

INTRODUCTION

- 1 Visual Dynamics is a science that studies the Visual Images as they are produced in large numbers for the Media Industry; the Print, the Cinema, the Television etc...
- 2 This science pursues the discovery of objective rules permitting consistency in the planning and the manufacturing of large numbers of visual images, as well as, the keeping of coherence in their sequence, when presented in succession. As they are shown in cinema or television. With the purpose to offer the viewer a presentation that is entertaining, enjoyable, interesting or meaningful.
- 3 The following list presents some of the fields of study of Visual Dynamics:
 - a/ The STILL VISUAL IMAGE for the print, or for the projected image, or for the continuously processed image like in television, video and computer graphics.
 - b/ The INDIVIDUALLY MOVING VISUAL IMAGE UNFOLDING IN ONE SCENE like the ones that are presented one scene after another scene, in a seemingly continuous flow, in cinema, television, video, animation and computer graphics.
 - c/ The SEQUENCE OF STILL VISUAL IMAGES as it can be found in books, booklets, or in any collection of visual images or visual artifacts of all sort, as well as, the ones projected on any kind of screen.
 - d/ The SEQUENCE OF INDIVIDUALLY MOVING VISUAL IMAGES UNFOLDING IN SCENES, presented scene after scene simulating a continuous flow. The SEQUENCE achieves its objectives; when it keeps the viewer interested and tells a story that makes sense. Like it often does in cinema, television, video, animation and computer graphics.
 - e/ The VISUAL IMAGE MONOCHROME or in FULL COLOR.

QUESTION:

- 4 SEEING, like in watching TV, is such a familiar and a universal action that it does not seem to be a phenomenon worthwhile of attention. Consequently, how one can justify any amount of directed thinking and physical efforts about something that seems to be granted?
- 5 Any photography, cinema or television director knows that there is at least one good reason justifying these efforts. That reason is, the necessary preparation required to be able to answer the first question that, any person who carries physically the camera, will ask: "Where do I put the camera?". And this seemingly simple question covers one of the most complex problem of Visual Dynamics: THE POINT OF VIEW.

AMPLIFICATION:

- 6 Albert Einstein studied particularly "THE LIGHT" and "THE POSITION OF THE POINT OF VIEW IN SPACE". Indeed, in physics there are only two methods of obtaining informations from a system under study.
- a/ The first method consists in introducing a probe in the system, and examining the changes to the probe. Whereas the very presence of the probe interferes with the system, consequently modifying its original functioning and the generated informations.
- b/ The second method consists in observing the energy under the form of waves naturally emitted or reflected by the system under study, then the observations do not interfere with the system, however, the received informations are conditioned by THE POSITION IN SPACE OF THE POINT OF RECEPTION.

Understood in these terms THE POINT OF VIEW does appear indeed, as an element of the geometry of the univers and so it is objective in its nature.

Any still, cinema, television or video camera can only probe the univers in gathering emitted energy and displaying it according geometrical optics.

In the case of the artificial situation of a studio, matter rarely emits visible energy on its own. Consequently proper lighting must be added and directed on the surface of the matter of interest, it stimulates the surface molecules or rebound from them, and visible energy is issued that now can be received.

The INFORMATIONS ABOUT SPACE, RECIEVED BY LIGHT, are RELATED TO THE POSITION IN SPACE, of the point of reception of that light, which is also called THE POINT OF VIEW, by the architects, the painters, and every one in photography, cinema or television.

ONE DEFINITION OF VISUAL IMAGE

Indeed, the selection of THE POINT OF VIEW, involves the discovery of A POINT, in space, from which A SET of specific geometrical relationships between the physical elements of a visual image, IS SEEN IN A SPECIFIC OPTICAL FORM, inside an optical frame.

And it is that UNIQUE OPTICAL FORM chosen for recording or transmission that presents the viewer with THE ENVIRONMENT, THE SITUATION, AND THE RELATIONSHIPS necessary to support THE VIEWER'S VISUAL PERCEPTIONS, which in turn proceed to THE GENERATION OF A VISUAL IMAGE carrying an UNEQUIVOCAL MEANING.

COROLLARY

Now it is understandable that, there is no reason why ANY POINT OF VIEW, taken at random, somewhere in the universe, SHOULD NECESSARILY support any coherent cluster of perceptions, leading to the generation of AN UNEQUIVOCAL MEANING.

It is not the first time that the univers appears to be the domaine of RANDOMNESS. Sometime during the first third of the twentieth century a mathematician proposed this famous problem of probability: "how long will it take to a large number of monkeys, trained to type and equipped with one typewriter each, to write the complete works of Shakespear or of Cicero.

