



HAL
open science

Semiotics applied to advertisements

Jérôme Guibourgé

► **To cite this version:**

Jérôme Guibourgé. Semiotics applied to advertisements. Translated from Guibourgé Jérôme, Design phase 1, améliorer sa conception, L'Harmattan, Paris, 2021., 2020. <hal-03602699>

HAL Id: hal-03602699

<https://hal.science/hal-03602699v1>

Submitted on 22 Mar 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization



Semiotics applied to advertisements

Translated from Guibourgé Jérôme, *Design phase 1, améliorer sa conception*, L'Harmattan, Paris, 2021.

Abstract

Thinking about meaning means suspending our judgment and assuming a rational attitude. It means trying to understand what meaning goes through. We know that meaning is accessible through two plans; that of expression and that of content. It is necessary to analyze the first to understand how the greatest number can manage to experience or understand precisely such and such a notion of the second plan. We must therefore assess the elements involved in this flow of meanings knowing the receiver must be able to develop strong and meaningful connections between the company and its advertisement. From the advertisement, the receiver must be able to go to the identity and way back. In a way, we work on the meaning and its traceability. We present a method and an adaptation of the Generative Meaning Trajectory of Greimas applied to advertising.

The Article L 122-5 of the French intellectual property code specifies that the right to quote a work for scientific purposes is permitted provided that the quotes are incidental to the main work and that the source is clearly indicated. The article also specifies that the right of reproduction of a work "for the exclusive purposes of illustration in the context of teaching and research" is permitted, provided that this reproduction is not accompanied by distortion of the work. Despite our research, the agencies and authors of certain designs presented in this book have remained unknown to us. All rights of reproduction, representation or extraction reserved.

In this work, the analyses of the designs presented do not make it possible to evaluate the effectiveness of the advertising, marketing or communication strategies of the companies. The advertising, marketing or communication issues go beyond the scope of this study and there has been a lack of information and resources to authorize serious work in this area. Nevertheless, it seemed possible to examine designs without criticizing their marketing, creative and commercial dimensions. The designs were chosen for illustrative purposes and not because they would be exemplary. The chosen selection is not important and we could have made other choices. The study was carried out using real designs, therefore in color and not in black and white. For printing constraints related to the edition of this book, the reproductions are in grayscale. This transition from color to grayscale and from reality to black and white photography represents a loss of information for the reader that was not effective during the analyses.



1. Introduction



Loiret Tourism Development and Reservation Agency www.tourismeloiret.com

We call this region the attic of France (la Beauce). It's six hundred thousands hectares of cereals, like wheat and corn. Imagine that you have your house in the middle of this region; on the morning of the thirteenth of August at half past five looking east you see the sun rising and at ten o'clock looking west you see the sun setting. The simple observation of the apparent sun movement tends to prove that the sun revolves around the earth and, any human standing in front of the horizon could argue that the earth is flat. These observations have obvious implications for all of our knowledge areas (social, economic, ideological, scientific...). With Copernicus (then with Galileo demonstration) and the Copernican revolution that ensued disrupted all of these areas and showed that common sense or simple observation was not enough to solve and explain the natural world. The two claims sun revolves around the earth (the observation of the sun's apparent movement) and earth is flat (in front of the horizon) are false.

To understand the role of semiotics, we will compare with physics : Semiotics is the sense that physics is the experience of the natural world. It can rationally explain the production of meaning as physics, beyond appearances, can rationally explain the natural world. To understand how meaning is generated, common sense is not enough and semiotics can thus go against what you think you know. It attempts to provide scientific models of interpretation of the meaning.



We will consider the design of an advertisement as a language; that is to say a signifying whole. A language is the association of two dimensions called the expression plan and the content plan; so is the advertisement. Looking at it, we associate perceptions and sensations, i.e. expressions like its colors, graphics, photos, typographies, contrasts, etc. with contents to give to the advertisement a meaning. In a practical situation, we determine the split between the expression and content plans, that is to say the fact to

give or not a meaning to what we perceive. The principle of meaning is that it takes shape not logically in a disembodied way but, from the sensation and the perception of the receiver. As meaning is constituted from the body of the receiver, we can think that it is totally subjective; however, if several people give the same meaning to an advertisement, and many marketing



studies show it¹, we are also obliged to note that the meaning is shared. We must therefore postulate that part of the meaning is subjective and another is shared. Design semioticians work on this shared part. They work on the meaning probably shared by the greatest number of people and seek to better understand the process of converting the elements of the expression plan and the content plan. We want to know how meaning is generated not by whom or why. We don't know if the process is conscious or unconscious, it does not matter because we don't do psychology.

The challenge of semiotics might be defined as the attempt to systematically structure the social nature of the exchange. It means that when you use semiotics you can validate the most likely meaning with little information about receivers. With the semiotic analysis we can understand, reproduce and experiment the mechanics of meaning. The semiotic activity is to understand how meaning is generated and is constituted. We know that design is the combination of an expression plan and a content plan which means that meaning is apprehended as a generative process of stratification : this element added to some other element to tell this or that, etc. Semiotics does not aim to restore a chronological or historical order, a temporal succession of design phases; the desired order is rather a semio-logical order.

We are in a world of meaning. Human lives in a meaningful world. For human, the problem of meaning does not arise. The meaning is. It is obvious; but this evidence is a result whose process is analyzed by semioticians who study the phenomena of meaning. We try to rationally explain the production of meaning like physicists, behind appearances, try to rationally explain the natural world. Using semiotics is a bit like slowing down your gaze, zooming in and slowing down your understanding, to perceive what this understanding is going through and how we construct it. To understand how meaning is generated, common sense is not always enough; that why semiotics can go against common sense.

We present extracts of studies about advertisements that illustrate various links between identity represented by those advertisements and presupposed values attributed to the company.

2. Semiotic background of an advertisement

Thinking about meaning means suspending our judgment and assuming a rational attitude. It means trying to understand what meaning goes through; does it come from this or that material effect, from the graphics, from this curve, from this color, from this typography or from the syncretism of all these elements ? We know that meaning is accessible through two plans; that of expression, in other words what we perceive through our body, that of content which corresponds to feelings and thoughts. It is therefore necessary to analyze the first to understand how the greatest number can manage to experience or understand precisely such and such a notion (sensation, emotion, feeling, idea, etc.) of the second plan. We must therefore assess the elements involved in this flow of meanings knowing the receiver must be able to develop strong and meaningful connections between the company and its advertisement. From the

¹ Kammoun, Mohamed. « Efficacité de la publicité. Un état de l'art », *La Revue des Sciences de Gestion*, vol. 229, no. 1, 2008, pp. 111-119.
Vandercammen, Marc, et Martine Gauthy-Sinéchal. « Études de publicité », *Recherche marketing. Outil fondamental du marketing*, sous la direction de Vandercammen Marc, Gauthy-Sinéchal Martine. De Boeck Supérieur, 1999, pp. 245-317.



advertisement, the receiver must be able to go to the identity and way back. In a way, we work on the meaning and its traceability.

Moreover, it seems reasonable to think that for the greatest number of people, the meaning of an advertising poster or in a paper medium is understood mainly by sight. This sensory mode makes it possible to aggregate the semiotic components with their relations to constitute significant articulations with a relative economy of energy and means. The proposed hypothesis is based on two postulates : (1) the body of the receiver is the site of the meaning construction produced thanks to its global sensory system and his brain; (2) The brain consumes a lot of energy; in particular the information processing function consumes more energy than routine intellectual processing. From simple reflexes to sophisticated analysis, the brain tries to adapt to the environment by making the best use of its ability to learn by inference. According to Borst² the brain makes deductions from what it observes by generating less greedy but potentially error-prone automatisms. Based on these two postulates, the interpretation of an advertisement would potentially take place in two stages. Depending on the content, the receiver would use (1) the time and energy saving heuristic procedure (system 1) to generate the meaning and/or (2) for a more elaborate meaning, the receiver would perform checks and calculations with his system 2³. Depending on the mobilization of the cognitive systems called upon, three types of advertising could be identified: (1) requiring the heuristics of judgment (2) leaving the alternative to the use of the two systems and (3) requiring the second.



Although the arbitration between what belongs to the expression plan alone or to the plans of expression and content depends on the receiver (he decides whether all or part of what he sees makes sense), the construction of meaning in the advertisement favors his/her comprehension or not. For

example, for some, the first ad above only requires a simple heuristic based on the brand, model and price when the second requires projecting into use by summoning the entire sensory system and in particular the sensori-motricity; on the other hand, the third will require them to read carefully, to observe precisely and activate the system 2 to understand the meaning.

It can be said that an advertisement is a production of a collaborative intelligence that summons several professionals to choose from: designer, product manager, marketer, artistic director, customer manager, communication manager, etc. It is a production of meaning. This last term covers the notions of direction, orientation and signification. The direction refers to a very general content, a kind of axis of understanding, when the orientation specifies more, degrees of variation relative to this axis of comprehension, and signification is an articulated meaning by a subject. The design is a signifier set that all or part of the meaning is shared. This outstanding meaning assumes an accessible coded social portion and a more or less accessible subjective part.

² Borst Grégoire, 2019, « Comment le cerveau apprend-il ? », *Sciences Humaines*, n° 310, Auxerre, p. 8.

³ Kahneman Daniel, 2012, *Thinking fast and slow*, London, Penguin.



