Abstract
The main objective of this paper is to analyze the qualities and uses in research of two methodological instruments in ‘Visual Arts based Educational Research’ and ‘Artistic Research’: (a) Visual Images Pairs, and (b) the Photo Pairs. A ‘Visual Image Pair’ is a basic structural unit of the visual discourse, composed of two images (whether photographs, drawings, maps, sculptures, or other image), which are joined to one another to construct a statement, or a description, or a narrative, or an interpretation, or a demonstration, or a metaphor, or any other form of argumentation in research. The decisive quality of a ‘Visual Image Pair’ is to set a consistent, homogeneous and complete visual unit. The ‘Photo Pair’ is a type of ‘Visual Image Pair’ composed with two photo. The paper present thirteen examples of ‘Visual Image Pair’, nine of which have been published as such pairs in a wide range of disciplines: anthropology, art theory, astronomy, geography, history of art and visual arts.

Keywords: Visual Images Pair, Photo Pair, Visual Argument, Arts Based Research, Visual Arts Based Educational Research, Artistic Research.
Introduction:
In our way of seeing one of the most important problems is the development of instruments and techniques in research appropriate to solve the specific methodological problems in the ‘Arts-based Research’ and ‘Artistic Research’.

We have explored in previous works three basic ways of organizing visual arguments in research: the Photo (Spirn, 2014), the Photo Series and the Photoessays (Marin-Viadel & Roldán-Ramírez, 2010; Roldán & Marin-Viadel, 2012).

Two years ago, we started working together in a fourth basic structure of visual argument: Photo Pairs, two photographs together to set a new visual unit.

The initial ideas emerged from the Anne W. Spirn (2008) analysis of the book “An American exodus” by the photographer Dorothea Lange (c. 1939). In her book, Lange was extremely careful about the images that are presented together to the reader’s eye, in left and right facing pages: the two photo together tell a story or become a metaphor. (Figures 2 and 3).

A Photo Pair is a very simple visual structure, just two photos together, but highly complex because the density of relationships established between each of the visual elements of each image.

In this paper we present thirteen examples, most of them have been published in many different contexts, in order to propose some initial ideas on the functioning of the Photo Pairs in research.

1. Objectives
This paper has two main objectives:
(a) To describe and to justify the use of ‘Visual Image Pairs’, particularly the ‘Photo Pairs’ in academic works (journal articles, Master and PhD dissertations, research books, etc.) in Artistic Research and Arts Based Research.
(b) To analyze some of the main features of ‘Photo Pairs’, in a wide variety of disciplines, and deduce some general ideas about their uses in research.

2. What is and what is not, a ‘Visual Image Pair’ in Educational Research?
A ‘Pair of Visual Images’ is a basic structural unit organized with two visual images (photographs, drawings, maps, sculptures, or any other type of image), which are linked to build a consistent and complete statement, argument or visual demonstration.

The visual quality and meaning of a ‘Pair of Visual Images’ does not depend necessarily either the quality or the meaning of each of the images separately. The visual quality and significance are qualities that correspond to the Pair, as a visual and semantic unit.

A ‘Pair of Visual Images’ may be composed with two images of the same type, two photo, two drawings, two videos, or any combination of them; for example, a photo and a drawing, a photo and an object, a map and a sculpture, etc.

Any combination of two visual images is not necessarily a ‘Visual Image Pair’, in a similar way that any combination of two written statements do not build a correct argument in a research report. If two images together do not form a visual argument are not, at least for research purposes, a ‘Pair of Visual Images’.

The two main advantages of ‘Visual Images Pair’:
(a) It is a very simple and straightforward structure because there are only two images, while a ‘Series’ or a ‘Photo Essay’ typically include more than two images. Usually, increasing the number of images increases the difficulty to achieve a successful result.
(b) In many cases to combine two images facilitate to achieve depth and complexity of a visual idea or argument or creates unexpected ideas that becomes from the juxtaposition of images. Achieving depth and complexity in a single independent image is usually much harder and more difficult than with a ‘Visual Image Pair’.

3. The working process with ‘Visual Image Pair’ and ‘Photo Pair’ that we used in this paper
We present thirteen ‘Visual Image Pairs’. Nine of them, have been published in books, magazines and exhibition catalogs in disciplines such as: anthropology, art theory, astronomy, geography, history of art and visual arts.

