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The Hexagon of Paintings



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Abstract

There are many different kinds of paintings. They are generally classified according to some schools, types or styles. These classifications are often rather artificial or/and confuse, lacking a rational background. In this paper we will show how the hexagon of opposition can give us a more conceptual and structural perspective regarding the classification of paintings, providing a better understanding of the universe of paintings.

Keywords: Hexagon of Opposition, Paintings, Representation

1 Classifications of Paintings

The subject matter of our paper is painting, or better paintings. Our analysis can certainly be extended to nearby products: drawings, graphics, photos, or any kind of pictures. But we prefer to focus on only one kind of images: paintings. It is already a very big universe. There is a huge variety of paintings.

Our objective here is not to define what a painting is, but to establish relations between the different paintings. We can say that it is a *structural* analysis of paintings. What is the difference between such a structural approach and *classification*, if any?

Classification can be quite superficial. We can put in the same bag all paintings of a given painter, let's say Picasso, or of a given culture, let's say China, or of a given time, let's say the 18th century. It is rather superficial because Picasso has produced many different paintings, Chinese painting has many faces along the history, and it would be hard to characterize what all paintings in the world of the 18th century have in common. So these are not real *categories*. Other classifications can be based on:

- school: baroque, romantism, surrealism, ...
- type: portraits, landscapes, nudes, ...
- style: abstraction, pointillism, photorealism, ...

These three items are neither exclusive, nor exhaustive. For example *still life* can we considered as a type of paintings (only certain kinds of things are represented), a style of painting (there is certain way or/and technique to represent) and also a school (it was developed in a specific time and region).



FIGURE 1 - GENERAL HISTORY OF PAINTING - 27 VOLUMES, LAUSANNE, 1966

But again one may wondering if we are facing here real *categories*. The problem of such classifications is that they are rather intrinsic. Not all classifications work in an intrinsic way. In fact the *methodology of classification* is in general extrinsic, using a structure like a tree, and putting things on branches of the tree.¹ We are using here as a tool for classification the *theory of opposition*. It is a more sophisticated structure than a tree or a lattice. In these cases there is only one kind of relation, a relation of order². In the theory of opposition there are four different kinds of relations: three oppositions and subalternation.

The idea is not to consider a figure of opposition, like the hexagon of opposition, and to decorate it artificially and arbitrarily with some notions, but to establish new categories based on this structure, keeping a good equilibrium between the intrinsic and the extrinsic. And also we want to have a good equilibrium between descriptive and normative aspects of the notions we are dealing with: this means we will seriously take in account, even if we will not necessarily follow them, the existing terminologies and conceptualizations concerning paintings.

2 Dichotomy of Paintings

Dichotomy is the most basic notions of opposition. The theory of opposition started with Pythagoras's table of dichotomic oppositions:

Limit	Unlimited
Odd	Even
One	Plurality
Right	Left
Male	Female
At rest	Moving
Straight	Crooked
Light	Darkness
Good	Bad
Square	Oblong

So let's start here also with a dichotomy. We can say that some paintings are representing something and some others not. A painting can represent: someone (e.g. Napoleon), an object (e.g. a spoon), a plant (e.g. a tree), a landscape (e.g. dunes), a phenomenon (e.g. sunrise), an emotion (e.g. fear), an idea (e.g. justice). On the other end (sic) we have paintings representing nothing, no object, just form and color. The simplest example is a monochrome, but there are different other cases. There can be different colors and different forms, geometric or not geometric. Non-representational paintings can be produced for different reasons, it can be decorative (cf. Islamic art) or therapeutic (cf. Arno Stern's technique, see e.g. [24]).

¹Classification theory does not reduce to trees. An interesting recent book about the topic is *Towards a general theory of classifications* by D.Parrochia and P.Neuville [22].

