reality as we can ordinarily see it but promoting an *imaginary* that supposedly brings us to the "true" reality.

This use contrasts with religions, like Islam and Christian Calvinism, where images are considered human representations, veiling God's true reality. The meaning of the word "iconoclasm" has been extended as a rejection not only of images but of superstitions and ideologies, represented by statues, monuments, ceremonies, and even scriptures.

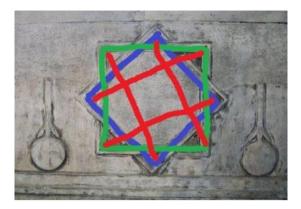
³ I did a Master thesis at the Sorbonne on the cave (see Beziau 1988).



Islam, however, does not wholly reject visuality. In particular, there are some plastic artworks and monuments (cf. *The Taj Mahal*), but these "visions" are not *representative*. They are, at best, *indicative*. One of the most famous figures of Islam is the octagon, often presented as the interlacing of two squares. In Calvinism, the pictures were thrown out. The only surviving icon is the "nude" Christian cross, which can also be seen as a geometrical sign, a long vertical line perpendicularly crossing a shorter horizontal one.

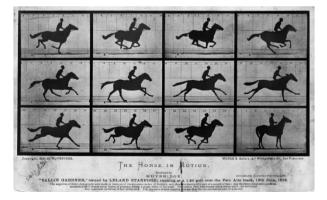
Although Plato rejected images of perception, he promoted abstract mathematical images, like the Platonic solids. Aristotle "designed" the square of opposition,⁴ a diagram pivotal in developing the theory of opposition, which includes other geometrical figures: triangles, hexagons, octagons, cubes, dodecahedrons, etc. Catholic Church has adopted The triangle of contrariety to figure the Trinity. It is also possible to consider an octagon of opposition, result of the interlacing of two squares of opposition, fitting with the Islamic tradition:

⁴ Aristotle did not explicitly draw a diagram, this was later done by Apuleius and Boethius, but he clearly had this figure in mind, as pointed out by Larry Horn. For recent works on the theory of opposition see (Beziau 2003, 2012), (Beziau/Lemanski 2020), (Beziau/Vandoulakisi 2021).



The above image is made of a photograph I took of an octagon in a wall inside the *Hagia Sophia* mosque in Istanbul upon which I have placed a square of contrariety in blue and a square of subcontrariety in green, tightened together with red lines of contradictions, the origin of the theory of n-opposition developed by Alessio Moretti (2009).⁵

Magritte entitled his famous painting of a pipe *The Treachery of Images*, but picturing reality, by precise drawings or photographs, can help understanding it better, having a "closer" look at it. Photography was used to "see" the actual way the legs of a horse are moving by Muybridge in *The Horse in Motion* (1878).

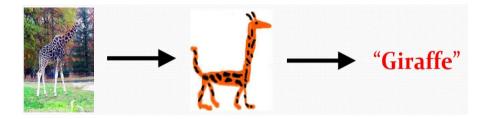


That is nice for exact sciences. Nevertheless, how can images be used to develop philosophy? Can we precisely picture truth, beauty and goodness?

⁵ I myself introduced the coloring of the oppositions and put forward the idea to generalize the hexagon of opposition into a octagon of opposition based on the interlacing of squares of contrariety and subcontrariety.

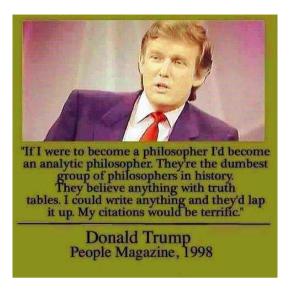
2.2. The Childish Aspect of Images

Another "reason" to reject images is to consider that images are childish. This can be related to simplifying reality, seen as the first step to a more complex understanding. If you want to be able to explain to a child what a giraffe is, then you draw a picture which is a simplified image of reality corresponding to the main features of this animal, allowing us to capture any instance of it, identifying it through the picture, by distinguishing it from other "things." The picture can be seen as a symbolic step towards the arbitrary abstract word, creating a mental image associated with the word.



