

# THE THEORY OF SURROUNDING UNIVERSES

## Visual perception, Environment and Photography

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### ABSTRACT:

The Theory of Surrounding Universes consists of a methodological proposal, on an experimental level, aiming to provide bases to reach new levels of knowledge in Photography, theoretically and artistically, as well as its technical applications, devised from reflections on theorization about space, its actors, atmospheres and composition elements. Furthermore, seeks to define an experimental, observational and ruling method, allied to photographic record, adequating, theoretically, the stratifications of universes or spaces that surround us during our daily move, simultaneously with the perceptions and impressions by which we are influenced.

### KEYWORDS:

Photography; Observation Methods; Photographic Record

## 1 INTRODUCTION

Starting from some reflections about my daily experiences, photography became the dreamlike fuel that influenced all my actions, four decades ago, so much as in the personal sphere as in the professional, so I decided to gather them together in this text. That because I believe that new interpretations can be found within it, which allows me to register them as a personal contribution to the development of photography as a communication path, superior to the idea of an instrumental subject that nowadays it is still attributed to it by some people.

In this perspective, I gathered the academic results, be them in teaching, research or academic extension area in which I have been involving myself, day after day, in the Photography Center of the College of Librarianship and Communication (FABICO) of UFRGS, trying to link them to the existing theory. And, from that union what I call at the first moment "Theory of the Surrounding Universes" was born.

Basically, it had its origins in the interaction observed among the subject, in a spectator's condition, of observer, and the space in which he interferes, in every living moment, as well as the visualization forms and the actors' memorization and elements composing those spaces.

So, the following analysis will study the role of the subject / observer as perceptive / curious

as well as the different nuances that constitute the panorama of the understandable / observable universe in which he acts, lives, creates and recreates.

Here is, in a few words, the synthesis of what I consider fundamental for the photographer's insertion in the new artistic and scientific paradigms that open up to the threshold of the third millennium, that, overcoming the shrinking of the traditional science, Cartesian, we seek to reinstate art and science in a complex web, where they have the space, the reason and the emotion, the objectivity and the subjectivity, the width and the restriction, without the dogma's rigidity, like MORIN (1998) synthesized so well and that it serves as a backdrop for this work.

The subjective way to feel, each person's way to behave before and about a photograph as an observation and documentation agent of the surrounding universes are some of the reflections which I do basing myself, as I've said before, in past experiences, to which I allowed myself to join with a semeiotic analysis.

Along 40 years of profession as photographer, as an author, or as an interested researcher leading in experimentations with the uses of new elements and processes in the obtaining, processing and printing analogical images and, more recently, digital ones, I obtained results that I

believe will bring a contribution, which I suppose to be significant, for the progress of the theoretical knowledge on photography. Such interest, in the last three years, had as its scenery the district of São José dos Ausentes, RS, Brazil, based on experiences done due to a pact signed between the University and the city hall of that district.

A true ecological paradise of the planet, a stage of lights and of indescribable shadows in a simple glance, I found the environment, the contrasts and the specificities that serve as a basis to a practice that has already been traced by the Photography Center of the College of Librarianship and Communication of the Federal University of Rio Grande do Sul for almost one decade, I intend to lift it to the condition of theoretical reference. From the experiences that have been accomplished by the Center, we have been able to insert photography as a research subject in the area of the applied social sciences, as language, agent and as a sign of art and communication, with an intellectual production that already we can consider to be very important.

Another point to consider, initially, is that this article has its form as a EULFRODJH, in other words, it is constituted of a collage of interdisciplinary contents, extracted and integrated from all the areas in which they are applied, in consonance to the proposal of the Center.

This, in the way that it was being institutionalized in the University, is constituted of a heterogeneous multi-discipline space, which can already be considered a photography school due to all the experiments already developed and reported.

And if we base it on a scientific approach to enlighten knowledge, we are permanently revising and seeking new methodologies, in what is the personalized segment of researches of the graphically exposed image as well as in the generation and popularization of the new artistic, scientific and technological knowledge levels that according to the new technology impact, a spa-

ce is made for the digital, virtual and de-territorialized image.