²The hexagon of opposition can be used to describe order relations, see [8]



FIGURE 2 - REPRESENTING SOMETHING



FIGURE 3 - REPRESENTING NOTHING

One may say that in any case something is expressed or/and can be seen, felt, interpreted. This question is interesting but we will not deal with it here. We will focus on paintings as *objective* realities, We want to stay away as much as possible from *subjective* personal intentions and interpretations. From this objective point of view it makes sense to say that when we have a monochrome nothing is represented, not even the color. We can say that the color is present or presented, but not represented. Someone who would like to have a reductionist point of view saying that all paintings are representational could argue that a blue monochrome is representing the color blue, cubism is representing cubes, etc. But this is not our point of view here. To put everything in the same bag is not necessarily interesting. Making good distinctions is more impressive.

We can represent our dichotomy in the following manner, using red to express dichotomic opposition:

REPRESENTATIONAL NON-REPRESENTATIONAL

FIGURE 4 - RED LINE DICHOTOMY OF PAINTING



or in a more symbolic way with a black and white circle:

FIGURE 5 - TAOIST DICHOTOMY OF PAINTING

In both cases, we are expressing dichotomy with the negation "non". We have a positive feature REPRESENTATIONAL and a purely negative one NON-REPRESENTATIONAL. This is a bit artificial. In the original Pythagorean table of oppositions, many dichotomies are positive on both sides, like light and darkness. Black and white is also a double positive dichotomy. Perhaps classical negation empirically emerged from double positive dichotomies and then later on it turned into an abstraction than can be used to mechanically produce thousands of dichotomies.

Are dichotomies based on negation wrong or bad? Not necessarily. Negation is a very strong logical tool, that can be considered as a typical feature of rationality. With negation we are taken to some unknown lands. It can help us to capture the undetermined. There are many "negative" dichotomies, based on a positive part and a purely negative part: non-classical, infinite, impossible, undetermined, atypical, (when the "non" is converted into an prefix and thus incorporated into a substantive we have a more organic notion, a kind of disguised positive notion). It is quite difficult, maybe impossible, to find a positive qualifier for NON-REPRESENTATIONAL paintings.

If we examine another sense, hearing, we can make the dichotomic distinction between sound and silence. We have here two positive words for two positive notions. We don't need to primary think silence as non-sound, the negation of sound. Silence may be seen as primitive. Metaphorically we perhaps may speak about SILENT paintings. But this would be quite ambiguous, because this would rather applies only to a white monochrome.

3 Trichotomy of Paintings

A dichotomy is good, but even better is to break a dichotomy, giving birth to a trichotomy, enriching our conceptualization. There are different ways to do that. Let us consider the example of the dichotomy sound-silence. We can break this dichotomy considering that among sounds there are two very different categories: music and noise. This can be represented by the following diagram.:

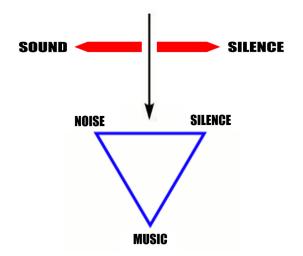


FIGURE 6 - BREAKING THE DICHOTOMY SOUND-SILENCE

Such a trichotomy works in the same way as a dichotomy: it is exclusive and exhaustive. Something cannot belong to two of the notions of the triangle, being e.g. at the same time music and silence.³ And there is noting outside of the triangle: what can be heard is silence, music or noise.⁴

A trichotomy which is exclusive and exhaustive is called a trichotomy of *contrariety*. This is the technical term from the theory of oppositions. Aristotle is considered as the first to have made a difference between two oppositions: contradiction and contrariety.⁵

³Someone may claim that the most beautiful music is silence or other "poetic" things like: noise is a music of high complexity, etc. But again it is good to make distinction and moreover any distinction is a bit normative. What is established is a *theory*. If someone wants to establish a theory according to which music is silence that's her free choice, but not necessarily a winning choice.

⁴Someone may say that words, language, speech do not fit in any of these three categories. It is true up to some point. But it is important to emphasize that this trichotomy makes sense from the point of view of a certain context. Its exhaustivity does not apply to any kind of things: colors, animals, food. Someone may say that blue is musical and that white is silent. But this is rather metaphorical. One can say also that birds are musical animals and dogs noisy animals, etc. What we have to keep in mind is that any dichotomy, trichotomy, polytomy is contextual.

⁵Aristotle was using other words. The fact that only a technical word is used for the notion of contrariety, shows that this notion has not yet been incorporated in standard thinking and/or that it is most of the time confuse with the notion of contradiction, see [6].

