

SPECTRUMS AND INDEXICALITY

Through The Abyssology Of João
Maria Gusmão & Pedro Paiva

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ABSTRACT

This chapter aims to build on the work of João Maria Gusmão and Pedro Paiva to develop the ideas of spectrums and indexicality. Rather than trying to interpret or develop their ideas in some way, we will use their work, with particular emphasis on an exhibition from 2008, as objects of theoretical experimentation to understand how certain perspectives are reflected in them. To do this, we will start with the concept of “spectrum” and some perspectives based on it, such as that of Jacques Derrida, and we will outline a possible reading of the exhibition. We will then reject this perspective and, through spirit photography, develop a use for the word “spectrum” from another point of view, focusing the main divergence on the concept of indexicality. Finally, through this new perspective, we will understand how it has consequences for the approach to all art and experience, namely through Nelson Goodman’s concept of worldmaking.

Keywords: Spectrum; Indexicality, Worldmaking; João Maria Gusmão; Pedro Paiva.

1. APPROACHING THROUGH SPECTRUMS: HAUNTOLOGY AND HYPERREALITY

In this first part we set out to frame and identify what could be considered as a *hauntological* approach to art and media theory, which, in all its diversity, has been constituting a conceptual basis for many of the defining approaches to new media art in contemporary times. The development of this approach may be mainly traced to the thinking of Jacques Derrida and his text *Specters of Marx*, in which he defines a *hauntological* approach, as opposed to an ontological one, as the search for what is hidden, oppressed, and implicit instead of an essence that defines whatever entity or concept we are approaching. Referring to Marx and Marxism, Derrida argues that this spectre appears as a ghost that, through its assimilation as something dead (mentioning the supposed end of History / Philosophy / Marxism), haunts the present as absence. Latent in all existence, it operates by means of a negative logic that surrounds it and which allows it to operate as such. This approach, which promotes a “disjointure in the very presence of the present, this sort of non-contemporaneity of present time with itself” (Derrida, 2006, p. 29), becomes a method of analysing the most

¹ Author's translation.

varied objects and discourses in the search for a negative logic that allows them to be read again. This method of analysis, in his case of Marxism, has been observed as a clear sequel to the deconstruction project he had already developed at the time. However, it is we are particularly interested in the way Mark Fisher, who recycles his terms, differentiates them:

Hauntology was the successor to previous concepts of Derrida's such as the trace and *différance*; like those earlier terms it referred to the way in which nothing enjoys a purely positive existence. (...) But hauntology explicitly brings into play the question of time in a way that had not quite been the case with *différance*. (Fisher, 2014, p. 17)

What seems to be crucial for Mark Fisher, and that actually makes sense considering his capitalist realism project, is the fact that hauntology is not solely focused on searching for what is missing, but for what is dead, what was once the case. Discarding Derrida's scepticism for claiming any essence in any concept whatsoever, Fisher sees in this search for what is dead but remains present in its absence a way to reflect on the absence of future that he thinks is fundamental to contemporary capitalism. In this way, he sees hauntology less as absolute scepticism about any form of identity and more as an approach to the possible futures that died with capitalist realism.

From this approach, Fisher examines many cultural manifestations, such as films and specially music, in which he claims that these dead but still present qualities would be materialised. If we take, for example, Jean Baudrillard's propositions into account, the author associates the contemporary condition of media with a disappearance, a death. Extending the conclusions of Marshall McLuhan (1994, p. 7), who said that "the medium is the message", Baudrillard states that there is no longer any revolutionary potential in the medium as such, since it has imploded into the underlying hyperreality (Baudrillard, 1991, pp. 107-108). In this way, it is easy to see an intersection between Baudrillard's ideas and Fisher's hauntology when he proposes that this absence of future in sociological terms is equally reflected in current media developments. Baudrillard had said that "There is no longer a medium in the literal sense: it is now intangible, diffused and diffracted in the real, and one can no longer even say that the medium is altered by it" (Baudrillard, 1991, p. 44)¹. His claim was that the term "media" itself no longer makes sense because it doesn't mediate reality, which becomes hyperreality, given the impossibility of deferring it from fiction. The sign, for Baudrillard, given its unpredictability in

terms of reference, would then lose its mediating (or communicational) power. Baudrillard sees this manifesting in many contexts, such as reality shows, but there's an inherent aspect of contemporary media that constitutes the core for proclaiming the death of media/future, which is the digitalisation of the image, namely the moving image. We can also see a resemblance to Fisher relating to this when he says, referring to hauntological artistic practices:

The artists (...) were preoccupied with the way in which technology materialized memory – hence a fascination with television, vinyl records, audiotape and with the sounds of these technologies breaking down. (...) Crackle makes us aware that we are listening to a time that is out of joint; it won't allow us to fall into the illusion of presence. (Fisher, 2014, p. 19)

What seems fundamental for Fisher is the materiality of these objects that, contrary to digital expression, for him are still able to mediate. For him, they don't make the spectator think they're in front of a presence, which would be the basis of hyperreality. As Baudrillard also said:

In High Definition, the (electronic, numerical or synthesized) image is nothing more than the emanation of the digital code that generated it. It has nothing more to do with representation, and even less with aesthetic illusion. All illusion is abolished by technical perfection. (Baudrillard, 1995, 104)

