# 40 YEARS OF PICTOGRAMS IN UNIVERSAL CONTEXTS: WHAT'S NEXT?

Pictogram design, Universality vs. Culturality, Pictogram Calligraphy, Neurath, Aicher and the Olympic games



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## [ABSTRACT]

**EVERYTHING CHANGES WHEN GRAPHIC DESIGNERS ENDS UP AS PART OF THE PROBLEM**

Throughout the world we can find thousands of pictograms! Some are identical, others are different.
Graphic designers should look after all of us! They should protect commuters worldwide!
The graphic designer is like an *earthly god* who has the power to guide us.
The first of such *gods* was Otto Neurath! With Isotype, he invented a graphic language for different cultures. Aicher did the same! In 1972, the german designer guided all cultures through the Munich Olympic Games.
Designers who have worked for AIGA conquered their space in history!
However, when some designers want to be bigger *gods* than others, they become part of the problem!
We must understand that some public places are more propitious to innovation than others. Some of these areas are universal facilities, therefore we must think big, whenever such cases are in question! In other words, we should think of *all cultures*!
Once we start playing around with international codes, with universality, we are not doing a good job!
We have to identify our public. Does the public consist of Olympic Games' visitors, airport users, or is it simply a person going to the corner café to have a beer?
Of course we can have our own style of pictogram calligraphy if we wish to innovate, improve and make it different. But, in this kind of language, "different" should mean legible!
We should aim to become an Otto Neurath, an Aicher and a Josep Maria Triás. But, can we do it well in this technological era, in which everything is digital and *connected to a LCD screen*? Can we keep it legible and clear? Can we keep it pictographic?
The designers of the past 40 years, who created pictograms for universal events, could do it!
What about us? Can we do it?

## 1ST LEVEL

### 0.1 | ALL OF THIS IS OTTO NEURATH'S FAULT!

Signage in three-dimensional physical spaces can be considered a message system which main goal is to inform and influence users, making sure that they can *translate* an advice, an order or an obligation. In short, signage indicates the correct way in which we should conduct ourselves.

It is a technical way of communication, a predominantly visual language systematically distributed throughout the spaces. Pictograms are graphic elements which are essential to signage systems. Unlike photography, pictograms are a synthesized language (Costa, 1989). They must be simple, condensed, schematized and powerful, single meaning forms that are meant to be seen and easily understood, in order to accurately convey a message.

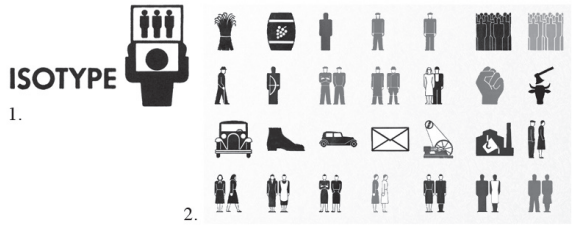
The advantage of pictograms and symbols over text is that they are concise and universally decipherable, crossing the barriers of individual languages or even literacy. (Smitshuijzen, 2007). This whole conceptual way to perceive pictograms is not new. It all started with an economist, philosopher and sociologist named Otto Neurath. In the beginning of the 20th century he realised that symbols and pictographic language were much easier to understand than text language (Meggs, 1992).

Otto Neurath was the founder of a movement based in these ideals: the Isotype. Isotype was developed in the early 1920s. The Isotype system uses simplified pictures to convey social and economic information to a general public, and has been applied to sociological museums as well as to books, posters, and pedagogical materials. He hoped to establish a standard global educational method and unite humanity by means of a single, efficient, universally decipherable visual language. Neurath believed that language is the medium of all knowledge: empirical facts are only available to the human mind through symbols (Lupton, 1989).

In addition to developing Isotype, Neurath contributed to the founding of logical positivism, a philosophical theory formulated by the "Vienna Circle". This brought together two different ways of thinking: the rationalism (logic) and the empiricism (positivism). The Vienna Circle philosophers defended that the aim of logical positivism was to identify the basic observational terms underlying all languages. However, this was all quite innovative at the time, because some philosophers believed that the significance of a sign was produced solely by its relations with other signs, and the Positivists defended that the signs were also related to material objects (Lupton, 1989). So, Isotype is a popular version of logical positivism. And why is it so? An Isotype symbol is positive because it claims observation, and is logical because it concentrates experienced detail into a schematic sign. Gerd Arntz was the designer assigned to make/create Isotype's pictograms and visual signs. Eventually, Arntz designed around 4000 of such signs, which symbolized several industrial, demographic, political and economical concepts.