The Hexagon of Paintings

The notion of *contradiction* is the one corresponding to dichotomy.

Here we are presenting things from the point of views of concepts, but in the traditional theory of oppositions it is generally presented from the point of view of propositions: two propositions are said to be *contradictory* iff they cannot be true or false together, two propositions are said to be *contrary* iff they cannot be true together, but can be false together. There is a straightforward correspondence between the conceptual and propositional perspectives.

It is natural to represent a trichotomy with a triangle. The choice of the color blue is based on the the theory of colors according to which there are three primary colors: red, blue, green.⁶ It seems natural to choose red for the strongest notion of opposition, contradiction. For contrariety remains blue or green, blue was chosen (see [1]). Finally it is important to emphasize the qualitative aspect of the above trichotomy. This is indeed a good quality by contrast with quantitative trichotomies, such as hot-cold-tepid.

Let us now come back to paintings. Once again the situation is not necessarily the same and although one may want to break our initial painting dichotomy, taking inspiration from the triangle music-noise-silence, we don't have to follow the same guideline. One side of the dichotomy, sound, has been broken in two further categories: music and noise. In the case of paintings we can follow the same *splitting methodology*, break one side of the dichotomy in two qualitative different paintings, but not using the same kind of qualitative difference (harmonious vs. chaotic).

Among representational paintings, we have two very different kinds of paintings: on the one hand those representing reality as it is, as it looks like, or slightly deformed or interpreted, using a particular technique, on the other hand those representing a reality representing something else, or/and those representing something which is not a reality. Following the proverb *a picture is worth a thousand words*, let's give the two following contrasting examples:



FIGURE 7 - FIGURATIVE VS. SYMBOLIC

⁶About the theory of colors, see the papers by Dany Jaspers "Logic and colour" [19], which applies the theory of opposition to colour theory.

We can qualify the paintings of the first category (on the left) as FIGURATIVE paintings and paintings of the second category (on the right) as SYMBOLIC paintings.

We are following here a terminology which is close to the standard one. we use SYMBOLIC here in a way close to the symbolic art school of the second half of the 19th century (cf. [20]). Regarding FIGURATIVE, we are close to the definition given in the *Tate Glossary*: "Figurative art describes any form of modern art that retains strong references to the real world and particularly to the human figure. The term has been particularly used since the arrival of abstract art to refer to artists that retain aspects of the real world as their subject matter, though in a general sense figurative also applies retrospectively to all art before abstract art." [25]

We can therefore break our dichotomy of painting in the following manner:

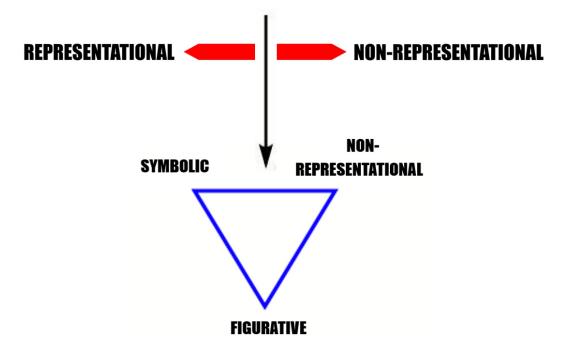


FIGURE 8 - BREAKING THE PAINTINGS DICHOTOMY

4 Testing the Trichotomy of Paintings

A good balance between a theory and empirical data is a important. A theory can really be nice by itself, but what is its value if it does not properly catch reality? The best example is Ptolemy astronomy:

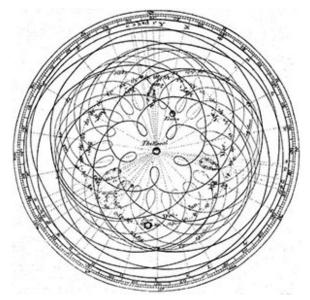


FIGURE 9 - PTOLEMY ASTRONOMY: AN ARTIFICIAL VIEW OF REALITY

Some people have also tried to use the theory of opposition for developing a "beautiful" cosmological theory of everything:



FIGURE 10 - ELEMENTAL SQUARE: A FALSE SQUARE FALSELY DESCRIBING REALITY

On the one hand this is not a square of opposition in the traditional sense, because the only opposition we have here is contrariety (at best it can be called a contrariety square of opposition), on the other hand reality is not made of these four elements.