Given this triangulation of authors, we can now examine João Maria Gusmão and Pedro Paiva's long partnership of work, in which they primarily focused on working with 16mm film (and never with digital video). We can ask how a reading through this perspective would approach their work, especially taking into account Baudrillard's and Fisher's scepticism about digital technologies and the potentiality of analogue media for a construction of a future. For Fisher, hauntologic is not nostalgic, for it appropriates old technologies to return to a materiality supposedly lost with digital media. This is how we can see the relation with Baudrillard's death of media. In this sense, the spectre would be the media that, being dead, would now return. In this sense, from a first watch, Gusmão and Paiva's work, through an approach exclusively focused on 16mm film, can be seen as conjuring this latent spectre that haunts the presence of a non-mediated reality. We propose to focus primarily on *Para uma ciência*

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² In English, this would be translated to something like: "For a transitory science of the indiscernible: the Abyssology". The concept "abissologia" comes from the Portuguese words "abismo" and "lógica", which in English would be "abyss" and "logic", so here I propose, and from this moment on will adapt, a translation in English as "abyssology".

*transitória do indiscernível: a Abissologia*², an exhibition from 2008, and the texts in which they explain the concept they created, *abyssology*. We want to see how this reacts against the approach with which we've began our research and explore if they are, in any sense, aligned.

2. THE INDISCERNIBLE

The exhibition we'll be looking at here was divided over two floors at Galeria Zé dos Bois and was accompanied by a book that will also be important for our research. On both floors, we could find a series of 16mm film projections complemented by sculptural objects and photographs. Some of these projections were made up of several short films of a few minutes while others were of just one longer film. On the first floor there was a double projection and another one produced by a *camera obscura*. This huge presence of 16mm projections already resembles Fisher's ideas, who referred to hearing the crackling of the technology itself. Refusing an illusion of presence, the loud sound of the projectors working is an element that makes the devices here impossible to ignore. The materiality and mediating power of these films become particularly noticeable through the combination of projections and sculptural objects, placing them in some way in similarity. The short films seem to act out forms and small events that materialise in the space in a similar way to the sculptures. This relationship is very evident in the first works on floor 0, where we see two projections, one of five short films and the other of the 8-minute film *A Grande Bebedeira (The Great Drunkenness)*, mediated by a sculpture, *Oso sem Nome (Nameless Bone)*, a whale bone. A documental style runs throughout the whole work. They document small events, usually in a fairly direct and frontal way. At the same time, some of the objects from the films are physically present in the exhibition, providing a ground of proof for the reality they're presenting, resembling a scientific or documentary exhibition. However, there is at the same time a peculiar sense that many of these objects and processes point to supernatural, fictional, or simply illusory phenomena. The themes here presented are not really scientific, but much closer to what one would call "parascientific."

One of the films included in the selection for the first projection is *Eclipse Ocular (Ocular Eclipse)*, a game-film in which the ecliptic phenomenon is reproduced using a miniaturised ostrich egg, and which serves to broadly summarise the whole *abyssological* project. The contradiction between a sober

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documentation of an eclipse, an astronomical phenomenon whose images are reminiscent of scientific exploration, and the fact that this is actually a reenactment made with a model, an egg, shows us a seemingly paradoxical interest in both using film to document and in the illusion made capable by it.



Fig. 1 - Photo of Floor 0. We can see the *Ossos sem Nome* sculpture and the film *Ocular Eclipse* in the background. © Galeria Zé dos Bois.

Regarding the first element, we will recall the interest not only in the documentary record typical of a scientific approach, but also the interest in the eclipse as a shadow formation. The importance attached to the shadow by the artists is literally omnipresent if we consider that all the objects on display are bathed in it, in an umbra from which they are invoked. However, we also find it more explicitly in other short films such as *O Homem Sombra (The Shadow Man)* or *O Oculto (The Occult)*, the latter of which shows us a large monolith and its shadow - the occult emerging in the process. The second element reveals a great interest in illusion, falsification and, above all, the ability of the cinematographic image to provoke it.

The duality and clash between these two forces - on the one hand to

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³ Author's translation.

document, but on the other to reveal it as an illusion - will build the support axes of this whole project. As the artists say:

(...) 'the world always manifests itself according to some indiscernible aspects', we can say that the visible is in lapse. To see the world intimately is to appreciate its lack of nexus, to see that in essence it is made up of parts that do not relate to a whole; that there is no One; that the parts that make up the world also have an indiscernible zero lurking in them, a nothingness that hides in the shadows. (Gusmão & Paiva, 2008, p. 30)³



Fig. 2 - *O Oculito* film still ©
Galeria Zé dos Bois.

In this statement, we see the introduction of the indiscernibility that gives the proposal its name, this central element that regulates the logic of their experiences. Abyssology - the logic of the abyss - the search for this space where the indiscernible is found. The artists set out to find this place, the absent space that diffuses throughout the present space. One of the most particular objects in this exhibition comes in the form of an installation which the artists call *Horizonte dos Acontecimentos (Event Horizon)*, made up of four elements

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which, unlike the other objects, that are defined individually, are concatenated into a single installation, forming a whole.



Fig. 3 - Photograph of Floor 0, where we can see some of the elements of the *Horizonte dos Acontecimentos* installation. © Galeria Zé dos Bois.

⁴ Author's translation.