Through the integration among reflections done based on the practice with the theoretical elements looked for in the literature, we intend to verify the hypothesis that there is a direct correlation between the individual's perception and their relationship with several types of spaces or lived-in environments. And in consequence, this makes him try differentiated sensorial incentives, where the individual, as well as the actor, the spectator or the observer, are the epicenter of the universes that surround them.

Such reflections have the intention of basing the Theory of the Surrounding Universes, which is made up of a unique and differentiated methodology and approach to the photographic registration and the ways to observe, being them artistic, documental or scientific.

In consequence the following results from the analysis that will be presented, trying to characterize what the Theory is constituted of and how the System of the Surrounding Universes is rendered.

With this work we intend to contribute giving back to society the photography as a language inserted in teaching, research and extension spaces of the Federal University of Rio Grande do Sul.

Through it, we can evaluate the work at the Photography Center of FABICO/UFRGS, as a creativity lab in its specific performance area, inserted in a firmer way in the scientific world that simple reports could offer.

To direct the analysis we will seek the answers for to the following questions: in what way is the individual's space perception constituted in his/her interaction with the environment? What alternatives and experiments can be taken to confirm or to refute the used approaches?

What kind of practices can be taken into effect to integrate the photography in the new paradigms that open up for science in the third millennium?

## 2 SPACIAL PERCEPTION: REFERENCE AND VISITED UNIVERSES

The man is biologically defined as being which is alive and possesses heterotrophic behavior. That means saying that he needs to move from

place to place, to feed. So these instinctive attitudes make it possible - or they impel - us, human beings, to several different places daily.

Therefore our tendency for the displacements is natural. We are able to say that it is a physiologic behavioral process searching and reaching whatever we want; always in search of something, in function of some thing, with variable levels of importance, going permanently from one place to another, in an almost an incessant way.

That makes us feel that when we are staying in one place, without being able to move around, bothered. We are impelled to move even when we repeat the places and the environmental situations which we experience daily.

Therefore, moving around and our displacements give us the personality - the trademark - as a living being. We are building, transforming and adapting our daily universe, our own terrain that I denominate "the reference universe".

The basic sensations, as the smell, the colors, the forms, the sounds, good or bad relationships with other people or our solitude and existential paths, that are built on a daily basis from the experiences in that territory, form some kind of sensorial matrix.

Our perception is forged and it is intimately linked to everyday and past experiences. For instance, a person that goes through the same spaces and movements daily, such as home > road > work > road > home, he has his daily reality in that reference space or universe, also formed by the accumulation of sensations felt and noticed during the time of permanence or displacements through those places.

That happens due to the coexistence with the elements that compose such environments, such as light, space, forms, color, sounds, smells and movements. We can join this up with the repetitions of postures and the interactions with other elements and with different individuals that invariably compose the daily life in those spaces.

With the repetition of that participation in reference universes by each individual person, the details of the actor's perception of the space elements that he daily experiences, systematize the emotions, almost that blocking the triggers of the observational perception, originated from the practically automated postures and behaviors that can carry on without varying.

Without a doubt, to leave that almost lethargic state, the individual, while a spectator, ins-

tinctively invests in actions that make it possible for him to leave that common, everyday, world. That he can do by adopting an observing posture, going in search of new environments, colors, forms, movements and personal contacts. And, like this, he gets to establish a new referential group concerning the senses, space and time.

In what we refer as the concept of time, the image makes the lived instant come back, making the past be found again and having a new meaning, registered as a mark in time - a temporary scar - (SAMAIN, 1998).

The image brings the possibility of denaturalizing everyday by making us reflect on the quality of the material forms, tilting the spectator towards a sensorial creation or towards the revaluation of his current senses. Besides that, the image can also be conceived as a technology that increases the memory (LÉVY, 1993), giving it new rhythms and products. According to Certeau (1994) everyday is configured of "(. . .) permanent gestures towards thought" and images can establish a certain turn in the subjective space. Adapting the acquired impressions in their eventual displacements with his daily reality, the modern man acquires, through conjectures and discernments and visual criticism, the possibility to reach new levels in his perception. The acquired impressions in other spaces serve for the visual-sensorial construction and reconstruction of his everyday world, where his space perception is usually smaller.

