

Psychology Notes

Psychology I

Summary prepared by attendees at Silo's conferences in mid-November 1975 in Corfu. The Appendix "Physiological Bases of the Psychism," was added towards the end of the same year.

1. The Psychism

As a Life Function

Since its beginnings, life has manifested itself in numerous forms. Many species have disappeared because they did not adapt to the environment, to new circumstances. Living beings have needs that they go to their environment to satisfy; this situation in the ecological environment unfolds in constant movement and change. The relationship is unstable and unbalanced, producing responses in the organism that tend to compensate the disequilibrium and thus enable it to maintain its structure which otherwise would abruptly disappear. Thus we see living nature deploy itself in a variety of forms, in an environment that has numerous characteristics that are different and variable; and at the base of living nature we see simple mechanisms of compensation in front of the disequilibrium that threatens the structure's permanence.

The adaptation to external change, also implies an internal change in organisms for their survival. When this internal change does not take place in living beings, they eventually disappear and life chooses other paths to continue its growing expansion. The mechanism of responding compensatorily to disequilibrium will always be present in the sphere of life and life forms, and its complexity will be greater or lesser depending on each species' degree of development. This task of compensating the external environment, as well as internal needs, will be understood as adaptation (and, specifically, as growing adaptation)—as the only way to prevail in the dynamic of instability in movement.

Especially, animal life will develop according to functions of nutrition, reproduction and locomotion. Of course these functions exist in plant life as well, and even in unicellular life; but clearly, in animals these functions constantly relate the organism with its environment, maintaining the structure's internal stability. This will be expressed in a more specialized way as vegetative tendencies, as "instincts" of conservation and reproduction. The first maintains the individual structure; the second, that of the species. In this preparation by organisms to preserve themselves as individuals and perpetuate themselves as a species, an inertia (we would say, the "memory") is expressed that tends to ensure permanence and continuity, in spite of the variations.

In animals, the functions of nutrition, and reproduction will need locomotion in order to be deployed. This allows for displacement in space in order to obtain food. Internally there is also a mobility, a transporting of substances in order for them to be assimilated by the organism. Reproduction will be internal within the individual, and external in the multiplication of individuals. The first is verified in the form of the generation and regeneration of tissue; the second as the production of individuals within the same species. Both will need to use locomotion to accomplish their purpose.

The tendency to go toward the environment—from the search for food supply sources, to flight or concealment from danger—gives direction and mobility to living beings. These specific tendencies in each species form a team of tropisms. The simplest tropism consists of giving a response to a stimulus. This minimal operation, of responding to an element alien to the organism that provokes a disequilibrium in the structure, in order to compensate and re-establish stability, will later manifest itself in a diverse and complex way. All the operations will leave "tracks," which will be preferential pathways for the new responses (in Time 2 the living being operates on the basis of conditions obtained in Time 1). This possibility of recording is of prime importance for the structure's permanence in a changing external environment, and a variable internal environment.

As the organism tends to go toward the environment to adapt to it and survive, it will have to do so by overcoming resistances. In the environment there are possibilities but also inconveniences, and to overcome the difficulties and surpass resistances, energy must be invested; work must be done that requires energy. This available energy will be used in that work of overcoming

environmental resistances. There will be no energy available again until the difficulties are overcome and the work is completed. The recordings of tracks (memory) will allow responses based on previous experiences, which will leave free energy available for new evolutionary steps. Without energetic availability, it is not possible to carry out more complex tasks of growing adaptation.

On the other hand, the environmental conditions present themselves to the developing organism as alternatives of choice, as well as being the tracks that allow it to decide between the different alternatives of adaptation. In addition, the adaptation is carried out by looking for the path of least resistance in front of the different alternatives, and that will require the least effort. This lesser effort implies less energy expenditure. And so, concomitantly with overcoming resistances, the attempt is made to do so with the least amount of energy possible, so that the free energy available can be invested in new evolutionary steps. In each evolutionary moment there is transformation, both of the environment as well as of the living being. Here is an interesting paradox: the structure, in order to preserve its unity, must transform the environment, and also transform itself.

It would be erroneous to think that living structures change and transform only the surrounding environment, since this environment becomes increasingly more complicated, and it is impossible to adapt while keeping the individuality unchanged, just as it was created in its beginnings. This is the case of man, whose environment, with the passing of time, is no longer just natural, but is social and technical as well. The complex relationships between social groups and the accumulated social and historical experience create an environment and a situation in which man's internal transformation will be necessary.

Following this roundabout description in which life emerges as organizing itself with functions, tropisms and memory) so as to compensate a variable environment and thus increasingly adapt, we see that a coordination among these factors (however minimal) is also necessary for the opportune orientation toward favorable conditions of development. When this minimal coordination appears, the psychism emerges as a function of life in growing adaptation, in evolution.

The function of the psychism consists of coordinating all the operations of compensation of the living being's instability in its environment. Without coordination, the organisms would respond partially without completing the different compositional parts, without maintaining the necessary relationships; and, finally, without preserving the structure in the dynamic process of adaptation.

