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Lexical muse, musical dyslexia  
Research work in design,  
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*Be care full, you will be in sitaution of dyslxeia,  
desirebility that about 8% of the pupolation lives in  
their everyday life. Put fours consonants and four towels,  
add a power of alitération in [s], spread of complated  
leters and an-usual, a little bit of "y", a little of "x".  
Stir toghether, and the result will be a world that  
illustrate the complexity of this way to see the world.  
A word, with an image and pronounciation that is  
scraying, and that illustrate the idae of a dab pathology.  
But not at all, this word which seems without head  
neither foot is finally sample: a difference that is not  
to freat, but to under stand.*

A few lines are enough to understand the world of dyslexia by the demonstration of decoding. When I discovered what dyslexia was, what a surprise! It was surprising, almost magic to reverse letters, mix up sounds, create new words. This disability was all the more interesting since I wasn't concerned, so my idea of dyslexia wasn't frozen and I tried to understand it from all points of view. My research and the people I met helped me to understand dyslexia a little more everyday. Pieces of information are like a puzzle built constantly, the same as when a child decodes a text to create a complete image of it. I am not a speech therapist and don't pretend to be, but dyslexia is about breaking off communication. Speech therapists correct difficulties for dyslectics to communicate in a conventional way. But couldn't the real goal for a designer be to help to develop personal abilities of each dyslectic? Couldn't he help and be the link between dyslectic and non-dyslectic people?

My desire for this dissertation is to answer those questions and prove that designers have a place even in the medical field.

## INTRODUCTION

### PUT WORDS ON DYSLEXIA

#### **WHAT IS A DYSLLECTIC?**

Does society create numbers ?

Disabilities create inability to understand

An under-rated population

#### **IS THERE ANY SPECIFIC HELP?**

Some methods may accompany...

... Others may consider the learning process completely differently

### THE WAKENING OF SENSES

#### **TO SOLVE A HUMAN PROBLEM?**

Communication beyond typefaces:

thinking with gestures

Closeness with others thanks to gestures

#### **SEARCHING ALTERNATIVES IMPLIES KNOWLEDGE**

Visual expression of the sound

Signs to communicate better

Access to knowledge by multi-sensory experiences

#### **A DESIGNER IS AN INVESTIGATOR**

Working in the 21<sup>st</sup> century

What if dyslexia was a semantic problem and not a formal problem?

I am a designer, I restore communication between people

## CONCLUSION

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## ACKNOWLEDGEMENTS

## BIBLIOGRAPHY

**«Solidarity: any human group draws its wealth from communication, mutual aid and solidarity with a shared aim: the self-development of each person while respecting individual differences»**, Françoise Dolto.

Communication is the link for everyone by codes. But there is a boundary between dyslectics and the world, they are not integrated because their codes are not the same as the society's. It's also because dyslexia is not well known: 6 to 8% of the population is dyslexic according to the *Fédération Française des Dys* (the French Dys Federation). The system in France makes dyslexic people marginalized because of the learning process standards. An important loss of balance appears along school years for dyslexic children. So is it possible for a designer to restore the balance to helps dyslexic children in the learning process? I will begin to talk about dyslexia, explain what it is and what can be helpful. Then, my hypothesis is that the senses are fundamental in the learning process. A human and social question can be the heart of dyslexia, and the solution can be to seek alternatives to the access of knowledge. A sensory balance is necessary to understand the world and the others.

This understanding of the world can be transferred by different means of expression. In the Greek mythology, muses are the nine daughters of Zeus and Mnémosyne. They preside over the creation and liberal arts, give a language and poetical inspiration. They are intermediaries between artists and Gods through history, music, comedy, tragedy, lyric poetry and dance. Those are ways of communication and universal transmissions. A designer's role is to facilitate communication.

So could a designer be an intermediary between dys and their friends and family? This way, designers can be regarded as muses.

## WHAT IS A DYSLLECTIC?



### ***Does society create numbers?***

According to the French Federation of Dys, in France there are 6 to 8% of Dys. There are 4 to 5% dyslexic students in a class, 3% are dyspraxic, and 2% are dysphasic. No reliable studies can give an exact number of Dys in France. Every Dys has different degrees of disability. Dyslexia is a specific disorder of the writing and reading learning process. Etymologically and according to Alain Rey in *The historical dictionary of the French language*, Dys- comes from the greek «dus», which means «bad, a lack». The opposite is eu-, which means «perfection, achievement». «Lexia» means «speech, elocution, word».

Dys disorders have always existed. In 1896, the English doctor W. Pringle-Morgan detected for the first time a child who had all the specific disorders of dyslexia. This child, Percy, was 14 years old and according to his teacher ***«would have been the best student of his class if the education had been only oral»***. It was thought for a long time that it was a disease and a lot of children were in psychiatric hospital for mental deficiency. But dyslexia is not a disease, it's impossible to cure: it's only the brain that works differently.

### ***Disabilities create inability to understand***

Dyslexia causes an inability to understand the written language. There are decoding problems, auditive,



phonetic or visual confusions of letters. Victor Widell<sup>1</sup> created a website with dyslexia definitions, but it's clearly understandable by a non-dyslectic: it simulates what a dyslectic can see by the animation of letters, they change, they are replaced all the time and make the text unreadable. That is why dyslexic children read slowly, have problems to memorise, understand and sometimes, they can have dysgraphic, calculation or attention problems so it can be very complicated at school. Time and space are two concepts quite complicated for them to understand because they see the world differently: they see in 3D what is in 2D. That is why they reverse letters like «b» in «d», they make a mental rotation in space. This problem may come from an ancestral cognitive mechanism according to an article from the CNRS. Our brain can use the same mechanism to recognize letters and animals. But this mechanism permits us to identify dangerous animals fastly: *«a tiger is a tiger, even if it comes from the right or the left»*. This mental rotation is also visible when dyslectics draw something: their drawings are panoramic, when you join each side of the paper, it is a 360° view.