We wanted to present this wide variety of ‘Visual Image Pairs’ to show the versatility of uses and possibilities for research, when two visual images are linked together.

All these types of visual images, photo, painting, sculpture, graphic, etc., have been reproduced photographically and published through photomechanical methods. Therefore, it is necessary to establish the differences between two types of photo:
(a) photo images, those visual images that have been designed and reproduced as such photographic; and
(b) photographic reproduction of other types of visual images: paintings, drawings, sculptures, etc. In this case it is necessary to pay attention to the changes that occur in a visual image when it is reproduced photographically, as well as the qualities of a photography when is used to reproduce other types of visual images.

This difference, between photographic works and photographic reproduction of other types of objects or visual images goes generally unnoticed. But this difference is absolutely necessary in ‘Art Research’ and in ‘Arts-based Research’.
4. Phases. Our work process with 'Photo Pairs' has been developed through six successive steps:

4.1. Identification of 'Visual Image Pairs' and 'Photo Pairs' already published in books, magazines, exhibition catalogs, websites, research reports, or exhibited in galleries and art museums. To identify a 'Visual Image Pair' or a 'Photo Pair' is to find two images, not three or four or more, that occur together: for example, the two photo printed on two successive pages (odd and even page) in a photo-book, the scene of a movie or video showing the screen divided into two halves (left and right or up and down), a painting as a dipych, and so on. It is not necessary that the author of this 'Visual Image Pair' write explicitly in the caption that he or she has built a Pair; just the two visual images have been published together. All examples used in this paper have been published as Pairs, though not explicitly written declaration as a Pair have been used to identify the two images. What cannot considerer as a 'Visual Image Pair' the selection of only two images of a large group in which more than two images are presented together.

4.2. Reproduction of the Pairs we have found in publications or art exhibitions, in order to use these Pair as a 'Literal Visual Quotation'. (Figures 2-3, 6 and 8-13).

4.3. Reference of the 'Visual Image Pair': author's name, date, title, dimensions, publication or exhibition, and any other data necessary to fulfill all the items in the references of a research report, according to the rules of the professional field (APA, 2010).

4.4. Written analysis of some main features of the 'Visual Image Pair'. We will use a simple scheme consisting basically in six items:

(a) Description and context of the Pair: who is the author? what is the artistic specialty or the academic discipline of the book or journal in which the pair was published? what are the main features of the complete document? and any other information to contextualize the 'Visual Image Pair'.

(b) Figures represented: people, objects, buildings, art works, represented in the image, with special attention to those decisive for the meanings of the 'Visual Image Pair'.

(c) Structure of the Pair: analysis of each of the images comprising the pair and their interrelationship,

(c.1.) Main elements.

(c.2.) Secondary elements.

(c.3.) Connectors establishing the links between the two images of a Pair.

(d) Uses of the argumentative strategies of the 'Visual Image Pair' in 'Artistic Research' or 'Arts based Research'. In the Pairs we have discussed in this paper we have found examples of description of the different elements of a situation and the different stages of a process, analysis of a context, comparison, interpretation, inference and causal explanation.

(e) Relation of the research uses performed by the Pair with the strategies or research techniques that are already established in quantitative and qualitative methodologies. For example, the 'Visual Image Pair' establish an interpretation in a similar way the Feminist Theory do? It is a Constructivist frame of concepts represented in the images? The 'Visual Image Pair' set a description alike Participant Observation do?

(f) Visual ideas in the 'Visual Image Pair' that may be useful in a research report. Through these frame of items we try to answer the following questions: what meanings gets the Pair as a visual unity, they would not get each of the two images separately? What similarities or associations between objects, people or elements that are represented in each of the two images, achieve the transformation of the two images into a Pair? What thematic and formal links between the two images achieve the visual unity of the Pair? What argumentative research role play the Pair?

4.5. Visual analysis of two of the 'Photo Pairs'. In these cases, in addition to reproduce the original 'Photo Pair', we propose alternative Photo Pairs, in which we have modified some of its most prominent features in another pair, in order to better visualize the changes in meaning that occur because these visual transformations. Thus, we do a detailed comparison between the original 'Photo Pair' with the modified pair, in order to facilitate the identification and explanation of its easier to identify and to explain the roles of each of the elements in the two images.

4.6. To deduce new visual ideas useful for visual arguments in future pairs in 'Arts-based Research' and 'Artistic Research'.

