

ARBITRARINESS SYMBOLIC KEY

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*Tout cela vous semblera terriblement arbitraire
Jusqu'à ce que vous ayez pris en main la clef de la signification
Et consciemment pénétré le sens de l'interdit
Baron de Chambourcy*



ABSTRACT. We start by emphasizing the import of arbitrariness as stressed by Ferdinand de Saussure in the *Cours de Linguistique Générale*. We go on by distinguishing two kinds of symbolism: ideal symbolism and pictorial symbolism, which are indeed present in the typical example of symbol given by Saussure, the balance. We argue that the key is a good symbol of arbitrariness. We then analyze two Swiss phenomena which are fairly arbitrary: drug and money. But we explain why the discovery of LSD by Albert Hoffman in Basel in 1938 was not an arbitrary discovery. We finish by examining red herrings: the Swiss Flag, the do-not-enter sign, Amanita Muscaria and Little Red Riding Hood, concluding that the do-not-enter sign is a good symbol of symbolism.

1. Arbitrary animals

Ferdinand de Saussure (1857-1913) is not the first to have talked about the arbitrariness of the sign, but he certainly stigmatized it by considering it as the first principle, as this appears in the posthumous 1916 *Cours de linguistique générale* (hereafter CLG). In the CLG it is written: “No one disputes the principle of the arbitrary nature of the sign, but it is often easier to discover a truth than to assign to it its proper place.” And the proper place given to this principle in the CLG is: number 1.

Considering this primal position and the fact that the CLG is one of the most famous books not only of linguistics but of intellectual life, leads to recognize the arbitrariness of the sign as a symptomatic feature of humanity. And we can go up to the characterization of human beings as *arbitrary animals*.

In a more traditional fashion, human beings are considered as *rational animals*. What is the connection, if any? The characterization of human beings as *rational animals* dates back to Ancient Greece, the adjective then used was “logical”. One of the meanings of the word “Logos” is *relation*. We also find this meaning in the Latin version of the word in particular through the notion of *irrational numbers*, numbers which are not relations between natural numbers. The Logos in the Bible is identified with God (John 1:1), and etymologically “religion” also means relation. Rational animals are able to establish relations between/with everything, even God.

An arbitrary sign is a sign where there is no connection between the sign and its meaning, or to put it in a more Saussurean sauce, between the signifier and the signified. It is an artificial relation, product of human intelligence. To put it in a more striking way: arbitrariness (of the sign) is the ability to establish a relation between things having no relation. A kind therefore of supra-rational power, or a limit case of rationality.

This capacity allows us to speak without thinking, and even to reason without thinking, to behave like computers.