However, instead of seeing the pictural stage as the first step of our linguistic, cognitive development, we can promote a continuous dialectical interaction between pictures and abstract understanding, not leading to the burning of images, keeping alive our childish dimension, but making it evolves in a more mature stage, developing images in a more sophisticated way. Interestingly, mathematics has "seriously" evolved by the use of symbolism (cf. Serfati 2005), which is closer to ideogrammatic languages like Chinese than to alphabetic languages where there is no direct connection between the signs and meaning.

The famous mathematician Alexander Grothendieck wrote: "Discovery is the privilege of the child: the child who has no fear of being once again wrong, looking like an idiot, not being serious, not doing things like everyone else." (Grothendieck 1983-86). One may think that images are not serious, but is it the case? What is the scientific basis for that, if any? Furthermore, on the other hand, what is the problem with being funny? The expression "comic strip" has linguistically concretized the relation between fun and images. Furthermore, now there are also memes, like the following one:



As Schopenhauer put it, "A sense of humour is the only divine quality of man." Boring adults cease to have this quality.

Two famous children's stories were illustrated with images by their authors, *Alice's Adventures in Wonderland* by Lewis Carroll and *Le Petit Prince* by Antoine de Saint-Exupéry. It is worth pointing out that if these two stories are two of the most famous stories of humanity, it is because they are not only childish... They have a philosophical dimension, being philosophical (story) discourses incorporating images, and it makes perfect sense to study these works in a philosophical class. This is also the case of some famous tales like the story of *Eros and Psyche* and *Little Red Riding Hood*, originally not presented with images but which widely appeal to our imaginary and have consequently inspiring many plastic artworks.



Images may be childish, but the lapidary condemnation of images is infantile.

2.3. Advertisement and Propaganda

Advertisement and propaganda use the full power of images. Images are striking. They strike our nerves, our emotions, our desires. They can be very provocative, disturbing and shocking.

A sentence like "A naked woman lying on a sofa is drinking a glass of whiskey," be it spoken or written, has few effects on our mind, nothing shocking there. You can imagine many things... but in fact, you generally imaging quite nothing. Imagination is not fired up by such words. It is much stronger If you see a picture because you jump into reality, or the "reality" of the image makes you jump! If it is a moving image, it can be even stronger. People attending the movie *L'Arrivée d'un train en gare de La Ciotat* by Louis Lumière, December 28, 1895 at the *Salon Indien du Grand Café* were really "moved."

This substantial impact of images can be used constructively or detrimentally. Advertisement images are used to sell products. It can be for good or bad products, and it can be done ambiguously, like using sexual attraction or based on phantasmagoria and promoting illusions.





In communist countries, advertisement was prohibited, but political propaganda used pictures or sculptures. In a country like Morocco, you see pictures of the King everywhere. In Nazi Germany, ideological propaganda was mixed with commercial propaganda (Pamela 2013), and the famous Swastika flag is a strong image that used a religious symbol from India. This flag was pivotal for the development of Nazism. Coca-Cola was "successfully" mixed with the mythical figure of Santa Claus, an explosive cocktail! Images are powerful...



However, images can be used intelligently to promote intelligent things. Advertisement is sometimes very creative. It is not because some advertisers are using the power of images in a bad way that we shall reject advertisement and the use of images in general.

It is not because nuclear physics permits us to develop a nuclear bomb that we reject it. We do not need to throw the baby out with the bathwater. It is more dangerous to travel by car or plane than by walking, but that is not a reason why we should move only step by step...



Conditioning the mind can be for good reasons. Images are pretty strong for acting on our minds and psyche. They are very efficient in deepness and time. That is why they are used in traffic signs (including the power of colours), where promptness is essential and is needed since we are going faster than usual. Images can help avoid danger.

They also are relatively dangerous due to their strength, but that is no reason to reject them completely. We should be careful to use images in a good way; negatively, to avoid hell and positively, to go to paradise. Non-artificial paradise, if any!