This inability to understand is also neurological. There are three fundamental zones concerned in the human brain • : one for the speech, one to recognize sounds, and one for letters. For a dyslectic, the speech zone is much more developed than the letter recognition zone. If at school, there are not enough tools to develop the two hemispheres, a dyslexic child will fail.

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<sup>1</sup> Victor Widell is a Swedish webdesigner. His dyslexia website is [geon.github.io/programming/2016/03/03/dsxylicia?utm\\_source=hackernewsletter&utm\\_medium=email&utm\\_term=featured](https://geon.github.io/programming/2016/03/03/dsxylicia?utm_source=hackernewsletter&utm_medium=email&utm_term=featured)

If the understanding of the brain requires a deep knowledge, does a designer have a role to play in this specific medical field?

## An under rated population

Who are these dyslexic people? Dyslexia can touch everybody in any social class or country. In 70% of cases, it is hereditary. But there are more French or English dyslectics than Italian or Spanish because those are transparent languages. So, if dyslexia is more obvious and visible according to the language, would it be possible to create a language that would eradicate those disabilities? Why should we correct dyslexic children if the language is the problem?

It is often said that there are more dyslexic boys than girls. But, Jean Paulhac,<sup>1</sup> in his book *L'enfant dyslexique, un élève qui s'ennuie*, proves the evolution of mentalities: between 1975 and 1995, the proportion of girls increased by 50%. More girls fail or seem to fail as they are taken into consideration by their families.

But if dyslectics are as intelligent as the others, why are they excluded from the system? This is a question of norms. In the movie *Freaks* ♦ by Tod Browning in 1932, the body is the main point, and these people can live as nonstandards with their own norms. For example, the man with no limbs lights a cigarette with his teeth. They adapt to their disabilities.

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<sup>1</sup> Jean Paulhac (1921 - 2011) was a teacher in physics and french writer.



To avoid this exclusion, Dimitri Bruni & Manuel Krebs in Norm Studio, with their project *Hints* + show the necessity to go beyond the standards. They created hints for each hand handicap. Norms have to be universal and for everyone. So a dyslectic must adapt to the norms or should norms be adapted to dyslectics? Could the codes be changed and adapted to dyslectics and non-dyslectics?

Dyslectics are under rated in everyday life, at school and at home. Support and help can be an ordeal for children and parents. To compensate, a lot of dyslectic develop gifts and they find a new language with creativity. Great personalities are dyslexic and known for their talents: writers like Hans Christian Andersen, scientists like Albert Einstein. They are also great speakers such as Winston Churchill, actors like Robin Williams, or film makers like Tim Burton (who is a partner of the association *Puissance Dys* by Béatrice Sauvageot<sup>1</sup>). They also create a new language by art, like Auguste Rodin or Léonard de Vinci, painter and musician. Music is very important for dyslectics, as for Ludwig Van Beethoven or Wolfgang Amadeus Mozart.

+ Hints project,  
Norm Studio, (page 21)



<sup>1</sup> Béatrice Sauvageot is a French speech therapist. She created the association *Puissance Dys* with Jean Métellus, doctor in neurologia and linguistics. She created the Béatrice Sauvageot™ method and tools for dyslectics reeducation.

## IS THERE ANY SPECIFIC HELP?

### *Some methods may accompany...*

When a child is identified as a dyslectic, it is most of the time at school. He can be sent to the school doctor, pass some tests, and then sent to a speech therapist. At school he can have some extra-time for his exams, have a computer, software with a vocal tool, and help from a person to write or correct faults. But the system is overall, there is no difference between such children if they are dyslexics or dyscalculics, and no common method is shared by teachers such as a color code or a typography. They can be in class, but not everything is done for them to feel at ease. At Maurice Genevoix middle school in Couzeix there are almost four dyslectics in each class, which is a good opportunity for them to be with others and not excluded. An AVS (an educational assistant) is available in each class to help them. But help is not a therapy, which is the speech therapist's job.

And what about designers? Their role is to communicate clear and efficient messages. School is a place of exchanges, but we never hear of any specific pictograms, colors or typography put in place by a designer. To support a dyslexic child, people (doctors, speech therapists, teachers, parents, designers...) around him have to work together to see everyone progress.

According to Béatrice Sauvageot, in her book *Adieu, la dyslexie !* when we separate a child from his parents for dyslexia tests, all the family become weak, vulnerable, worried and powerless. Depriving a family of their landmarks, is the best way to make the medical field

terrifying. Dyslexia is a vicious circle if communication is broken. So could a designer assist a speech therapist? Can he propose tools? But if those tools have to be efficient, they have to be efficient with the speech therapist and parents. Tools have to be a link between families and the medical sphere.