In Relationship with the Environment

This psychism that coordinates the vital functions (makes use of the senses and the memory) for the perception of variations in the environment. These senses, which through time have become more complex (like all parts of organisms), provide information on the environment that will be structured in adaptive orientation. The environment in turn is very varied, and certain minimal environmental conditions are necessary for the organism's development. Wherever these physical conditions are present, life emerges; and once the first organisms appear, the conditions are progressively transformed in way that is increasingly more favorable for life. But in the beginning, organisms require optimal environmental conditions for development. The variations in the troposphere reach all organisms. Thus, daily cycles and seasonal cycles, as well as general temperature, radiation and solar light, are influential conditions in the development of life. So is the composition of the Earth, which, in its wealth, offers raw material that will be the energy and work source for living beings. The accidents that can occur all over the planet are also decisive circumstances for organic development. From glaciations, cave-ins, earthquakes and volcanic eruptions, even wind and water erosion—all are determining factors. Life will be different in the deserts, in the mountain heights, on the poles or on the seacoasts. Large numbers of organisms and diverse species appear and disappear from the earth's surface once life arrives from the oceans. Many individuals encounter insurmountable difficulties and perish as a result. This also happens to complete species—species that were unable to transform themselves or the new situations that arose in the evolutionary process. Life nonetheless continually opens up its path, encompassing many possibilities through great numbers and diversity.

When diverse species appear within one same space, different relations arise among them, apart from those that exist within the same species. There are relations of symbiosis, of association, parasitic relations, saprophytic relations and so on. All these possible relations can be simplified into three major types: relations of domination, relations of interchange, and relations of

destruction. Organisms maintain these relationships among themselves, with some surviving and others disappearing.

We are dealing with organisms with functions that are regulated by a psychism; organisms equipped with senses to perceive the internal and external environments, and with a memory that is not just genetic memory for the trans-mission of the species' characteristics (instincts" of reproduction and conservation), but also individual recordings of new reflexes that make it possible to decide in front of alternatives. The memory also fulfills another function: the register of time; memory makes it possible to give continuity to the passing of time. The first circuit of short reflexes (stimuli-response) allows for variations in its complexity, thus allowing specialization of the nervous and endocrine systems. On the other hand, the possibility of acquiring new reflexes originates learning and domestication, also enabling specialization of multiple mechanisms of response. As a result, variable behavior can be observed; variable conduct in the environment, in the world.

After many attempts by Nature, mammals began their development, producing different and numerous cases. These mammals gave rise to different branches, among them the hominids of recent date. From hereon in, the psychism begins a specific development.

In the Human Being

A notable leap forward is produced when the codification of signs (sounds and gestures) begins among the hominids. Later the codified signs are fixed with greater permanence (in engraved signs and symbols). These signs improve the communication that relates individuals amongst themselves, and tells of matters of importance for them regarding the environment they live in. Memory expands and is no longer just genetic transmission and individual memory; but thanks to the encoding of signals, data can be stored and transmitted signically, resulting in the increase of information and social experience.

Subsequently, a second important leap forward takes place: memory data become independent of the genetic apparatus and the individual. Dispersed memory appears, which progresses from the first signs on walls and clay tablets to alphabets that make texts, libraries, teaching centers, etc., possible. The most important aspect that has operated here is that the psychism goes outside itself and shapes itself in the world.

At the same time locomotion expands, thanks to an inventiveness that, on one hand, creates devices not found in nature, and, on the other, domesticates animals and plants, allowing their transport over water, steppe, mountain and forest. From the nomadic populations, to the locomotion and communication that has attained a remarkable degree of development in our times.

Nutrition, is perfected, from primitive gathering, hunting and fishing until the domestication of plants by the early farmers. It continues to develop with the domestication of animals and progressive systems of storage, conservation and synthesis of new foodstuffs and their resulting distribution.

Reproduction organizes the first social groups of the horde, tribe and family, which leads to rudimentary settlements upon their establishment in fixed locations. These later acquire a complex form of social organization, with the concomitant participation of different generations: in one same historical and geographical moment. Reproduction undergoes important transformations up to the present time, when techniques for the production, modification, conservation), and mutation of embryos and genes already loom in the horizon.

The psychism has become more complex while still reflecting its previous stages. The psychism also specializes apparatuses of response, such as the neuro-hormonal centers, which develop from their original vegetative function up to an intellect of increasing complexity. In accordance with the degree of internal and external work, the consciousness has gained levels, from deep sleep to semisleep, and later, an increasingly more lucid level of vigil.

The psychism emerges as the coordinator for the structure 'living being-environment'—that is, the structure 'consciousness-world.' The result of this coordination is the unstable equilibrium within which this structure will work and process. External information will arrive to the specialized apparatus that will work within different ranges of capture. These apparatuses are the external senses. Information from the internal environment, from the intrabody, will reach the capture apparatuses, which are the internal senses. The imprints of this internal and external information, as well as the tracks of the operations of the consciousness themselves, in its different levels of work, will be received in the apparatus of memory. Thus, the psychism will coordinate sensorial data and memory recordings.