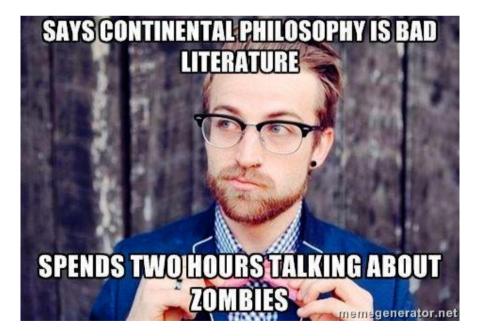
3. Why and How to Use Images in Philosophy

3.1. Good Reasons to Use Images in Philosophy

Images may lead to illusions, but words may lead to something worse: nonsense. A combination of words using correct grammatical rules can lead to something, expressions, or sentences, which is only apparently meaningful, either because it has no sense or/and no reference.

Note, however, that an expression that has no reference may have a sense like "The greatest prime number," contrarily to Frege's theory according to which the sense (*Sinn*) is the way the reference (*Bedeutung*) is given (Frege 1892). Like a classical contradiction, a sentence that is always false is another example of linguistic expression that has a sense but no meaning. However, this is not a sufficient reason to claim that every linguistic expression has a meaning.

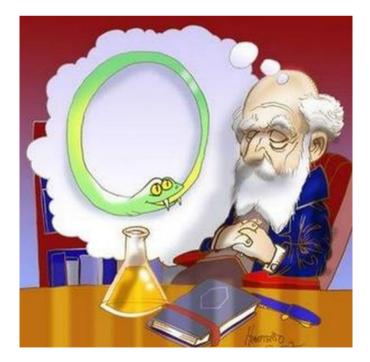
The misuse of language in philosophy was denounced by Wittgenstein, who claimed during a short talk at Cambridge that most of the traditional philosophy has no meaning (Monk 1990). Carnap took up, expanded and diluted this idea in his 1931 *Erkenntnis* paper "The Elimination of Metaphysics Through Logical Analysis of Language."



Philosophy is dominated by words, with a tendency to verbiage and verbosity, which sometimes results in nonsense or/and lousy literature: gibberish, mumbo-jumbo, *baragouin* as they say in Paris, or *charabia* as they say in Marseille. Imaging philosophy, i.e. using images in philosophy, can be a way to escape this and to develop more truthful, fruitful and beautiful philosophical ideas and discourses.

Originally science was part of philosophy. Nowadays, philosophy is not considered a science, even a human science, and most philosophers have a weak knowledge of science. Looking at sciences, we see that it is wide-spread to use images: in biology, physics, chemistry, economy, computation, history, geography, linguistics, and mathematics... The way they are used varies according to the specificity of each of these sciences. *The Power of Images in Early Modern Science* (Lefèvre et al. 2003) is a fascinating book showing how images were fundamental to developing modern science.

Scientists are using macroscopes and microscopes to have a better view of reality. Meanwhile, philosophers are fluctuating in a sky of cloudy ideas reading the complete works of Hegel, Hanna Arendt or Kripkenstein with triple-focus glasses.



Nevertheless, Einstein did not discover the theory of relativity by looking at the sky with a telescope. Abstract thinking is needed in science; however, images can help to develop abstract thinking, not pictures of reality. Obviously, not all images are pictures of reality. They can be the creation of our mind, that, mixed with reason, can help to understand reality, as was the case with Kekulé, who discovered the structure of the benzene molecule through a dream state image, and claimed: "Let us learn to dream, gentlemen, then perhaps we shall find the truth.... but let us beware of publishing our dreams before they have been put to the proof by the waking understanding." (see Japp 1898 and Rothenberg 1995).

It is essential to consider that one of the most fundamental sciences, used in particular, to explain and transform reality, can be developed using images. In mathematics, images can play a fundamental role, as illustrated by the three-volume book *Proofs without Words. Exercises in Visual Thinking* (Nelsen 1993, 2000, 2015).