Figure 3. Literal Visual Quotation (Lange & Taylor, 1939: n.p.)
1. Description & context: These two photographs in Figure 2 as well as the Photo Pair of Figure 1 were made by J. Roldán in August 2014 in the homes of all pupils in the third section of the Santa Teresa Elementary School in the outskirts of Tegucigalpa (Honduras). The photographs show the responses of a simple Visual Survey in which children chose their favorite shoes and their favorite toy. The result is two ‘Photo Series’ of shoes and toys, each composed by forty photographs. Here we have chosen a photo of each series, both belonging to the same child, to form the Visual Pair.

2. Depicted figures: There are four figures in the Photographic Pair: (a) shoes, (b) the toy, (c) the dirt floor of the house where the child lives, and (d) the socks and the end of pants worn by the child. One might think that these last two elements play a secondary role in Pair, but this is not so. If the picture showed only the pair of shoes on the floor, similarly to how the toy is portrayed, the human presence in the Pair disappear. The way as the Photographic Pair represents the child answers “these are my favorite shoes”, “this is my favorite toy”, is showing shoes not as objects but shoes shod on children’s feet. This indirect portrayal of the student, to state that he or she is there, at home, and with his stuff, zooms the Photo Pair away of the theme of a ’collection of objects’.

3. Structure of the Pair:

3.1. Relationship between the two images: The relationship between the images is not hierarchical, but equilibrated, reinforcing a stable juxtaposition, close to those used when metaphors are constructed. Visually the two topics are treated similarly (reasoning by analogy). Both images are frontal, the protagonists objects are centered and the rest of photographic decisions do not suggest a special point of view. The two scenes appear to be neutral fragments of the reality put together to generate a narrative or a symbol.

3.2. Main elements: Left photo: shoes, socks and legs of a child. Right photo: Batman doll. In both cases, these elements have little elaborate details (seams and decoration drawing shoes and socks, lines of muscles in Batman or decorative details of his costume). Moreover, both images has been visually treated very similarly: figures occupy almost of the image area, they are displayed front and symmetrically centered relative to the vertical axis, shaped by the lateral light, the material (synthetic leather and black plastic) shines creating similar contrasts. Meanwhile, the color and texture of the soil crackle are very homogeneous and almost completely surround both figures.

3.3. Secondary elements: There are some visual elements that are not determinative for the argument, for example, the fact that the picture is in color, the manner in which the ground floor is cracked, or the shade aside the doll. These four elements although contribute to the description of the situation, but are not critical to the argument of Pair.

3.4. Connectors: In general terms, the visual relation between objects and background is very similar in both cases. Specifically, symmetry, lighting, color, tone, scale, brightness, material, texture, detail, centrality, disposition, and frame have been used to reinforce visual relations and continuity between the two images. For example, the small areas of yellow color in socks and in bat symbol, the brilliant black material in both plastic and leather, the assimilable scale and the background serves as connector between this two images. This elements collaborate in create visual analogies among this two images figures and consequently facilitate comparisons.


5. Links with other techniques and strategies in research: comparison, analogy, and ethnographic narratives.

6. Visual Ideas: In this specific case, the analogies have been created in order to elaborate a metaphorical relation between toys and clothing and between visual culture and personal identity. It seems clear that nor Batman nor shoes are in their ‘natural habitats’ or their ‘original contexts’. shoes like these are suitable for walking a firmer and less coarse and decomposed soil and Batman comes from a hyper-industrialized mega-urban context. Watching this pair, both photographed elements seem isolated. Within each image, Batman and shoes of the boy are so closely framed that put together they create a pair of isolated concepts. This makes the two objects comparable. More if they have been subjected to a disproportion exercise which change their cultural meanings.
1. Description: This Pair (Figure 5) introduce some differences with the previous (Figure 4). The disposition of both images is inverse. The scale of objects into the composition has changed and the framing is also different. There is more visual information around the objects.

2. Changes in the depicted figures: Batman seems to be smaller. The human figure becomes enormous. The relevance of the context is greater in this Pair.