### **... Others may consider the learning process completely differently**

The learning process is not the same for dyslexic and non-dyslexic children. Most of the time there are two methods : the syllabic one (or b.a - ba method), and the global method one. For dyslexic children, when it doesn't work, the *Makaton* ♦ method is a solution. There are pictograms instead of words. But the problem is that concepts and complex words cannot all be represented and understood. Another very complete and efficient method is the *Borel-Maisonnny* ♦ method. It was created by Suzanne Borel-Maisonnny<sup>1</sup>.

This method develops the letter in the written form, the sound and an associated gesture. Created in 1949, it has never evolved and is still used by speech therapists. Like Maria Montessori<sup>2</sup>, Borel-Maisonnny proposed pedagogic tools, that are sensory and playful. Could games be the learning process heart? Pauline Kergomard<sup>3</sup> says:

<sup>1</sup> Suzanne Borel-Maisonnny (1900 - 1995), was a French phonetician and grammarian. She created tests, tools and wrote a lot of articles.

<sup>2</sup> Maria Montessori (1870 - 1952), was an Italian doctor and pedagogue, she created the Montessori pedagogy.

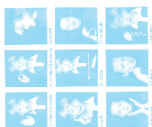
<sup>3</sup> Pauline Kergomard (1838 - 1925), was a French teacher.

**«the game, is the child's work, it's his job, his life».**

The game is a land of experimentations of reality and helps children to develop themselves.

Nowadays, dyslexia is visible by cerebral images which show the neurological difference in the brain working of dyslectics compared to non-dyslexic people. Some learning methods exist such as Borel-Maisonnny, but they evolve very slowly and can appear archaic. If dyslexic people find a language through arts and sciences, it is possible to ask the question: if the traditional code was different, could it be assimilated better? If the form produces a blockage for the dyslectic, so modifying the alphabet form could be a solution. But it is important for dyslectics to master their native language, they also have to master the ordinary language.

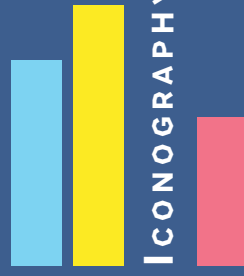
♦ Borel-Maisonnny method,  
(page 22)



♦ Makaton method  
(page 22)



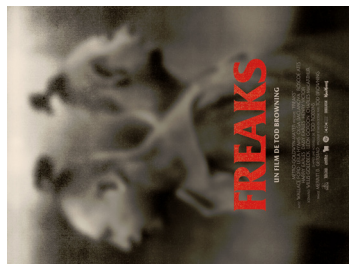




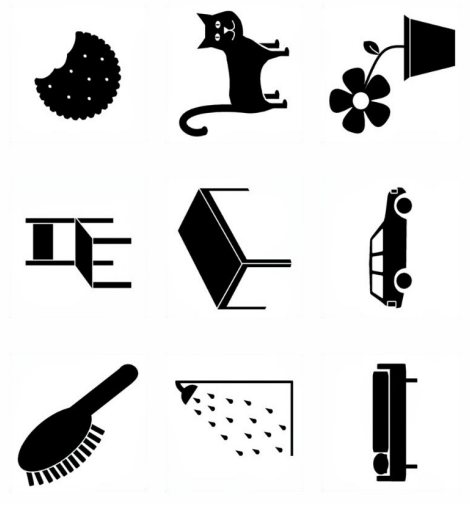


- TV programm *Les troubles DYS*,  
C'est pas sorcier, 24/06/2012, France 3.  
© C'est pas sorcier

- ♦ *Freaks* poster,  
film by Tod Browning  
1932.  
© Freaks



- + *Hints* project by Norm Studio.  
© Norm Studio



*Makaton method, 1973*  
by Margaret WALKER, British speech therapist.  
© Sclera



*Borel-Maisonnery method, 1949.*  
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## TO SOLVE A HUMAN PROBLEM?

### THE WAKENING OF SENSES

• The School of Athens  
Raphaël, (page 42)



### **Communication beyond typefaces: thinking with gestures**

According to the CNRTL (national center of textual and lexical resources) the word «motivation» means going forward and the action of moving. A gesture is a movement, and the use of the body is important for Béatrice Sauvageot. One of her methods for dyslectics is to walk while spelling a word and it works: moving helps them. Gestures could help to learn and understand the world around us. Vilém Flusser<sup>1</sup>, in his book *Les gestes, Al Dente + Aka VI*, shows that thought and gesture are inseparable: **«it is wrong to say that writing stabilizes the thought. Writing is a way to think. There is no thought without gestures»**. The fresco *The School of Athens* • by Raphaël painted in 1510 represents Platon, Aristotle and other thinkers of the Ancient days. When they thought, they moved. In this painting, their muscles are in tension, they walk, they speak, there are expressions on their faces. Nowadays, schools have chairs, moving and speaking are forbidden because it means inattention.

In the book *The Craftsman*, Richard Sennett<sup>2</sup> explains that «handmade things» are better for the learning process, as well as repetitions: **when you draw something, when you put lines and trees, it is engraved**

<sup>1</sup> Vilém Flusser, (1920 -1991) was a Czech philosopher, writer and journalist.

<sup>2</sup> Richard Sennett was an American sociologist and historian, writer and musician.

**in your head.** The more we repeat something by hand, the more we master it, the more we take pleasure in doing it and become confident. Making mistakes, beginning again helps to memorize. Can a designer restore a dyslexic child's pleasure to learn with new interactions linked to manipulation?