Moreover, it is good to remember the motto about geometry placed at the entrance of Plato's academy. Plato valued geometry because it was based on reasoning, and he wanted to promote the use of reasoning in general. If we can perform all kinds of mathematical proofs using images, not only about geometrical objects, but also about infinity, like Cantor's diagonal argument, and all kind of stuff, it seems reasonable to think it is possible to develop reasoning in philosophy using images.

X

Reasoning in philosophy is not the same as in mathematics, and it has to be understood more broadly. It can be inspired by mathematical thinking and how images are used in the other sciences. However, using images in philosophy is not necessarily restricted to "scientific imaging." Philosophy can develop its own "imaginary."

3.2. Categorization of the Uses of Images

Let us look for categorization of the use of images in any field, either for lectures or writings. First, let us present a pell-mell "qualificative" list of uses of images:

- Descriptive
- Illustrative
- Illuminating
- Demonstrative
- Ostentative
- Fixative
- Characterizing
- Specificative
- Indicative
- Orientative
- Symbolic
- Supportive
- Inspiring
- Interpretive
- Elucidative
- Justificative
- Informative
- Instructive

We can reduce all these aspects to five categories:

Uses of Images	Representative
	Explicative
	Argumentative
	Decorative
	Directive

We will not explain here how to perform/to justify this reduction. The reader can think for herself/himself how to put all of the aspects of the above pell-mell list into this table.

These five categories are supposed to be exhaustive, but they are not exclusive. However, we can make this pentagonal classification exhaustive and exclusive, saying that such or such image is predominantly of such or such category. We can also look for images equilibrating these five aspects.

3.3. Three Examples of the Use of Images in Philosophy

I have developed philosophical ideas for about ten years, giving talks and writing papers using images. It naturally began with drawings and other images, giving talks supported by slides and later on PowerPoint. I did that on various topics: the characterization of human beings, Schopenhauer's theory of love, identity, etc. Later on, around 2005,⁶ I started to develop systematic investigations about symbolism and imagination. This study led me to improve using images, in particular, when writing research papers.⁷ This section will provide three examples of what I have done, explaining the different uses of images I have performed.

3.3.1. The Symbolic Key for Arbitrariness and the Pyramid of Meaning

Saussure's theory of signs is illustrated by several pictures in the famous *Cours de Linguistique Générale* (1916). Saussure explains the difference between an arbitrary sign and a symbolic sign with the example of "sœur" ("sister) as an arbitrary sign and balance as a symbolic sign for justice.

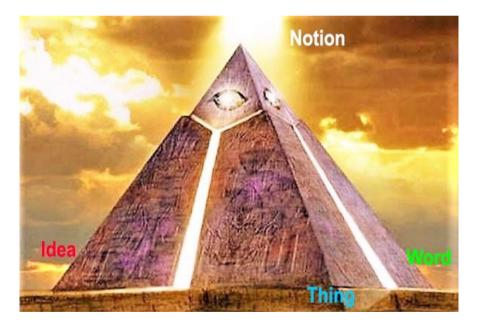
I have tried to clarify what an arbitrary sign is by looking for a symbol for it. All symbols are not necessarily images. However, I was looking for a symbol with a double aspect, i.e., a symbol that is a pictogram and at the same time represents a general idea through a particular case. As I have pointed out in the paper "Arbitrariness Symbolic Key" (Beziau 2019), this is the case

⁶ I wrote papers and edited two books (one jointly with Daniel Schultess (see Beziau, 2015, 2016, Beziau and Schulthess 2020). This activity is connected with three events I have organized: a first one on symbolic thinking at the University of Neuchâtel, Switzerland in 2006, another one on imagination in 2007 in this same university and a bigger one on imagination again in Rio de Janeiro, Brazil, in 2018.