3. Structure of the Pair:
   3.1. Changes in the relation between the two images: This inverse arrangement of the images is more powerful mainly because the different size of the two images (one is two and half times the other) and, specially, the proximity of them into the page, that favors the visual continuity and the conceptual unity. Moreover, the shadow and the oblique line connecting two images collaborate to the cohesive unit of the Pair. The pictures are hierarchically subordinate.
   3.2. Changes in main elements: The principal elements of this pair are the scale of the figures and the scenario. Because the perception of the scale, the shoes, socks and pants, point unequivocally to the human nature of this relation with the other object. In this pair the relation with the object is dominated vertically by the boy, that seems to be a giant. On the other hand, the scenario becomes the place where action will happens.
   3.3. Changes in secondary elements: Some elements that were previously primary, now become secondaries, such as the soil texture and colour, even when it still works as a connecting element, this function is now determined by the blur (typical visual effect associate to macro photography on small objects) and the different scale of the cracked clay which is very effective in informing about the size of the two elements.

3.4. Changes in connectors: The pair connects due to colour frontality and proximity, and also because the shadows that the two images fit together, and also because of the continuity that suggests the color and texture of the soil in the background. On the other hand, the difference in the scale of the soil texture is what informs us that we are faced objects of different sizes. The blur and scale are both associated to the distances, so the first impression is that we are faced with things that are at different distances or have different size. Specifically, shadows, color, tone, brightness, material, texture, centrality, disposition are important elements to fit together esta two images. There is a cultural element that functions as a connector in this case is the repeated visual logic used in film and television in the assembly moves from a general to detail. Here we have the feeling that to look at the doll we approached him. This is reinforced by the background blur.

4. Changes in the argumentative strategies: This pair suggests proximity, the relationship between the child and his toy, the most imaginative and subtle suggestion toy action and power over the child.

5. Links with other techniques and strategies in research: context and detail descripion, case study, data collecting, qualitative documentation.

6. Visual ideas that can be useful: With this kind of hierarchical disposition is more difficult to gain metaphorical density, because one image exceed the other. But, on the contrary, this kind of visual connections can suggest easily a story. The interest pass from the visual artifact to the narrative level.
1. Description & context: This pair, published by National Geographic, is just one example of many that have been published on the subject. A quick internet search will not only show us many pictures of before and after the demolition in 2001 by the Taliban of this huge sculpture, but will do precisely using pairs of photographs. This kind of pairs needs some textual information about the time. The date in which were taken both photos and the order in which they are emplaced are crucial to understand if the sculpture has been destroyed or reconstructed. The emplacement of the two photos in the Pair, must to consider the direction of reading texts, left to right.

2. Depicted figures: Left photo: A carved mountain shows a giant sculpture of Buddha in Bamiyan (Afghanistan). Some caves are around it. Right photo: From a very similar point of view, a female figure walks from left to right side of the image. She creates a silhouette similar to the form of the space where the giant sculpture of Buddha was. Some caves are around it. Some elements have been built in the basement.

3. Structure of the Pair:
3.1. Relationship between the two images: Juxtaposition. Continuity because repeated elements and Contrast caused by the absence or presence of any of them.
3.2. Main elements: Left photo: The sculpture carved into the mountain is still displayed in the hole. Right photo: the female figure and the hole. In both images the composition and the same point of view are crucial to make comparisons.
3.3. Secondary elements: The intense blue color of the sky in the left image is secondary, contains no decisive significance itself, but it reinforces the importance of the color in the right image, where the female figure stands out for its red dress. The color helps to dialog these two images.
3.4. Connectors: The pair connects by similarity and is meaningful because the differences. This pair works like a series, -which usually works based on comparison of stages, examples or specimens-. Specifically, this two images are very similar in lights, color (except the blue sky), brightness, material, texture, composition, and disposition in the page are important elements to fit together this two images. The time and weather in the moment of shot probably are not exactly the same, -since shadows are softer in left image-, but the photographer of the rights image, has search consciusly a point of view and a light situation taken into account the first photo.

4. Argumentative strategies: Its a demonstrative pair by comparison. As is displayed, this pair suggests a succession of states in one place by placing an image next to each other. We are using a sequential logic to observe and analyze a succession of events. The basic strategy is to compare the state of something in different phases. The photograph facilitates this comparison. In this type of sequences both repeated elements as changing details what can be significant. In this case, what is significant is what has changed between these two moments. The figure of the woman makes a causal reference in the second image from the first: the cultural references allude to the possible reasons for the disappearance of the statue. To understand that, the photographer includes an extra element that is the figure of the person (woman). Her dresses are visually associated with the absence of sculpture.