We have to be sure that similar criticisms do not apply to our figure of opposition. First let us emphasize that we don't pretend that we have square of opposition in the traditional sense. Up to know what we have is a triangle of contrariety. Regarding what it is supposed to model, let us test it to see if we can find some counter-examples.

Let us have a look at this man and at this woman:





FIGURE 11 - NAPOLEON AND MONA LISA

For someone knowing nothing about occidental culture and history, let's say a native of Mongolia, these paintings are clearly REPRESENTATIONAL. Therefore he will put them into the category FIGURATIVE. However he may think that the woman as a strange smile he has never seen on the face of the women of his village and that the man on his horse is a bit extravagant

Anyway it is true that both of these paintings are on the one hand not representing reality as it is, on the other are representing something else other than what is represented at first sight. For these two reasons we can classify *Napoleon Crossing the Alps* (Jacques-Louis David, ca 1801-1805) and *Mona Lisa* (Leonardo da Vinci, ca 1503-1504) in the category SYMBOLIC rather than FIGURATIVE, together with mythological paintings like *The Birth of Venus* (Sandro Botticelli, ca 1480) or historical painting like *The School of Athens* (Raphael, ca 1509-1511).

Another similar situation, where we are oscillating between FIGURATIVE and SYMBOLIC are the following paintings:



Figure 12 - Nude and Still Life

Once again for a Mongolian these paintings are utterly REPRESENTATIONAL and we can fully agree with him. Both, *The Wave* (William-Adolphe Bouguereau, 1996) and *The Joint of Meat* (Claude Monet, 1864) are representing reality maybe in a crude way but reality is sometimes very fleshy.

Let us now have a look at these paintings:



FIGURE 13 - POINTILLISM

By contrast to the previous case, there is not limitation of what is represented: nude people or inanimate things. A technique is used, called *pointillism*, and anything can be represented by this technique. Instead of *represented* one may want to say *deformed*. Let's say *transformed* to stay neutral. The idea is neither to represent something which is not real, nor to go beyond reality. Although one may produce a pointillist version of *The Birth of Venus*. But this was not the idea of Georges Seurat and Paul Signac who developed this technique. It is a technique which is developed to catch reality, It is about how to represent, not what to represent, like pixelation. For this reason we can place pointillist paintings into the REPRESENTATIONAL category. Pointillism emerged from impressionism. It can be seen as a deviation or a exaggeration of impressionism The same can be said of fauvism or paintings by van Gogh, anticipating psychedelism :



FIGURE 14 - PRE-PSYCHEDELISM AND FAUVISM

Here is what has been written about *The Turning Road*, *L'Estaque* (André Derain, 1906), standing above on the right of *The Starry Night* (Vincent van Gogh, 1889) :

"It is a fantasy in color, a place where reality is overrun by the decorative impulse. The Turning Road, L'Estaque serves as a milestone in the brief, yet crucial art-historical movement of Fauvism, which explored the central tenet of Modernist painting: that the strength of a picture has more to do with colors and the kinds of marks made on the surface of the canvas than with serving as a window on the world." [21]

It remembers things said by Aldous Huxley in his famous essay, *The Doors of Perception* [18]: "Mescalin raises all colors to a higher power and makes the percipient aware of innumerable fine shades of difference, to which, at ordinary times, he is completely blind. It would seem that, for Mind at Large, the so-called secondary characters of things are primary. Unlike Locke, it evidently feels that colors are more important, better worth attending to, than masses, positions and dimensions. Like mescalin takers, many mystics perceive supernaturally brilliant colors, not only with the inward eye, but even in the objective world around them." Van Gogh was not takin Mescalin nut drinking absinthe, but a the end it seems we have a similar phenomenon.

Anyway we can put these painting into REPRESENTATIONAL category, because it about respresenting reality, not necessarily as we ordinary see it, but maybe in a more essential way, not connected to the use we want to make of it, as stressed by Huxley.