Subjectivity may be the designer or the target but in both cases, subjectivity represents a risk for the company. If its ad is a too subjective production of the designer, how can the company be sure that its design will please as many of its customers ? If the design allows multiple singular acceptances, how can the company be sure that its ad will be shared by the greatest number ? The company then seeks to reduce these risks by using different disciplines of management sciences and humanities aimed at analyzing objective differentiations and subjective hierarchisation. But these disciplines do not measure the meaning in the same way. For marketing, the main discipline used, the meaning is lived as an event of which we seek to consider the effect for the receiver. For semiology, meaning is a trajectory of transformations whose stages and results are sought to be understood.

As soon as the problem of interindividual exchange arises, meaning is no longer only individual, but also in circulation. We are forced to apply that the inner gaze by which each one perceives the meaning is provided with a double nature (1) individual, subjective and particular, (2) social, objective and solidarity. The stake of semiology is the systematic structuring of the social nature of the exchange. Of all the virtualities of meaning we validate the most likely meaning without information on the receivers. Faced with an advertisement we perceive a complexity that is not always easy to understand. But whatever this complexity is, it is part of a principle of communication which therefore posits the ad as meaningful. Initially, the designer starts from the brief that he has to transform into a ad. In its specifications, the company puts imperatives, technical constraints, history, values... On arrival, the receiver perceives a design that he rebuilt the meaning. It is a trajectory with two reading directions: a rising of the deep level (the value written in the brief) to the surface (the ad that manifests more or less this value) and vice versa the ad to the value. Often the company implicitly asks the designer to be able to travel this trajectory in both directions, getting it up and down, to be both designer and receiver to make sure neither the meaning nor the most probably shareable value do not get lost. One of the designer's missions is that these readings are superimposed as perfectly as possible. The more the gap between these two directions is important, the more the risk to the company grows (incomprehension, bad identification). In this context, the semiology applied to the design is a descriptive and differential discipline which aims to check the transcoding operations. Through its tools, applied semiology to the design proposes a three-step method :

1. The description, where it is about transcoding information from one language in another (for the logo, its drawing to a text). The better it is better are the chances of achieving a relevant analysis;
2. The explanation, where we try to analyze the construction of the sense of creation to better control the relevance of the resulting design and better communicate its positioning. With the course of the history of design, the number of designs increases, competition intensifies and complexity grow. What asks the designer at the same time to be always creative and more relevant;
3. The synthesis, where it is a question of delivering the meaning most probably shared by the greatest number.



3. The Generative Trajectory of Meaning

Greimas, one of the founding fathers of French semiotics, developed the Generative Trajectory of Meaning (GTM) after considering several concepts: isotopy (repetition of the same element of meaning), the semiotic square (elementary structure of constructed meaning on the basis of an opposition), the actantial model (decomposition of an action into six actants), the narrative program (representation of an action as a succession of two opposite states) and the semiotics of the natural world which associates an expression plan and a content plan. The Greimasian hypothesis of the GTM makes it possible to merge several of these concepts into a coherent whole.

Following the work of Propp⁴, Greimas observes that to constitute meaning passes through three levels (1) figurative with discursive structures, (2) thematic with surface semio-narrative structures (where the devices to describe actions are found: actantial model, narrative program and canonical narrative schema) and (3) axiological with the deep semio-narrative structures (where the semiotic square is found). He will give this trajectory in three levels the name of generative trajectory of meaning. The GTM is an analysis model that reveals the plot and the springs of the stories, but also to promote their improvement.

THE GTM CONSTITUTION

Figurative level with the discursive structures

Thematic level with the surface semio-narrative structures

Axiological level with the deep semio-narrative structures

For the advertisements, we adapted the model in accordance with Fontanille's conception⁵ : it is not a question of logical forms converted into other logical forms, but of significant articulations that the trajectory itself modifies, increases and gradually complicates. When we look at advertisements we realize that very often they are more or less complex short stories. This complexity can be superficial, a formally rich visual to tell a simple content or the opposite or even sometimes have both, a richness of content expressed by a formal richness.

The objective of the GTM is to analyze among those proposed the meaning probably shared by the greatest number of people. It is accessible through the expression plan, what the receiver perceives. For an advertisement, it is necessary to break down this plan into meaningful elements. These are bundles of visual traits like shapes, weights, colors, gradients, contrasts, etc. These packets serve to represent the natural world more or less faithfully. When their formal combination is linked to a particular meaning according to a shared or even universal cultural convention, they are called figurative formants. When these organized visual features allow investments of other meanings, we speak of plastic formants⁶. In both cases they form meaningful articulations, terminology that is retained insofar as it is sufficient to understand the model.

⁴ Propp V., *Morphology of the Folktale*, University of Texas Press, Austin, 1968.

⁵ Fontanille J., *Corps et sens*, Paris, PUF, 2011, pp. 4-5.

⁶ Greimas A.J., «Sémiotique figurative et sémiotique plastique» in *Actes sémiotiques VI*, 60, Paris, EHESS, 1984.

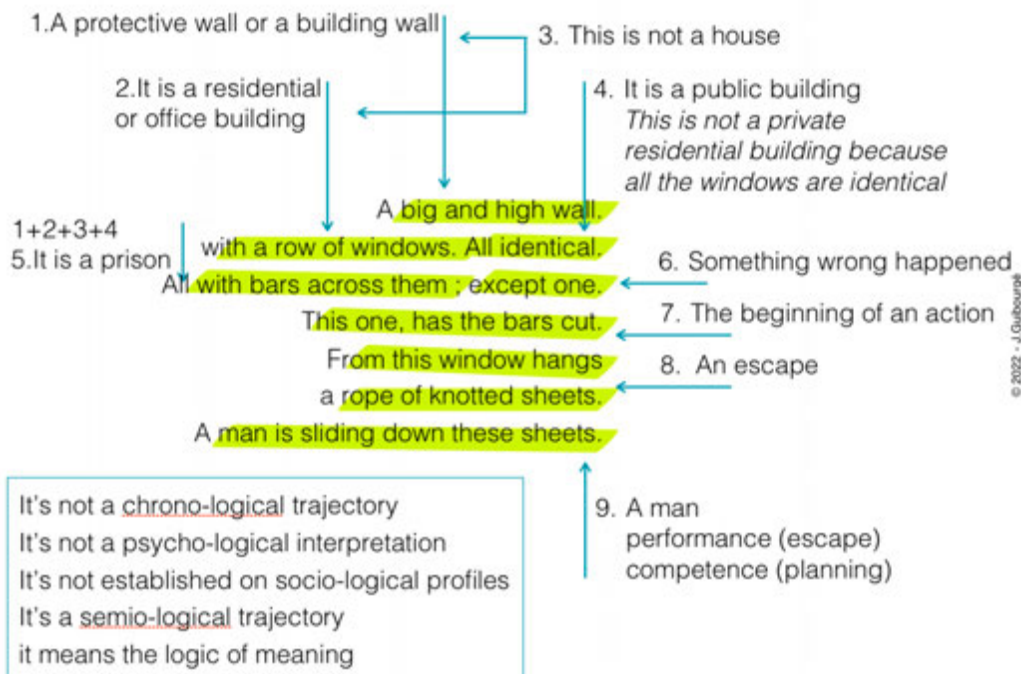


Before being able to analyze an advertisement with the GTM model, we present a simple text on which we apply the GTM; then we will adapt the GTM to be able to use it. The simplicity of the utterance below inspired by Bertrand⁷ reveals the model, makes possible to understand the three levels and how significant articulations of the first are converted into others of the second and then into the third.

GTM APPLIED TO A TEXT

UTTERANCE	LEVEL 1 Figurative	LEVEL 2 Thematic	LEVEL 3 Axiological
<i>A big and high wall. with a row of windows. All identical. All with bars across them ; except one. This one, has the bars cut. From this window hangs a rope of knotted sheets. A man is sliding down these sheets.</i>	Temporization Spatialization Actorialization distribution of times, spaces and actors	Narrative program, the quest for...	system of opposed values
	<i>Reading this story</i> We think of an	<i>Escape</i> That makes us think of a quest for	<i>Freedom</i>

LIKELY ELABORATION OF MEANING



In our culture, a text is written from left to right and from top to bottom, therefore in chronological order; but the GTM is not chronological, just semiological. As the assimilation of this utterance progressed through the reading of the elements of the figurative level (the text) we observed that

⁷ Bertrand D., *Précis de sémiotique littéraire*, Paris, Nathan, 2000, pp. 23-30.



the learners⁸ have successfully grasped the thematic level of escape and then to understand that man is in search of freedom, value at the axiological level. This example shows that naturally we connect different elements to produce meaning; but we build this meaning from oppositions: (1) to think about escape when the term does not appear (2) we develop the word prison also absent (3) from the addition of perceived units of meaning: large wall + alignment + identical + bars... Moreover, this example also shows that it would not be necessary to know the sociology or the psychology of the receivers to know what is the meaning probably shared by the greatest number. The GTM is neither a purely logical trajectory, nor chrono-logical nor a psycho-logical interpretation or established from a socio-logical profile of a receiver. It is a semiological trajectory that follows the logic of meaning. A trajectory that goes down from the figurative level to the axiological level when you are a receiver and goes up from the axiological level to the figurative level when you are creative. It is a trajectory of statistical and causal inferences; depending on the context of appearance, the significant articulations considered will probably or causally be linked to others.