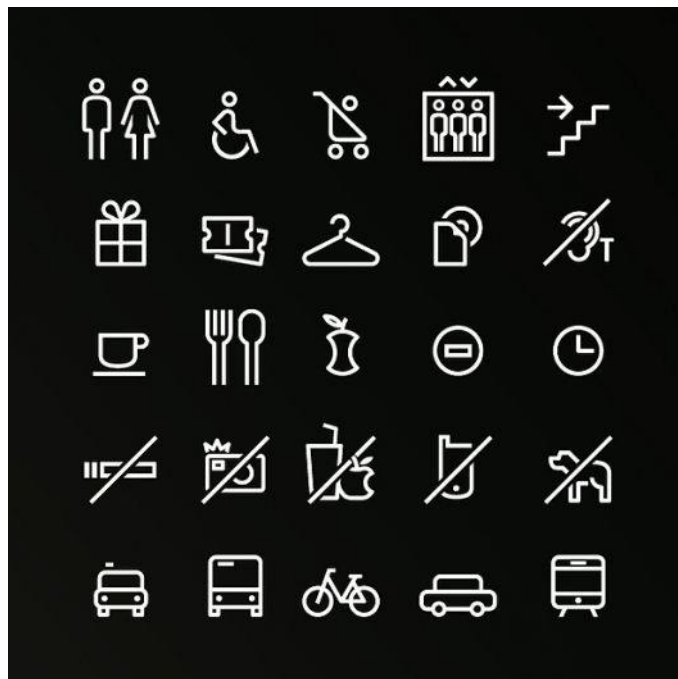
2. The Double Face of Symbolism

In the CLG the arbitrary sign is explained and/or defined by opposition to the symbol. A symbol is a sign where there is a connection between the signifier and the signified. The given example of symbol is the balance: “One characteristic of the symbol is that it is never wholly arbitrary; it is not empty, for there is the rudiment of a natural bond between the signifier and the signified. The symbol of justice, the balance, could not be replaced by just any other symbol, such as a chariot.”

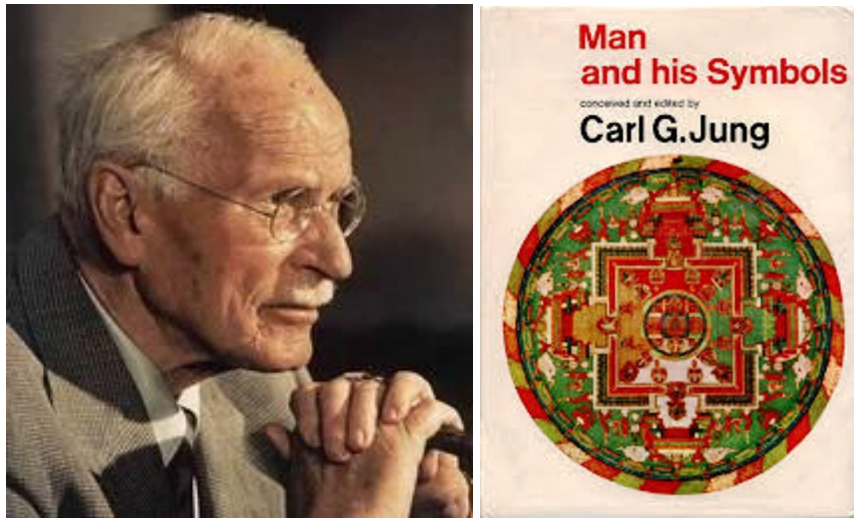
This example is ambiguous because it mixes up two aspects of symbolism, that we can differentiate naming them “ideal symbolism” and “pictorial symbolism”. *Pictorial symbolism* is when the sign is a replication of the thing it represents, like in the following picture:



It can be more or less iconic in the sense of Peirce or Hieroglyph. It is connected with pictograms as promoted in particular by Otto Neurath (1882-1945) in the 1920s with the *Isotype (International System of Typographic Picture Education)*. The idea is that you understand the meaning of the sign just by looking at it.



But the above picture of a balance is not used just as replicating a balance, it is also used to represent justice, or better the idea of justice. Carl Gustav Jung (1875-1961), another Swiss gentleman, says: “Thus a word or an image is symbolic when it implies something more than its obvious and immediate meaning”.



This is a very general definition, maybe too vague. Justice is surely more than the obvious and immediate meaning of a pictogram of a balance, different from a pictogram of a bicycle which represents nothing more than a bicycle. But we may have some more picturesque and suggestive representations of a balance of justice, like the Egyptian one below, considered as the original justice symbolization. One of the ideas in this picture is the performance of a precise equity, contrasting with our first pictogram above, out of balance. and with no one acting upon it.



The process of symbolization here is to express a general idea metaphorically or analogically through a very concrete object, which can be considered as a prototypical example of it.

To clearly differentiate this symbolization process from the previous one, we use a different name, we say that the balance is an *ideal symbol* of justice. Ideal symbolization does not necessarily work through pictograms. We can say that X is the symbol of x without having a special pictogram for it.

But the balance is also a pictorial symbol like the pictogram of a bicycle. In the case of the balance the two aspects of symbolism coincide, we have a double symbolization effect. Fortunately, or unfortunately, this is the symbolic example we have in the CLG.