One of the most prominent elements of this piece (which we can detect in Figure 3) consisted of a large monolith hanging from the ceiling, where a rope was attached underneath in such a way that only a small piece was hanging by the force of gravity. This object was illuminated in such a way as to allow the formation of an image created by a *camera obscura*, where we could see the structure in its inverted form. This, in turn, gave us a rope naturally resting on a rock, but from which a piece seemed to levitate. If we look at the way Gusmão and Paiva define this “horizon of events”, we read that “it occurs when various events rush into the clearing of a ‘black hole’ and, on approaching this great non-being, reverberantly hesitate to enter non-existence” (Paiva & Gusmão, 2008, p. 31).⁴ Now, if we consider, for example, another element presented

here, a short film in which a water drop literally bursts through the hands of an undefined subject, we see once again how the production of images (whether by film or *camera obscura*) appears here to be associated with the production of magical, impossible phenomena. One may ask if these films are attempts of illusions, but one can't help but think of how these phenomena are mostly familiar processes. Taking this into account, we see their work not necessarily as attempts of illuding us, but more as portrayals of illusions.

Noticing the way Gusmão and Paiva's work depends on a mediating and documental capacity of film to present reality and truth, their choice of working solely with film creates an immediate resonance with a hauntological reading marrying Derrida and Baudrillard, where the incapacity of the digital image to mediate reality would capacitate the ghost of film to emerge in an exhibition like this one. In this way, one can see here, precisely in the same way Mark Fisher saw in some musical works, a past that still refused presence being rescued to the present. Abyssology's concept, of looking for the absent space, also finds clear resonances with hauntology's logic. However, we find the magical character presented here particularly important, as if photography is being used to trick us. This is the ambivalence that allows the artists to call their work "parascientific". This way, if the pessimistic approach to digital technologies seemed to rely on its incapacity to mediate reality and carry any sort of material evidence, we find in Gusmão and Paiva's work a play of illusions that seems to approximate much more to the crisis of truth that digital technologies seemed to represent than to analogical concreteness. Before proposing to establish a different relation, we'll take a detour to better understand and contextualise the ground we've been developing in order to properly propose another option.

3. PHOTOGRAPHY AS SPECTRALITY

To better understand how a hauntological approach to contemporary media would work, starting from the temporal process that we gave focus to, it becomes important to understand how photography has been, throughout its history, defined and characterised. If the hauntological approach is the search for what has been lost, and if there's an attempt to direct this at digital media, we need to understand what exactly is it that has been proclaimed dead. For this, we need to clarify another spectral character, one that has been attributed to photography's essential condition. Perhaps the most important association resides in a reasoning established by Roland Barthes in the text *Camera Lucida*,

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where he searches for an ontological essence of photography and claims that:

Ultimately, what I am seeking in the photograph taken of me (the “intention” according to which I look at it) is Death as the eidos of that Photograph. (...) by attesting that the object has been real, the photograph surreptitiously induces belief that it is alive, because of that delusion which makes us attribute to Reality an absolutely superior, somehow eternal value; but by shifting this reality to the past (“this-has-been”), the photograph suggests that it is already dead. (Barthes, 1982, p. 15, 79)

The photographic image gains, with Barthes, a defining essence that resides precisely in its ghostly condition, in an association with a mechanism for producing ghosts, a reasoning similar to that of Susan Sontag when she writes that “All photographs are *memento mori*. To take a photograph is to participate in another person’s mortality, vulnerability and mutability. By slicing out a moment and freezing it, all photographs testify to time’s relentless melt” (Sontag, 2008, p. 15). It is crucial for understanding this view, which gave photography a defining character that would distance it from painting, for example, to notice how this deathly character of photography resides in the fact that it was produced by a direct contact with what is there printed: “The photograph is literally an emanation of the referent. From a real body, which was there, proceed radiations which ultimately touch me, who am here; the duration of the transmission is insignificant” (Barthes, 1982, p. 80). For Barthes, it has a ghostly character because it induces the belief that, at the time it was taken, the photographed object was alive. This “emanation of the referent” is precisely what, for him – and later for Baudrillard – allows photography to have an ontological identity structure, in which it has meaning by this structure to which it inevitably is conditioned. This would define precisely the fundamental capacity of photography to function as a transmission of truth, that is, as its mediating effect that would have been lost with the digital image. We can see, then, that the ghostly character that, for Barthes and Sontag, defines photography is precisely the mediating effect that Baudrillard sees as being absent in contemporary digital images, which would in turn make this a haunting condition. This is, as we can see, a different way of considering both film photography and contemporary images ghostly, but which relies on a same basis. We can then schematise it as two parallel and independent movements that, for the point of view of this research, share a similar basis:

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(1) the inherently ghostly condition of photography -> as an index of a past/ dead real;

(2) the haunting condition of photography in contemporary times -> photography itself as being dead because it has lost its mediating condition (which would be precisely its ghostly condition (1))

In other words, the contemporary photographic image would be precisely haunting (2) for having lost the ghostly character (1). That is, (1) defines an essence for photography and (2) reads contemporary images as hauntingly carrying this essence as an absence, as a lost capacity. It is important to remember how Baudrillard characterises the signifying activity in contemporary times, as:

Absorption of the poles into each other, short-circuit between the poles of the entire differential system of meaning, crushing of the terms and of the distinct oppositions, including that of the medium and the real - impossibility, therefore, of any mediation, of any dialectical intervention between the two or from one to the other. (Baudrillard, 1991, p. 108)⁵

This difference between analogue photography and digital images, structured pretty clearly by Baudrillard, points to a difference between a stabilised structure of meaning and an anarchic system of impossible mediation. It is precisely because he sees photography as structured on a defined relation that he sees how this relation, being lost, loses any sense of meaning. If we take a close look at how this signifying activity would be represented, it looks something like this, where the continuous lines represent mandatory relations and the dashed lines optional ones:

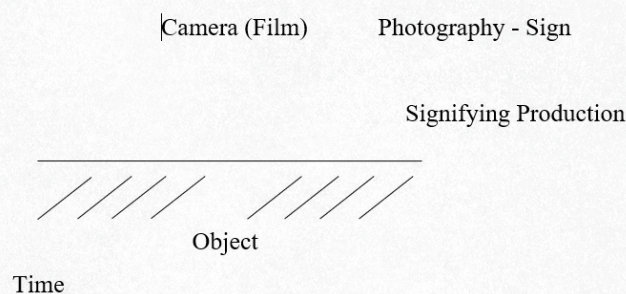


Fig. 4 - Photography's structure as a defined meaning production. © Author.

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⁶ We choose the term "digital images" instead of "digital photographs" precisely because of the ambiguity in relation to its character as photographs or not, being that the main point here is that the connection it has to reality is not guaranteed.

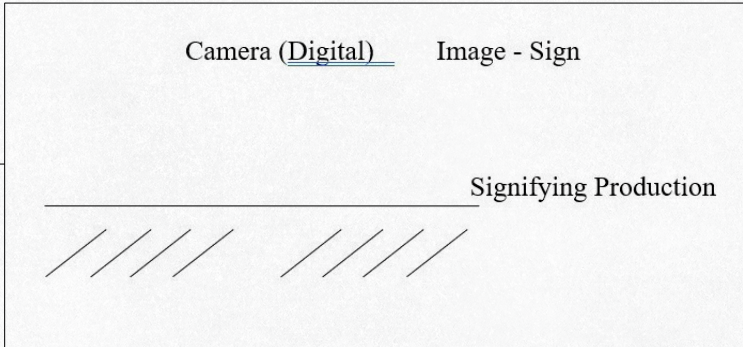


Fig. 5 - Digital images' system as an anarchic production. © Author.

Through these diagrams, we try to elucidate the explicit differentiation between film photographs and digital images⁶ that we can construct from the approach of these authors: on the one hand, the first has a mandatory relation to reality, in its past, and which gives the photograph its signifying activity; on the other, in digital images, the image no longer guarantees any connection to an object or reality, and so its signifying production can go anywhere, real or not. This anarchic character specially resembles Deleuze & Guattari when they write about rhizomes, as opposed to identity relations:

Unlike a structure, which is defined by a set of points and positions, with binary relations between the points, the rhizome is made only of lines: lines of segmentarity and stratification as its dimensions, and the line of flight or deterritorialization as the maximum dimension after which the multiplicity undergoes metamorphosis, changes in nature. (...) The world has lost its pivot; the subject can no longer even dichotomize, but accedes to a higher unity, of ambivalence or overdetermination, in an always supplementary dimension to that of its object. (Deleuze & Guattari, 2023, p. 22- 25)

This rhizomatic relation, that resonates with the establishment of a digital media differentiation from photography's structured identity, is precisely one of the main points adopted by consequent authors that try to systematise the differences caused by digital technologies, even when not adopting the same pessimistic character that Baudrillard had. For example, Lev Manovich says that "New media change our concept of what an image is – because they turn a viewer into an active user. As a result, an illusionistic image is no longer something a subject simply looks at, comparing it with memories of represented reality to judge its reality effect" (Manovich, 2001, p. 183). Steven Shaviro, proposes something similar:

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⁷ We can certainly differ different grades for this proposal. Baudrillard, from which we started, has an absolute and pessimistic view of this anarchic relation. Deleuze, on the other hand, not only sees it as ontologically grounded, but also with emancipatory potential. However, we group them together as an attempt to synthesise this dichotomy.

⁸ Independently of what perspective we want to adopt for the relation between a linguistic sign and its meaning, here the distinction as being a "random law" wants to establish most of all a distinction from icons and indexes in the sense that a word doesn't have its meaning neither by a physical relation to an object nor from a figurative sense. That's what we mean by "random law".

All digital video is expressed in binary code, and treated by means of algorithmic procedures, allowing for a continual modulation of the image. (...) digital video is an art of what Deleuze calls the *dividual*: a condition in which identities are continually being decomposed and recomposed, on multiple levels, through the modulation of numerous independent parameters. (Shaviro, 2010, p. 15, 17).

Either by seeing it as a pessimistic hyperreality or an optimistic rhizome, we can trace as common ground the fact they differentiate between the two signifying productions, those of old media and film and those of new media and digital images, as essentially different. One, previous, grounded on a structured identity. The other, contemporary, an anarchic system in which meaning doesn't carry any relation to reality.⁷

However, taking this argument that places these two types of images as having clearly different natures, we also want to take into account how this association of photography's relation to the portrayed object with the concept of *index* by C. S. Peirce. This relation was elucidated by Peter Wollen (2013) and later became diffused in other texts. Dividing the sign in three possible categories in terms of its relation to the object, Peirce explains:

An Icon is a sign which refers to the Object that it denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such Object actually exists or not. (...) An Index is a sign which refers to the Object that it denotes by virtue of being really affected by that Object. (...) In so far as the Index is affected by the Object, it necessarily has some Quality in common with the Object, and it is in respect to these that it refers to the Object. It does, therefore, involve a sort of Icon, although an Icon of a peculiar kind; and it is not the mere resemblance of its Object, even in these respects which makes it a sign, but it is the actual modification of it by the Object. (...) A Symbol is a sign which refers to the Object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the Symbol to be interpreted as referring to that Object. (Peirce, 1955, p. 102)