The pictograms designed by Arntz were systematically applied/used in combination with stylized maps and diagrams. Neurath and Arntz made extensive collections of visual statistics in this manner, and their system became a worldwide-emulated example of what we now call *infographics* (Bruinsma, ?).

Otto Neurath's and Gerd Arntz's work was a major influence to all designers (figure 1). This is well exemplified in Henry Dreyfuss's work - he systematized symbolic language applied to visual perception and anthropometry studies. Further examples are: Paul Renner, who created "Futura" (a sans serif typeface) according to a reduction principle based on a mass production system (one of Otto Neurath's main guidelines of thought), and Otl Aicher, who designed the pictographic language used in the 1972 Olympic Games.




1.

2.

**Figure 1**

1. Isotype logo

2. Gerd Arntz Pictograms for Isotype

## 0.2 | FROM AICHER'S GRID TO JOSEP MARIA TRIÁS' DRAWINGS.

By the late 1960s, the concept of comprehensive design systems had become a reality. Designers, architects, graphic artists, etc, realized that comprehensive planning for large organizations or events was strictly necessary whenever large numbers of people were to be accommodated, as in the case of international events involving multilingual users, from all over the globe, who have to be guided and informed. The Tokyo 1964 and the Mexico City 1968 Olympic Games were the first two great contexts wherein designers took into consideration think this concept of *universal pictographic language for a universal audience in a universal context*.

Approximately 40 years ago, Otl Aicher designed what I consider to be the first great example of a pictographic system to be used in a universal context: the pictograms for the Munich 1972 Olympic Games (figure 2).

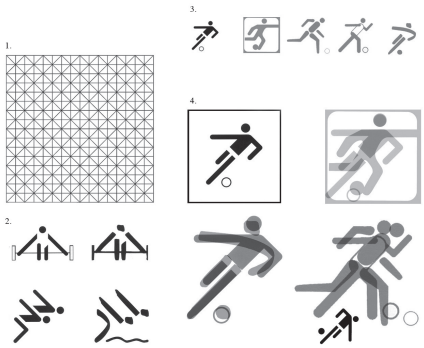


**Figure 2**

1. Otl Alcher's geometric grid
2. Left: Munich pictograms: Weightlifting and Swimming. Right: Barcelona pictograms: Weightlifting and Swimming.
3. Football pictograms: Munich 1972, Moscow 1980, Los Angeles 1984, Seoul 1988 and Barcelona 1992
4. Comparative scheme: Moscow, Los Angele, Seoul and Barcelona pictograms up to Aicher's.

The german designer drew an extensive series of pictograms on a modular grid divided by horizontal, vertical and diagonal lines. A very good example of german cold geometry (Meggs, 1992) that emerged as a complete standardised visual language due to all of his drawings being designed under strict mathematical control. Aicher's pictograms were an unavoidable milestone in the design of pictographic systems. They were first used in 1972, for the Munich Olympic Games, then in 1976, at the ones held in Montreal and, again, at the Calgary 1988 Winter Games.

From the next Olympic Games, at Montreal, to the ones held in Seoul, in 1988, we almost can say that nothing happened. During these 16 years we witnessed graphic derivations from Otl Aicher's work. For the Moscow Olympic Games, and partly due to the high cost of the rights to Aicher's pictograms, a Russian committee organised a design competition between art schools. Nikolai Belkov won the competition, but his pictograms were quite similar to Aicher's Munich ones, but they were visually related, less rigid and friendlier looking (Smitshuijzen, 2007).

For Los Angeles (1984) and for Seoul (1988), once again the pictographic systems were influenced by the german designer. However, in 1992, everything was about to change with the Spanish designer Josep Mari Triás. Even though the pictograms used at the Barcelona 1992 Olympic Games were also influenced by Aichers' grid, J. M. Triás changed the pictographic drawings. The grid, ruler and pencil were replaced by elegant strokes made by spontaneous brush movements (Smitshuijzen, 2007). These brush-drawings were greatly inspired by the pre-historic rock-art in the local spanish caves. With her pictograms for the Aubertville 1992 Winter Games and a greater Mediterranean insight for pictogram design, Sarah Rosenbaum also contributed to this graphic approach.