4. The Generative Trajectory of Meaning applied to advertising documents

The aim is to explain an advertisement leaving aside its own interpretation and any psychological or sociological dimension, because it is not an analysis of this type. The meaning that interests us is the one that is contained in the utterance; in other words, that wins the greatest probability of interpretation by the greatest number of people. The first step of the analysis is the description and then it is a question of finding the (main) oppositions of the figurative level. They lead to the theme and the values defended, those that will motivate the receiver to act. The oppositions concern at least two textual and/or visual elements, one of which can be entered by default; that is to say without being represented while being present in the utterance. As seen previously, meaning arises from differences; the differences frequently used in advertising are oppositions; in the time allotted to reading an advertisement, they are easier to spot by the receiver. The first task consists in precisely describing the advertisement then, in reconstructing the three levels from the elements of the description. We retained the J. Walker ad because it contains few elements; this apparent simplicity is conducive to understanding the model. If we assume that the receiver buys a product/service or adheres to a brand from the moment he/she values it, it seems important to rationally analyse the meaning of an advertisement with the GTM which allows to determine the value. This information is not insignificant in the context of a benchmark to position the creation; but the GTM also makes possible to ensure consistency in the communication of the brand's values. Once the value has been identified, we can look for its thematisations and possible expressions for them oriented according to the intended receivers.

By convention, in order to facilitate the reading of the analysis, we chose to use mathematical symbols to write the oppositions of the figurative level of the GTM (see table below). The thematic

⁸ Study from 2005 to 2019 of 2,886 learners including 2,526 French in initial training, 307 French in continuing education and 53 internationals in initial training in English (2014-2019). 14 French people and 4 internationals came up with a story like Romeo and Juliet (dating theme, love value) and 11 internationals didn't understand. Study conducted in different schools on a near equality of women and men between 21 and 29 years old, but 52 of the 307 French people in continuing education were between 27 and 45 years old. Nationalities: German, American, English, Australian, Brazilian, Canadian, Chinese, Korean, Danish, Scottish, Spanish, Finnish, Dutch, Indian, Indonesian, Italian, Japanese, Lebanese, Mexican, Russian, Swedish. The utterance was read and videoprojected; learners had to respond in two words to (1) "What is the theme of this story? or "What is this story about? then (2) "What is man looking for? or "What value is man looking for? ".



level is a rather short and simple sentence when the axiological level is generally expressed by a word. In the examples below, each ad rarely shows more than one value, the types of publication media preventing too rich readings.

CONVENTION FOR WRITING MEANINGFUL ARTICULATIONS

Figurative level :

- n each opposition is numbered (n is a number)
 - + Designates an association of meaning and not an addition (not an arithmetic sequence)
 - / Signifies a difference (an opposition)
 - = Indicates a logical or analog relationship (not a mathematical equivalence)
 - [n] Quote the number of the previous opposition which contributes to the elaboration of the meaning
-

Thematic level : a simple and short sentence

Axiological level : one word to express a value

The model is a reconstruction of meaning (see table below). It neither reconstitutes how the receiver thinks nor the meaning of reading, nor organizes the order of the meaning units that he uses, but the levels through which he passes. The receiver can use all the oppositions, one part, in one order, in another or by performing syncope when he does not use this or that unit of meaning. Each opposition leads to a meaning unit that contributes to the development of the overall meaning of advertisement. Each opposition opposes meaningful associations of several perceived elements (plastic and figurative formants). They combine and the whole is converted into the next level. A formant can be a color, a shape, a material, an effect, a letter... A figure is made up of several formants, a color ratio, a contrast of shapes... To facilitate the reading of this reconstruction of meaning, we suggest starting from the most general opposition to arrive at the most particular.

PRINCIPLES FOR WRITING THE GTM

Figurative level : each element is opposed to an element of the same nature

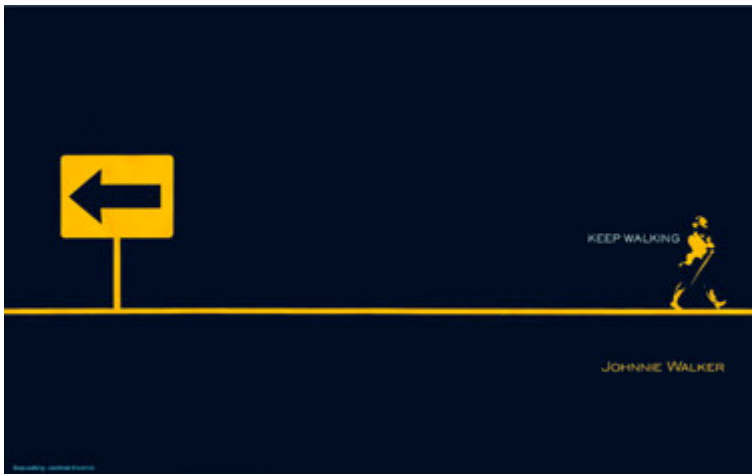
1. formant + formant + figure / formant + formant + figure = such meaning unit
 2. formant + formant + formant / formant + formant + figure = such meaning unit
 3. [1+2] + figure + formant + figure / formant + formant + figure = such meaning unit
 4. figure + formant + formant / formant + formant + figure = such meaning unit
 - n. [4+...] + formant + figure / formant + formant + figure = such meaning unit
-

Thematic level : A simple phrase related to the product (as a catchphrase)

Axiological level : usually one word (a value)



5. The GTM applied to JW ad



Description: A double-page ad using the black, yellow and white of the paper for the "Keep walking" slogan. the advertisement consists of a black background cut about two-thirds by a yellow line. On this one, on the far left, a vertical line of the same yellow and of the same thickness leading through the middle to a yellow horizontal cartouche with rounded corners. Inside a black geometric arrow pointing to the left. On the far right a yellow character in a tailcoat with

boots, cane and top hat walks to the right with the "keep walking" catchphrase at shoulder level. Aligned on the toe of his front foot and located under the yellow horizontal line the brand name Johnnie Walker. We know it is the brand, because it is extremely rare to have an advertisement without a brand and the other text is in the form of a catchphrase.

GTM OF THE JOHNNIE WALKER ADVERTISEMENT

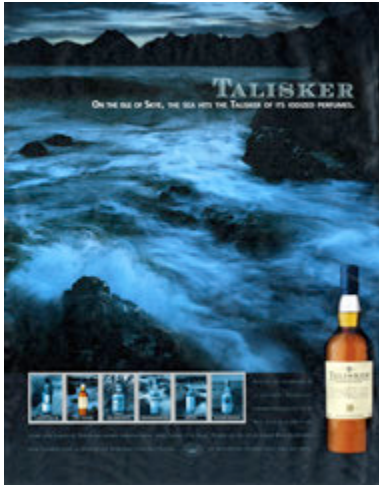
FIGURATIVE LEVEL

1. Infographic design (/photographic-actualisation) = virtual signs (no plausible reality)
2. Line+yellow+horizontal+character+above (/vert. line + person. below) = road and horizon
3. [2]+Inset+yellow+arrow+geometric (/arrow+artistic+chaos) = road signs
4. [1]+Graphic simplicity+text+picto (/other ads) = character is a logo
5. [1+2+3+4]+Signage+anonymous (/character logo) = alternative
6. [1+3]+Picto+logo+reading direction+2 colors+contrast = writing, coding
7. [6]+Reading direction+JW+right (/left+anonymous+past+non-living) = moving forward (future+living)
8. [7]+Logo+individual+style+right (/picto+mass+rules+left) = lifestyle
9. JW / Anonymous = character also represents the receiver = identification
10. [1 to 9]+JW+lifestyle+being (/anonymous+rules+not being) = being yourself
11. [1 to 10]+JW+individual+in front (/anonymous+conventional+followers) = leader
12. Slogan before character+running+to the right (/after) = the brand is driving force

THEMATIC LEVEL : JW Whiskey is an energy to move forward (and not a brake)

AXIOLOGICAL LEVEL : Independence*. (show your independence, drink JW)

* Social independence also in the sense of self-affirmation, differentiation, distinction.



We better understand the construction of meaning when we compare this ad with one of its contemporaries. For the Talisker advertisement, the photograph updates a probable place confirmed by the collection of six stamps in the lower part; each announcing a specific place where a whiskey is produced. The catchphrase "On the Isle of Skye the sea hits the Talisker with its iodized perfumes" and the movement of the sea with its spray, foam, iodized perfume, ebb and flow and its mighty force against the rock refers to sensations (view, smell, touch, hearing, taste and sensory-motricity) when JW advertising is understood by the code (graphics, signage, pictogram and logotype writing). But why such a small JW logo compared to the signage? Why so much emptiness between the extremities ?



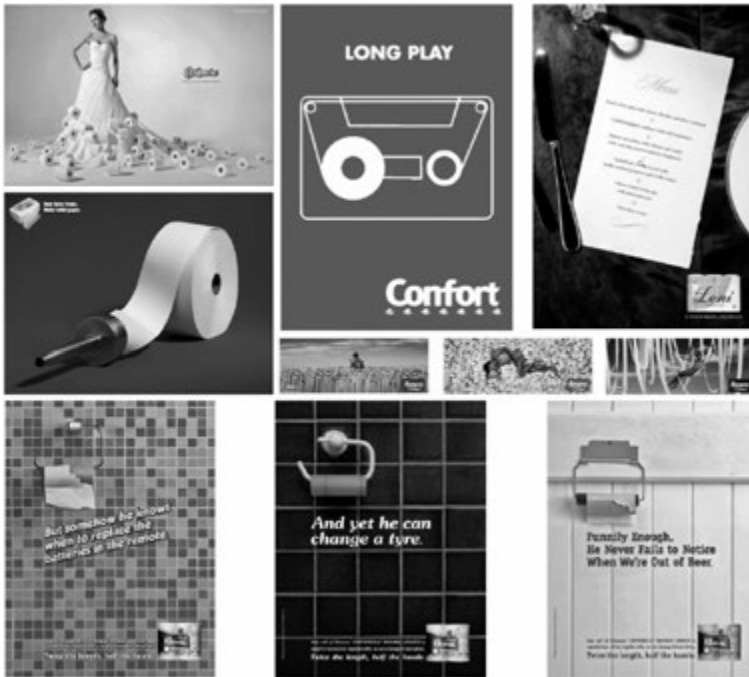
When we bring the character closer to the sign, we realize that what was the affirmation of a lifestyle (yes I am the Leader.) becomes contestation (no I am not like you). The contestation of the rules of life becomes the value and if the receiver becomes a buyer (after seeing this ad, he decides to buy a JW bottle), he becomes also transgressive (I am not like you). In other words, in that case, with distance difference becomes independence. Usually in communication, saying that one is different is nothing more than the affirmation of a basic semiotic rule : meaning arises from differences. If a brand asserts itself as different, it does not pose any value, but underline a necessity to produce meaning. In terms of marketing positioning, we could deduce that the heart of the target is not young people, the population most prone to transgression in hard liquor market.