Presenting these three possibilities of relation between the sign and its object, the index would not relate to it by a random law (like a word relates to its meaning⁸) or by similarity, but by a physical relation. Among the examples frequently given by Peirce is a weathervane, which functions as a sign for the

wind's direction by a direct relation with it. Even photography is referred as working as an indexical sign:

Photographs, especially instantaneous photographs, are very instructive, because we know that they are in certain respects exactly like the objects they represent. But this resemblance is due to the photographs having been produced under such circumstances that they were physically forced to correspond point by point to nature. In that aspect, then, they belong to the second class of signs, those by physical connection. (Peirce, 1955, p. 106)

This association, included in Peirce's texts, could be interpreted as a fundamental capacity of a photograph to function as a transmission of truth, presupposing that photography implies the photographed object. However, in order to understand what this means, it becomes extremely relevant to understand what a sign is and how a sign works for Peirce, who divides it in three parts:

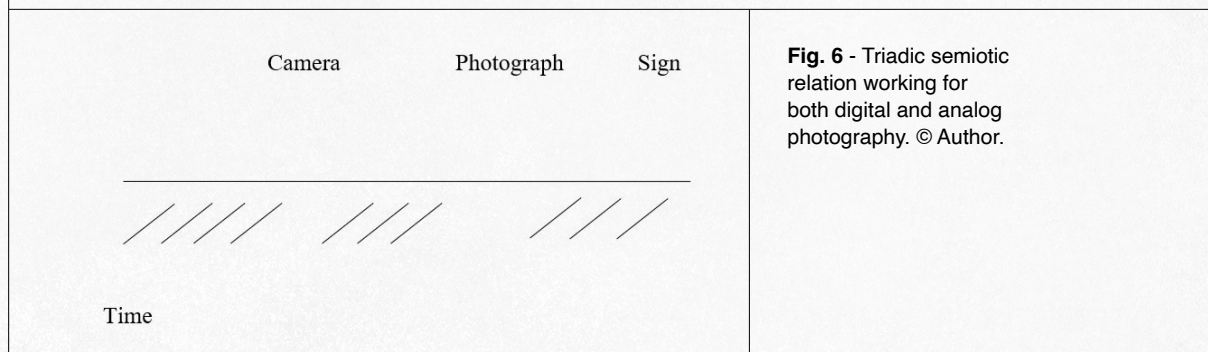
A Sign, or Representamen, is a First which stands in such a genuine triadic relation to a Second, called the Object, as to be capable of determining a Third, called its Interpretant, to assume the same triadic relation to its Object in which it stands itself to the same Object. The triadic relation is genuine, that is its three members are bound together by it in a way that does not consist in any complexus of dyadic relations. (Peirce, 1955, p. 100)

The importance of this triadic relation is that it makes the signifying relation rely on a third element besides the sign and the object, the interpretant. As E. San Juan Jr. puts it:

Thought is taken here to be the signifying process of inference, the methodology of meaning-production. The meaning of the sign is not always and necessarily arbitrary because it depends on the thought that interprets it; numerous interpretants predicate real relations between signs and their objects, as in the case of indices (for example, weathercocks). Nor is it correct to assume that conventional symbols (such as a red stop sign) are arbitrarily interpreted; the interpretant has to translate it correctly, or expose herself to real risks. (San Juan Jr., 2004).

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The signifying production becomes, then, not an essence of the sign for being a sign, but a mental activity in which the interpretant produces it, regulated by communal normativities. It is this thought that makes the sign function as a sign and the interpretant, the most innovative feature of Peirce’s semiotics, is precisely this understanding of the relation between object and sign. The index, then, for Peirce, relates to an assertion such as “See there!” or “Look Out!” (Peirce, 1955, p. 111) and where this indexicality, and its meaning, comes from the mental relation to that sign. In this sense, it is important to remember how Peirce constantly reminds the reader of how the indexicality of the sign and the meaning produced depends on the way the subject uses the sign, for example, a thermometer is only well read when the person reading it knows how to use it; or, even more dramatically, if a child puts a thermometer in hot tea to fake their illness, the person reading it will misinterpret its indexicality. The indexicality alone, then, doesn’t work as a mechanism of truth, because it is a product of the interpretant’s reading. In this way, we can see how, even if Peirce’s ideas have been utilised for defending an essential role for photography, his ideas actually point to an alternative way. The relation is not dyadic but triadic, be it indexical or not. We can, then, reformulate the graphs made before like this:



The indexicality of the sign, not only is not given, but is also not the only factor for producing meaning, be it made through a digital or a film camera. We can see how, in this case, the scheme looks much more like Peirce’s semiotics and works in the same way for both digital and analogue photography.

What this means, then, is an approximation of both photography’s technologies, in which the interpretant’s role in analogue photography is not as structured as it was supposed to be, and in which digital photography also has its meaning structured by pragmatic normativity. To better elucidate this, we’ll look at spirit photography, serving as a good example of this dynamic, and then

⁹ Author's translation.

see how Paiva and Gusmão's work can be read as working in a similar way.