This pair implies a temporal sequence, before and after. It is deductive, tells a story that has occurred between phase A and phase B. In this type of pairs of phases ‘before/after’, not always there is present the causal agent that have provoked the changes. Sometimes, both phases demonstrate the occurrence of something that has provoked the changes. This causal agent is not present.

5. Links with other techniques and strategies in research: comparison, logitudinal studies, cases study.

6. Visual ideas that can be useful
6.1. The Pairs made from Series, as in this case, are very rhythmic. They relate to the idea of successive times depending on the order in which they are arranged. Silhouettes of woman, the immense space and natural forms of erosion in the mountains rhyme visually.

6.2. The second photo can not be made by hazard. It need to be planified to obtain a Pair. It has been taken with a comparative, symbolical and ideological intention.
1. Description & context: The two images are so similar that the visual rationale is posed only through the comparison. There is no other relevant visual information than the differences between the figure of Budha in the carved mountain in the left image and the lack of Buddha figure in the right image.

2. Changes in the depicted figures: Left: A carved mountain shows a giant sculpture of Budha. Some caves are around it. Right: A carved mountain shows the space where the giant sculpture of Budha was. Some caves are around it. Some elements have been built in the basement.

3. Structure of the Pair:
3.1. Changes in the relation between the two images: These two images are more easily comparable now. Once the disruptor element (mainly the woman in the red dress) has disappeared, the relationship before/after is very powerful.

3.2. Changes in main elements: The main elements now are reduced to sculpture and space. While in the pair of pages 8-9 the point of view, the decisive instant, were very important, in this alternative case are simply auxiliary supports similar to that of a reproduction. The main visual decisions are now reduced to a formal decisions: like framing, light, color and tone, etc.

3.3. Changes in secondary elements: The small building shown in the figure to the right under the mountain attracts our attention, but its meaning is not very relevant.

3.4. Changes in connectors: Clouds create a connection at the top, and the color of the stone in the rest of the images. But this does not lead to believe that this is a visual unit. Instead, the similarity between these two images is very similar in lights, color (except for the blue sky), brightness, material, texture, composition, and disposition in the page are important elements to fit together these two images. The hour and the weather in the moment of shot are probably not exactly the same, since shadows are softer in left image.

4. Changes in the argumentative strategies: This alternative pair is clearly demonstrative. The visual logic is not exactly photographic. The comparison is established not only because of the point of view proposed by the photographer, but for the actual fact of the demolished carved sculpture. Even with other colors, light, focus, or another framing, the before/after works anyway. These functions can facilitate conclusive, argumentative or reinforcing arguments uses, among others.

5. Links with other techniques and strategies in research: data collecting, context and detail description, qualitative documentation.

6. Visual ideas that can be useful: The visual and photographic decision have been arranged in order to make comparable this two point of view. The visual rhetoric (formal and ideological decisions taken by author of images) are not so important that in the previous pair.
1. Description and context: This Pair is included in the book *Family*, by Mead & Heyman, devoted to visually analyze the people, spaces and the cultural differences adopted by families all over the world.

2. Depicted figures: Left photo: A little child is seated near of an enormous sculpture of Buddha in Japan. Right photo: a boy leaning on a giant female figure (who seems to looks at him) used in festivals and parades in Belgium.

3. Structure of the Pair:

3.1. Relationship between the two images: These two images, among other things, are related by the parallel way they have been arranged by the attitude of both monumental figures, which seem to look at each other; by the contrast between blacks and whites that are treated both images and creating black silhouettes on white background; by the analogy that is created between two giant figures and children; and the public sphere in which they have done.

3.2. Main elements: The similitude in the postures between children and sculptures. The scale, the silhouette, the backlight and, finally the up and down of the figures are decisive to imply this visual connection.

3.3. Secondary elementos: The visual repetitive textures in both images, as a resounding background. The curved black silhouettes on white.

3.4. Connectors: The connectors of this pair are the relationship between the isolated child and the sculptures, so powerful in both cases. Besides the parallelism created by the juxtaposition and the correspondences between the figure of Buddha and the child, both seating in the image on the left, and the standing figure of the child and the standing figure of giant carnival figure in the image on the right. Visually the two topics are treated in very similar way (even with the differences in the light treatment) creating associations, identifications, comparisons, similarities and contrasts. Both images have two poles that create a similar juxtaposition between sculptures and children. Specifically, in this pair silhouettes, black and white relations, scale, high contrast, lines, shapes, closeup, centrality, disposition, and frame.