When the proportions are changed, there again the meaning risks being reversed; what was of the order of the rule of life (the arrow) for all (the anonymous) which drowns everyone in the mass, becomes the way to follow to avoid being a follower. No interest for the brand to be devalued in this way.

As for the change of the proportion two-thirds above the yellow line and one-third below to one-third and two-thirds, the meaning of alive is converted into dead; the yellow line which is the road on which the character «keeps walking» what is below is buried, inert or worthless. Giving importance (2/3) to this part is equivalent either to diminishing the living or to valuing death. Which seems relatively dangerous for an alcohol ad.



6. The GTM applied to Kleenex ad



By paraphrasing Saussure⁹, we will say that in a language there are only differences and the meaning is born from these. To find the meaning probably shared by the greatest number of people, we look for these differences and in particular for the oppositions. An opposition is a relationship between at least two elements, but often one of them is missing without preventing meaning from occurring. At the figurative level we combine the differences to convert them into different meaning units that we associate, then into a theme at the thematic level and then at the axiological level into value. We convert the whole into a value, to

valorise the product or the service. A value allows a subject to promote his actions (purchase or membership). This method of analysis makes it possible to work on large corpuses when intuitively guessing each advertising document is a real challenge. The ad below is taken from a corpus of similar English ads.



Description: A mosaic of tiles approximately two by two centimeters in a shades of four blues ranging from light to medium value. A fairly wide photographic framing with, at the top left, a stainless steel-coloured tubular metal toilet paper dispenser on which a finished roll is threaded. We therefore see the structure and the roller "lost" in a large mosaic surface. A single Linear typographic family¹⁰ is used in primary yellow. Written below the dispenser the catchphrase "but somehow he knows when to replace the batteries in the remote". This one is ultra-fat italicized with a diagonal navy blue shaded outline. It is the only diagonal graphic element of this rectilinear advertising where everything is square. Bottom right the front of a packaging of four rolls marked Kleenex. It is preceded by the baseline "twice the length, half the hassle". Just above the mosaic justified along the length and for a third of the height of the baseline an explanation

barely legible despite the navy blue shading "one roll of Kleenex Cottonelle double length is equal to two of Our regular rolls, so you change it less often".

⁹ Saussure F., *Cours de linguistique générale*, Paris, Payot, 1971, p.166.

¹⁰ AFNOR, *Technologie graphique. Nomenclature illustrée des familles de caractères. Classification de Maximilien Vox*, Paris, NF Q60-007, 1977.



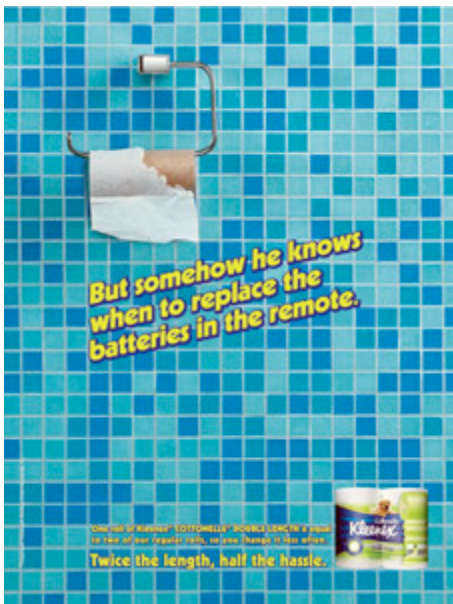
GTM OF KLEENEX ADVERTISEMENT

FIGURATIVE LEVEL

1. Photographic-actualisation (/Graphic-virtual design) = plausible reality
2. Mosaic+blue+dispenser (/other coverings+color+object) = room of water
3. [2]+dispenser visible structure (/dispenser with cover and frame) = private toilet
4. [2+3]+catchphrase = room for hygiene in private housing
5. [4]+toilet paper roll+mosaic (/hand basin+mosaic) = personal hygiene (/public)
6. Toilet paper dispenser/"batteries...remote" = natural need / technical need
7. Slogan speaker/subject he in the slogan = woman (W) / man (M)
8. [5+6+7]+catchphrase = Intimate hygiene = natural need = W skill
9. [5+6+7]+catchphrase = technical need = M skill
10. [8+9]+«but somehow» = W skill / M skill
11. [1]+empty wall+end of toilet paper roll = no toilet paper reserve
12. [1+11]+large framing = lack = unpleasant initial situation
13. [1to12]++packshot+"twice the length, half the hassle" = the product is the solution

THEMATIC LEVEL : Distribution of household chores

AXIOLOGICAL LEVEL : Critical valorisation



The theme of the ad could be expressed as the conventional division of household chores. This sharing would make the woman responsible for maintenance and logistics of household when the man would be the technophile able to change the batteries of the remote control... By the presence of the "he knows" in the catchphrase, the brand gives a woman point of view and relates an inequality between men and women. Attached to the visual, the plastic formants of the slogan tell of an unpleasant initial situation (size+outline +shading+location+diagonal position). The proposed product would be the practical solution to this dysphoric situation for women.

The advertisement's baseline "twice the length, half the hassle" establishes a link between the quantity of paper delivered and the quality of the partners' relationship; the "he"

in the catchphrase and the presupposed "she" telling the catchphrase. Here the paper length, in other words the quantity, is the sold quality of the product. The brand does not question the belief that women are in charge of household chores, but offers them a product that meets a natural need and reduces the risk of arguments. By giving the female gender to the enunciator of the catchphrase "but somehow he knows when to replace the batteries in the remote" the brand uses a feminine position. She splits the receivers into female and male; and Kleenex offers an alternative (a) without humor or (b) with. For all receivers who may or may not perceive humor, the brand avoids insulting men. Through its product, Kleenex offers help to women. For this the brand



affirms a competence, understanding and, performance, the creation of a toilet paper roll twice as long which allows more carelessness. A conventional brand that does not claim to change the relationships and vision of men and women, but to be useful in certain situations.

About critical valorisation: to be critical is to establish a comparison between several elements to give them a value; for example, to go to the cinema, we evaluate the pleasure that we think we derive from the film, the pleasure of going there with such and such a friend, the money, the time spent, etc. When we establish a relationship between elements of a different nature for an evaluation, we enter into a comparative and evaluative critical logic.

From the information provided by the GTM we can reasonably give some probable characteristics of this woman: conventional and critical, but pragmatic with one or more outside occupations, a job or other. She thinks of use for the toilet paper roll and values functionality more than aesthetics; she would choose paper that was scented or matched the color of her toilets. Comfort is less important than practicality.

7. The GTM applied to McDonald advertisement



Description: in the background a beige wall with a metallic gray "M". As this is an ad we can assume that this "M" represents the brand. A young couple is in a loving embrace. In the foreground a person dressed in black from head to toe, seated on a bench and ready to eat. She is facing a tray of food that levitates. No detail reveals a woman so this person is a man. He has his fists clenched on the table and, by his posture and position, expresses a concentrated gaze on the set. His all-black costume consists of a long cape, a helmet-mask, gloves and a control panel breastplate. The helmet-mask fully covers his head and neck. The open face is protected on the forehead and sides. The mask does not follow the contours of the face and looks a bit like a grille. The costume leaves the man with something human (flexible materials, arms, hands, cape) and dehumanizes him with its robot aspect (helmet, mask, control plate). The character is Darth Vader from the Starwars saga. The tray says almost nothing about what is eaten apart from the fries. There is no

promotion on this or that dish or formula, also the ad does not sell a specific product or meal. The advertisement could propose a style of food consumption, but if we take into account the catchphrase "come as you are" it is rather a style of relationship with others or even a lifestyle.