4. SPIRIT PHOTOGRAPHY, ABYSSOLOGY, AND INDEXICALITY

From what we've seen, a *hauntological* approach to new media constructed upon absolutising differences between contemporary and old photography is based mainly on a dyadic relation between sign and object, contrasting to Peirce's semiotics and the way it allows the sign to have a thought-based traction that approximates both digital and film photography on the norms shaped by the interpretants. However, instead of rejecting a utility to the concept of spectrum altogether to deal with these ideas, we propose another use for it through spirit photography practices. Interested in this practice as more than a simple historical document, Margarida Medeiros was concerned with clarifying how it incorporates a particular relationship with the photographic mechanism, one which is based, more than on artistic intentions, on its role in what she called "the mechanism of truth". It is the automatic reproduction, an *apparent* capture of reality, that validates the spiritist discourse made about this: "The beautifying effect (photogenic) of photography is contrasted here – as also happens in scientific photography – with the magical effect of realistic duplication" (Medeiros, 2010, p. 176)⁹. Medeiros is above all interested in finding such a strongly documental side to a practice that seems to be diametrically opposed to it. The resonance between this and the ideas we've been exploring is clear, as Medeiros sees in spirit photography a usage which is based on the capacity of photography to document, to show reality, truth. These practices simulated the photographic caption of spirits through double exposures, ostensibly providing proof of their existence.



Fig. 7 - Photography taken by William Mumler in the early 1870s. © Scalar

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It is precisely in this line of thought that Tom Gunning, equally fascinated by this practice, reveals the importance of paying attention to what these objects reveal to us, more than about the ghosts themselves, but about the photographic mechanism and our relationship with it. In this sense, it is important to understand how these images are constituted: “the term phantasmatic denotes images that oscillate between visibility and invisibility, presence and absence, materiality and immateriality, often using transparency or some other manipulation of visual appearance to express this paradoxical ontological status” (Gunning, 2007, p. 99). When observing examples, we notice how these are formally composed of a contradictory relationship where the allegedly magical character appears highlighted precisely by the way the remaining elements appear natural and similar to documental photography. For the ghost to emerge, the photograph must necessarily have a realistic, concrete, and naturally portrayed element that validates the existence of another fictitious, ghostly object: “... a clash of different representations of bodies confronts us (at least on a formal level), the one familiarly solid and positioned, the other somehow filtered by the process of transmission into a virtual body, weightless or permeable — a phantom” (Gunning, 2007, p. 100). The ghost always appears when the medium points to itself; that is, it questions its ontological assumptions, which reside mainly in its indexicality and respective association with an inherent realism.

Taking these observations into account, we now propose to translate this point of view to João Maria Gusmão and Pedro Paiva’s work, and its relation between showing the documental capacity of film and the illusions made possible with it. Their films, and their apparent documental way of presenting reality, conceal a completely illusionary portrayal. It is precisely through this perspective of spectrality that we want to approach what seems to us to be the crucial point of the abyssological project: “the way photography itself, as a medium, becomes foregrounded. In these images, we no longer see through the photograph but become aware of the uncanny nature of the process of capturing an image itself” (Gunning, 2007, p. 112). What seems particularly fascinating is that these practices worked and fooled plenty of people precisely because of photography’s ontological assumptions of being a “mechanism of truth”. In retrospect, when we look at them knowing how they were produced, they become the most perfect way to see how these assumptions are imperfect, showing how the sign is produced by norm-governed thought. Gusmão and Paiva’s work will then appear, not as a nostalgic look at the capacity of film, but as a proof of film’s manipulability, of its “magical power”. Spirit photography shows us precisely how a person’s relation to a photograph is mediated by

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thought and how this is shaped by the person's living context. This turns into a temporal relation similar to:

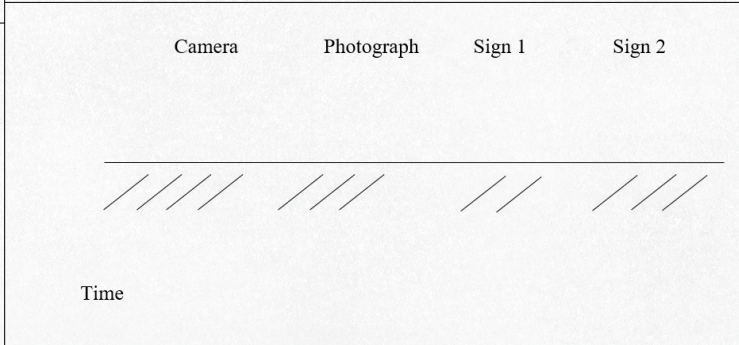


Fig. 8 - Triadic semiotic relation over time and different interpretants. © Author.

The ontological difference between analogical and digital images becomes, then, much more blurred, as defended by Gunning when he says:

The claim that the digital media alone transforms its data into an intermediary form fosters the myth that photography involves a transparent process, a direct transfer from the object to the photograph. The mediation of lens, film stock, exposure rate, type of shutter, processes of developing and of printing become magically whisked away if one considers the photograph as a direct imprint of reality. (Gunning, 2004, p. 40).