5. Links with other techniques and strategies in research: Cases study.

6. Visual ideas that can be useful:

6.1. Use of telephoto lens in the case of the left image creates the feeling that the child and Budha are closer and facilitates visual comparison.

6.2. The scale of children and sculptures in both photos, facilitates the fact that comparison is established at different levels, thus raising intercultural allusions which is an also important element in the publication of Mead and Heymans.
Visual Image Pair (Photographic Reproduction of a Painting and a Sculpture)

1. Description and Context: Barrow (2006) in his monograph on the paintings of Lawrence Alma-Tadema used several times this type of Visual Image Pair, which presents the photographic reproduction of a painting by the artist and the original Roman sculpture painted in the picture.

2. Figures represented: In the left image of the Pair, among the figures depicted in the painting by Alma-Tadema, we are mainly interested in the statue of “Augustus of Prima Porta [first gate]” currently on display in the Vatican Museums. (Musei Vaticani, 2014)

The image to the right of the Pair is a photograph of the same sculpture, whose negative, dated between 1870 and 1880, is in the National Institute for Prints in Rome. (Culturalitalia, 2014)

3. Structure of Pair:

3.1. Relationship between the two images: Subordination. The right image of the Pair, the photography in black and white explain, a fragment of the painting by Alma-Tadema.

3.2. Key Elements: The main element of the pair is the extraordinary accurate concurrence of the representation of the statue of Augustus in the painting and the photo.

3.3. Secondary elements: the numerous human figures, all the architectural elements as well as the abundant objects and tools in the painting of Alma-Tadema.

3.4. Connectors: Four elements establish the connection between the two images of the Pair.

First, the great similarity between the size of the sculpture in the photo and the painting. If the size of the photographic reproduction of the sculpture was the same as the reproduction of the painting, then some visual effects would dilute the clarity of the argument. For example, creating an undesirable sensation of spatial depth between the two images due to the difference in size between the two statues.

Second, the extreme similarity between the point of view of the sculpture displayed in the two images.

Third, the great similarity of the illumination of the statue in the two images, discordant only in the legs. In the painting by Alma-Tadema right leg of Augusto figure is illuminated and the left leg is in shadow; while photography is just the reverse.

Fourth, the photographic reproduction of the original sculpture is presented in black and white, while the reproduction of the painting is full color. This difference highlights which of the two elements of the pair is explaining to the other. The photo explains the statue of Augustus in the painting, and not the reverse.

4. Argumentative strategies: The main thing in this case is the causal explanation. The photographic reproduction of the sculpture of Augustus explains the characteristics of the main figure of the Alma-Tadema’s painting. This also demonstrates the rigor and accuracy, from an archaeological and historical point of view of the scene depicted in the painting, which is one of the fundamental characteristics of the artist’s style.

5. Relations with strategies and research techniques: The causal explanation - the elucidation of what elements or circumstances are originating or produced the result - has been one of the most popular targets research both in natural sciences and in human and social sciences. Therefore different types of causal explanation, its logical and epistemological foundations and its relation to other research purposes, such as empirical corroboration or predictive power of a theory, still widely debated (Woodward, 2014).

6. What visual ideas can be deduce from this Pair?

6.1. Unlike equivalence relations or coordination between the two images of a Pair, relations of subordination of one image of the Pair relative to each other, as in this case, do not produce metaphors.
Pair of Prints

1. Description and Context: Albrecht Dürer, the great artist of the Renaissance in northern Europe, drew, wrote and printed several books devoted to art theory and teaching art (Dürer 1525, 1528). He took special care in both innovative printing techniques and the visual organization of the images in the final printed book. Many of these prints are organized as Pairs. The one shown in the next page is an example of Pair, where each of the two parts is, in turn, also a Pair. Many of the preparatory drawings for the engravings published in his book are preserved. Therefore, it is possible to reconstruct in some detail, how Dürer initially drew these images, and how they were elaborated, organized and selected for the final publication (Strauss, 1972).

2. Figures represented: Four figures of the adult nude female body, two front and two in profile, drawn with a solid, fairly homogeneous, silhouette line, as well as some of the main anatomical elements in the human body.