⁷ I have already written by now about 30 "imaginary papers" (see e.g. Beziau 2015, 2017a, 2017b, Chantilly/Beziau 2017, da Costa/Beziau 2020).

of balance, as a symbol of justice, and also of the equality sign, as a symbol of identity; these two cases are different from a simple pictogram such as a hieroglyph of a bird or the sinogram of a horse. In this paper, I argue that a key is a good symbol of arbitrariness because it opens doors to something that has nothing to do with it, like the word "sun." Funny enough, the key is metaphorically used in an opposite meaning. For example, the key to happiness is conceived as something capturing the very essence of happiness and consequently leading to it. If you say "sun" to a blind girl, she will not see it.

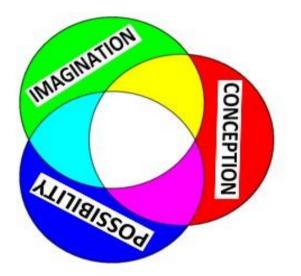
On the other hand, I have developed a quaternary theory of meaning (Beziau 2019), inspired by Saussure's ternary theory, *signe-signifiant-signifié*, where the sign is the two other elements taken together. I consider that besides the ternary triangle *word-thought-thing*, there is something I called a "notion." This "notion" is naturally placed above the triangle forming a *pyramid of meaning*.



This figure is an example of a symbolic image being simultaneously representative, explicative, decorative, and directive. Moreover, it can also be interpreted as argumentative because it strongly supports this new normative theory of meaning. As emphasized by Alfred Korzybski, who was inspired by the mathematician Eric Temple Bell: *The map is not the territory*, but a map can help direct our paths, explore reality, and guide us. With this pyramidal mapping in mind, we can navigate through the ocean of semantics slippages pointed out by Bréal, the teacher of Saussure and the guy who coined the word "semantics" (Bréal 1897).

3.3.2. Rational and Relational Visual Thinking Applied to Imagination Itself

Following structuralist thinking, impulsed by Saussure's linguistic theory (cf. Granger 1960), according to which the meaning of a sign has to be understood through its relationships with other signs, I have investigated the notion of imagination relating it to two other notions: conceptualization and possibility (Beziau 2016, Beziau 2020). To do that, I have used a Venn diagram, which is an image systematizing the relations between three notions (notions, in the sense of the pyramid of meaning).



Venn diagrams are useful logic maps to develop structural thinking in philosophy. The strength of a Venn diagram is quite significant, and it has been/is used in many different circumstances. It is a logical form representing all the possible relations between three items.

I used this image principally in an argumentative way, defending the idea that none of the "boxes" is empty. I used colours to fix the ideas. At the same time, this colourful Venn diagram, without the concepts in the boxes, is used to illustrate the current theory of colours (with three primary colours and three secondary colours). Guided by this Venn diagram, I have furthermore used images to develop our understanding of imagination, giving in particular images of things that are imaginable but not possible or/and not conceivable.

Philosophers like Gaston Bachelard (1942, 1943) and Jean-Paul Sartre (1936, 1940) have written about imagination and the imaginary, but images do not illustrate their writings. On the other hand, Carl Jung wrote a book on symbolism illustrated by symbols and many images (Jung 1964).

3.3.3. A Lucky Example of How Images Help to Develop Our Thinking

I wrote a paper entitled "Dice: a hazardous symbol for chance?" (Beziau 2018). The goal of my research was to answer this question.

At first, my idea was that this question deserved a negative answer because I had the impression that the relation between dice-throwing and the notion of chance was the same as the relation between the sand of a beach and the notion of infinity as if a rising quantity would entail a change of quality. The grains of sand are very numerous, not countable in a practical way. However, they are not uncountable in a mathematical sense; their number is indeed finite. Moreover, in the case of dice-throwing, with the law of physics, in principle, it should be possible to know exactly the result, unless we think that *God is playing dice* and physical reality is aleatory.



I completely changed my mind by finding by chance the above picture of two dice on a beach. Since I wanted to emphasize this analogy, I looked for a picture of dice on a beach. Then I found the following image that seems nice to me from an aesthetic viewpoint. I placed the mathematical symbol of infinity in the sky, the idea being to have something at the same time decorative and representative.