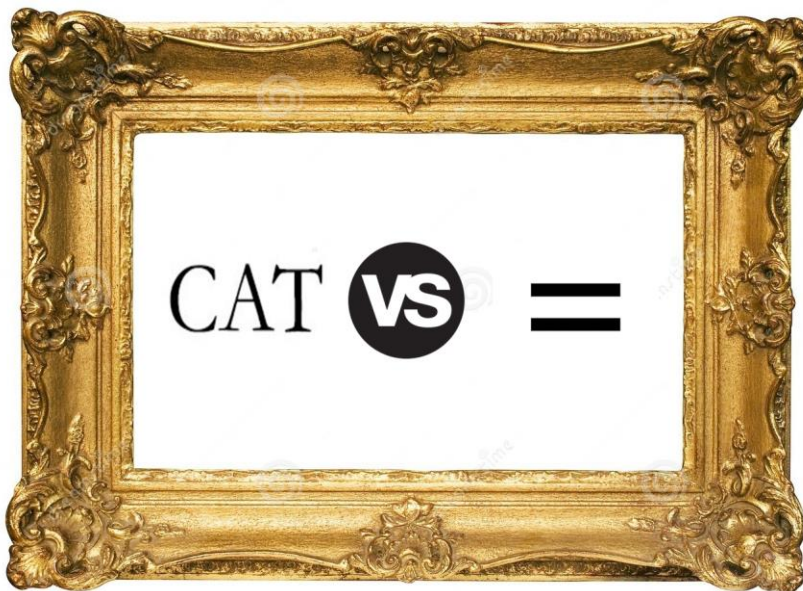
Something contrasting in a double sense to the symbolic balance is Magritte's pipe in his painting *The Treachery of Images* (1928). On the one hand it is too close to reality to be a pictorial symbol, generally a stylized version of reality not a photographic vision, on the other hand it is not representing something else.

Another example of a sign with double symbolization is the sign of equality or identity, put forward by the Welsh mathematician Robert Recorde (1512-1558):



This pictogram of two parallel lines symbolizes equality for ever. This is one of the most universal human signs. And it is not arbitrary. Since this symbol is deeply rooted in mathematics, the Queen of Sciences, the height of rationality, we are facing a real dilemma: arbitrariness vs. equality.

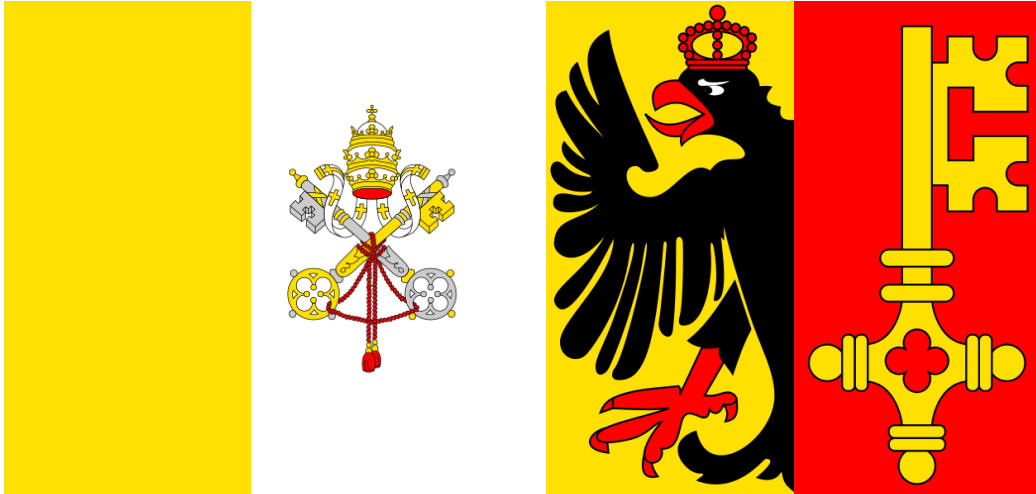
If we consider “cat” as a prototype of arbitrariness we can figure this dilemma as follows:



It would even be better to have on both sides more symbolic things: a symbol of arbitrariness and a symbol of symbolism. Symbolization cannot be based just on famous and nice examples, the examples cannot be too arbitrary, they have to be genuinely symbolic. But what is the key to symbolism? Let's see if we can unlock the door of symbolization ...