One the opposite we have some people who to respresent reality exactly as it is, like a camera, these are the so-called "Hyperrealist" paintings. But if theses people prefer to spend hours use with a paint brush that clicking a camera is that the result is different, as we can see with the below painting *Double hamburger* (Bill Jackson, 1973) standing side by side with *Wedding in a Tomorrow's Street* (Yuri Pimenov, 1962):



FIGURE 15 - Hyperrealism and Social Realism

The right painting is part of what is called "Socialist realism" and would be better classifier in the SYMBOLIC category, it is historical and ideological, contrary to the hyperrealist pairings which fit well in the FIGURATIVE category

When the technique uses is too harsh, like with cubism, can we still say that we are at the REPRESENTATIONAL?





FIGURE 16 - CUBISM AND ABSTRACT PAINTINGS

In the case of *Three Musicians* (Pablo Picasso, 1921), it is not a problem. At the end, these are three musicians. On the right, with *Moonshine* (Paul Klee, 1919), we can also say the same, although its is less obvious, but anyway Klle kindly gave a title his the painting discarting any ambiguity or errors of interpretation. These two cases are clearly different from paintings of pure abstract art (Kandisnki, Mondrian, Klee himself), where nothing but geometrical forms are represented, and which are therefore clearly on the NON-REPRESENTATIONAL category.

Finally let's have a look at these paintings:



FIGURE 17 - EXPRESSIONISM AND SURREALISM

The one of the left, *The Scream* (Edvard Munch, 1893), is classified as expressionist and the second one as surrealist. Both fit well in the SYMBOLIC category althought expressionism and surrealism are not considered as part of the symbolic movement of the 19th century (but this is due to the artificial classification of paintings according to some schools).

Having examined famous paintings of various types and styles and from various schools, we have encounter no fundamental difficulties to classify them into one of the three categories of our triangle of contrariety. So we can say that it is a reasonable prism of the universe of paintings. We will not stop here because the theory of opposition has more to offer than just a prism of reality.

5 The Hexagon of Paintings

From a triangle of contrariety we can easily go to a hexagon of opposition following a purely logical path. Let's have a look at the following diagram:

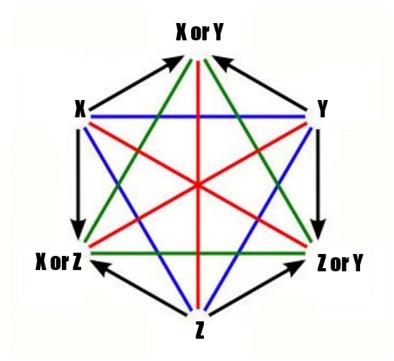


FIGURE 18 - HEXAGON OF OPPOSITION OUT OF A TRIANGLE OF CONTRARIETY

From a blue triangle of contrariety is built a green triangle of subcontrariety. The two triangles are intertwined by two relations: the red relation of contradiction and the black relation of subalternation. If we look at the top corner of the hexagon we see that it is at the same time the disjunction of the corners X and Y of the triangle of contrariety and the contradictory opposite of the corner Z. We have the same phenomenon for the two other corners of the subcontariety triangle. Everything is symmetrical.

Subalternation is, as suggested by the black arrow, an implication and, as suggested by the black color, it is not a relation of the same type as the relations represented by the blue, red and green lines. It is not a relation of opposition. And the disjunction we are talking about here is what is called *exclusive disjunction*, one famous examples being "cheese or dessert". You can choose between the two, but you cannot have both.

To have a better understanding of such a construction and to come back to our main topic, let's consider the following diagram:

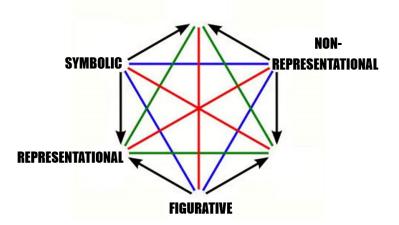


FIGURE 19 - HEXAGON OF PAINTINGS - FIRST DRAWING

In this hexagon we have specified only one corner of the green triangle of subcontrariety, the bottom left one. Due to the logical structure of the hexagon of opposition, it is the contradictory opposite of NON-REPRESENTATIONAL, which is of course REPRE-SENTATIONAL. And at the same time it is the (exclusive) disjunction of SYMBOLIC and FIGURATIVE. That perfectly makes sense, this corresponds to the splitting we have performed to go from the dichotomoy REPRESENTATIONAL/NON-REPRESENTATIONAL to the trichotomoy SYMBOLIC/NON-REPRESENTATIONAL/FIGURATIVE.