Then I realized that the dice in this picture do not correspond to dice used to symbolize chance through dice-throwing. Because in this symbolization, dice are not only physical objects but also mathematical objects, and in the above picture, the physical aspect is too significant. Throwing dice is an image that does not reduce to a picture of reality, although it can be fairly represented by such a picture (note that in the picture below, dice are artificial objects based on mathematical concepts: cube and number):



In this paper, I also tried to depict and symbolize the opposite of chance, determinism. This opposition was "naturally done" by the mechanism of a watch. By doing that, I was led to two other pictorial representations of related phenomena: falling in love, different from the chance symbolized by dice-throwing, which is quite absurd by contrast to love that gives meaning to life (different from miracles), not well represented by a rose, that is rather a symbol of something I called "free determinism." Below is the complete picture of these four elements.

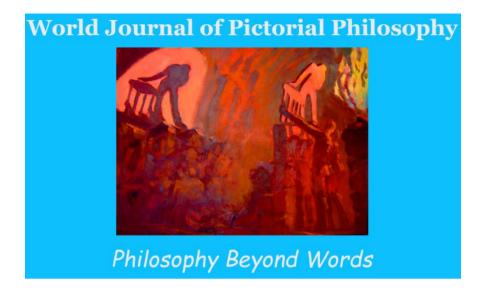


These four pictures form a square, which can be seen as a square of opposition between the four notions represented by these images. On the top, determinism as the mechanism of a watch and (absurd) chance as dicethrowing are contrarily opposed: they exclude each other but do not exhaust all the possibilities. Chance symbolized by falling in love is diagonally opposed to strict determinism symbolized by the mechanism of a watch. The two are contradictory, exclusive and exhaustive, similarly to (absurd) chance symbolized by dice-throwing and (free) determinism symbolized by a rose. Moreover, the latter is subcontrarily opposed to chance, symbolized by falling in love. The two are exhaustive but exclusive.

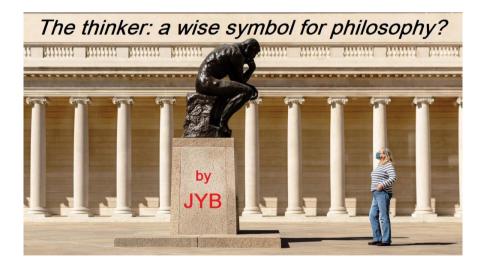
This characterization is a possible way to *picture* the situation. A more sophisticated one would be to use a hexagon (I will do that in a forthcoming paper, "The Hexagon of Chance and Determinism").

4. Future imaginary Projects

I hope this paper clearly shows interesting aspects in using images to develop philosophical thinking, systematically creating oral or written philosophical discourses, including images. The current computational technology provides good support for doing that. I intend to launch a journal in this spirit soon entitled *The World Journal of Pictorial Philosophy* with papers using images.



I also have a project to write myself many other philosophical papers using images, particularly one about the symbolization of philosophy, based on a critical examination of philosophy symbolized by the famous Rodin's sculpture "Le Penseur." The paper's title will be "The Thinker: A Wise Symbol for Philosophy?".