3. Structure of Pair:

3.1. Relationship between the two images: The relationship between the two images of the Pair is explanatory. Left figure explains and demonstrates how the final result, showing in the right engraving, is obtained. The two main functions of this Pair of Prints are: first, the description of the proportions of the female figure, both front and in profile; and second, to explain how the two points of view of the same human figure correspond to each other.

3.2. Main elements: The four female figures and the straight lines serving different functions: vertical axes, the correspondence between the key points of the human figures, indicating the base line, and the frame of thick parallel lines suggesting a dark background.

3.3. Secondary elements: The two texts, one in each image of the Pair. The left says "A peasant type of person seven heads tall" and the right "here the construction lines are omitted." Notice the written information is redundant of the visual information.

3.4. Connectors: The three visual connectors between the two pages of the Pair are very emphatic:
(a) the same human figure repeated four times, two front and two in profile, with identical anatomical details;
(b) Base lines and construction lines reinforce the exact correspondence of the four figures and the correspondences between the front view and profile; and
(c) the homogeneity of the graphic style in the two prints.

4. Argumentative strategies: The main ones are: (a) The exact description of the necessary anatomical details for the correct proportions of a human figure for artistic purposes, such as drawing and painting; and (b) the deduction of different point of view from maintaining the same proportions.

5. Correspondence with instruments and research techniques: These two argumentative strategies, description of the appropriate elements of a situation and deduction of the consequences, are common in many research methodologies.

6. What visual ideas can deduce from this pair?

6.1. A Pair of Visual Images can synthesized in only two images, the explanation of a result, showing the deductive process in which it is based.

6.2. A Pair of Visual Images can display two complementary perspectives on the same subject, to provide a complete view of it.

6.3. Consideration of these two engravings as a Pair is controversial. Is it a Pair or is a Series of Prints reduced in two images? The main difference between a Pair and a Series, is that the series is always open to a larger number of images, while a Pair is composed by two elements. In the case of this two human figures in each image of the Pair (front and profile) would be possible to interpolate a large number of drawings that correspond to other views of the human figure, three-quarter front three-quarter profile, and so on. The fact that this number has been reduced solely to two figures responds to the interests of efficiency and economy. The main argument to considered the double page of the Dürer’s book as Pair of Prints is the meaning of the Pair is more complete than the sum of the meanings of each image separately. The two images of a Pair cannot mere duplication or simple repetition.
**Photo Pair**

1. **Description and Context:** This Pair of Figure 9, as the Pair of Figure 10, comes from the book of the Mexican scientist Dr. Deborah Dultzin (2003).

   The pair is composed with two photographs. The boundary between them is not indicated. Each photograph was taken by a different telescope, both located in Hawaii. The two pictures are the same astronomical object: the quasar 1059 + 730. The above photograph was taken in May 1983 and the bottom in July 1984. The difference between the two photo is the bump on the bottom of the photograph situated below. This bump is interpreted as the explosion of a supernova.

2. **Figures represented:** The two pictures show the same astronomical object.

3. **Structure of Par:**
   3.1. **Relationship between the two images:** The two photos have identical framing, focus, lighting, etc. in this case motivated by the rules of astronomical research, to make strict comparisons between two images of the same object over time.
   3.2. **Main elements:** The astronomical object represented in the two photographs.
   3.3. **Secondary elements:** The ruler to measure astronomical distances overprint on the image. The fuzzy outline have been produced by the limitations of photographic instruments.
   3.4. **Connectors:** The exact similarity between the two images: the same black background, the similar size of the central spot and the identical blur.

4. **Argumentative Strategies:** to compare the same element in two different moments to demonstrate the differences or changes, and to deduce the occurrence of an astronomical phenomenon.

5. **Correspondence with instruments and research techniques:** this research technique is common in astronómicas sciences.

6. **What can deduce from visual ideas, esta pair?**
   6.1. In scientific disciplines in which visual images are used systematically there is general agreement on standards and requirements for comparisons between two images.

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**Pair of Photography and Graphic**

1. **Description and Context:** Visual Image Pair composed with two visual images of the same astronomical object, Virgo A (M 87), the left is an optical image obtained with a telescope, the right is a chart or map which represents the radio signals from the same astronomical object, obtained with a radio telescope.

2. **Figures represented:** In the two images is represented the same astronomical object, but each of the images is using a different mode of representation, according to different types of data: Left image, light, and the right image radio waves.