3. The Key to Arbitrariness

The key is a famous symbolic figure. Rather ambiguous, not to say tortuous. The key can be seen as the symbol of power. If you have the key, you can enter, into your bank safe or to heaven. In the flag of Geneva, there is a key. To open what? This flag was chosen before the city became a famous banking city. It is the biblical key of St Peter which is also the main ornament of the flag of the Vatican.



The power of the key as a symbol is its elusive aspect, typical of symbolism. It can be interpreted in many ways. A key can indeed open many doors: the birds cage's door, the door of perception, the door of dreams.

Symbolism goes hand to hand with hermeneutics and marabouts. Something has to be interpreted, unveiled, revealed. The mystery of a symbol opens room for many interpretations. If you have the key to interpretation, you are the master. And if you have the master key you are the master of the masters.

But, strangely, despite all the symbolic power of the key, the key can be considered as the symbol of arbitrariness. Because there is absolutely no connection between the key and what is on the other side of the door it opens for you. The connection is only between the male and female parts of the keylock, on the one hand the key, on the other hand the lock. But no one is interested in the lock itself. It is like an alphabetic word: "beauty" opens the door to beauty, it not by itself especially beautiful. It is just an arbitrary sign.

4. Wealth and Health of Arbitrariness

Funny enough in Switzerland there are two important arbitrary phenomena, symbols of two key aspects of the modern world: money and drug. To speak in a more official, not to say bureaucratic, way: bank and pharmacy.



Swiss banks have been accused of money laundering. But money laundering is a pleonasm. It is true that coins or bills are full of microbes and that they indeed need to be washed on a regular basis with white powder. But on the other hand, if we take money at an abstract level, it is already by itself a washing machine. With one dollar:



you can buy many different beautiful things, as you can check going to the Dollar Tree next to your door.



What have all these things in common? Nothing except that their value is one dollar. Mathematically speaking: they are congruent modulo one dollar (if you know nothing about mathematics you have just learned here for free an important mathematical notion).

All the business of money, not only of one-dollar bills, is based on the completely arbitrary relation between money and its face value. Even in the good old time of gold bars there was a missing link between the thing in itself and what you could do with it. It already had a multiplicity of applications including non-standard models. At the time of plastic money, the magic is greater than ever. And, as before, it can lead to wealth or bankruptcy, it all depends how you flip the card.

With money it is possible to buy almost everything. At least, according to tautological reasoning: everything which is for sale. It is possible to buy sex, drugs and rock and roll. Let's stop at the middle.



Many drugs appear just as white pills with an anonymous circular shape, like a one cent coin, generally a bit fatter. There is no visible connection between the drug and its effect. It is not like a fruit, say an apple.

The city of Basel in Switzerland is generously producing drugs for all humanity. There are two big companies: Novartis and Roche. Novartis is the continuation of Sandoz (1886-1996). It is in the research niche of Sandoz that LSD was born in 1938. Albert Hofmann (1906-2008) is the father of this “problematic child”, as he himself calls him. As he explains in his autobiography, contrarily to a legend, the kid was not born by accident:

One enchantment of that kind, which I experienced in childhood, has remained remarkably vivid in my memory ever since. It happened on a May morning—I have forgotten the year—but I can still point to the exact spot where it occurred, on a forest path on Martinsberg above Baden, Switzerland.

As I strolled through the freshly greened woods filled with bird song and lit up by the morning sun, all at once everything appeared in an uncommonly clear light. Was this something I had simply failed to notice before? Was I suddenly discovering the spring forest as it actually looked? It shone with the most beautiful radiance, speaking to the heart, as though it wanted to encompass me in its majesty. I was filled with an indescribable sensation of joy, oneness, and blissful security.