Gestures help to learn and understand the world, but it is also a way to communicate. Bruno Munari<sup>1</sup> worked on the gestures that give a rhythm to the Napolitans' conversations because they are very rich and make the conversation more precise. In *Supplemento al dizionario italiano (Extra charge to the Italian dictionary)*, in 1999, the gesture is an expressive way without boundaries.

Would a communication without movement and gesture be obsolete? The sign language exemplifies the fact that gestures are essential to comprehension. In the movie *The Miracle Worker*<sup>2</sup> Helen Keller was blind, mute and deaf and it is the real story of her life. Anne Sullivan, her teacher, helped her to communicate by the sense of touch. Hongtao Zhou, with his work *Textscape* ♦ created a typography in volume, it is accessible for blind and non-blind people. It enhances the experience of reading and helps to understand the text. So, could the designer's role be to find alternatives to ordinary reading?

♦  
Textscape  
Hongtao Zhou, (page 43)



<sup>1</sup> Bruno Munari, (1907-1998) was an artist, graphic designer, painter, educator and Italian art theorist.

<sup>2</sup> *The Miracle Worker*, American movie by Arthur Penn, 1962.

## Closeness with others thanks to gestures

The Borel-Maisonnny method provides everything we need to understand the letter in a global way. However, even if speech therapists use it, it is not conveyed in the best way: it has been made of black and white photographs since 1949. With this medium, there is a lack of sound, color, rhythm, and the gestures are complicated to understand. The method is lifeless. We could say that it has become archaic and infantilizing: the child needs an adult to learn this method, otherwise, it is too complicated. However, autonomy makes a child more confident and he needs to learn by himself. Béatrice Sauvageot says that the brain is like the stomach: if we make it starve too much, it becomes lazy and has cramps. The more new information a child receives, the more new information he wants, it is in the human nature to learn.

A child has to be autonomous but he also needs to share, have relations with others. The Borel-Maisonnny method does not make it possible, but Béatrice Sauvageot's method favours speech therapy in groups. The child sees that he is not alone, he can interact with others in the same language, and gain self-confidence.

## SEARCHING ALTERNATIVES IMPLIES KNOWLEDGE

### Visual expression of the sound

In linguistics, different signs put together create words, concepts. There are significant and significates, phonemes and graphemes. The Borel-Maisonny method associates a sound, a visual and a gesture and gives a global context, it is not frozen on the paper. But at school, there is a problem during the learning process: the lower case letter «h» grapheme is not the same as the capital letter «H», and the name of the letter «h» is not the same as its sound in a word. **«When we learn the alphabet, we don't learn the sound of it, but the name of the letters. We learn that they have a name but they have no importance alone»** according to Bernard Jumel<sup>1</sup> in the book *Aider l'enfant dyslexique (Help the dyslexic child)*. The Phoenicians, an ancient population from Phoenicia invented an alphabet of sound ideograms. They simplified the writing system by creating a character for each sound.

A universal language is possible according to Marcel Proust: **«Music is perhaps the unique example of what could have been the communication of souls, if the invention of language, formation of words, analysis of ideas didn't exist»**. That is when the sound in the learning process is necessary. Béatrice Sauvageot uses a sound method in her workshops: she writes a letter on

<sup>1</sup> Bernard Jumel is a French doctor in psychology. He wrote books about language disabilities.

+ Parole in libertà,  
Marinetti, (page 44)



◆ Knowledge Is Beautiful,  
David McCandless,  
(page 44)



● Bilexic Alphabet,  
Béatrice Sauvageot,  
(page 43)



the floor with a stick and the others do not look at it. The gesture, the step of the writing give space indications, time and how the letter is built. When you read a visual text, there is the intonation, the voice, the beat. It is thanks to this assessment that she created with her team of researchers, therapists, dyslectics, families, teachers... **A Bilexic alphabet** ●. The text becomes a music score, because it does not look like characters anymore, but more like music notes, images, a universal code. David McCandless also works with this musicality by data ◆. In this way, the information is visually understandable by color codes and shapes, and this is an alternative to traditional communication. Béatrice Sauvageot says that to **«photograph»** a text, a dyslexic child needs movements and colors.

Marinetti with his manifesto *Parole in libertà (Free words)* + used typography as a formal element and the text becomes images with rhythms. Shouldn't the text be written as it is spoken to support the text topic? Louis Sullivan said **«Forms follow fonction»** in 1896 about architecture. Why shouldn't it be the same about typography? **«It's obvious, a Dys doesn't do spelling mistakes, he creates «lexical power».** **When he speaks, when he writes, he doesn't only transcribe words but ideas, feelings. His feelings change during the writing process, that is why he can write the same word in different ways on a same page [...] His mistakes are logical»** according to Béatrice Sauvageot.

Movements, do not appear in the Borel-Maisonny method. Movements are like sounds: there is temporality, speed, breaks... This method needs a decomposition of the gesture to understand it, it's a step of the learning process. For example, the chronophotography invented by Etienne-Jules Marey, used photographs to decompose the movement.



## Signs to communicate better

If movements are not communicated with the Borel-Maisonny method, it is because of the signs that are not adapted to the target. Here, the target is children, so the method has to speak to children, with understandable and adapted signs. Some signs can become unreadable or obsolete according to the target. For example, Emmanuelle Laborit in her biography *Le cri de la mouette*<sup>1</sup> (The seagull scream) explains deaf people's problems. + If you are hearing impaired, you are likely to misunderstand signs designed for people who can hear. Deaf people have another perception of the world: without the hearing sense, they are more sensitive to the visual sense. For example, the sign representing the HIV virus can be mistaken for the sun, and some deaf people think that it can be the cause of the HIV virus. Images and concepts can have different meaning according to the point of view. The point of view of a child is not the same as an adult's, and the point of view of a dyslectic is not the same as a non-dyslectic's.