Rosenbaum and Triás steered the approach to pictogram design in the opposite direction to Otl Aicher's work. So, can we state that, since 1992, universal and functional pictographic drawings began to give way to a more traditional/regional and cultural approaches to these design systems?

Without loosing universal meaning, are pictograms more connected to the historic influences of the regions where Olympic Games we re held?

We are clearly in the presence of a new pictographic systems era.

### 0.3 | TWO YEARS AFTER MUNICH '72, A PICTOGRAPHIC SYSTEM FOR "PLANES, TRAINS AND EVERYTHING ELSE"!

In 1974, the American Institute of Graphic Arts – AIGA, conceived 34 pedestrian orientated symbols to be used in transportation-related facilities. The project goal was to produce a consistent and coherent group of pictograms that would lessen language difficulties by simplifying basic messages used in domestic and international airports.

AIGA made a worldwide inventory of those 34 messages used in transportation facilities (such as maritime platform, railway gars, airports, etc.) so as to connect every known symbol.

Through this project, they aimed to end up with a pictographic system that could be applied not only to these facilities but to international events as well.

We may observe that, a mere two years after the Munich Olympic Games' pictograms, we have yet another example of a functional and universal approach to pictographic design systems.

The AIGA's designers applied an assessment method wherein they evaluated the symbols in three different categories/scales: pragmatism, syntax and semantics.

This evaluation was made in two ways, within this scale. First, using the inventory as a guideline, members of the several involved organizations made their evaluation without discussion among them. They used a numeric scale from 1 to 5, where 1 represented thickness and fragility, and 5 stood for strength.

In his programmatic work *Foundation of the Theory of Signs* (1938), Charles W. Morris distinguished three semiotic dimensions: syntactic, semantic and pragmatic (Burdek, 2005). AIGA used these same semiotic dimensions to evaluate their pictograms

AIGA obtained one of the most coherent and functional pictographic systems. AIGA's pictorial language elements - such as structure, filling, line quality and style - were consistently handled. This set of pictogram is what we may call "A Graphic System". They were an interconnected, combined group of objects, but, at the same time, they were individual forms too. These forms, the pictograms, were drawn according to strict rules and principles so as to ensure a homogeneous and harmonious group of symbols (figure 3).

When we travel around the world, what do we see? AIGA's pictograms are all over airports, domestic and international alike! They are all over the place. We are witnessing a massive utilization of these pictograms: toilets, museums, railway gars and so on.




**Figure 3**
International Airports: Portland, Seattle, Singapore and Warsaw.
AIGA pictographic system

## SECOND LEVEL

### 0.1 | ARE WE WALKING IN THE OPPOSITE DIRECTION OF AICHER AND NEURATH?

The 1996 pictograms for the Atlanta Olympic Games are the first example of pictographic Olympic design with no Aicher's grid. What reinforces the cultural and local concepts first used in 1992, at the Barcelona Summer Olympic Games?

Those pictograms brought to an end the tendency to use symbols in a geometrical, stereotyped form. As a pretext to draw every pictogram, the Atlanta committee selected the Greek Culture as source of inspiration. At those Olympic Games, the demand for a beautiful and ideal human form was well represented in the pictogram system. Four years later, in Sidney, the designer Paul Sanders also based on cultural heritage his pictogram system for the Australian Olympic Games. In this particular case, Aborigine was the culture of choice. He made use of the boomerang form to shape arms and legs.

In Athens, at the first 21st century Olympic Games, cultural and geographic themes were once again depicted in the pictographic system. Sport symbols were inspired by Ancient Greek pottery. The shape of the pictograms looked like pieces of broken pottery from an archaeological site. Similarly to the black figures in Greek vases, these pictograms made use of scratched white lines to define the black bodies represented in the pictographic system.