The instinctive search for other values or new space paradigms, that almost goes by unnoticed generate the crises, the necessary conflicts for the construction and the formation of our perception, composition and visual critics. We notice things in an eventual or induced way, with or without purpose, and we are moved mainly by the strange, by what is different from what we have as a set standard.

Our perception potential is sharpened and alerted when we come across different situations in unknown universes and spaces. They appear to us at first sight uninteresting, without a focusing point. However, even so, they take us almost immediately to a contemplation stage, so we can best watch the object in analysis. So we proceeded with an environmental reading, in a slow way, induced initially by light curiosity,

imperceptible. But, in a second moment, we are going in search of knowledge or recognition of the elements that compose that new universe that is being visited.

The more different this environment seems to us, we will always find some elements similar to the ones that we already knew or experienced, starting from a juxtaposition, many times unconscious, among the elements that make up that unknown space in which we are momentarily inserted, along other aspects and elements that are already known. From this recognition and through the sensation which that provokes us, the sense of the reality is composed. It results from the reading - or knowledge - of the new environment, with the values memorized in our reference universe. That happens in fractions of seconds, in an imperceptible way.

It is what we call "first impressions." And that impression is not only the first, but it ends up becoming a sensorial personalization - or a mark - that we give to that space or universe, memorized with the aspects that caused us greater interest, engraved with a light mark of variable intensity in our memory.

The image of the "first impression" is registered in our memory as a timeless photography, static, made up by the main topics of the light, air, smells, colors and of other elements that we felt and we visualized on that moment, remaining in our memory as a sensation of the image of a place already visited. The memory is an image built by the materials that are available to us now in a representative group that lives in our conscience nowadays.

These perceptions, memorizations and memories frequently happen in an unconscious way, though most of the time we don't give a lot of importance to the elements, environments and events that compose the **visited universes** (or lived universes) in our daily lives. They pass as a film of many characters, without protagonists, or without being paid special attention. If we are going to some new place, with the intention of getting to know it well, we already condition or sharpen our perception for something that we can imagine being in a previously conceived way. But, usually, when we arrive at the destined place we find something totally different from what we had imagined.

And it is exactly in those situations, that our way to visualize and appreciate becomes more meticulous, critical and sensitive. Meticulous because we expected something, and it can be different, even though the differences may be few from the original idea. Critical because we expected an environment with light like this, a landscape like that, an environment like this, and etc, and we ourselves are confronted with other aspects not expected, being them, in our understanding, better or worse than that which we had imagined. And sensitive because a new posture is planned, prepared to open to new objects, to restructure, subjectively, during the encounter, the collision with the scene and maybe the surprise generated by it.

The vision is the great protagonist of our sensorial system, but, without the other senses, the person becomes something incomplete, without finishing touches. Of course we are referring to what we felt, noticed or what makes our emotional sensors go off, where the group of the five senses, supposedly in harmony, takes us to different levels of perception, acknowledgement or recognition and also of memorization.

The five senses which we have, sight, touch, sense of smell, taste and hearing are, hypothetically speaking, the primordial components or triggers of our affections. Consequently, they lead us to the most varied levels of our sensorial and environmental emotional perceptions.

The perception is intimately - or primarily - linked the space and temporary imagination, taken through subjective or objective purposes, and instrumentally going through the group of our senses, making everything happen in an instinctive and natural way.

The perception levels are intimately linked to the interest and the attention that we give something, so, they cannot be measured or quantified, but stimulated and driven to any purpose. As the interest for something is evidenced or stimulated, the perception becomes automatically more alive and sharp, emotionally and recognizably driven towards the universes and their surrounding elements, in a more meticulous way, with refined attention.