GTM 1 OF MCDONALD ADVERTISEMENT

FIGURATIVE LEVEL

1. M+wall+logo+table+bench (/deco+furniture style) = private space open to the public
2. Table+bench+tray+Logo (/other furniture) = catering
3. Young people + restaurant + hug (/old couple + restaurant) = private behavior
4. [1+2+3] = private relationship+public space (/private relationship+private space) = past conventional limit = threshold of acceptability (provocation, transgression)
5. [4]+people+reality+character+levitation board = incongruity
6. [2+3+4+5]+[Private/public]+[reality/fiction] = attenuation of transgression
7. M = place of acceptance of these behaviors

THEMATIC LEVEL : At McDonald's we don't care what people say

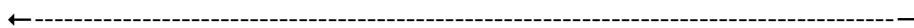
AXIOLOGICAL LEVEL : freedom valorization (come as you are)

We thus arrive at the catchphrase come as you are (GTM1); but does the advertising stop there? If so, the thematic level is «at McDonald's we don't care what people say»; the axiological level is «freedom»; that is to say, be yourself or have behaviors different from those generally practiced in a restaurant. Indeed, the advertisement articulates a private behavior (the loving embrace) in a space open to the public (restaurant); in this type of place, by convention, we expect behavior that does not fall within the realm of intimacy. We can therefore imagine an axis with a very formal meal at the extreme and a totally particular «delusional» meal at the other (see below); and between these extremes, a gradation of various meals. But why this character? Why Darth Vader rather than Yoda, Obi-Wan Kenobi, Mickey, etc. ? What does Darth Vader represent?

RESTAURANT BEHAVIORS (come as you are)

Normal situation

Particular situation



Private behavior + Private space
 Public behavior + Public space
 Conventional meal - boring - rules of life

Private behavior + Public space
 Public behavior + Private space
 informal meal - delusional - lifestyle

Darth Vader is a character from the Star Wars saga, a cultural reference for several generations. He embodies evil (the dark side of the force). He has an iron will that gives his powers great intensity. He has the same powers as the Jedi like Yoda and Obi-Wan Kenobi, but his determination gives them more strength. His determination is as if focused on an objective (Evil) when the determination linked to the Jedi (Good) seems diffuse. In Star Wars saga the Jedi react to the Darth Vader acts; they don't try to change reality but Darth Vader does. It is essentially this image of being extremely willful (focusing) that is used to enhance the brand's products (willingness represented by: body posture, closed fists, resting on the table, head bearing, etc.). The more he wants the food, the more desirable it becomes. The more he expresses his will, the darker the character and the worse he is, the more he lends flavor to the products, because we cannot imagine such a strong being eating bland food (tasteless); but materialized by the fictional character, out of its context therefore, its dark side remains virtual when the taste is actualized,



materialized by the product in situation. The flying tray is a sign of his will while allowing to give a certain lightness to the food.

GTM 2 OF MCDONALD ADVERTISEMENT

FIGURATIVE LEVEL

8. Photo+Darth Vader+actualisation (Mickey+fantastic+virtualisation) = possible future reality
9. [8]+Silhouette+arms+hands+soft+cloth+cape = human
10. [9]+Black+helmet+mask (/white+face) = evil
11. [9+10]+Close+fists+concentration+dark = passion
12. Helmet+mask+faceless+rigid+keyboard+metal = android
13. [9-12] = cyborg (to be half-flesh half-machine)
14. [9-13]+a being of flesh+machine corseted = passionate cyborg
15. [9+10+11]+Posture+position+directed gaze = intensity (concentration)
16. [9+10+11+14+15]+levitation = strong oriented will
17. [1-16]+product = desired taste

THEMATIC LEVEL : Whatever people say about McDo come and taste our dishes

AXIOLOGICAL LEVEL : pleasure valorization



8. General conclusion

In the first chapters we have exposed the main elements of a design project context, the mechanisms underlying the design which can be improved when the designer becomes aware of them, then, the concepts, tools and methods of the human sciences which largely participate in the design development process. For the last phase when the design is transformed into realization, it seemed fundamental to introduce tools of semiology applied to design.

The semiotics presented here is part of the approach of the school of Paris. It is a theory and a method for exploring the manifestations of meaning. It is postulated that any design consists of an expression plan in relation to a content plan. The relationship between these two plans is conditioned by codes and depends on the receiver who defines what belongs to one and the other. As design mixes several languages, both sensitive and intelligible, the large number of possible combinations within expression plan, content plan and between these two plans constitutes heterogeneities that are sources of confusion and loss of meaning. Semiology applied to design helps the designer to solve them and to better control the relevance of the creations.



After a short history of semiotics from its origins to its latest advances, we presented the links it has with design. The latter, a meliorative perspective and provocative of valorization, builds semantic and syntactic relations between the elements that it associates. In order to learn how to handle them, we developed several models that we applied to various designs. These models fit into three trajectories of meaning: the generative trajectory of meaning, usage as a process of accommodation, and design as a sensory trajectory. Although the combination of these trajectories is left to the free will of the user; the designer is in charge of their respective compositions and organizations as well as their general interweaving. This allow the orientation towards a fully satisfactory use of design. Each trajectory sheds light on a design. In this framework of analysis, we have broken down this or that design by following all or part of these paths; but in the end it is a question of bringing them together in order to best resolve the heterogeneities consubstantial with the design in order to increase its relevance and coherence. All this with the aim of improving the life of the user.

Guibourgé Jérôme, Design phase 1, améliorer sa conception, L'Harmattan, Paris, 2021.



Bibliography :

- Adler M. et Ziglio E., *Gazing into the oracle: Delphi method and its application to social policy and public health*, London, JKP, 1996.
- Alexandre L., *La guerre des intelligences*, Paris, Lattès, 2017.
- Almeida N. et Libaert T., *La communication interne de l'entreprise*, Paris, Dunod, 2010.
- ANDERSON C. (2008), *The end of theory: the data deluge makes the scientific method obsolete*. <http://goo.gl/zqcxLv> (5/4/2013).
- Argyris M. and Schön D., *Theory in Practice. Increasing professional effectiveness*, San Francisco, Jossey-Bass, 1974.
- Arnoux F. (2013), *Modéliser et organiser la conception innovante : le cas de l'innovation radicale dans les systèmes d'énergie aéronautiques*. <https://pastel.archives-ouvertes.fr/pastel-00820633>
- ARROW, K.J. & DEBREU, G., «Existence of an equilibrium for a competitive economy» in *Econometrica*, vol. 22, n°3, Amsterdam, 1954, pp. 265-290.
- Attias-Donfut, *Sociologie des générations, l'empreinte du temps*, Paris, PUF, 1988.
- Aubert N., Gruère J.-P., Jabes J. et al., *Management, aspects humains et organisationnels*, Paris, PUF, 2002.
- Augustinova M., Oberlé D., *Psychologie sociale du groupe au travail : Réfléchir, travailler et décider en groupe*, Louvain-la-Neuve, de Boeck, 2013.
- BACQUÉ, M.-H., REY, H. & SINTOMER Y., *Gestion de proximité et démocratie participative*, Paris, La Découverte Recherches, 2005.
- Balas-Chanel A., «Aider à apprendre : métacognition et explicitation» in *Apprendre et comprendre, place et rôle de la métacognition dans l'aide spécialisée*, Paris, Retz, 2016.
- Bales R., *Personality and interpersonal behavior*, New York, Holt, Rinehart & Winston, 1970.
- Barmby T., Eberth B., Hoi Yan M. A. A., « Things Can Only get Worse?: An Empirical Examination of the Peter Principle », in *University of Aberdeen Business School Working Paper Series*, vol. 05, CELMR, 2006.
- Baron-Cohen S. et al., «The "Reading the mind in the eyes" test revised version: a study with normal adults, and adults with asperger syndrome or high-functioning autism», in *JCPP* vol. 42, n°2, Londres, ACAMH, 2001.
- BARTHES R., Rhétorique de l'image, in *Communications* n°4, Paris, Seuil, 1964.
- BASSO P., *Sémiotique de la photographie*, Limoges, PULIM, 2011.
- BAUDRILLARD, J., *Le système des objets*, Paris, Gallimard, 1978.
- BAUDRILLARD, J., *La société de consommation*, Paris, Gallimard, 1996.
- Beaty R. E. et al., «Creative cognition and brain network dynamics», *Trends in Cognitive sciences* n°20-2, New York, Elsevier, 2016.
- Beaty R. E. et al., «Driving the brain towards creativity and intelligence: a network control theory analysis», in *Neuropsychologia*, New York, Elsevier, 2018.
- Beaty, R. E. et al., «Default and executive network coupling supports creative idea production», in *Scientific Reports 5 : 10 964*, Cham, Springer Nature, 2015.
- Beck F. et al., «Les niveaux d'usage des drogues en France en 2014», in *Tendances Baromètre santé*, Saint Denis, OFDT, 2014.
- Belleghem L., *Simulation organisationnelle : innovation ergonomique pour innovation sociale*, consultée le 13/02/2020. http://ergonomie.cnam.fr/equipe/van_belleghem 2012
- BENSE, M., *Zeichen und Design. Semiotische Ästhetik*, Baden-Baden, Agis, 1971
- BENSE, M., *Aesthetica – Introduction à la nouvelle esthétique*, Paris, Cerf, 2007.
- Berbaum J., *Développer la capacité d'apprendre*, Paris, ESF, 1991.
- BERTIN E., «Image et stratégie» in *Question de sémiotique*, Paris, PUF, 2002.
- BEYAERT-GESLIN A., *Sémiotique du design*, Paris, PUF, 2012.
- Bidalon P., *La grande distribution, plus grande cave à vin de France*, en ligne le 20/03/2019. https://www.lexpress.fr/tendances/vin-et-alcool/la-grande-distribution-plus-grande-cave-a-vin-de-france_1941686.html
- BIGLARI A., *Valeurs. Aux Fondements de la sémiotique*, ouvrage collectif sous la direction d'Amir Biglari, Paris, L'Harmattan, 2015.
- Bolger F. et Wright G., «Assessing the quality of expert judgment» in *Decision support systems*, vol. 11-1, London, JKP, 1994.
- BORDRON J.-F., *L'icônicité et ses images*, Paris, PUF, 2011.
- BOUGNOUX D., «Les territoires de la communication» in *Communication, états des savoirs*, Sciences Humaines, Paris, 1998.
- Boussières J. B., *Expression du besoin et cahier des charges fonctionnel*, Paris, Afnor, 2013.
- Bourdillon F. «Éditorial. Alcool et réduction des risques» in *BullEpidémiol Hebd* (5-6):88-9, 2019, http://invs.santepubliquefrance.fr/beh/2019/5-6/2019_5-6_0.html
- BRENTANO F. (2008), *Psychologie du point de vue empirique*, trad. fr. par M. de Gandillac révisée par J.-F. Courtine, Paris, Vrin, 2008.
- BRONCKART, Jean-Paul, *Théories du langage : une introduction critique*, Liège, Mardaga, 1995.
- BROWN A. D., STACEY P. & NANDHAKUMAR J., «Making sense of sensemaking narratives» in *Human Relations* 61 (8), London, Sage, 2008.
- Brown T., *L'esprit Design*, Montreuil, Pearson, 2014.
- BROWN, T.(2006), «Innovation through design thinking», conférence au MIT. <http://goo.gl/eBmaBm>
- Brynjolfsson E., «Strength in Numbers: How Does Data-Driven Decisionmaking Affect Firm Performance?», en ligne. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1819486
- Brynjolfsson E., McAfee A., *The second machine age: work, progress, and prosperity in a time of brilliant technologies*, New York, Norton, 2017.
- Byrne M., *Attack Targets Automatic Speech Recognition Systems*, motherboard.vice.com, 31/01/2018. <https://goo.gl/ZnNvVc>
- Wills C. H. et al., *Henry Ford and Grass-roots America*, Ann Arbor, UMP, 1972.
- CABIN P. & DORTIER J.-F., *Communication, états des savoirs*, Paris, Sciences Humaines, 1998
- CABIN P. & DORTIER J.-F., *Communication, états des savoirs*, Paris, Sciences Humaines, 2008.
- Cahen P., *Signaux faibles, mode d'emploi. Déceler les tendances, anticiper les ruptures*, Paris, Eyrolles, 2011.
- CASSIRER Ernst, *La philosophie des formes symboliques*, Paris, Minuit, 1986.
- Cathelat B. (2008) *entretien avec M. Guillois & H. Kaufman* vidéo du 2/04/2008. <http://mickaelguillois.typepad.fr/mkgclient21/2008/04/bernard-cathela.html>
- CATHELAT, B., *Styles de vie*, Paris, Paris, Éditions d'Organisation, 1985.
- CERIANI G., *Marketing moving*, Paris, L'Harmattan, 2003.
- CHARRON, J.(1995), *Les médias et les sources : les limites du modèle de l'agenda-setting*. <http://goo.gl/Nyppoj>
- CHEN H., CHIANG R. H. L. & STOREY V. C., «Business intelligence and analytics: from big data to big impact» in *MIS Quarterly*, 36 (4), Minnesota, GSU, 2012.
- Conche M., «les limites du savoir», in *à quoi sert le savoir*, Paris, PUF, 2011.
- COURTÉS J., *Analyse sémiotique du discours*, Paris, Hachette, 2001.
- COUTTON D., «Quelle stratégie développer pour une communication Financière Réussie?» in *Décisions Marketing* n°50, Caen, EMS, 2008, pp. 71-73.
- CROSS, N., «Designerly ways of knowing: design discipline versus design science» in *Design Issues*, 17 (3), Cambridge, 2001.
- CROSS, N., «Forty years of design research» in *Design Research Quarterly*, Londres, DRS, January 2007.
- D'almeida N., *Les promesses de la communication*, Paris, PUF, 2012.