On the other hand, in this stage of its development the psychism is equipped with apparatuses of response to the world—very elaborate responses and of varied types, as are the intellectual, emotional and motor responses. These apparatuses are the centers. In the vegetative center, the organic bases are found of the vital functions of metabolism, reproduction and locomotion (even though this last has become specialized in the motor center as well as the instincts of conservation), and reproduction. The psychism will coordinate these apparatuses as well as the vital functions and instincts.

Furthermore, in the human being there is a relational system with the environment that cannot be considered an apparatus with neuro-physiological localizations, and which we call “behavior.” A particular case of psychological behavior in the interpersonal and social relationship is the “personality.” The structure of personality serves adaptation, through its continual adjustment to different and variable situations in the interpersonal environment. This capacity for appropriate adaptation requires a complex situational dynamic, which the psychism will also have to coordinate, at the same time maintaining the unity of the entire structure’s unity.

On the other hand, the biological process that a person goes through—from birth and childhood, through adolescence and youth, until maturity and old age—markedly modifies the internal structure, which travels through vital stages with differing needs and environmental relationships (in the beginning there is dependence on the environment; later establishment and expansion within it, the individual tending to preserve their position, until they finally move away). This process likewise needs precise coordination.

For an integrated vision of the human psychism’s work, we will present its different functions, those whose physiological locations are possible to identify.¹ We will also take into consideration the system of impulses that has the capacity to generate, transfer and transform information between the apparatuses.

2. Apparatuses of the Psychism²

‘Apparatus’ is understood to mean the sensory and memory specializations that work integrately in the consciousness, by means of impulses. These, in turn, undergo many transformations, depending the psychic ambit in which they act.

Senses

The senses have the function of receiving and sending data to the consciousness and the memory and are organized in different ways, according to the psychism’s needs and tendencies.

The apparatus of the senses has its origin in a primitive tactile sense that progressively becomes more specialized. One can differentiate between external senses that detect information from the external environment, and internal senses, when the information is captured from the interior of the body. According to the type of activity they can be classified as: chemical senses (taste and smell); mechanical senses (the tactile as such and the internal senses of cenesthesia and kinesthesia) and physical senses (hearing and sight). As for the internal senses, the cenesthetic sense provides information on the intrabody. There are chemical receptors, thermoceptors, baroceptors, and others; the detection of pain also plays an important role.

The work of the centers is detected cenesthetically, as are the different levels of work of the consciousness. During vigil, cenesthetic information has a minimum of registers, as this is when the external senses predominate and the entire psychism is moving in relation to the external world. When vigil lowers its potential, the cenesthesia increases the emission of impulses. There is a deformed register of these impulses and they act as the raw material for the translations that will be made in semisleep and sleep. The kinesthetic sense provides data on movement, body posture, physical balance and imbalance.

Common Characteristics of the Senses

- a) Each sense performs its own activities of abstraction and structuring of stimuli, according to its respective aptitudes. Perception is produced by the data plus the activity of the sense
- b) All are in continual movement, scanning ranges.
- c) Each sense works with its own memory, which enables the recognition of the stimulus.

d) Each sense works within a “range,” according to a particular tone that is its own and that must be altered by the stimulus. For this to happen, the stimulus must appear within sensory thresholds (a minimum threshold below which the stimulus is not perceived, and a threshold of maximum tolerance which, when exceeded, produces sensory irritation or saturation). If there is “background noise” (originating from the same sense or from other senses, from the consciousness or from the memory), the stimulus must increase its intensity for it to be registered, without exceeding the maximum threshold so as to avoid saturation and sensory blockage. When this occurs, it is essential to make the background noise disappear so that the signal can arrive to the sense.

e) All the senses work within these thresholds and limits of tolerance, which allow for variations according to their training and metabolic needs (this is where the phylogenetic root of sensory existence is found). This feature of variability is important in order to distinguish sensory errors.

f) All translate the perceptions into one same system of electrochemical impulses, which will be distributed via the nervous system to the brain.

g) All have neuronal localizations (either precise or diffuse), which are always connected to the central and peripheral or autonomous nervous systems, from where the apparatus of coordination operates.

h) All are linked to the organism’s general apparatus of memory.

i) All have their own registers, which are given by the variation of tone when the stimulus appears, and by the fact of perception itself.

j) All can commit errors in the perception. These errors can originate from the blockage. of the sense (due to sensory irritation, for example), or from a failure or deficiency in the sense (myopia, deafness, etc.). They can also occur due to lack of intervention by one or more senses that help provide parameters for the perception (for example, something sounds “distant,” but when it is seen it is “close”). Some errors are artificially created by mechanical conditions, such as the case of “seeing light” when pressure is applied to the eyeballs; or the sensation that the body grows larger when the external temperature is similar to that of the skin. These errors of the senses are generically called “illusion.”