What do we have at the other corners of the triangle of subcontrariety? Logically speaking/thinking at the top corner we have NON-FIGURATIVE which is the union of SYMBOLIC and NON-REPRESENTATIONAL and at the bottom right corner we have NON-SYMBOLIC which is the union of FIGURATIVE and NON-REPRESENTATIONAL. Filling the gaps in this way, we therefore have the following diagram:

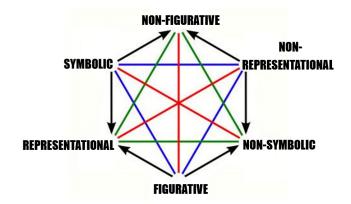
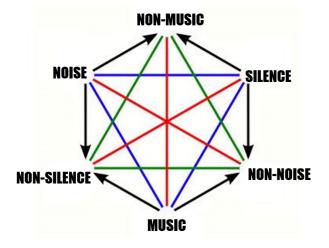


FIGURE 20 - HEXAGON OF PAINTINGS - LOGICAL VIEW

This situation is asymmetric in the sense that the positive notions are not in the same triangle (and also the negative notions are not in the same triangle). This contrasts



with the following situation of the musical hexagon:

Figure 21 - Negative Musical Hexagon

In the case of this hexagon, there is an obvious positive notion/term for the contradictory opposite of SILENCE, it is SOUND. For the contradictory opposite of NOISE, HARMONY could be a good choice (see [3]). But it is not easy to find a notion/term corresponding to the contradictory opposite of MUSIC, the union of NOISE and SILENCE. Extensionally they have noting in common, because by definition this is an exclusive disjunction. Can we find a common intensional feature? Proposals are welcome! Right now we are facing the following situation with a hexagon with only one negative corner, which is already a good situation:

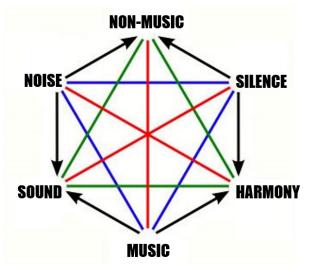


FIGURE 22 - POSITIVE MUSICAL HEXAGON Back to paintings, let's see if we may have positive notions/terms for NON-FIGURATIVE

and NON-SYMBOLIC.

For NON-FIGURATIVE it seems difficult to find a intensional common feature between SYMBOLIC and NON-REPRESENTATIONAL.

On the other hand a common intensional feature of FIGURATIVE and NON-REPRESENTATIONAL paintings can perhaps bee characterized through *visibility*. In the case of a SYMBOLIC painting we have something which not directly visible. One aim of a SYMBOLIC painting is indeed to provide an access to the invisible, from sensible, intellectual, spiritual perspectives. It is a vision only in a metaphorical or/and supernatural sense. On the other hand a figurative painting visibly shows something. In the case of a NON-REPRESENTATIONAL painting, one may say that there is nothing to see. But this would be a bit absurd, because a painting is in any case an image. It is better to say that there is nothing to see beyond it. What you get is what you see. The NON-REPRESENTATIONAL painting speaks for itself. At the end a NON-REPRESENTATIONAL painting sitely to itself. We can therefore draw the following hexagon of paintings with 4 postive notions/terms and two negatives ones:

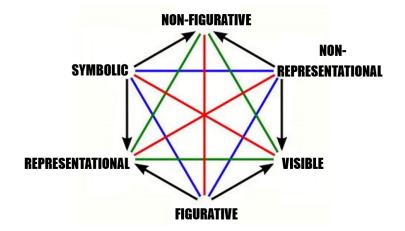


FIGURE 23 - POSITIVE HEXAGON OF PAINTINGS

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