Bibliography

- 1. Bachelard Gaston (1942), L'Eau et les rêves, Paris: Corti.
- 2. Bachelard Gaston (1943), L'Air et les songes, Paris: Corti.
- 3. Bénatouïl Thomas and Ierodiakonou Katerina (eds.) (2019), *Dialectic after Plato and Aristotle*, Cambridge: Cambridge University Press.
- 4. Beziau Jean-Yves (1988), *D'une caverne à l'autre*, Mater Thesis in Philosophy (directed by Sarah Kofman), University Paris 1 Panthéon-Sorbonne, Paris.
- 5. Beziau Jean-Yves (2003), "New light on the square of oppositions and its nameless corner", *Logical Investigations*, 10, pp. 218-232.
- 6. Beziau Jean-Yves (2012), "The new rising of the square of opposition", [in:] J.-Y. Béziau and D. Jacquette (eds.), *Around and Beyond the Square of Opposition*, Basel: Birkhäuser, pp. 6-24.
- 7. Beziau Jean-Yves (ed.) (2014), La Pointure du symbole, Paris: Petra.
- 8. Beziau Jean-Yves (2015), "Panorama de l'Identité", *Al Mukhatabat A Trilingual Jour*nal for Logic Epistemology and Analytical Philosophy, 14, pp. 205-219.
- Beziau Jean-Yves (2016), "Possibility, Imagination and Conception", *Princípios: Revista de Filosofia*, 23, pp. 59-95.
- Beziau Jean-Yves (2017), "A Chromatic Hexagon of Psychic Dispositions", [in:] M. Silva (ed.), *How Colours Matter to Philosophy, Springer International Publishing*, Cham, pp. 273-288.
- Beziau Jean-Yves (2017), "MANY 1 A Transversal Imaginative Journey across the Realm of Mathematics", *Journal of Indian Council of Philosophical Research*, May 2017, Volume 34, Issue 2, pp. 259-287.
- Beziau Jean-Yves (2018), "Dice: a hazardous symbol for chance?", [in:] Logic, Intelligence and Artifices: Tributes to Tarcísio H. C. Pequeno, London, College Publication, pp. 365-385.
- Beziau Jean-Yves (2019), "Arbitrariness Symbolic Key", [in:] The arbitrariness of the sign in question – Proceedings of a CLG100 Workshop, Geneva, January 10-12, 2017, London: College Publications, pp. 423-448.
- Beziau Jean-Yves, (2020), "Peut-on imaginer l'impossible et l'inconcevable", [in :] J.-Y. Beziau and D. Schulthess (eds.), *L'imagination – Actes du 37ème Congrès de l'ASPLF* (Association des Sociétés de Philosophie de Langue Française), Rio de Janeiro, 26-31 Mars 2018, London: College Publications, pp. 61-76.
- 15. Beziau Jean-Yves and Lemanski Jens (2020), "The Cretan square", *Logica Universalis*, Volume 14, Issue 1, pp. 1-5.
- Beziau Jean-Yves and Schulthess Daniel (eds.) (2018), L'imagination Actes du 37ème Congrès de l'ASPLF (Association des Sociétés de Philosophie de Langue Française), Rio de Janeiro, 26-31 Mars 2018, London: College Publications.
- 17. Beziau Jean-Yves and Vandoulakis Ioannis (eds.) (2021), *The exoteric square of opposition*, Basel: Birkhäuser.
- 18. Bréal Michel (1897), Essai de sémantique, science des significations, Paris: Hachette.
- 19. Rudolf Carnap (1931), "Überwindung der Metaphysik durch logische Analyse der Sprache", *Erkenntnis*, 2, pp. 219-241.