A universal sign has to be readable, simple. *Futura* • the typography by Paul Renner in 1927 was accessible to everyone: it is geometrical, no excess, made of triangles, squares and circles. Letters E, F, L, S and P are narrow so it provides rhythm in the reading process. The International Swiss Style is a movement with a big importance in readability. Joseph Müller Brockmann worked with musicality and readability for his posters. He used strict composition grids, gave an importance to rhythm, harmony, mathematical and geometrical

<sup>1</sup> *Le cri de la mouette* est une œuvre autobiographique d'Emmanuelle Laborit, 1994. Comédienne, sourde de naissance, elle retrace ses souvenirs d'enfance.



**OFFRONS UN AUTRE AVENIR À NOS ENFANTS**  
**AIDONS LA RECHERCHE, DONNONS AU 110 OU SUR SIDACTION.ORG**



**SIDACTION 2014**

• Futura, Renner,  
 (page 45)  
 ABCDEF  
 HIJKLM  
 OPQRS  
 UVWXY

+ Sidaction poster, fight  
 against HIV association,  
 2014, All rights reserved.

• L'History  
by Bil'ak,  
(page 47)

History

+ Dyslexie by  
Christian Boer,  
(page 46)

History

• Poster by Brockmann  
for Beethoven concert,  
(page 45)



compositions. Lars Müller, (Josef Müller Brockmann's publisher) said about Beethoven (he was dyslexic) concert poster ♦ in 1955 that it was «the ultimate example of musicality in design».

To communicate better, some designers work at the service of education and dyslexic children's learning process. Christian Boer created the typography *Dyslexie* + to create more readable signs. This typography is bolder at the bottom of letters for a better stability and there are bigger spaces between letters and words. Letters are softly angled to the right to help in the reading process, ascendants and descendants are longer to better distinguish a «h» from an «n» for example. This new typography is not aesthetic, it's for a social cause, to give access to the learning process.

Graphic designers create typographies in order to be read. Associating signs to create words and meanings, is the designer's role. Contrary to this, the typography *History* ♦ by Peter Bil'ak is composed of twenty-one different possibilities for each letter, always in relation with the typography history. He associates some letters' particularities to create new characters. For him, the interesting part of design is what the user will do with it. His typographies are open source to see what they will become and how the message will be conveyed: will it be playful, classical? It allows people to personalise a message, and users can take possession of this message, give a specific meaning to the message. It could be a way to give a mnemonic to each letter for a dyslexic child.

So, is it necessary to universalise the typography to facilitate the reading process? What does it mean for a graphic designer to communicate in a clear way to a dyslexic child? Is it simplicity or complexity that offers an illustrative reading? With signs, pictograms,

we create a simplified physical world. But how far can we simplify while still evoking a real thing? Mediums and uses create reading experiences, which conditions a message. Most of the time, the aesthetic experience prevails over readability. But what is important? Is it to experience to better understand? Should we show less to say more, or show more to understand better?

## Access to knowledge by multi-sensory experiences

Surprise is a good way to memorize, it is a very playful experience. *Une hirondelle (A swallow)* ♦ by Anouck Boisrobert and Louis Rigaud is a pop-up book where the movement is given by the volume of paper when we turn the pages. But nowadays, digital devices have a great place in everyday life, especially for children thanks to the digital plan by Najat Vallaud Belkacem<sup>1</sup>. For those «digital natives», digital tools have become a controversial learning process and we don't have much hindsight.

According to Stéphane Vial<sup>2</sup> «**each generation learns the world and negotiates its relationship with the reality thanks to technical advice that they have in the sociocultural context**». In this way, designers try to find new learning processes thanks to digital devices because they permit to touch our different senses.

• *Une hirondelle*  
by Boisrobert  
et Rigaud, (page 48)



<sup>1</sup> Najat Vallaud Belkacem plan was announced the 7th of May 2015 and permit to 175 000 students of schools and middle schools to have a tablet since September 2016.

<sup>2</sup> Stéphane Vial, is a French philosopher, teacher and researcher specialised in digital design.



+ *Intangible Matter, The Fifth Sense*,  
Lucy Hardcastle

♦ *Tipanot*,  
ESAD Amiens,  
(page 49)



• *Gestualscript*,  
ESAD Amiens,  
(page 49)



Gestures, in the Borel-Maisonny method for example, are shown without motion but could be better understood thanks to technology.

For example, students from the ESAD of Amiens (France) worked on the communication of the sign language with the project *GestualScript* • and *Tipanot* typography ♦ in 2007. The movement of the hand is clear, the «signer» (the person who practices sign language) uses it to write a sign in the space as we would do it on paper with a pen. *Tipanot* typography adapts the alphabet sign language into signs. In this way, the communication between deaf-mute and non-deaf-mute is facilitated and accessible.

Lucy Hardcastle and her project *Intangible Matter, The Fifth Sense* + is an interactive experience. She creates a digital trip to make what is invisible perceptible: the perfume CHANEL N°5, L'Eau (The water). She explores and makes us explore a material universe of perfume in an interactive digital space. Each experience is different for the user and he controls the steps. She says: «it's a material language of signs», we are in an immersive audio-visual space where the experience of perfume can be transposed thanks to forms and colors. It is immaterial, and the sense of smell can't be experienced by a computer (yet). Intangible senses like smell and hear appear thanks to graphical techniques. Couldn't it create a personal experience?