Memory

The memory’s function is to record and retain data from the senses and/or the consciousness. It also supplies data to the consciousness when necessary (the act of remembering). The greater the amount of data from memory, the more options there are in the responses. When responses have antecedents, energy is saved and there is a balance left of surplus availability. The memory’s work provides the consciousness with references so that it can be oriented as to its location and can maintain its continuity through time. The rudiments of memory appear in the inertia that is proper to the work of each sense, broadening out to the entire psychism as general memory. The theoretical minimum atom of memory is reminiscence, but what is registerable is that in memory, data from the senses and from the coordinator in the form of structured recordings are received, processed and ordered. The ordering is carried out in ranges or by thematic zones and according to a chronology of its own. From all this it is deduced that the real atom would be: data + activity of the apparatus.

Recording Modes

Data are recorded by the memory in different ways: by means of a shock—that is to say, through a stimulus that makes a powerful impression; through the simultaneous input of data from different senses; through the presentation of the same data in different ways; and through repetition. The datum is well recorded when it is in context and also when it stands out due to a lack or a unity of context. The quality of the recording improves when the stimuli are distinguishable, and this is produced by the sharpness of the signals, in the absence of background noise. When there is saturation due to repetition a blockage. is produced; and when the stimuli become habitual, there is a diminution in the recording of the stimulus. When there is an absence of external stimuli, the first stimulus that appears is strongly recorded. Also when the memory is not providing information to the coordinator there is a greater disposition for recording. Data received that is related to the thematic zone where the coordinator is working will be well recorded.

Remembering and Forgetting

Remembering—or more precisely, evocation—arises when the memory delivers already-recorded data to the consciousness. This evocation is produced intentionally by the consciousness, and this differentiates it from another type of remembrance that is imposed on the consciousness. An example is when certain memories invade the consciousness, sometimes coinciding with searches or with psychological contradictions that arise without the coordinator's participation.

There are degrees of evocation, depending on whether the data was recorded with greater or lesser intensity. When the data passes lightly over the threshold of register, the evocation will also be slight; and there are even cases where the data is not remembered, but when the data is perceived again, it is recognized. From these minimum thresholds of evocation there are more intense gradations until we reach the level of automatic remembering or rapid recognition, as in the case of language, for example. Recognition occurs when data is received and compared to previously recorded data; the data shows up as having been registered before, and is therefore recognized. Without recognition, the psychism would experience an always-being-before-the-phenomena-for-the-first time, despite their repetition.

Forgetting is the impossibility of bringing already recorded data to the consciousness. This happens because of a blockage in reminiscence that impedes the reappearance of the information. There is, on the other hand, a kind of functional forgetting that prevents the continual reappearance of memories, thanks to mechanisms of inter-regulation that inhibit one apparatus while another is working. In this way there is no continuous remembering while the coordinator is perceiving or coordinating responses, or when it is evoking a particular range. The degree of intensity of the recording and of the evocation is linked to the coordinator's fields of presence and copresence.

Levels of Memory

Different levels arise, based on the permanence and duration of the recordings. In the acquisition of individual memory, the first imprints remain as the substratum for subsequent ones, establishing the ambit in which the new recordings are compared to the first ones. On the other hand, the new recordings are received over the base of the energetic availability and working readiness left by the first recordings, these last being the basis for the recognition. There is a primary level of substratum, or ancient memory, which is gradually enriched over time. There is a second level, or mediate memory, which arises in the dynamic of psychic work, with recent recordings that on occasion go down to the level of ancient memory. There is a third level, or immediate memory, that corresponds to current recordings. It is a level of work that is constantly open to the arrival of information. At this level there is data selection, discarding and storage.

Memory and Learning

Emotion plays a very important role in recording and memorization of the mnemonic imprint. Obviously it is easier to memorize and evoke in a friendly and agreeable atmosphere, and this characteristic is definitive in the tasks of learning and teaching, when data are related to an emotional situational context.

Memory Circuit

The incoming paths of the mnemonic impulses are the internal senses, the external senses, and the activities of the coordinator. Along these paths, impulses travel which comprise the registerable information that goes on to memory for storage. The arriving stimuli follow a double path: one leads to the coordinator, and the other to the memory. It is enough for the stimuli to lightly exceed the sensory thresholds for them to be registerable, and a minimal amount of activity in the different levels of consciousness is sufficient for recording to take place.

Relationship between Memory and Coordinator

In the circuit between senses and coordinator, the memory acts as a connective, as a bridge, occasionally compensating the lack of sensorial data, whether through evocation or through involuntary remembering (as though it were "metabolizing" reserves). In the case of deep sleep, where there is no input of external data, cenesthetic data combined with memory data arrive to the consciousness. In this way the mnemonic data do not appear through intentional evocation, but the coordinator is still performing a task: it is putting data in order, it is analyzing, it is carrying out

operations with the participation of memory. In the level of deep sleep there is a re-ordering of raw material from vigil (immediate, recent or ancient) that has arrived to the memory in a disorderly way. In the level of vigil, the coordinator may direct itself to the memory through evocation (reversibility mechanisms), formalizing objects in the consciousness that do not enter through the senses at that moment, though they may have done so previously. From the above it is inferred that the memory can supply data at the coordinator's request, or stimulate it without its participation, as, for example, when there is a lack of sensory stimuli.