The photographic shooting as well as the photographic interpretation are elements to induce observation, the details and the memorization of facts - or events - that happen in the visited

spaces or universes. For us to reach higher perceptive levels, we frequently change our mobility behaviors, passing from the moving state to that of stagnation. In other words, in an instinctive natural way, we stop moving or walking so we can interpret or visualize better whatever we want.

In a first moment, we reduce our movements, alerting our senses and we enter in a level of contemplation, proceeding to observe with greater attention the subjects around us. Already in a second moment, we come nearer, usually in slow way, towards the elements or the subjects that stirred in us a greater interest, shortening our distance in relation to them, in way to see them better or until touching them, creating with that, a link between perception and knowledge, or the perception and the recognition. The results from that

have a certain degree of memorization of the chosen subject, which is part of the **visited universe**.

That procedure is an action induced instinctively by our emotional interests mechanisms, being them subjective or objective, that happens to us many times and in short spaces of time, every day, happening in an automatic way, according to our physiologic mechanisms, such as the breathing, for instance.

In short, our degree of space perception is intimately linked to objective or subjective curiosity, that happens due to the instinctive or induced search for knowledge and recognition elements found in other **visited universes**, and their comparisons to our **reference universes**, or vice versa, also for the way which we structure ourselves as subjects in our spaces or surrounding universes.

### 3 PHOTOGRAPHY AS A MEDIATING ELEMENT BETWEEN EACH PERSON AND THE SURROUNDING UNIVERSES

Photography is a qualified way that each person can interact with their reference and visited spaces or universes. It is at first, used to register an element, conjuncture or space, so in the second instance we can proceed with its comprehension, in the time and space which we choose.

The action of photographing is universal, democratic, without academic barriers. Even an inexperienced person becomes a photographer from one moment to another; he only needs to use a simple automatic photographic camera, put a film in it and go in search of images or situations, as if he were a collector of imagetic and time fragments. As Barthes already said (1977), "to be a photographer makes you feel as if you are some type of "voyeur" of the world."

What beginners in photography feel, during their first steps when they put the camera at the height of their eyes and look through the lens, is that they become instantly from one moment to another the director of a movie without a fixed storyline. The framed images in the viewfinder seem to surrender to us. We are invaded by a light, ethereal and soft sensation of power, because we have the possibility "to crystallize" the moment that we want, focusing on what we want. And the power is rendered

exactly during the moment of our decision, of the instant in that we decide " to click" the photograph.

With the camera glued to our face, one eye closed and the other in active search, we only see an image of the universe which we chose or we are inserted in on that moment, selected in the rectangle of the viewfinder's frame. That positioning gives us a feeling of safety. It is a kind of uterine refuge, that we cannot be noticed by subjects or people that are in front of us. But, unfortunately, that is a great mistake! That is because the photographer is usually noticed, even if he doesn't want it, and like this begins to act as an interfering element in the subject or space that he visits. The images, the situations, the subjects, the people, selected and framed in the camera's viewfinder by the photographer, are selected accordingly to the composition conceptions or scene cut, usually without external interference, unless it has previously been conceived for that.

To photograph is to excite our perceptive sensors and ability to notice details. It acts as form of developing our space notion with the details of the subjects, being them juxtaposed or opposed in subsequent readings, in instants recorded by our memory. The already processed photograph

becomes an element of understanding, confrontation or juxtaposition. It can be said that the photographic image is a portion of memory that can be used personally or collectively.

The photographer, even without having his own camera is an attentive observer of the world that surrounds him, because of the photography shooting practice rather than the instinctive perception.

The photographic camera works as a kind of accessory to delimitate the spaces with their subjects and elements, making possible to focus and comprehend the chosen objects with sharper instincts. Even without shooting the photograph, the simple action of looking through the camera's viewfinder leads us to a more accurate level of perception and space detailing. Without that camera, certainly we would have to move towards those objects to better observe them, because the other elements that are part of the visited space would pollute, or at least divert the attention of the subject previously visualized and chosen.

Photography is an additional instrument of contemplation, registration, memorization and analysis. In the same line Spencer (1974) treats photography as a tool for search and analysis, dividing it in two groups. While at first he refers to documentation in order to observe, during the demonstration or investigation of subjects or occurrences that are in the limits of the spectra of the human sight, the second links to register subjects or phenomena that are beyond our visual capacity.