Chinese Bronze Age served as inspiration to the graphic symbols used in the Beijing 2008 Olympic Games. However, this pictographic system presents some decoding problems. Some forms are rather abstract, which means that the user has to spend more time and intellectual energy translating the graphic sport figures. Nowadays, we are clearly walking oppositely to Aicher, towards a direction where "universal language", although important, is not the most significant item in pictogram design, particularly in the Olympic pictogram design. One of the concerns is the "cultural tradition" or "local culture" (figure 4).

And, what if cultural heritage destroys universal language? Can we call these symbols pictograms?

If pictograms have abstract characteristics, will orientation be compromised for many visitors?

I agree that cultural heritage is the most important item to define a pictographic system. But we must not forget that pictograms are simplified symbols that should communicate a message in the most effective way.

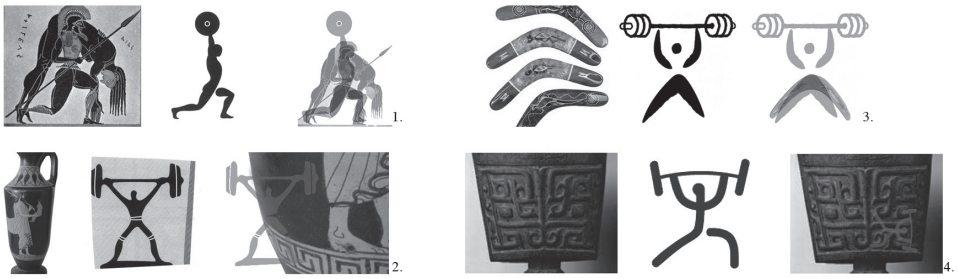



**Figure 4**

1. Atlanta pictograms and Greek art. 2. Sidney pictograms and boomerangs. 3. Athens pictograms and Greek pottery. 4. Beijing pictograms and Chinese bronzes

### 0.2 | CAN WE SAY THAT A PICTOGRAPHIC INTERNATIONAL CODE EXISTS?

Olympic Games, international fairs, airports are but a few examples of places where we rely on pictograms. Until recently, these facilities used signs in several languages. Today, that is a utopia. Eastern, Western, Far Eastern, Middle Eastern cultures have thousands of different languages; consequently, pictograms can really help us.

But, as we travel around the world, we are faced with a huge problem: too many symbol systems are in

place and there is no single system common to every country. However, there are certain pictograms that use the same graphic concept all over the world. For example, in the toilet pictogram, the human figure is always present. It is as if the same international code was adopted worldwide. Upon further examination, we will notice that "calligraphic styles" differ. In example 1 (figure 5), we have AIGA pictograms: simple, direct, without any sort of cultural elements. In example 2, although a men and a woman are depicted, the Indian culture is recognizable through the dress code.

For the 1998 International Exhibition, in Lisbon, Shigeo Fukuda designed toilet pictograms, in a very specific calligraphic style. In fact, the style was so specific that only a few visitors recognized the representation of a men and a woman.

In example 4, the "calligraphy" differs from AIGA's, but anyone is able to recognize it. It's as if only the font was changed!

We can compare pictogram design to Typedesign. We may have different calligraphic styles, but the characters must remain identifiable. Everyone knows the Helvetica or Times character "A" or "B", but if we write with a non-legible type, the reader becomes confused.

The need for consistency in symbols used in international facilities is obvious, therefore, a sort of international code is required. Such code exists. However, we can still make room for design variation. We certainly can make room for different "calligraphies", in pictogram design.




**Figure 5**

1. AIGA pictograms, 1974
2. Ravi Poovaiah: Indian pictograms, 2000
3. Shigeo Fukuda pictograms fo Expo 98 in Lisbon, 1998
4. Carlos Rosa pictograms for Federation of the Forest Producers of Portugal, 2005/06
5. Helvetica font, Max Miedinger 1957
6. Mistral font, Roger Excoffon, 1953
7. Can You font, Phil Baines, 1995
8. Times font, Stanley Morison, 1932

## 0.3 | CAN YOU READ ME?

The capacity for decoding such images or graphical forms rests on a very important factor or ability - the user's visual literacy - which some people possess more than others. If literacy means "capacity to read or to write", transposing this concept to the graphical (not linguistic) universe implies that visual literacy is related to the capacity to read, decode and understand graphical information. In other words, a clear and evident visual intelligence (Dondis, 1991).