I was often troubled in those days, wondering if I would ever, as an adult, be able to communicate these experiences; whether I would have the chance to depict my visions in poetry or paintings. But knowing that I was not cut out to be a poet or artist, I assumed I would have to keep these experiences to myself, important as they were to me. Unexpectedly—though scarcely by chance—much later, in middle age, a link was established between my profession and these visionary experiences from childhood.

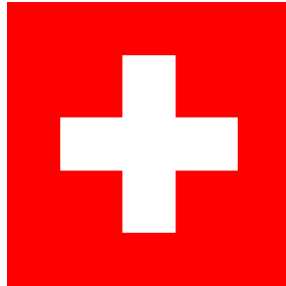
Because I wanted to gain insight into the structure and essence of matter, I became a research chemist. Intrigued by the plant world since early childhood, I chose to specialize in research on the constituents of medicinal plants. In the course of this career I was led to the psychoactive, hallucination-causing substances, which under certain conditions can evoke visionary states similar to the spontaneous experiences just described. The most important of these hallucinogenic substances has come to be known as LSD.



Hofmann therefore found a key to artificially enter the paradise he naturally visited as a child. Artificially in the sense that it was discovered in a laboratory. Rather unexpectedly, but not completely arbitrarily.

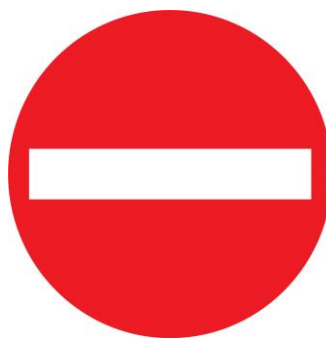
5. Red Herrings

If we put together drug, money and Saussure, we have a triangle of arbitrariness, which can be considered as the key to Switzerland. However, paradoxically, the flag of Switzerland is much less arbitrary than flags of other countries.



Most of the flags are rectangular with some simple shapes inside, like three strips, think about the well-known flag of the Kingdom of Belgium. Nothing really meaningful, neither by its content nor by its the form. The Swiss flag is the only square country flag together with the flag of the Vatican. But the Vatican flag is asymmetric. The Swiss flag is perfectly symmetric, this conveys a sense of perfection. And if consider the cross as indicating the four cardinal points, this flag can be seen as a compass giving good orientation.

But on the other hand the Swiss flag has a similar configuration to a sign of warning, not to say prohibition: the *do-not-enter* sign. Traffic signs are typical examples of symbolic signs in the pictorial sense, and moreover they use colors which also symbolically act upon our mind. The *do-not-enter* sign however is the less symbolic traffic sign. Its meaning does not explicitly show up. This elusiveness is also its strength. It is like in model theory: the less specific the axioms are, the larger is the variety of their models.



A subtle drawing can be much more powerful than an explicit image. This is what a fourth Swiss gentleman, Adrian Frutiger (1928-2015),

perfectly understood. Frutiger is one of the most famous typeface designers of the 20th century, you can see his typefaces not only on the Swiss roads but also everywhere in the world. He claimed: “A day will come when you will see advertisements containing nothing else than four lines in Garamond on a white background”.



The *do-not-enter* sign is a sign whose meaning overpasses the road context. It is the expression of prohibition in general, as more explicitly expressed through its French name: *sens interdit*. But why is a red circle crossed by a white strip a good expression of interdiction?

Red is associated to danger because it is the color of blood. Other traffic signs of warning and/or prohibition also use the red color. But generally we have a red circumference circling a black stuff (the prohibited thing), red crossed or not, on a white background. There is in fact an alternative version of the *do-not-enter* sign working in this way (in use in Ireland, Brazil, India). But the most famous *do-not-enter* sign is rather different. It has a full symbolic dimension surrounded by mystery.