According to the author, the second group it is the responsible for the current researches and

discoveries of the contemporary photography. Even though it is an opinion from the seventies it continues being current, once the photography of subjects out of our spatial reality, beyond our visual range or understanding, or of the artistic knowledge of other spaces, it constitutes a contemporary element of the photographic language while being an element of the media. Through the creation of objectives or incentives towards the new discoveries determined by the new up-to-date graphic-visual technology, photography continues subsidizing the creation of innovating thematic theories based on symbolic studies, on two-dimensional and three-dimensional geometric planes, virtual environments and micro or macro visual universes which have been unknown until now.

Photography, in that aspect, acts as a propelling spring in the extension of our sight, as an extrasensorial support or complement of knowledge, contemplation, comprehension and memorization of events, particularities or visual conceptions, ignored or simply not lived, seen or imagined. It works in our minds like some kind of preserved past, an unalterable memory of a certain moment and situation, of a certain light, of a certain theme, completely frozen against the implacable march of the time (KOSSOY, 1998). Be it a support, a language or a sign, photography and its branches are definitively linked in man's interrelations with his environment, and in his perceptions, knowledge, recognitions, memories and criticism of subjects and situations, that happen or have already happened in the universes that surround him as in the universe of another human being.

#### 4 THE THEORY OF THE SURROUNDING UNIVERSES

Each person, being him a simple passer by or inhabitant, when he adopts a posture of an elementary spectator or a more attentive observer of the world that surrounds him, being him motionless or in movement, always will be inserted in an environment whose forms, under his point of view, will be linked to one of space composed by three-dimensional elements, in which the reference elements inhabit the a momentary reality visually described, also denominated physical reality. And it

is exactly that space which we denominate **the surrounding universe**, a concept that, in a figurative sense, according to Ferreira (1975), is made up of harmoniously chained parts, as a composition of a whole universe, even if it is new.

Based on the thresholds of his sensorial perceptions, man becomes through this the epicenter of his surrounding universes. According to the postures that he assumes in relation to those universes, we can, in theory, break them

up or split them up in differentiated dimensions, according to each of this person's behavior during their contemplation and moving levels.

When we take as reference the person's sense as the epicenter of his surrounding universe, and when we use as parameters their behavioral and psychological states of mobility and contemplation, we can establish the following hypotheses: 1 There are at least four types of different surrounding universes that are interesting for photographer's eye, delimited by the visual levels of sharpness of the subject; 2 the denomination and dimensions of the surrounding universes are defined by and according to the perspective of the person's identification while being the epicenter of the surrounding universes.

In this way, we can continue the analysis, trying to explain the two above hypotheses.

#### 4.1 The Micro Universe or Intimate Universe

##### 4.1.1 Having as the universe the observer or the photographer

It arises on the individual's epidermis, up to the limit of his minimum visual focus (this minimum visual focus varies between people, it is located about 12 cm distant from our eyes). In this universe the senses such as touch, sense of smell, taste and hearing are preponderant to vision.

##### 4.1.2 Having as the epicenter a subject, event or elected element – chosen - by the observer or the photographer

It has as its origin starting from the individual observer's or photographer's minimum visual focus, that is usually located to 12 cm distant from the eyes, extending up to the molecular level of the event or chosen element.

*Main characteristic: corporal universe.*

*Use: 4.1.1: physical integrity, affectivity and exchange (touch)*

4.1.2: Comprehension / study of the surface structure, morphology and limits of the microcosms.

#### 4.2 The Detailed Universe

It is delimited by the minimum visual focus up to the range of one's arm, in which we can

lean forwards to reach whatever we want, but without taking a complete step. It possesses variable dimension, with a range between 12 cm to about 1,5 meters, for people with medium height (1,70 meters).