- Dalmasso C. et Sardas J.-C., *Simuler les dynamiques organisationnelles pour concevoir l'organisation. Comment retisser les liens entre stratégie, organisation et travail?*, 2018, consulté le 13/02/2020. <http://journals.openedition.org/activites/3147>.
- Damasio A. R., *L'erreur de Descartes : la raison des émotions*, Paris, Odile Jacob, 2010.
- Darley J. et Latané B., «Bystander intervention in emergencies : diffusion of responsibility», in *JPSP vol. 18-4*, Washington, APA, 1968.
- DARRAS B. & BELKHAMSA S. «L'objet et le cycle des habitudes et des changements d'habitudes» in *Objets & communication*, MEI 30-31, Paris, L'Harmattan, 2009, pp. 147-160.
- Daumal S., *Design d'expérience utilisateur : Principes et méthodes UX*, Paris, Eyrolles, 2018.
- Day S. G., Schoemaker P. J. H., *Peripheral Vision. Detecting the weak signals that will make or break your company*, Harvard, HBS, 2006.
- Décaudin J.-M., Igalens J. et Waller S., *La communication interne : stratégies et techniques*, Paris, Dunod, 2009.
- Dehaene S., *Apprendre ! : Les talents du cerveau, le défi des machines*, Paris, Odile Jacob, 2018.
- Dehaene S., *Apprendre à lire : Des sciences cognitives à la salle de classe*, Paris, Odile Jacob, 2011.
- DEMEULENAERE, P., *Homo oeconomicus, enquête sur la constitution d'un paradigme*, Paris, PUF, 1996.
- DENI M., *Les objets factitifs, les objets au quotidien*, NAS PULIM, Limoges, 2005.
- DENI M., «L'intervention sémiotique dans le projet : du concept à l'objet» in *Objets & communication*, MEI 30-31, Paris, L'Harmattan, 2009, pp. 87-97.
- Dickson A., «How we made the Dyson vacuum cleaner», in *The Guardian*, 24/05/2016.
- DORTIER J.-F., « Comment Internet a changé notre façon de penser ? » in *Communication, états des savoirs*, Paris, Sciences Humaines, 2008.
- Dromard T., « Les accrocs d'Abercrombie » in *Challenges* n°414, 2014.
- Durance P., *La Prospective stratégique en action*, Paris, Odile Jacob, 2014.
- DURAND J., « Rhétorique et image publicitaire » in *Communications* n°15, Paris, Seuil, 1970.
- DURKHEIM, É., «Communauté et société selon Tönnies» in *Éléments d'une théorie sociale*, Paris, Minuit, 1975, pp.383-390.
- EVERS, B.THOENES, C. et al., *Théorie de l'architecture, de la renaissance à nos jours*, Cologne, Taschen, 2015.
- Fasse D. et Schapiro-Niel A., *Marketing et communication : le mix gagnant : deux stratégies au service de l'entreprise*, Paris, Dunod, 2011.
- Festinger L., Pepitone A. et Newcomb T., «Some consequences of deindividuation in a group», in *JASP vol. 7-12*, 1952.
- FINDELI, A., «La recherche en design, questions épistémologiques et méthodologiques», Jollant-Kneebone (dir.), in *La critique en design. Contribution à une anthologie*, Nîmes, Chambon, 2003.
- FINDELI, A., «Le design, discipline scientifique ? Une esquisse programmatique» in *Communication aux Ateliers de la recherche en design*, Université de Nîmes, 13-14 nov, 2006.
- FINDELI, A., *Searching for design research questions: some conceptual clarifications*, Bloomington, iUniverse, 2010.
- FINDELI, A., *Discussion on projects by early stage and senior design researchers*, Bloomington, iUniverse, 2010.
- Fink A. et al., *Enhancing creativity by means of cognitive stimulation: Evidence from an fMRI study*, NeuroImage 52, New York, Elsevier, 2010, pp.1687-1695.
- Fink A. et al., «Stimulating creativity via the exposure to other people's ideas» in *Human Brain Mapping* 33 : 2603-2610, Hoboken, Wiley Periodicals, 2012.
- FISSETTE D. & FRECHETTE G., *Le legs de Brentano. À l'école de Brentano : De Würzburg à Vienne*, Paris, Vrin, 2007.
- FISKE, A.P., *Structures of social life : The four elementary forms of human relations*, New York, Free Press, 1991.
- FISKE, A.P., «The four elementary forms of sociality: framework for a unified theory of social relations» in *Psychological Review*, Washington, 1992, p.99.
- FLICHY P., « Utopies et innovations, le cas Internet » in *Communication, états des savoirs*, Paris, Sciences Humaines, 1998.
- FLICHY P., « Au cœur de l'imaginaire technique » in *Communication, états des savoirs*, Paris, Sciences Humaines, 2008.
- FLOCH J.-M., *Petites mythologies de l'œil et de l'esprit*, Paris, Hadès-Benjamins, 1985.
- FLOCH J.-M., *Identités visuelles*, Paris, PUF, 1995.
- FLOCH J.-M., *Sémiotique, marketing et communication*, Paris, PUF, 2005.
- FONTANILLE J., *Sémiotique et littérature*, Paris, PUF, 1990.
- FONTANILLE J., sous la dir. Hénault, « Sémiotique des passions » in *Questions de sémiotique*, Paris, PUF, 2002.
- FONTANILLE J., *Sémiotique du discours*, Limoges, PULIM, 2003.
- FONTANILLE J., *Soma et Séma*, Mouguerre, Maison & Larose, 2004.
- FONTANILLE J., *Pratiques sémiotiques*, Paris, PUF, 2008.
- Fontanille J., « communication du colloque la sémiotique stratégique : pour une extension du domaine d'intervention », Université de Limoges, Institut Universitaire de France, 2006.
- Frau-Meigs D., *Penser la société de l'écran. Dispositifs et usages*, Paris, PSN, 2011.
- Gaudin T., *2100 Récit du prochain siècle*, Paris, Payot, 1990.
- Gaudin T., *2100 Odyssée de l'espèce*, Paris, Payot, 1993.
- Gaudin T., *La prospective*, Paris, PUF, 2005.
- Getz I. et Carney B. M., *Liberté & Cie, Quand la liberté des salariés fait le succès des entreprises*, Paris, Flammarion, 2013.
- Gibbons S., *UX mapping methods compared: A cheat sheet*, NN/g, 5/11/2017, Online le 14/06/2018 sur www.nngroup.com.
- Giully E., *La communication institutionnelle : le manuel des stratégies*, Paris, PUF, 2009.
- Godet M. et Durance P., *La prospective stratégique*, Paris, Dunod, 2011.
- Godet M., « Méthodes des scénarios » in *Futuribles* n° 71, Paris, 1983.
- Godet M., *Manuel de prospective stratégique*, Paris, Dunod, 2007.
- GREIMAS & COURTÉS, *Sémiotique dictionnaire raisonné de la théorie du langage*, Paris, Hachette, 2003.
- GREIMAS A. J., *Du sens I*, Paris, Seuil, 1970.
- GREIMAS A. J., *Du sens II*, Paris, Seuil, 1983.
- GREIMAS A. J., *Sémantique structurale*, Paris, PUF, 2002.
- GREIMAS, A.J. & COURTÉS, J., *Sémiotique Dictionnaire raisonné de la théorie du langage*, Paris, Hachette, 1993.
- GROS, J., « Sinn-liche Funktionen im design. Form » in *Zeitschrift für Gestaltung*, 74, 6-9, 1976.
- GROS, J., « Reporting Progress Through Product Language » in *Innovation, The Journal of the Industrial Designers Society of America*, Herndon, 1984.
- GROUPE μ, *Traité du signe visuel*, Paris, Seuil, 1992.
- Guibourgé J. & Moutat A., «Comment le design intuitif communique-t-il?» in *Design et communication*, MEI n°40, Paris, L'Harmattan, 2017.
- Guibourgé J. et al., «L'entreprise entre valeurs techniques et valeurs sociales», in *Valeurs. Aux Fondements de la sémiotique*, Paris, L'Harmattan, 2015.
- Guibourgé J. et al., «Objets, culture, valeurs et marque», in *Objets & Communication*, MEI 30-31, Paris, L'Harmattan, 2009, pp. 305-314.
- GUIBOURGÉ, J., *Analyse sémiotique de l'humour en publicité*, Louvain-la-Neuve, Academia, 2018.