Fig. 9 - A *Chave* film still © Galeria Zé dos Bois

Something similar can also be said in the opposing direction, moving against the claim that digital images exist in a purely virtual and abstract space, to which Johanna Drucker refers:

... there is a fundamental flaw in this mode of thinking about form in an opposition of algorithm and graphic manifestation, or of geometric idea and encoded algorithmic equivalent. And this is that it is the manifestation into substance, the instantiation of form into matter that allows something, anything, to be available to sentience. (Drucker, 2001, p. 144)

With this mode of reasoning, taking Peircean semiotics, the concept of index, and Gunning and Drucker's remarks, considering photography as both a dead medium and proclaiming photography as a spectral device becomes misleading. If we point to spectrums in spirit photography or Gusmão and Paiva's work, we're referring neither to film's ontological essence nor to the fact of it being dead, but to these creatures (in the first example more literally and in the second one as an analogy) that appear in these works as materialising the mere fact of their indexicality being pragmatically anchored in the one who sees. We leave, then, these remarks with a conclusive question: If a sign is produced through the mind, how exactly does that traction we referred to work? And how do we define a photograph or a film? We'll end our investigation by seeing how Nelson Goodman answers these questions, how they give our reasoning a conclusion, and how they keep questions open for future research.

5. WORLDMAKING: WHEN IS PHOTOGRAPHY?

Getting back to Peirce's semiotics and system of signifying production, Nelson Goodman's concept of worldmaking appears precisely as what he calls "a system of symbols". Every system of symbols is a world, and his philosophy consisted precisely of systematising this assumption; instead of there only being a world with an essential truth, there are many worlds, which means many systems of symbols, which we apply according to our interactions with the things around us. An example he gives is whether the sun is always moving or never moves, arguing that both statements are true depending on the system applied: "Frames of reference, though, seem to belong less to what is described than to systems of description: and each of the two statements relates what is described to such a system" (Goodman, 1978, p. 2). What becomes extreme

but liberating in Goodman's system is how every interaction is based on the world which we're interpreting, and how that world does not rely on a truth relation with a hypothetical infra-world, but on the efficacy of it, relating this with the pragmatist approach of Peirce. This focus on symbolic systems gives us an especially interesting and revealing new approach to art, which becomes a symbolic system like any other. This is what makes Goodman answer the question of what is art with another question:

As I remarked at the outset, part of the trouble lies in asking the wrong question – in failing to recognize that a thing may function as a work of art at some times and not at others. In crucial cases, the real question is not “What objects are (permanently) works of art?” but “When is an object a work of art?” – or, more briefly, as in my title, “When is art?”. (Goodman, 1978, p. 66)

From this, Goodman goes on to try to see “when is art”, without ever giving a definite answer, something that doesn't really interest our case here. What is particularly relevant is the shift between defining art as sets of objects and defining art as a symbolic system through which we see objects. An art object not as an essential characteristic, but a way of working.

The way we want to proceed from this is to reflect how this shift in question may also be applied to photography or film, or to everything for that matter. We want to think of photography not as a set of permanent objects but as a symbolic system, a way to see a particular object, thinking about how “when is photography?” differentiates precisely when we see a photograph as a photograph and when we see it, for example, as a piece of paper with chemicals, if that's what we're interested in. That doesn't mean that the photography symbolic system is applicable to any object without criteria, but that the system being applied is defined by its projectability, by its capacity for inferences. Without expounding on a possible definition for objects that would make sense to apply it, what is mostly relevant is that: (1) the list of these objects isn't permanent, what may make sense being seen as a photograph may no longer be in the future (and vice-versa); and (2) the system itself isn't static, seeing something as a photograph, or, more precisely, the interpretation involved when one sees it that way, is mutable and subject to correction and differentiation. Catherine Z. Elgin, following Goodman, writes about how perception is always moulded by cognitive structures:

We have and use a variety of vocabularies and systems of categories that yield different ways in which things can be faithfully represented or described. Nothing about a domain favors one faithful characterization of its objects over others. To choose among them requires knowing how the several systems work.

(...)

Predicates whose projection leads regularly to false conclusions are unprojectable, regardless of their history. The bias in favor of entrenched categories thus does not preclude conceptual innovation. Novel categories may be fitted into a successful system or replace an unsuccessful one. (Elgin & Goodman, 1988, p. 7, 15)

Point (2) is precisely the most important for us, being that spirit photography shows an evident example of it. Seeing something as a photograph meant a realistic presumption, but, through repetitive wrong projectabilities, this presumption became more and more universally dismissed. That shows us how our relation to Gusmão and Paiva's work is much different to the approach of people from the time of spirit photography. Following Goodman's notation, we can apply this reasoning as:

If ghosts did not exist => they wouldn't appear in the photograph

$p \Rightarrow q$

and, as Goodman shows, this relies on a previously established world, meaning that is also a conditional:

Photography shows us what is real => (If ghosts did not exist => they wouldn't appear in the photograph)

$s \Rightarrow (p \Rightarrow q)$

The projectability of the counterfactual rests, then, on a world of redefinable implicit systematic characteristics, a world defined by its own projectability:

In effect, our rule offers us the following definitions: a hypothesis is projectable when and only when it is supported, unviolated and unexhausted, and all such hypothesis that conflict with it are overridden, non-projectable when and only when it and a conflicting hypothesis are supported, unviolated and unexhausted, and not overridden; and

unprojectible when and only when it is unsupported, violated, exhausted, or overridden. (Goodman, 1983, p. 108)

In being incorporated as a photograph, spirit photography thus appears precisely as a conflicting symbol that would interrupt the association between photography and a necessarily literal portrayal of reality. This makes sense particularly when we take into account that photography was a recent medium, a new symbolic system which people were still mastering and seeking to define the projectabilities and results for. As Elgin once again puts it:

Unfamiliar symbol systems often provide new ways of presenting, ordering or organizing a realm – ways that highlight features that the standard system often obscures or ignores. The insight afforded then can compensate for the interpretive difficulty occasioned by the system's novelty. Such difficulty is, in any case, typically temporary. For we can learn to see and draw in terms of novel representational categories just as we can learn to comprehend and describe in terms of novel predicates. (Elgin & Goodman, 1988, p. 19)

If we now look at Gusmão and Paiva's work, it seems to be the perfect examples, or proofs, of the ultimate non-realistic capacity of photography or film. The supposed loss of realism that many apply to digital photography, and use to refer to an ontological difference between digital and analogue photography, can be seen through their work as always having been a false presupposition. Digital and analogue photography, instead of constituting completely different *objects* with opposite ontological assumptions, become much closer when approached through photography as a symbolic system with continuous evolution and re-writing. Even if we wanted to define them as different symbolic systems, which makes sense, they perhaps would be more alike than different, as we can see from the work of João Maria Gusmão and Pedro Paiva. These ideas of worldmaking have a profound connection with the abyssological project, of seeing the world as never constituting a whole, of the indiscernibility behind it. Instead of seeing analogue film as the only way to show how the world is – which would be contradictory to the fact that it is not consistent – it becomes one way among many to build worlds through science or art. What seems to be even more general and conclusive is that this is not much a question of digital or analogical photography but of symbolic systems as a whole, of any way of seeing and interpreting reality, of worldmaking.

6. CONCLUSIONS

Concluding this research, the way the artworks approached here can be seen as instantiating ideas about reality, perception, and images is of particular importance. Rejecting an interpretation of João Maria Gusmão and Pedro Paiva's work as a nostalgic look at film through spectrums and hauntology, we instead propose another use of the concept of spectrum. Here, through Peirce's semiotics and Goodman's worldmaking, the artists' approach can be seen as producing objects that, on the contrary, defy the usual assumption of approaching film and analogue photography as transmissions of truth. In this way, analogue and digital images become closer in some way, and photography is instead seen as a symbolic system, a redefinable way of interpreting objects. This peculiar conclusion produces even more unexpected results if we consider the liberation that this gives to digital photography and images in new media art, a reasoning made contradictorily through artists who work with older media. If we take the worldmaking approach we ended our reasoning with, the production of artworks gets an epistemological direction of producing, manipulating, and defining symbolic systems in a similar way to science, whether digital or analogical. If art, through this approach, as Goodman says, "may contribute to a vision of – and to the making of – a world" (Goodman, 1978, p. 70), we can conclude by noting how Gusmão and Paiva's work works with symbols that can be used to show not only how art constitutes understanding, but how reality is always experienced through symbolic systematisation. In a way, this whole research, by the understanding of a world it proposes to develop, ends up proving and referencing itself.

REFERENCES

- Barthes, R. (1982). *Camera Lucida*. Hill & Wang Pub.
- Baudrillard, J. (1991). *Simulacros e Simulação*. Relógio D'Água Editores Lda.
- Baudrillard, J. (1995). The Virtual Illusion or the Automatic Writing of the World. *Theory, Culture & Society*, 12, 97 – 107.
- Deleuze, G. & Guattari, F. (2023). *A Thousand Plateaus*. Bloomsbury Academic.
- Derrida, J. (2006). *Specters of Marx*. Routledge.
- Drucker, J. (2001). Digital Ontologies: The Ideality of Form in/and Code Storage – or – Can Graphesis Challenge Mathesis?. *Leonardo*, Vol. 34(2), 141–145.

- Elgin, C. Z. & Goodman, N. (1988). *Reconceptions in Philosophy and Other Sciences*. Hackett Publishing Company.
- Fisher, M. (2014). *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures*. Zero Books.
- Goodman, N. (1978). *Ways of Worldmaking*. The Harvester Press.
- Goodman, N. (1983). *Fact, Fiction and Forecast*. Harvard University Press.
- Gunning, T. (2004). What's the Point of the Index? or, Faking Photographs. In Beckman K. & Ma, J. (Eds.), *Still Moving: Between Cinema and Photography*, pp. 39-49. Duke University Press. <https://doi.org/10.1215/9780822391432-003>
- Gunning, T. (2007). To Scan a Ghost: The Ontology of Mediated Vision. *Grey Room*, 26, 94 – 127.
- Gusmão, J. M. & Paiva, P. (2008). Teoria do Indiscernível. In Gusmão, J. M. & Paiva, P. (Eds.). *Abissologia: Teoria do Indiscernível*, pp. 20-39. Zé dos Bois & Sociedade Internacional de Abissologia.
- Manovich, L. (2001). *The Language of New Media*. The MIT Press.
- McLuhan, M. (1994). *Understanding Media: The Extensions of Man*. The MIT Press.
- Medeiros, M. (2010). *Fotografia e Verdade: Uma História de Fantasmas*. Assírio & Alvim.
- Peirce, C. S. (1955). Logic as Semiotic: The Theory of Signs. In Buchler, J. (Ed.). *Philosophical Writings of Peirce*, pp. 98-119. Dover Publications, Inc.
- San Juan, Jr., E. (2004). Charles Sanders Peirce's Theory of Signs, Meaning and Literary Interpretation. *St. John's University Humanities Review Vol. 2(2)*.
- Shaviro, S. (2010). *Post-Cinematic Affect*. Zero Books.
- Sontag, S. (2008). *On Photography*. Penguin Books Ltd.
- Wollen, P. (2013). *Signs and Meaning in the Cinema*. British Film Institute.