It is also understandable that there are no more reasons, for any POINT OF VIEW taken at random, for leading to a desired specific meaning.

Indeed, VISUAL IMAGES, that are immediately ready for the recording, rarely exist in NATURE or in MAN MADE ENVIRONMENT, most of the time they have to be planned and manufactured one by one. Unless, some one like a painter has already prepared one, then the only thing left to be done is to set up the camera and the lighting for the RECORDING of the painting as it could be the case for the architect's model of a building or for an actually constructed building, or a sculpture, or a japanese garden or the window of a store when dressed...

QUESTION:

IS THE PERCEPTION of one information, presented by light, to a human being positioned at the selected POINT OF VIEW, OBJECTIVE?

Does such a thing as an OBJECTIVE VISUAL PERCEPTION exist?

AMPLIFICATION PROCESS:

If SUBJECTIVE means: personal, individual, inside; does OBJECTIVE means: outside, shared by the many, universal?

In PHYSICS the laws must be valid any time and any place in the univers.

In VISUAL DYNAMICS must the laws be valid all the time for all human beings? For all vertebrates? For any biological entity driven by SURVIVAL in the EVOLUTION PROCESS?

The EVOLUTION PROCESS could also be stated as THE CAPACITY TO REPRODUCE BEFORE DEATH. The advantage of this definition is that it stresses the necessity for continuity which in turn, permits to go BACK IN THE PAST OF THE EVOLUTION PROCESS FOR ANY EXTENT OF TIME.

In other words WILL A VISUAL ELEMENT OF REFERENCE (a standardised visual stimulus) ELICIT from all human beings THE SAME RESPONSE EVERY TIME, AT ALL PLACES AND FOR ALL TIMES?

GIVEN A SITUATION, WILL A SPECIFIC ACTION PRODUCE A SPECIFIC REACTION?

Pavlov Conditioned Reflexes implies that, if a "REFLEX" actually a STIMULUS-RESPONSE SEQUENCE INDEPENDANT OF CONSCIOUS WILL does exist, then it is possible to obtain the same RESPONSE, from a SUPERIMPOSED STIMULUS.

Generalizing Pavlov discovery and extending it well beyond the field of his experiments then it is possible to state:

IF THERE EXISTS AN AUTONOMOUS STIMULUS-RESPONSE SEQUENCE, THEN, GIVEN THE PROPER TRAINING, IT IS POSSIBLE TO LEARN.

Does it mean that all CULTURES including the most sophisticated rely on elementary STIMULUS-RESPONSE SEQUENCES INDEPENDANT OF CONSCIOUS WILL, HEREDITARILY TRANSMITTED AND STORED IN THE AUTONOUS NERVOUS SYSTEM OF THE VERTBRATES ALL A LONG THE HUNDREDS MILLIONS YEARS OF THE EVOLUTION PROCESS.

The EVOLUTION PROCESS, given the necessary lenght of time, provides biological entities FULLY ADAPTED to the environment, as long as this environment does not change drastically and suddenly.

FULLY ADAPTED means ABLE TO REPRODUCE BEFORE TO DIE, AGAIN AND AGAIN BEFORE EXTINCTION.

It also means EQUIPED WITH ALL THE PROPER STIMULUS-RESPONSE SEQUENCES NECESSARY TO SUSTAIN LIFE, by providing food, by eliminating used up matters and by coping with external survival by flight or attack.

In his book "Man's Presumptuous Brain" A.T.W.Simeons MD.presents the observations of his life long field experiment, explained according to simple assumptions

In the Evolution process changes add to the previous accumulation of functions or characters and rarely exclude a previous one, rather it is developed into another form more useful for the period of time.

The period of the reptiles has been long enough, in hundreds millions years, to allow them to develop a high degree of biological survival adaptation to their specific environment. This includes the simultaneous development of COMBINATIONS OF STIMULUS-RESPONSESEQUENCES.

It is these COMBINATIONS OF STIMULUS-RESPONSE SEQUENCES which compose the AUTONOMOUS NERVOUS SYSTEM of the reptiles.

Mammals inherited the AUTONOMOUS NERVOUS SYSTEM that made the success of the reptiles. However the two primitive olfactory lobes developed into our immense CORTEX which has as a primary function, to INHIBIT AT WILL, some of the STIMULUS-RESPONSE SEQUENCES.that had supported so successfully the life of the reptiles.