*Main characteristic: universe of the contemplation and details.*

*Use: comprehension, memorization of the detail and interactivity.*

#### 4.3 The Intermediate Universe

It is the one which extends from 1,5 meters up to where the individual is able to recognize a person (known physiognomy), or until about 30 meters away. This universe of the person's social life serves as a reference for his movements and displacements. It is also the universe to choose the subjects which to approach –or not- later on. The intermediate universe is the space of the movement, knowledge and recognition.

*Main characteristic: movement universe*

*Use: social life, daily references and verification.*

#### 4.4 The Geographical Universe or Infinite Universe

It has its initial area starting from the area limits of the personal recognition, around 30 meters starting from the observer, extending up to where "the eye can see" or towards the infinite.

*Main characteristic: contemplation universe*

*Use: geographical reference and environmental specification.*

Motionless or moving, each person carries along with himself, in a virtual way, their surrounding universes. In a metamorphic sense, this can be compared to an old phonograph vinyl record, in which the music strips are the universes and the central hole of this record is the person's epicenter. That person, when moving, walking for instance, has most of his perception turned towards the last two universes, the intermediate and the geographical ones.

Having the geographical universe as the environmental reference and balance, the intermediate becomes the objective, instinctively, of their own attentions in relation to it. That because the intermediate universe is made up of a universe of verification, sociability and movement,

of the usual or eventual passage. In this, the subjects seem to move while the person moves. In given moments, for brief instants, he notices something that he recognizes or doesn't know, which, immediately, calls his attention.

Then he stops and approaches. When coming close, he inserts in his detailed universe the chosen subject, paying more attention towards it. Coming even closer, he gets to touch or smell the object, establishing a connection, directly and deeply, with his intimate universe.

That happens countless times to people, day after day. In case of this person having a concrete, defined objective, the displacements are faster, with more precise directions, his attention lessens, just with environmental objectives, moving and taking as reference the subjects inserted in the intermediate universes so one can move around faster, with the intention of inserting as quickly as possible, in his detailed universe the element or subject

that he has as his objective, for the establishment of a greater contact. We can deduce that each person, either moving or motionless, with or without objectives, projects his greatest attention or environmental reference during the displacements towards the intermediate universes, that are characterized mainly by the movement of the elements or the subjects, as well as the movement of each person.

It is where the individual chooses - or he adapts himself - randomly or coming prepared in advance - or not - to see this or some subject of interest. Starting from this idea, the elements inserted in our intermediate universes, besides being references in our displacements, are also the main objectives of our curiosity. It is where the sight reigns, alone, in the development of our primary interactions with the world that surrounds us. It is made up of a universe of choices, of the refusal to go through the several spaces of our daily lives.

## 5 METHOD TO OBTAIN PHOTOGRAPHS ACCORDING TO THE SYSTEM OF THE SURROUNDING UNIVERSES

We can define a person as an observer-photographer, in other words, through an accessory, the photographic camera, he captures images noticed in one or more levels of their surrounding universes. He becomes along with this accessory one instrument only, that congregates perception and registration when choosing a subject, event or element as the photographic epicenter. The individual becomes, through photography, the reporter of his own impressions of the universes that surround him. To establish the System of the Surrounding

Universes, we should take into account the dimensions of the universes, correlations of these with the latest photographic equipments developed and the registration methods.

### 5.1 Dimensions

To set a dimension on a surrounding universe with photographic purposes, we will have the photographer as an observation center and the registration of a subject, event or element elected as the photographic epicenter:

SURROUNDING UNIVERSE	DISTANCE BETWEEN THE OBSERVER / PHOTOGRAPHER AND THE SUBJECT
<u>Intimate universe / Microcosm</u>	12 cm up to the microcosm of the subject
<u>Detailed universe</u>	From 12 cm up to 1,5 meters
<u>Intermediate universe</u>	From 1,5 meters up to 30 meters
<u>Geographic / Infinite Universe</u>	From 30 meters to infinite

## 5.2 Correlations

There are correlations between our surrounding universes and focal distance range of the photographic lenses. These act as instruments

to cut out scenes, in visualizations and searches for these surrounding universes. If we take the 35 mm format, we will have the following:

### 5.2.1 photographic lenses

<b>LENS TYPE</b>	<b>FOCAL DISTANCE</b>	<b>PERFORMANCE UNIVERSES (PREFERENTIALLY)</b>
Super wide angle	6,8... 17,18 mm	Intermediate and geographical
Wide angle	21, 24, 28 to 35 mm	Intermediate and geographical
Normal	45, 50 and 55 mm	Detailed, Intermediate and geographical
Medium tele Lenses	70, 80, 100 and 105 mm	Intermediate and geographical
Telephoto lenses	150, 200, 300 and 400 mm	Intermediate and geographical
Super Telephoto lenses	500, 800, 1000mm	Geographical

### 5.2.2 Special lenses

Macro Lenses	50 and 55 mm	Intimate and detailed
Macro Lenses	105 mm	Detailed
Zoom Lenses	24/70, 24. / 105, 70/200, 100/300 mm....	Detailed, Intermediate and geographical
Mirror Lenses	400, 500, 600, 800, 1000, 2000, 3000mm...	Geographical

5.2.3 Photographic lenses with special accessories or with inversion adapters:

Extension Bellows	With a 50 mm lens	Intimate, Microcosm
Inverted lens	28, 35 and 50 mm	Intimate, Microcosm
Additional close-up Lens	2, 3, 4.... dioptries	Detailed
Extension ring	With 50, 55 mm lenses	Intimate, Microcosm

5.2.4 photographic camera adapted in a differentiated visual searching system:

SYSTEM	TECHNIQUE	UNIVERSE
Optical microscope	Photomicrography	Microcosm
Electronic microscope	Photomicrography	Microcosm and Inframicrocosm
Stereoscopic microscope	Photomacrography	Intimate and Microcosm
Telescope	Astrophotography	Infinite

**6 METHOD OF OBSERVATION AND PHOTOGRAPHIC REGISTRATION ACCORDING TO THE SYSTEM OF THE SURROUNDING UNIVERSES, HAVING A PERSON OR THE PHOTOGRAPHER AS THE EPICENTER IN A SUBJECT, EVENT OR ELEMENT, CHOSEN BY HIM:**

UNIVERSE	Psychological Stage of perception / attention	Behavioral Stage of mobility for the photographic observation / shooting	Photographic equipment with the most adequate lenses
Intimate / Microcosm	Contemplative / detailed	Stopped	50mm Macro, with an extension bellow / ring

Detailed	Contemplative / Detailed	Stopped	Normal, Macro 105 and additional Close-up lenses
Intermediate	Alert to movements	Stopped, but also in movement	Normal, Great angular, Zooms and Medium telephoto lenses
Geographical	Contemplative / absorptive	Stopped	Normal, wide angle, zooms and telephoto lenses

## 7 THE SURROUNDING UNIVERSES SYSTEM METHODOLOGY

7.1 The photographic registration in the Surrounding Universes System will always be starting from the photographer's point of view, or from a previous determination by him;

7.2 The photographer will choose the photographic epicenter. This will be – or not - inserted in their surrounding universes;

7.3 The photographic epicenter, is the object of the photographer's main attention, so he will choose the lens or appropriate optical system to make his analysis or reading possible as well as the registration, according to his optics and related to the characteristics of his own surrounding universes, that have contemplative or mobility particularities, for the acquirement of his photographic registers. It is also as norm of this method, when the chosen photographic epicenter is a person, his or her surrounding universes are the ones that the photographer or the observer should take into account during their shooting;

7.4 When choosing an object, subject or event as photographic epicenter, the photographer should take into account the space of performance or the territoriality of this, as well as the space or atmosphere that it is inserted. The territoriality foresees an interference degree, of social, physics, chemistry, psychological or ecological order, in a space

or environment that this object, subject or event happens or inhabits. All elements or interference degrees that this photographic epicenter provides, are relevant and considerable photographically to the shootings;

7.5 There is also some interfering elements in the photographic epicenter territoriality degree that should be taken into account, since they are not specified as the main one, but as interventionist agents. These agents are of any order or nature are of eventual origin, as actions of the climate, for instance.