Memory Errors

The most common error is false recognition, which arises when a new datum is incorrectly related to a previous one. A variant (or an erroneous remembrance) is the replacement of a datum with another that does not appear in memory. Amnesias are registered as a total impossibility of evoking data or complete data sequences. Inversely, in hypermnesia there is an overabundance of memories. On the other hand, every recording is associated to others that are contiguous to it. Hence, there are no isolated memories; rather the coordinator selects, among all the memories, only the ones that it needs. Thus, another case of error is one that is produced when contiguous memories are located as central ones. Memory data that do not pass through the coordinator can directly influence behavior, motivating conducts that are inadequate for a situation even though there may be a register of the inadequate behaviors. Another case of error is that of "d  j   vu," when in an entirely new situation, one has a feeling of having already experienced it before.

3. Consciousness

The consciousness can be defined as the system of coordination and register that the human psychism implements. Accordingly, any phenomenon that is not registered is not considered conscious; nor any operation of the psychism in which tasks of coordination have no participation. This is possible because of the very broad spectrum of possibilities for registering and coordination, with the greatest difficulties arising when thresholds, limits of register and of coordination, are considered. This leads us to briefly consider the following: "Consciousness" is commonly linked to "vigilic activity," with everything else being left outside of the consciousness, and this has made such poorly-grounded conceptions arise, such as the concept of the "unconscious." This is because there has been insufficient study of the different levels of work of the consciousness; neither has the structure of presence and copresence been observed, which the attentional mechanism works with. There are other conceptions in which the consciousness; is seen as passive, when in fact the consciousness works by actively structuring, coordinating the psychism's needs and tendencies with the contributions of the senses and the memory, while it orients the constant variations of the relationship between the body and the psychism—in other words, the relationship of the psychophysical structure with the world.

We consider that the mechanisms of reversibility are fundamental, which allow the consciousness; to orient itself, through the attention, toward the sources of sensory information (apperception) and mnemonic information (evocation). When the attention is trained at evocation, it can also discover or highlight phenomena that were not noticed at the time they were recorded. This recognition is considered as: apperception in the evocation. The activation of the reversibility mechanisms is directedly related to the level of work of the consciousness. As one descends in level of consciousness, the work of these mechanisms decreases, and vice versa.

The Structure of the Consciousness

The minimum structure of the consciousness. is the relationship between act-object, linked together by the consciousness' mechanisms of intentionality. This bond between acts and objects is permanent, even though there do exist acts that are launched in search of objects that are not precisely defined at that moment. This situation is what gives its dynamic to the consciousness. The objects of consciousness (i.e., perceptions, memories, representations, abstractions, etc.) appear as the intentional correlates of the acts of consciousness. The intentionality. is always launched toward the future—registered as tension in the search—and also toward the past in evocation). Thus, the times of consciousness intersect in the present instant. The consciousness

futurizes and remembers, but at the moment of the impletion, it works in the present.

In the case of a search for a memory, when the evoked object appears it “makes itself present”—and until this happens, the consciousness does not complete its act. The completed action is registered as distension. When acts find their objects, there is free energy left that is used by the consciousness for new tasks. The operations that have been described are characteristic of the level of vigil, since in other levels (such as in sleep, for example), the structure of time is different. Psychological time, therefore, depends on the level of work of the psychism. The time of the coordinator’s work in vigil is the present. From this level, multiple temporal games of protentions and retentions can be effected, but always intersecting in the present moment. The effectiveness of the reversibility mechanisms and of the present time are characteristics of vigil.

Attention, Presence and Copresence

Attention is an aptitude of the consciousness that allows the observation of internal and external phenomena. Thus, when a stimulus goes past the threshold, it awakens the interest of the consciousness and remains in a central field of presence to which the attention is directed. The same thing happens when the consciousness directs itself at a specific stimulus or datum, driven by its own interest. When the attention is at work, there are some objects that are located centrally and others peripherally, in a copresent way. This attentional presence and copresence is something that happens with respect to external as well as internal objects. When the attention is focused on an object, an evident aspect comes to the forefront, while what is not evident operates in a copresent way. One is aware that the latter aspect “is there,” even if one doesn’t pay attention to it. This is because the consciousness works with more than it needs to pay attention to; it encompasses more than just the observed object.

The consciousness directs acts toward the objects, but there are other, copresent acts that are unrelated to the theme or object presently being attended to. The same thing is experienced in the different levels of consciousness. For example, in vigil there is a copresence of reveries, and in dreams there can be eminently vigilic acts such as reasoning. Thus, presence takes place in a field of copresence. In knowledge, for example, the mass of copresent information matters when it is necessary to concentrate on a specific theme. Knowledge is understood within this horizon of copresence; for this reason, when knowledge expands, so does the capacity to establish relations. Presence and copresence configure the image that an individual has of the world. Aside from concepts and ideas, the consciousness also has access to elements that are not thought, that are copresent—such as opinions, beliefs, assumptions—which it rarely pays attention to. When this supporting substratum changes or collapses, what changes or is transformed is the image of the world.