3. **Structure of Par:**
   3.1. **Relationship between the two images:** the same framing and composition to facilitate comparison between the information presented photographically and information represented in a chart or map.
   3.2. **Main elements:** Both the similarities and the differences between the two pictures. Both types are crucial in the Pair.
   3.3. **Secondary elements:** No secondary elements appear to avoid any unwanted data or information (distortion, interference, noise, etc.).
   3.4. **Connectors:** Although there are some general similarities, such as organizing diagonally and clearly delineated figures on neutral background, the main thing is that the two images are presented side by side.

4. **Argumentative Strategies:** description of different aspects of the same element to give a fuller explanation of its features.

5. **Correspondence with instruments and research techniques:** this research technique is common in astronómicas sciences.

6. **What can deduce from visual ideas, esta pair?**
   6.1. When the ‘Visual Image Pair’ is composed owithdifferent types of images, the characteristics of each image are very noticeable: light and shade in photography, fine lines and closed forms in the map.
   6.2. Different systems of representation discover complementary qualities in the same phenomenon.
Photo pair

1. Description and Context: This Photo Pair and the Independent Photography (reproduced here in attenuated contrasts) is one of the artwork of the project ‘A camp bohémiens pour les’ [A camp for gypsy people] that the French photographer Mathieu Pernot developed during 1998 and 1999. Pernot located a collection of anthropometric photographs of gypsy people, of all ages, who were imprisoned in a concentration camp in the French Camargue, during the ‘Vichy Regime’ (1940-1944), the years of the occupation of France by Nazi Germany. Pernot located the survivors and descendants of the camp, to confront the photographic and written documentation of the concentration camp with interviews and photographic portraits of survivors: “In this way the project relates living memory to archival documents and interrogates the act of reconstructing history from the point of view of those who have not written it.” (Pernot, 2014: n.p.)

2. Figures represented: The three photographs presents the same person: Gemaine Campos. The Photo Pair is dated between 1940 and 1944.

3. Structure of the Pair: This section deal not with the complete works by Pernot, but with the top Photo Pair.

3.1. Relationship between the two images of the Photo Pair: Summative coordination. His verbal equivalence might be: “This is Germaine Campos front and side.”

3.2. Main elements: All items displayed on each of the two photographs are main elements because all decisions on this type of Photo Pair, colloquially known in English as “mug shot”, minimizing the secondary elements, to facilitate faster and unambiguous identification of the person portrayed.

3.3. Secondary elements: Virtually none of the figures or items that appear in each of the two photographs could be considered as such. The hairstyle and type of clothing identify the gypsies.

3.4. Connectors: The two main connectors are:
   (a) first, the complete correspondence between the two portraits of the same person, with the same clothes, at the same time; and
   (b) all the photographic features of the two pictures are exactly the same: frame, point of view, lighting, neutral background, and so on.

   The small irregularities that are seen in this Pair, mainly the figure of the girl is displaced downward in the picture to the right of Pair, can be attributed to an error in the process of making these kinds of forensic photo.

4. Argumentative strategies: The principal here is the complete standardised description (front and profile) in order to identify the person portrayed. This type of Photo Par is used in police and forensic photography. It has been standardised by Françoise Bertillon (1885).

5. Linking strategies and research techniques: In the different methodological approaches in research, a conventionalisation of the number and type of variables that must be considered in the complete description of a person, or group or a learning situation, it is established. For example, in quantitative approaches age, sex, academic record, IQ, type of school and family socioeconomic status are common.

6. What visual ideas can be deduced from this pair? 6.1. To adopt the same photographic decisions for the two photographs of a Photo Pair guarantees the soundness of its connectors and extreme ease of comparison.

6.2. The widespread use of rules and conventions can create unlimited Photographic Series.

Figure 13. Literal Visual Quotation (Pernot, 1998-99)
Conclusions

The ‘Visual Image Pairs’ and ‘Photo Pairs’ are a research tool and a framework for visual arguments very versatile and useful in Arts Based Research and Artistic Research. Photo Pairs are commonly used in a wide variety of disciplines in natural sciences and in the humanities and social sciences. In some of these disciplines there are a refined system of rules and conventions to facilitate the interpretation of visual data and visual ideas that the Photo Pairs provide. Photo Pairs are very effective for creating visual narratives and metaphors in research.

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