Could it allow a freedom of interpretation for a dyslexic child and give him the opportunity to master an experience easily in function of his abilities and preferences?



## A DESIGNER IS AN INVESTIGATOR

### ***Working in the 21<sup>st</sup> century***

We all live in a society with a social, material and technologic context. Designers have to keep up with their epoch, but always have to be innovative. It also means that designers have to accept that the world is constantly evolving, especially in the fields of education. Mentalities have evolved, methods have changed and materials too. Designers have to take in consideration that their projects may no last for ever. May be it will be modified by someone to make it better in another society and epoch, just as I would like to do it with the Borel-Maisonny method. A new method can, one day, evolve, be adapted, change or even disappear. The desire of invention, research, surpasses us. Going forward and creating something that solves problem is the designer's job.

### ***What if dyslexia was a semantic problem and not a formal problem?***

We said at the beginning that dyslexia was a disability in the learning process. But maybe the problem is deeper. Treating the source of the problem instead of dyslexia itself could be the solution. We cannot treat dyslexia, there is no solution but we can make it better by different means. Communication with parents is not easy and it is one of the problems. When they see that their child has problems at school, the first thing they do is to check the symptoms on the internet. We can find a lot of information, but there is too much information, whether good or bad. It's complicated for parents to

know what information is true or false. And some pieces of information are not clear: parents don't know where to go and who to talk to. The second problem is that they don't understand their dyslexic child because dyslectics don't see and conceive the word in the same way. When you are a parent, it is complicated to find someone in the same case and talk about it. When you are a dyslexic child, it is complicated to tell your parents that you do not understand at school, because it is too fast, that when you read everything is moving and other classmates are laughing because you are the idiot of the school. The teacher gives you bad scores and you finally also think that you are an idiot. So the problem is not dyslexia, but a social problem. When a child feels self-confident, at ease, he can succeed. On the contrary, if he undervalues himself, he will become withdrawn and the communication will be harder.

### ***I am a designer, I restore communication between people***

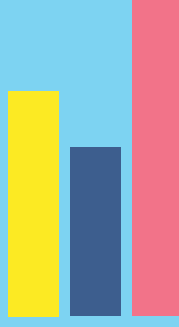
As a designer, my goal is to bring people together. To do that, I have to understand each side, be in contact with people, know their feelings, what they think. This is a work of investigation, to check information and to make the target try my projects. They are the people who know where the problem is and the designer only proposes a solution. The designer is just a creator of signs and language: his role is not to create forms and signs, he creates forms to solve a social problem. The source of the problem is social, and this is where the designer has to act. Not on the problem directly, but on the social consequences: linking people is the solution of communication.

Senses, different feelings and language that we use allow a strong cerebral plasticity. Back to numbers about dyslexia: 8 to 12 % of the population is dyslexic according to the WHO (World Health Organization). But only 1 to 3 % can be considered as dyslectics, others are bilingics, that is to say that they acquire a new language. Bilingia is born from bilingualism and the double necessity to master a lexicon: the one from one's «native» language, dyslexic, and the «official» language of the society. Bilingia means working with 30% of one's brain against usually 10%. ***«It became obvious that problems in front of us require that we think with the help of codes and gestures even more sophisticated, exact and richer than nowadays' alphabet. We have to think in movies, analogical programs and templates, by multidimensional codes»*** according to Vilem Flusser in his book *Les gestes, Al Dente + Aka VI*. Shall we make the population synesthetic to have a synoptical view on the language? Synesthesia is a neurological phenomenon: several senses are associated, for example grapheme-color, which means that when a person sees a letter, it is associated to a color. But other forms of synesthesia exist such as music-color, music-smell, lexical-taste. Synesthesia is also a poetic or artistic process to show an image and use other sensorial aspects. Charles Baudelaire, in *Correspondances*, creates synesthesias:

***«Il est des parfums frais comme des chairs d'enfants,  
Doux comme des hautbois, verts comme des prairies.»***  
***(There are perfumes fresh as children's flesh,  
Soft as oboes, green as meadows.)***

In this way, it would be about creating a balance between sensoriality and signs, considering all senses to create a result for an experience. If we go back to the definition of dyslexia by Alain Rey, would it be more judicious to make the name of this pathology evolve? Since we have shown that dyslexia is a strength and that compensations are extraordinary, the term «eulexia» would be more appropriate. Designers have to communicate this information to the world: it is not bad to be a dyslectic, it is not a disease. Designers have to recreate contact between people, do social work before proposing a graphic solution.