Abstraction and Association

The consciousness’s capacity to work with abstraction increases in the level of vigil and diminishes in the lower levels, along with augmenting the associative mechanisms. The mechanisms of abstraction, as well as those of association, operate at the base of vigil. The consequence of the first is “thought;” and of the second, “imagination.” Thought consists of the formulation of abstractions that we can define as “concepts.” These are reductions of objects down to their essential character (for example, the abstraction of a field would be its triangular shape and geometric area).

Conceptualization does not work with isolated elements, but with sets of elements; and from these conceptualizations, classifications can be established (for example, an abstraction of “tree” is created, but it happens that there are different types of trees, and so classifications also appear, in categories, classes, genera, etc.). According to this, thought takes place on the basis of conceptualizations and classifications thanks to the abstractive mechanisms of the consciousness.

Imagination arises with the work of the mechanisms of association: contrast (black-white); contiguity (bridge-river); and similitude (red-blood). Two types of imagination are distinguishable: divagational imagination, and plastic or directed imagination. The first is characterized by free, unguided association, in which images are let loose and impose themselves on the consciousness (in dreams and reveries, for example). In plastic or directed imagination there is a certain operative freedom, thus allowing a direction around a plan of inventiveness, in which formalizing something as yet nonexistent is of interest. Depending on whether the impulses that arrive to the consciousness are worked on using one or another of the indicated mechanisms (i.e., abstraction,

classification, divagation or directed imagination), different translations will be obtained and multiple representations formalized.

Levels of Consciousness

The consciousness can find itself immersed in deep sleep, in semisleep or in vigil, and also in intermediate or transitional moments. There are gradations between the levels of consciousness, not sharp divisions. To speak of levels is to speak of different operations and of the register of these operations. It is thanks to the register that a distinction can be made between different levels of consciousness, and one cannot have a register of the levels as though they were empty ambits.

Characteristics of the Levels

It can be affirmed that the different levels of consciousness fulfill the function of structurally compensating the world (understanding by “world,” the mass of perceptions, representations, etc., that originate in the stimuli from the external and internal environments). This is not simply about giving responses, but about giving structural, compensatory responses. These responses are compensations in order to re-establish equilibrium in the unstable relationship between consciousness-world or psychism-environment. As free energy is left over from the work done in the vegetative function, the levels rise because they receive the energy that feeds them.

Deep Sleep

In this level, the work of the external senses is minimal; there is no other information from the external environment except for whatever breaks through the threshold imposed by sleep itself. The task of the cenesthetic sense is predominant, contributing impulses that are translated and transformed by the work of the associative mechanisms and resulting in the emergence of oneiric images. The substantive characteristics of the images at this level are their strong suggestive power. Psychological time and space are modified with respect to vigil, and the act-object structure frequently appears without any correlation between its elements. Likewise, emotional “climates” and images tend to become independent of one another. The disappearance of critical and self-critical mechanisms is typical, which, starting from this level, will gradually increase their work as the level of consciousness rises. The inertia of the levels and the formal ambit that they establish cause the mobility and the passage from one level to the other to occur gradually (thus, the exit from and entrance into sleep will take place after passing through semisleep). The tone of this level is the same as that of the others: it can go from an active to a passive state, and there can also be of alteration. There are no images in passive sleep, whereas active sleep does have images.

Semisleep

At this level, which precedes vigil, the external senses start sending information to the consciousness—information that is not entirely structured, because there is also interference from reveries and the presence of internal sensations. The contents of sleep lose their suggestive power when they continue to appear, due to the semi-vigilic perception that provides new parameters. Suggestibility continues acting, especially in the case of some very vivid images (called “hypnagogic”) of great power. On the other hand, the system of frequent reveries—which can wane in vigil and disappear in sleep—reappears. It is in this level where the reverie nucleus and the secondary reveries are more easily registered, at least in their basic climates and tensions. The reverie mode that is proper to this level tends to be transferred through inertia to vigil, supplying the raw material for divagation; though in the divagation, elements from vigilic perception also appear. In this ambit the coordinator can already carry out a few operations. Let us also mention that this level is extremely unstable and therefore is easily disequilibrated and altered.

We also find the states of passive and active semisleep. The first offers an easy passage to sleep; the second, to vigil. At this point we can also make another distinction: there is an active semisleep due to alteration, and another that is more calm and attentive. Altered semisleep is the base of the tensions and climates that can arrive to vigil with force and persistence, giving rise to “noise” and modifying behavior, making it inadequate for the surrounding situation. The tracking of vigilic tensions and climates can be done in altered active semisleep. The different states, both active and passive, are defined by the energetic tone and intensity proper to each level. The degree

of intensity that emotional climates and tensions can have is expressed in tones.