- Hackman J. R. & Morris C. G., « Group tasks, group interaction process, and group performance effectiveness » in *Small groups and social interaction, Vol. 1*, Chichester, Wiley, 1983, pp. 331-345.
- HALL, E.T. (1971), *La dimension cachée*, Paris, Point Seuil.
- Heller T., Huët R. et Vidaillet B., *Communication et organisation*, Villeneuve d'Ascq, Presses universitaires du Septentrion, 2013.
- HENAUT A., *Le pouvoir comme passion*, Paris, PUF, 1994.
- HENAUT A., *Questions de sémiotique*, Paris, PUF, 2002.
- HENAUT A. & BEYAERT A., *Ateliers de sémiotique visuelle*, Paris, PUF, 2004.
- HILLIER, B., « La morphologie de l'espace urbain : l'évolution de l'approche syntaxique », in *Architecture & Comportement*, Lausanne, vol. 3, N° 3, 1987.
- HILLIER, B. (2011), « Is architectural form meaningless? A configurational theory of generic meaning in Architecture, and its limits » in *The Journal of Space Syntax, vol. 2, n°2*, London. <http://goo.gl/H00BW1>
- HILLIER, B. (2012), « Normalising least angle choice in Depthmap and how it opens up new perspectives on the global and local analysis of city space » in *The Journal of Space Syntax, vol. 3, n°2*, London. <http://goo.gl/H00BW1>
- HJELMSLEV, L., *Principes de grammaire générale*, Copenhague, Munksgaard, 1968, p.24.
- Hodgkinson, G. P., «Intuition: A fundamental bridging construct in the behavioural sciences» in *British Journal of Psychology, 99.1*, Hoboken, Wiley, 2008.
- Houdé O., *Apprendre à résister*, Paris, Le Pommier, 2014.
- Inserm, sous la dir. BRÉCHOT C., «Dimensions historiques, culturelles et sociales du boire» in *Alcool. Dommages sociaux, abus et dépendance*, Paris, Inserm, 2004.
- IPSOS Santé (2012). <http://www.netpublic.fr/2012/04/portrait-de-la-generation-c-hyperconnectee-et-en-contact-continu>
- JAMET T., *Les nouveaux défis du Brand Content*, Paris, Pearson, 2013.
- Jencks, C., *Mouvements modernes en architecture*, Bruxelles, Mardaga, 1973.
- Joannès A., *Communiquer par l'image : valoriser sa communication par la dimension visuelle*, Paris, Dunod, 2008.
- Johnson G et al., *Stratégie*, Londres, Pearson, 2017.
- Journet N., *Communication, états des savoirs*, Paris, Sciences Humaines, 2008.
- Kahneman D., *Système 1 / Système 2 : Les deux vitesses de la pensée*, Paris, Flammarion, 2016.
- Karau S. J. & Williams K. D., «Social loafing: a meta-analytic review and theoretical integration» in *JPSA vol.65-4*, Washington, APA, 1993.
- Kim K. H., «Can we trust creativity tests? A review of the Torrance Tests of Creative Thinking» in *Creativity Research Journal vol. 18, n° 1*, Abingdon-on-Thames, Routledge, 2006.
- Krauth-Gruber S., «La régulation des émotions» in *Revue électronique de Psychologie Sociale n°4*, Paris, RePS, 2009.
- LANDOWSKI E. «Régimes de sens et styles de vie» in *Actes Sémiotiques 2012, n°115*, en ligne. <http://epublications.unilim.fr/revues/as/2647>
- LANDOWSKI É., *La société réfléchie*, Paris, Seuil, 1989.
- LANDOWSKI É., *Passions sans nom*, Paris, PUF, 2004.
- Landowski É., *Les interactions risquées*, Limoges, PULIM, 2006.
- Langard E. et Eiglier P., *Servuction : le marketing des services*, Cachan, Ediscience International, 1987.
- Lazear E. P., « Salaire à la performance : incitation ou sélection » in *Économie & prévision, n°164-165, 3-4*, Économie des ressources humaines, 2004.
- Le Masson P., Weil B. & Hatchuel A., *Les processus d'innovation. Conception innovante et croissance des entreprises*, Paris, Hermès-Lavoisier, 2006.
- Lebon G., *Psychologie des foules*, 1895, Paris, Alcan, en ligne. <https://goo.gl/5jhTXd>
- Léger J.-Y., *La communication financière. Bâtir et mettre en œuvre une stratégie de communication financière*, Paris, Dunod, 2008.
- LEROI-GOURHAN, A., *L'homme et la matière*, Paris, Albin Michel, 1971.
- Libaert T., *Communication et environnement, le pacte impossible*, Paris, PUF, 2010.
- Libaert T., *Le plan de communication : définir et organiser votre stratégie de communication*, Paris, Dunod, 2010.
- Lotman I., *La sémiosphère*, Limoges, PULIM, 1998.
- Lubart T. et al., *Psychologie de la créativité*, Paris, Armand Colin, 2015.
- LYCETT M., «Datafication: making sense of big data in a complex world» in *European Journal of Information Systems 22*, Birmingham, The OR Society, 2013.
- Malaval P., Décaudin J.-M. et Benaroya C., *Pentacom : communication corporate, interne, financière, marketing b-to-c et b-to-b*, Paris, Pearson Education, 2009.
- MALINOWSKI, B., *Les Argonautes du Pacifique occidental*, Traduction A. et S. DEVYVER, Paris, Gallimard, 1963.
- MATTELART A., « Vers la communication-monde » in *Communication, états des savoirs*, Paris, Sciences Humaines, 1998.
- MAYER-SCHONBERGER V. & CUKIER K., *Big Data: A revolution that will transform how we live, work, and think*, New York, Dolan & Harcourt, 2013.
- Moral M. et Henrichfreise S., *Coaching d'organisation : Outils et pratiques*, Paris, Dunod, 2018.
- MIEGE B., « Nouvelles technologies, nouveaux usages ? » in *Communication, états des savoirs*, Paris, Sciences Humaines, 2008.
- MIT (2014). <http://hd.media.mit.edu/TechnicalReportsList.html>
- Moinet N., *Intelligence économique, mythes et réalités*, Paris, CNRS, 2011.
- Montbrial T., «Stratégie» in *Dictionnaire de Stratégie*, Paris, PUF, 2000.
- Moreira E., « Le Viagra, la machine à cash de Pfizer, a 20 ans » in *Les Échos*, Paris, 2003, article en ligne retiré le 16/05/18.
- Morel C., *Les décisions absurdes I, sociologie des erreurs radicales et persistantes*, Paris, Gallimard, 2002.
- Morel C., *Les décisions absurdes II, et comment les éviter*, Paris, Gallimard, 2012.
- Morel P., *La communication d'entreprise : un parcours concret de l'externe à l'interne à travers la méthodologie et les techniques les plus récentes*, Paris, Vuibert, 2009.
- MOUTAT, A. (2009), «Les packagings : entre passions et esthésies» in *Actes Sémiotiques, n°112*. <http://goo.gl/Kkn8zF>
- MUCHIELLI A., *Les sciences de l'information et de la communication*, Paris, Hachette, 2001.
- Noel B., Cartier S., *De la métacognition à l'apprentissage autorégulé*, Louvain-la-neuve, De Boeck, 2016.
- Normand J.-M., « Renault Avantime, un glorieux ratage » in *Le Monde.fr*, avril 2017.
- NOVA, N., LÉCHOT HIRT, L., KILCHÖR, F. & FASEL, S., «De l'ethnographie au design, du terrain à la création : tactiques de traduction» in *Sciences du design*, mai, Paris, PUF, 2015.
- Ollila J., Saukkomaa H., *Mahdoton menestys*, Helsinki, Otava, 2013.
- OWEN, C., «Design Thinking: notes on its nature and use» in *Design Research Quarterly*, Londres, DRS, January 2007.
- Page S. E., *The difference: how the power of diversity creates better groups, firms, schools, and societies*, Princeton, PUP, 2007.
- Pasquino P., «Le principe de majorité : nature et limites», in *La vie des idées*, 2010, en ligne. <https://goo.gl/a7TZtE>
- Pasquino P., «Voter et délibérer», in *Revue européenne des sciences sociales n°45*, Genève, Droz, 2007, pp. 35-45.
- Péché JP, Micyeville F et Gaultier R, « Design Thinking : le design en tant que management de projet » in *Entreprendre & Innover 2016/1 n° 28*, Paris, De Boeck Supérieur, 2016.