## ICONOGRAPHIE





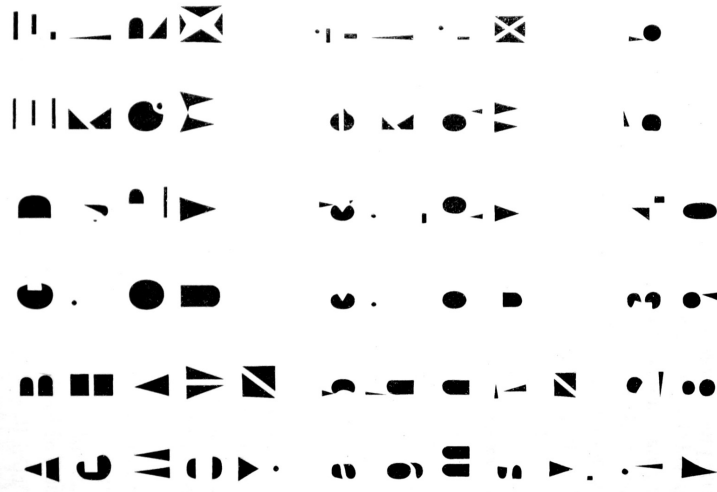


• The School of Athens, Raphaël, 1510, 770 x 770 cm.  
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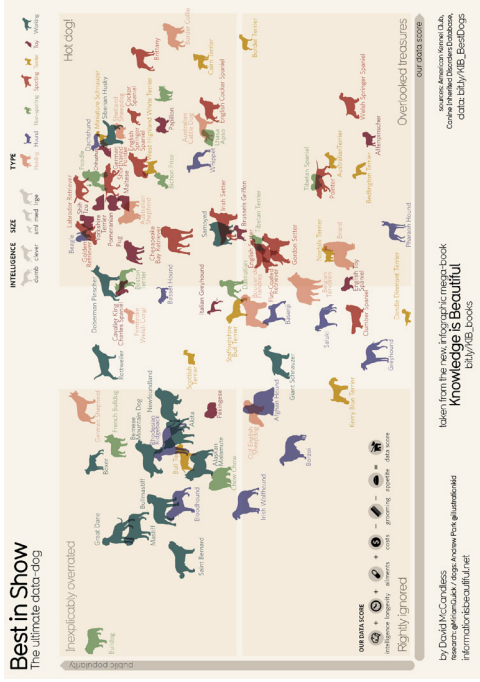


♦ Textscape, Hongtao Zhou ©  
3D.

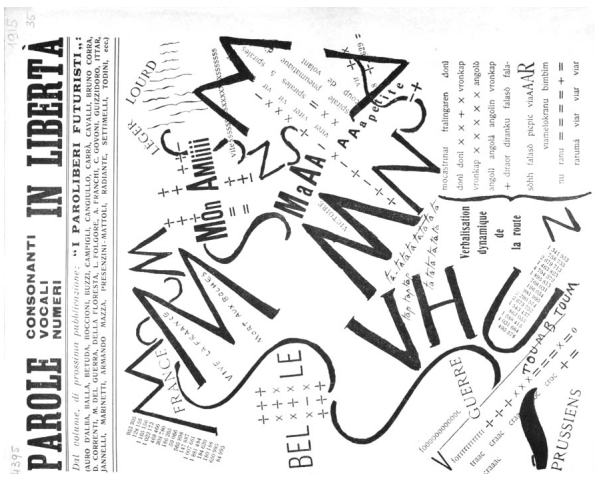
### Alphabet bilexique



• © Bilexic Alphabet,  
by Béatrice Sauvageot and her team,  
in her book *Adieu, la dyslexie !* (page 60)



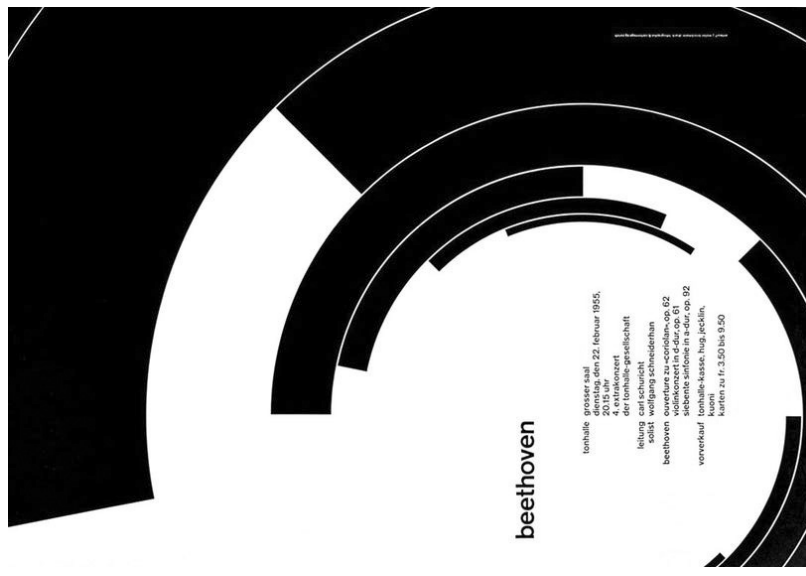
- ◆ Knowledge Is Beautiful,  
David McCandless ©, 2014  
Book cover and data  
of *Best in Show* about dogs.