- 20. Chantilly Catherine and Beziau Jean-Yves (2017), "The Hexagon of Paintings", *South American Journal of Logic*, Volume 3, Number 2, pp. 369-388.
- 21. da Costa Newton and Beziau Jean-Yves (2020), "Is God Paraconsistent?", [in:] Ricardo Silvestre et al. (eds.), Beyond Faith and Rationality Essays on Logic, Religion and Philosophy, Cham: Springer International Publishing, pp. 321-333.
- 22. Descartes René (1907 [1628]), *Regulae ad directionem ingenii*, Leipzig: Dürr, [online] https://archive.org/details/regulaeaddirecti00desc
- 23. Françoise Estèbe (2001), "Alice ou la logique du nonsense", *Les chemins de la connaisance*, France Culture.
- 24. Fletcher Robert, Romero Paola, Talbot Marianne, Warburton Nigel and Whiston Amna (2020), *Philosophy A Visual Encyclopedia*, New York: DK, Penguin.
- Frege Gottlob (1892), "Über Sinn und Bedeutung", Zeitschrift für Philosophie und philosophische Kritik, 100, pp. 25–50.
- 26. Frege Gottlob (1879), *Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens*, Halle a. S.: Louis Nebert.
- 27. Granger Gilles Gaston (1960), Pensée formelle et sciences de l'homme, Paris: Aubier.
- 28. Grothendieck Alexander (1983-1986), *Récoltes et semailles Réflexions et témoignage sur un passé de mathématicien*, unpublished manuscript.
- 29. Heidegger Martin (1962), Die Frage nach dem Ding, Tübingen: Niemeyer.
- 30. Heidegger Martin (2010 [1946]), "Der Spruch des Anaximander", *Gesamtausgabe*, Band 78, Frankfurt am Main: Vittorio Klostermann.
- 31. Japp Francis R. (1898), "Kekulé memorial lecture", *Journal of the Chemical Society*, 73, pp. 97-108.
- 32. Jung Carl G. (1964), Man and his symbols, London: Aldus Books.
- 33. Lefèvre Wolfgang, Renn Jürgen and Schoepflin Urs (eds.) (2003), *The Power of Images in Early Modern Science*, Basel: Birkhäuser.
- 34. Monk Ray (1990), Ludwig Wittgenstein The Duty of Genius, New York: Free Press.
- 35. Moretti Alessio (2019), *The Geometry of logical opposition*, PhD Thesis directed by Jean-Yves Beziau, Neuchâtel: University of Neuchâtel.
- Nelsen Roger B. (1993, 2000, 2015). Proofs without Words. Exercises in Visual Thinking, The Mathematical Association of America Press, Washington, Volume 1, 1993, Volume 2, 2000, Volume 3, 2015.
- 37. Nietzsche Friedrich (1882), *Die fröhliche Wissenschaft La Gaya Scienza*, Leipzig: E.W. Fritzsch.
- Pascal Blaise (1670), Les Pensées, [online] http://www.samizdat.qc.ca/arts/lit/Pascal/Pensees_1671_ancien.pdf
- 39. Patton Michael and Cannon Kevin (2015), *The Cartoon Introduction to Philosophy*, New York: Hill and Wang.
- 40. Quine Willard Van Orman (1950), *Methods of logic*, Cambridge, Massachusetts: Harvard University Press.
- 41. Quine Willard Van Orman (1950), *Philosophy of logic*, Cambridge, Massachusetts: Harvard University Press,.
- 42. Quine Willard Van Orman (1985), *The time of my life: an Autobiography*, Cambridge, Massachusetts: MIT Press.

- 43. Rothenberg Albert (1995), "Creative cognitive processes in Kekulé's discovery of the structure of the benzene molecule", *The American Journal of Psychology*, 108, pp. 419-438.
- 44. Sartre Jean-Paul (1936), L'imagination, Paris: Presses Universitaires de France.
- 45. Sartre Jean-Paul (1940), *L'imaginaire : Psychologie phénoménologique de l'imagination*, Paris: Gallimard.
- 46. De Saussure Ferdinand (1916), *Cours de linguistique générale*, Lausanne and Paris: Payot.
- 47. Serfati Michel (2005), *La révolution symbolique. La constitution de l'écriture symbolique mathématique*, Paris: Petra.
- 48. Spinoza Baruch (1662), *Tractatus Intellectus Emendatione*, [online] http://www.latinamericanhistory.net/tractatus.html
- Spinoza Baruch (1674), Ethica Ordine Geometrico Demonstrata, [online] https://la.wi-kisource.org/wiki/Ethica; The 1887 translation into English by R. H. M. Elwes is available [online] https://en.wikisource.org/wiki/Ethics_(Spinoza) and https://www.gu-tenberg.org/files/3800/3800-h/3800-h.htm
- 50. Swett Pamela E. (2013), *Selling under the Swastika: advertising and commercial culture in Nazi Germany*, Stanford: Stanford University Press.
- 51. Swett Pamela E., Wiesen S. Jonathan and Zatlin Jonathan R. (eds.) (2007), *Selling Modernity: Advertising in Twentieth-Century Germany*, Durham: Duke University Press Books.
- 52. Wittgenstein Ludwig (1921), "Logisch-Philosophische Abhandlung", Annalen der Naturphilosophie, 14, pp. 185-262.



Copacabana, Rio de Janeiro, Brazil, January 9, 2022