Vigil

In this level the external senses contribute a greater volume of information as they regulate the internal senses through inhibition, enabling the coordinator to orient itself toward the world in the psychism's work of compensating the environment. Here the mechanisms of abstraction and of criticism and self-criticism function and attain high degrees of manifestation and intervention in the tasks of coordination and register. The mechanisms of reversibility, whose manifestation in the previous levels was minimal, can amply operate here, allowing the coordinator to balance the internal and external environments. Suggestibility in the vigilic contents diminishes with the increase in reference points. There is a tone of active vigil that can be attentive, with maximum control over apperception, or there may be a tone of altered vigil. In this last case, silent divagation and the more-or-less fixed reveries appear.

Relationship Between Levels

In general, the relationship between the levels produces reciprocal alterations. Four factors can be mentioned that affect this relationship: inertia, noise, the "rebound" effect, and "dragging."

Inertia

Each level of consciousness tends to maintain its own level of work, and to continue to maintain its activity after its cycle is finalized. As a result, the passage from one level to another is carried out slowly, with the first diminishing when the new level manifests itself (as in the case of contents from semisleep that impose themselves in vigil). The cases we will now mention result from this inertia that each level has, causing it to maintain and extend the type of articulation that characterizes it.

Noise

The inertia of the previous level appears as background noise in the work of the subsequent level: contents from infra-vigil erupt, interfering in the work of vigil, and vice versa. We can also distinguish the following as 'noise': emotional climates, tensions and contents not proper to the coordinator's work at a given moment. For example, if an intellectual task is being performed, a certain emotion should accompany this work (liking for doing it); there will be tension produced by the work itself, and thoughts appropriate for the operations underway. But if there are other types of climates, if the tensions do not come from the work and the contents tend toward allegorization, they will obviously interfere in the activity and introduce noise, which will necessarily alter the coordination and consume the available energy.

The Rebound Effect

This phenomenon occurs as a response from a level in which contents from a different level have been introduced that had broken through the defenses of inertia. Contents proper to the level that was invaded will later on appear, this time in the level from where the other contents were introduced.

Dragging

Contents, climates and tones that are proper to one level are transferred and remain in another level as draggings. This will be more relevant in the case of climates, tensions or contents that are fixed in the psychism, that are dragged for a long time, and that are represented in the different levels. Due to the psychological importance that these factors can have for growing adaptation and the psychism's evolution, we can give them special consideration.

Tones, Climates, Tensions and Contents

Tones are considered in terms of energetic intensity. The operations in each level can be carried out with greater or lesser intensity (with greater or lesser tone). There are experiences that are manifested at a greater or lesser intensity depending on the predominant tone, and at times

they can be altered by it, becoming converted into a factor of noise.

Climates are moods that because of their variability appear intermittently and can envelop the consciousness for a certain period of time, tinting all of the coordinator's activities. Sometimes climates match the operations that are carried out and concomitantly accompany the coordinator without perturbing it, in which case they facilitate its work. But things do not happen like this, and instead, they create noise. These climates can become fixed in the psychism and perturb the entire structure, impeding mobility and easy displacement of the opportune climates. Fixed climates circulate through the different levels, and in this way they can pass from vigil to sleep, continue there, then return to vigil for a long period of time, reducing the coordinator's operative freedom. Another type of climate is the situational climate, which arises and obstructs appropriate responses to specific situations.

Tensions have a more physical, more corporal root, since it is the muscular system that intervenes, given that tensions are registered most directly in the musculature. The connection with the psychism is not always direct, because muscular relaxation is not always directly accompanied by a mental relax; rather the consciousness can continue having tensions and alteration, even though the body has already been able to relax. This difference between psychic and physical tensions allows us to establish more precise operative distinctions. Psychic tensions are linked to excessive expectations, in which the psychism is led on a search, a "waiting for something" that occasions powerful tensions.

Mental contents appear as formal objects of consciousness. They are compensatory forms that the consciousness organizes in order to respond to the world. This is how a correspondence emerges—or doesn't emerge—between the activities or needs of the psychism and the contents that appear in the coordinator. If one is performing a mathematical operation, the appearance of numerical representations will be appropriate; but an allegorical figure will be inopportune and will act as noise and a focus of distraction. Aside from hampering the work being carried out, all factors of noise tend to provoke disorientation and energy dispersion. As long as the contents of consciousness are acting within the level of their formation, they have importance as significations for the coordinator; but when they leave their characteristic formal level, they obstruct the tasks of coordination.

The registers of calm states in vigil are also of great usefulness, since they are able to reestablish the normal flow of consciousness. In the case of climates that become fixed, there is an Operative procedure to transfer these climates from their corresponding images to others of less importance for the consciousness. In this way, climates can begin losing their fixedness, reducing vigilic perturbation. In synthesis: the four types of experiences we enumerated above are favorable factors if they are properly adapted to the coordinator's operations. However, when they are inadequate because they do not correspond to such operations, they become factors of noise and distraction and alter the psychism.