However, it is a common misconception that the meaning of *picto-images* can be guessed. Images are always ambiguous. Like other written languages, pictograms require learning, a conscious methodology and pedagogic support.

Improving the quality of way-finding in public spaces is clearly a design problem. Pictograms have a simple goal – to make sure that people arrive at their destination in a safe and untroubled way. But, can we designers create innovative pictograms for existing concepts which society already know?

As we go about our daily lives, we heavily depend on a complexity of symbols. We are surrounded by visual cues: traffic signs, advertising, cinema and television - the insignia and media of visual communica-

tion. We trust signs and follow arrows with no hesitation. But if these signs and symbols serve to guide and inform, they must be clear and unequivocal to all (Krampen, 1965). We can have slight differences between same-concept-pictograms; however, we must be careful because in stressful situations, like at airports, users have no time to decode information! Pictograms are not to be contemplated, they are rather to be seen and quickly deciphered.

Often it seems that graphic designers, as they draw a pictogram, they are more concerned about artistic expression itself, than whether their creation will be understood by the intended users.

Graphic designers can use different "calligraphies" to support their pictogram design, like Paul Mijksenaar has done for the Schiphol airport (figure 6), but they shouldn't create pictograms in a self-centred, inconsiderate manner.

**Figure 6**
Paul Mijksenaar pictograms, Schiphol airport
AIGA pictograms, Seattle airport




## LAST LEVEL

### 0.1 | AND NOW? WHAT WILL HAPPEN NEXT?

Everybody knows that, nowadays, pictograms are a way of linking citizens all over the world.

Everybody knows that pictograms have certain limitations.

And, everybody knows that we can't imagine a future with a pictogram-free signage. However, at times of technological gadgets and world-size reduction, we can never be sure of what may happen next.

Every day, upon switching on our TV sets, what are we faced with? Lots and lots of information! At the bottom of the TV screen there are two lines of information which we may opt to read, or not. At the bottom, on the left, we have the weather and the traffic. On the upper left corner, we have the main news, etc. One word summarizes it all - CHAOS!

While waiting for the bus, we can check related digital data passing through a screen on modern supports. But if we arrive late, we have to put up with unwanted information while impatiently awaiting the reappearance of the specifics we require. Once again, CHAOS!

Fortunately I don't use the bus; otherwise I would most certainly be late for my appointments.

At the Beijing Olympic Games, we experienced a pictographic language which revealed almost no concern for universal visitors. Cultural and geographic matters superimposed the universal spirit.

And now, what's going to happen at the London Olympic Games? Will we insist on cultural matters instead of universality?
Are we moving towards digital pictographic data? If so, I hope it will be totally different from the one shown on TV.

At airports, there's nothing but AIGA's pictograms. We can still find our way even if the pictograms have different calligraphic styles. But, since digital information is already being used at airports and gars, are pictograms about to become digital too?

As we picture toilet pictograms, what comes to mind? A woman in a dress and a man wearing trousers. Culturally, is it correct? And, what about the legs? Why are they opened in men, while women have them closed? And, what about the separation of genders in different rooms? Isn't that highly subjective and historically constructed (Vasseur, 2009)? Today, many local and international facilities have decided not to use the word "toilet", in signage. We don't need it. What we do need is a GPS to find a toilet while travelling! For example, one with different colours: red for street toilets and green for restaurant and pub toilets! But, please keep the printed pictograms on the doors!

In Portugal, we are about to have the TGV as well as a new airport in Lisbon. The London 2012 Olympic Games are almost at our doorstep! Universal facilities, such as hospitals, malls, thematic fairs, etc., are rapidly increasing in numbers. What should we do? Should we make it simply Universal, like Aicher, or Cultural, like Josep Maria Triás? Or should we rather make it exclusively Cultural? And, what about the Eastern or Middle Eastern visitors passing through Portugal?

If communication is the mechanism through which human relations subsist, we may add that the same applies to relationships between Man and object and those between Man and a certain action or place. Therefore, the said communication and, consequently, the graphical marks (pictograms inclusive) must join universal attributes with subtle cultural and local attributes, throughout the spaces in question, to ensure that the intended message is conveyed and decoded by the user in a most immediate and effortless way.

And, of course, keep it simple, keep it legible, keep it pictographic!

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