There is a famous mushroom having some similarity with the *do-not-enter* sign. Her quite beautiful name is: *Amanita Muscaria*. But this mushroom is no lethal, only hallucinogenic. The lethal one is however of the same family, also having a beautiful name: *Amanita Phalloides*. She is

kindly nicknamed “death cap”. But you cannot see this nickname on her and the appearance of this death cape is completely inoffensive, it is white with some shade of green and her shape is like the one of most of the mushrooms, more or less phallic.



Looking at these mushrooms we may think nature is arbitrary, not to say absurd. It does not give us a hint, even worth: it is misleading, full of red herrings ... Is it really so? Certainly nature is not straightforward, it is not like a highway to hell, we have to be careful enough not to slide on the curves, not to follow the wrong direction, and end up like Little Red Riding Hood in a bed with our grandmother.

We don't want to be fooled by the appearances. But is the redness of the blood just an appearance? Oscar Wilde's masterpiece, *Salomé*, like any good Peplum, is full of blood. Oscar Wilde put the following words, in the mouth of King Herod: “How red those petals are! They are like stains of blood on the cloth. That does not matter. You must not find symbols in everything you see. It makes life impossible.” (Originally in French, but Herod never spoke French, although he supposedly died in France).

Anyway, despite this repressed premonition, the blood will flow, when Herod will order to cut the head of Iokanaan, better known as John the Baptist. The figurative meaning of baptism, contrasting with its original symbolic water meaning, is to stick an arbitrary name on a new born, say Adam. “Adam” is considered as a proper name. But proper names are not properly proper. According to Kripke, proper names are rigid designators, invariant across possible worlds. Their meaning is arbitrarily fixed by an initial baptism. Can we say that Herod is symbolically cutting the head to

arbitrariness? We will not venture much in the interpretation of this mythical story. Let's go out of the red herrings' labyrinth and conclude.

In section three, the key has been promoted as the symbol of arbitrariness. We are now looking for a symbol of symbolization. The *do-not-enter* sign looks as a good candidate: there is a relation between the sign and its meaning which is strong and not arbitrary, but we have no clue. We need a key!

At the end we have this beautiful mix:



6. Symbolic Memories

I was first in touch with the CLG when a high school student in the *Lycée Gabriel Fauré* in Annecy, France, in 1982-83. We had a very dedicated professor of philosophy, Miss Ancet, with whom we studied in detail the first chapter of the CLG.

I was always interested in semiotics, and having specialized in the science of reasoning, I naturally and progressively came back to the topic through my research in symbolic logic.

In 2002 I moved to Neuchâtel to work at the Institute of Logic and CdRS (Centre de Recherches Sémiologiques), a center created by Jean-Blaise Grize (1922-2013), a former student of Jean Piaget (1896-1980). In 2005 I

decided to organize at the University of Neuchâtel an interdisciplinary workshop on symbols.



The idea was to promote interaction between colleagues of this university and put them together on a non-arbitrary basis. I succeeded to gather professor from many areas: Lytta Basset from theology, Alain Robert from mathematics, Daniel Schulthess from philosophy, Hans Beck from physics, Georg Süss-Fink from chemistry, Louis de Saussure for linguistics, etc. We also had few colleagues from outside such as Claudine Tiercelin from Paris, and Jean-Claude Pont from Geneva.

When hearing about the centenary of the CLG I decided to organize within this event a workshop on the arbitrariness of the sign, as a kind of

follow up of this first meeting. But the gathering was in some sense diametrically opposed, because the idea was to gather people from outside – I was myself an outsider (working in Rio de Janeiro). I launched a call for papers and was quite happy with the result. We received a good variety of submissions. Some old friends I had not seen for years like Marcin Sobieszczanski appeared, as well as some recent ones, like my student Vinicius Claro and also some unknown colleagues.

We had people from many different geographical origins: Italy, France, Greece, India, Brazil, Poland, Germany, Romania, Tunisia, Bulgaria, UK, Vatican, Czech Republic, Belgium, Switzerland. Their papers are here gathered.



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