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(Manifesto by Marinetti, 1919  
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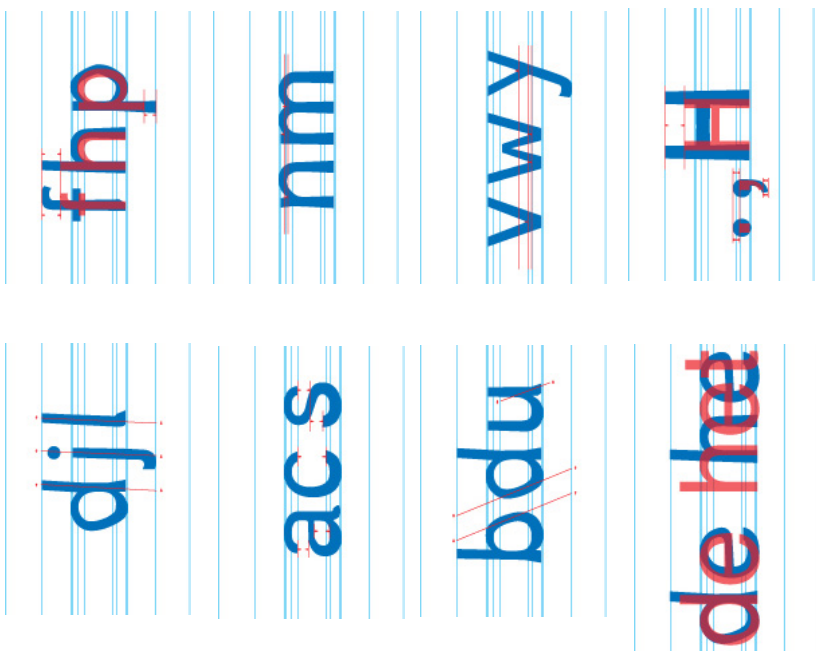


a b c d e f  
g h i j k l m  
n o p q r s t  
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typeface: Dyslexie Regular

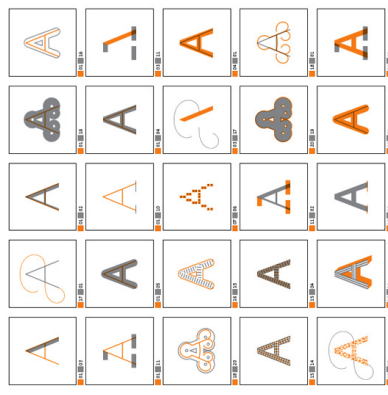
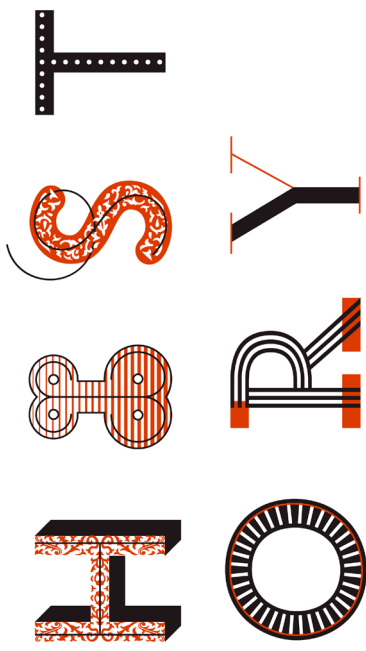
+

Dyslexie typography by Christian Boer, 2008 (blue), compared to the Helvetica by Max Miedinger in 1957 (red).  
auxilidys.fr ©

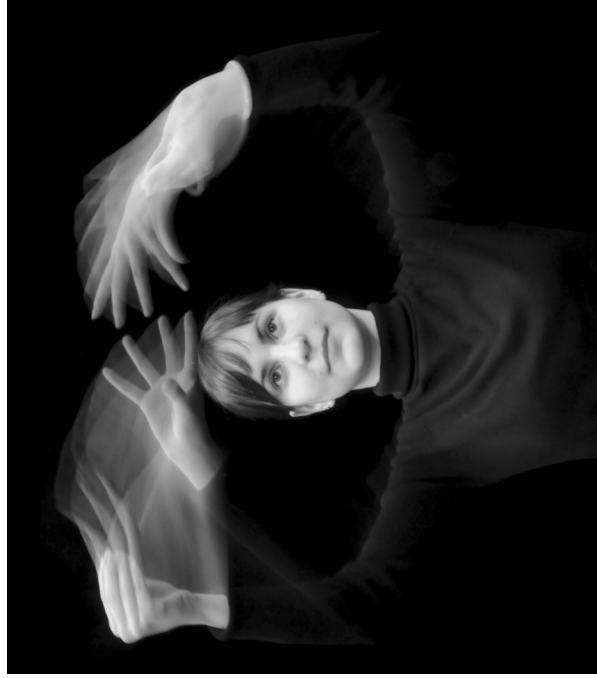


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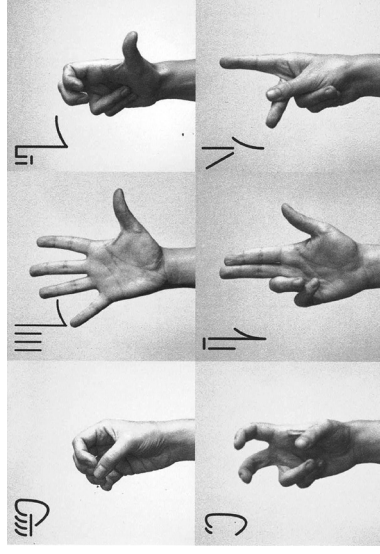
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by Peter Bli'ak, 2004.



- *Une hirondelle*  
Annouck Boisrobert and  
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The following bibliography was elaborated to sustain a piece of research carried out in French.

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*The Miracle Worker (Miracle en Alabama)*  
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*La mélodie des mots*, documentaire.  
Réalisateur, Marie Halopeau

Graphic conception: Océane Boquet  
Fonts: Futura Book, Italic and Bold, Manifont Grotesk Bold  
Paper: Antalis Cocoon 115 g  
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"gloss tactile" 270 g

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responsable et éco-conception, mention design graphique".

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Appliqués Raymond Loewy", La Souterraine.

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