7.6 During the observations or the photographic shootings it should be taken into account, in order:

- a) the photographic epicenter, with its surrounding universes, is what should be paid attention to first.
- b) the interference degrees generated by the territoriality of the photographic epicenter, in their surrounding universes, are relevant, but they don't determine the main idea, they just compose the scene;
- c) the interventionist agents are merely elements of composition or eventually transformers of the scene where the photographic epicenter is located, they are nearly irrelevant, but they should always be considered.

A Practical Example:

#### ENVIRONMENTAL PHOTOGRAPHY:

If we have as our objective to photographically register a rural subject, a farm and a forest of araucarias, as different photographic epicenters, we will have:

##### **Model 1. Focus on the Mixed landscape and atrophic aspects:**

1 The choice of the photographic epicenter will be the farmhouse or the farm's headquarters, inserting it in the photographer's *detailed* and *intermediate* universe.

2 The interference degree will be all the elements made or installed by man (house, hoses, orchards, animals in sheds etc.) that changed the natural landscape of that place - the photographer's *detailed* and *intermediate* universes.

3 The intervention agents on the photographic epicenter, will be defined by the climatic, geomorphologic and phitogeographic aspects, that one way or the other induced or provided with materials the kind of buildings, crops, animal flocks, the type of economy in that farm - the photographer's *intermediate* and *geographical* universes.

##### **Model 2. Focusing on the aspects of the natural landscape:**

1 The choice of the photographic epicenter will be a hypothetical forest of araucarias, supposedly to the left of the farm headquarters or farmhouse, inserting it in the photographer's *detailed* and *intermediate* universes.

2 The interference degree will be all the elements originating from atrophic actions, that transformed or interfered in the ecosystem of the araucaria forest, becoming relevant subjects to observe or to photographically register.

3 The intervention agents are defined by occasional changes that happen in the aspects of the araucaria forest in consequence the some action of climatic origin.

##### **Diagnostic:**

Method to be employed:

The photographic registration method, in the above exposed problems (model 1 and 2) will have most of its image shots in the intermediate universe and some in the detailed universe, and we can use two kinds of lenses during the shots, which may have focal distances of 50 mm and 28 mm (or 24 mm). Zoom lenses with focal distance between 21mm-105mm can also be adapted to this job.

## 8 FINAL CONSIDERATIONS

The photographic registration method using the Theory of the Surrounding Universes has been developed by the Photography Center at the Librarianship and Communication college which is part of the Federal University of Rio Grande do Sul, since the second semester of 1997, promoting several theoretical and practical workshops striving to simplify its application in the several photographic registration levels and/or segments, being considered a research still in its experimental phase. In August 1999, the Center coordinated a team made up of two graduation students in the

communication area and a photography teacher, when the 1st International Scientific Photography Mission UFRGS was formed bound to the Apollonia-Herliya archeological site in Israel, having as its objective the application of the Theory of the Surrounding Universes, in the Apollonia Project (an agreement between UFRGS/BRAZIL and TAU/ISRAEL). The Theory served as methodological pillars in the photographic shots of the archeological subjects. It was the first use, officially, of this experimental method of photographic registration. The results are still being analyzed, but, we can

already affirm that the application of the Theory of the Surrounding Universes, in the photographic registration of archeological subjects was a qualitative bonus in the documentation of the spaces (universes) of the Archeological Site of Apollonia. Even in its experimental phase, the method of photographic registration with the application of the Theory of the Surrounding Universes is already considered as a theoretical referential of great potentiality, in the subject of photographic shooting, as well as in the development of a person's spatial

perception in the observation of subjects that request a subsequent registration.

While doing this article, the author made decisive and valuable contributions, in the extent of the discussions and theoretical explanations, from criticisms and from the teachers' safeguards: Ana Maria Dalla Zen and Suziene David of FABICO/UFRGS, and psychologist Patrícia Gomes Kirst, doing her Masters in Social Psychology, in the Masters degree Program at the Institute of Psychology of UFRGS.

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