- PENINOU G., « Physique et métaphysique de l'image publicitaire » in *Communications n°15*, Paris, Seuil, 1970.
- Peter L. J. et Hull R., *Le Principe de Peter*, Paris, LGF, 2011.
- PETTITOT J., (2013), *Entretien en ligne*. <http://goo.gl/uvcnG5>
- Pintrich P. R. et De Groot E. V., «Motivational and self-regulated learning components of classroom academic performance», in *JEP vol. 82 n° 1*, Princeton, APA, 1990.
- Polanyi, M., *The Tacit dimension*, Chicago, UCP, 2009.
- Posner M. I., «Orienting of attention» in *QJEP n°32*, Princeton, APA, 1980, pp. 3-25
- POSNER M. I. et PETERSEN S. E., «The attention system of the human brain», in *ARN n°13*, Palo Alto, 1990.
- POTTIER B., *Recherches sur l'analyse sémantique en linguistique et en traduction*, Nancy Université, 1963.
- Poulain J.-P., *Dictionnaire des cultures alimentaires*, Paris, PUF, 2012.
- Propp V., *Morphologie du conte*, Paris, Seuil, 1970.
- Raynaud C., Engel-Gerhardt T. et Nazareno E., «*Pauvreté, inégalités économiques et disparités de santé : conditions de vie et stratégies d'acteurs*», 2002, consulté le 19/04/2018. <http://journals.openedition.org/faceface/489>
- Redelmeier D. A. et Kahneman D., «Patients' memories of painful medical treatments: real-time and retrospective evaluations of two minimally invasive procedures», in *Pain vol. 66, n° 1*, Washington, IASP, 1996.
- Richard J.-F., «Seuil, psychophysique» in *Encyclopedia Universalis*, consulté le 28/03/2019. <http://www.universalis.fr/encyclopedie/seuil-psychophysique/>
- Ringland G., *Scenarios in business et Scenarios in public policy*, Chichester, Wiley & sons, 2002.
- RITTEL, H.& WEBBER, M., «Dilemmas in a general theory of planning» in *Policy Sciences, vol.4*, Amsterdam, Elsevier, 1973.
- SALTZER, J.H., REED, D.P., CLARK, D.D., «End-to-end arguments in system design» in *Transactions on Computer Systems, vol. 2, n°4*, New York, ACM, 1984.
- Schaap J. I., « The Peter Principle: Is this Forty-Year Old Universal Phenomenon in Decline or Growing? » in *Public Leadership*, New York, Nova Science Pub, 2011.
- Schön D., *Beyond the Stable State. Public and private learning in a changing society*, Harmondsworth, Penguin, 1973.
- Schön D., *Educating the Reflective Practitioner*, San Francisco, Jossey-Bass, 1987.
- Schön D., *Le praticien réflexif. À la recherche du savoir caché dans l'agir professionnel*, Montréal, Logiques, 1997.
- SCHÖN, D.A., *The reflective practitioner: how professionals think in action*, New York, basic book, 1983.
- SCHREIBMAN S., SIEMENS R. & UNSWORTH J. (2004), *A Companion to Digital Humanities*, Oxford, Blackwell, sur <http://goo.gl/2wojU3>
- Schwab K., *How MIT Students Fooled A Google Algorithm*, fastco.design.com, 20/12/2017. <https://www.fastcompany.com/90155089/how-mit-students-fooled-a-google-algorithm>
- SEMPRINI A., *Le marketing de la marque*, Paris, Liaisons, 1992.
- Sensevy G., *Le sens du savoir*, Bruxelles, De Boeck, 2011.
- Silvia P. J. et al., «Assessing creativity with divergent thinking tasks» in *Psychology of Aesthetics, Creativity, and the Arts vol. 2, n° 2*, Washington, APA, 2008.
- Simon H., *Administrative behavior: a study of decision-making processes in administrative organization*, New York, Macmillan, 1947.
- Simonnet-Toussaint C., Lecigne A. et Keller P.-H., «les représentations sociales du vin chez de jeunes adultes : du consensus aux spécificités de groupes», in *Bulletin de psychologie 2005/5 n° 479*, Paris, GEPU, 2005.
- Siret D. & Balay O., «Qualité des ambiances et processus de conception : l'exemple des bureaux du nouveau palais de justice de Bordeaux», in *Cabier Ramau 5 La qualité architecturale. Acteurs et enjeux*, Paris, la Villette, RAMAU, 2009.
- Soriano S., «Il est temps de renverser les seigneurs de l'Internet féodal» in *Le Monde économie* du 05/07/2017, Paris, Le Monde, 2017.
- Starck P., «L'électron libre, entretien avec Nadine Eghels» in *Les dossiers de la Lettre de l'Académie des Beaux-Arts n°68*, Paris, 2012.
- STEFFEN, D.(2009), *Categorizing product meaning: an investigation into the product language of clothing and fashion*, document en ligne. <https://goo.gl/Uu3a6r>.
- STEFFEN, D., « Design Semantics of Innovation » in *Design Semiotics in Use, Publication Series A100, Aalto University, School of Art and Design*, Helsinki, 2010, pp. 82-110.
- SULLIVAN L. H., «The tall office building artistically considered» in *Lippincott monthly magazine*, Philadelphia, march 1896.
- Surowiecki J., *La Sagesse des foules*, Paris, Lattès, 2008.
- Swiners J.-L., *Le conundrum de l'innovation*, Nancy, Le cercle des Entrepreneurs, 2009.
- Thaler R. H. & Sunstein C., *Nudge : La méthode douce pour inspirer la bonne décision*, Paris, Pocket, 2012.
- The Royal Society, *Machine learning: the power and promise of computers that learn by example*, Londres, The Royal Society, avril 2017.
- Thuderoz C., *Décider à plusieurs*, Paris, PUF, 2017.
- Torrance E. P., *The Torrance Tests of Creative Thinking: norms technical manual*, Princeton, NJ, Personnel Press, 1966.
- Urfalino P., «Les conditions de l'obligation majoritaire. Règle de majorité et corps délibérant», in *Raisons politiques n°53*, Paris, PSP, 2014.
- Van Zanten A. Et Rayou P., *Dictionnaire de l'éducation*, Paris, PUF, 2017.
- Vaughan D., *The Challenger launch decision: risky technology, culture, and deviance at NASA*, Chicago, UCP, 1997.
- VIAL, S., *Court traité du design*, Paris, PUF, 2014.
- VIAL, S., «Qu'est-ce que la recherche en design ?» in *Sciences du design*, mai, Paris, PUF, 2015.
- Vidal J.-C. et Mudet P., *Communication financière*, Levallois, F.Lefebvre, 2011.
- VIHMA, S., *Products as representations. A semiotic and aesthetic study of design products, Publication Series of the University of Art and Design*, Helsinki, A14, 1995.
- Villani C., « Donner un sens à l'Intelligence Artificielle : pour une stratégie nationale et européenne » in *Rapport de la Mission parlementaire du 08/09/2017 au 08/03/2018*.
- Volcler J. et Stoichita V. A., «Armes sonores et musiques d'ambiance», in *Terrain 68*, Nanterre, CNRS, 2017.
- WALTHER, E.(2000), *Max Bense's Informational and Semiotical Aesthetics*, document en ligne. <http://goo.gl/oW6FDa>
- Woolley A. et al., «Evidence for a collective intelligence factor in the performance of human groups», in *Science 330*, Washington, AAAS, 2010.
- Wolton D., «Les sciences de la communication aujourd'hui» in *Communication, états des savoirs*, Paris, Sciences Humaines, 1998.
- World Economic Forum, *The Global Competitiveness Report 2016–2017*.
- ZILBERBERG C., *Éléments de grammaire tensive*, Limoges, NAS, PULIM, 2006.
- Zilberberg C., *Des formes de vie aux valeurs*, Paris, PUF, 2011.
- ZILBERBERG C. & FONTANILLE J., *Tension et signification*, Paris, Mardaga, 1998.
- ZINNA A., «à quel point en sommes-nous avec la sémiotique de l'objet» in *Objets & communication*, MEI 30-31, Paris, L'Harmattan, 2009, pp. 69-86.