Errors of the Coordinator

A distinction must be made between errors of the consciousness and errors of relationship between consciousness, senses and memory. We generically designate these last as "dysfunctions." Hallucination is a typical error of the coordinator. It occurs when phenomena that have not arrived directly via the senses are experienced as if they were operating in the external world with all the characteristics of sensory perception. Here we are dealing with configurations made by the consciousness on the basis of memory. These hallucinations can arise during moments of extreme exhaustion, due to a deficiency of the substances necessary for cerebral metabolism; due to anoxia; to lack of stimuli (as in situations of sensory suppression); to the action of drugs; during "delirium tremens" caused by alcoholism; and also in life-threatening situations. They are frequent in cases of physical weakness and of "emotion ed consciousness," in which the coordinator loses its powers of displacement in time. As examples of sense dysfunction, we can cite the inability to relate data coming from different sensory paths (the cases known as "eidetic disintegration"). Memory dysfunctions are registered as forgetting and blockage.

Integrated Circuit of Senses, Memory and Coordinator

The connectives between senses, memory and consciousness reveal important aspects of how the psychism functions. These connective circuits operate within a complex self-regulation. Thus, when the coordinator performs apperception of perception, evocation). is inhibited; and inversely,

apperception of memory inhibits perception. While the external senses are acting, the entrance of internal stimuli is inhibited and vice-versa. There is maximum inter-regulation during the changes in the level of work, when, as sleep increases (or vigil diminishes), the reversibility mechanisms are blocked and the associative mechanisms are then powerfully released. On the other hand, when vigil augments and the critical mechanisms begin their work, they inhibit the associative mechanisms. There is also automatic inter-regulation between the senses: when sight expands its average threshold, the sense thresholds of touch, smell and hearing are reduced, and this happens in all the senses for example, people tend to close their eyes in order to hear better).

4. Impulses³

Impulses coming from the senses and the memory that reach the coordinator are transformed into representations. These structures of perception and evocation are then processed in order to elaborate effective responses in the work of achieving equilibrium between the internal and external environments. Thus, for example, whereas a reverie is an elaboration-response to the internal environment, a motor displacement is a movement-response to the external environment; or in the case of representations, an ideation taken to the level of signs is yet another type of representation-response to the external environment.

On the other hand, any representation that is placed in the coordinator's field of presence triggers associative chains between the object and its copresence. Thus, while the object is captured with detailed precision in the field of presence, relations appear in the field of copresence with other objects, which, though not present, are linked, to the first. One notes the importance of the fields of presence and copresence in the translation of impulses as in the case of allegorical translation, in which much raw material comes from data that have reached the copresence of vigil.

A study of the impulses is important because of the special work that the coordinator does with representations. There are two possible pathways: the abstractive path, which operates by reducing phenomenal multiplicity down to its essential characters; and the associative path, which structures the representations over the basis of similitude, contiguity and contrast.

These pathways of abstraction and association are the foundation over which forms are structured. These forms are connectives between the consciousness that constitutes them, and the phenomena of the objectal world that they are referred to.

The Morphology of Impulses

At this level of our exposition, we understand "forms" as phenomena of perception or of representation. The morphology of impulses studies forms as structures that are translated and transformed by the psychophysical apparatus in its work of responding to stimuli.

Different forms can be obtained from one same object, depending on which channels of sensation are used, the perspective from which said object is perceived, and the type of structuring effected by the consciousness. Each level of consciousness sets down its own formal ambit; each level proceeds as an ambit (with its characteristic structure), linked to forms that are also characteristic. The forms that emerge in the consciousness are real structuring compensations in front of the stimulus. The form is the object of the act of structuring compensation. The stimulus is converted into form when the consciousness structures it from its level of work. Thus, one same stimulus is translated into different forms, according to the structuring responses from different levels of consciousness. The different levels fulfill the function of structurally compensating the world.

Color has great psychological importance, but even as it serves the weighing of forms, it does not modify their essence.

To comprehend the origin and meaning of forms, it is important to distinguish between sensation, perception and representation.

Functions of Internal Representation

1. To fix the perception as memory.
2. To transform what is perceived according to the needs of the consciousness.

3. To translate internal impulses into perceptible levels.

Functions of External Representation

1. To abstract the essential to give order. (symbol).
2. To express abstractions as conventions in order to operate in the world (sign).
3. To make concrete that which is abstract in order to remember it (allegory).

Characteristics of the Sign, the Allegory and the Symbol

The sign is conventional, operative, associative and sometimes figurative; at times non-figurative. The allegory is centrifugal, multiplicative, associative, epochal and figurative. The symbol is centripetal, synthetic, non-associative, non-epochal and non-figurative.

Symbolics

The Symbol as Visual Act

The symbol in space and as visual perception makes us reflect on the eye's movement. Viewing a point without references allows the eye to move in all directions. The horizontal line effortlessly leads the eye along its direction. The vertical line provokes tension, fatigue and drowsiness.

Comprehension of the symbol (initially a visual configuration and movement) enables us to seriously consider the action that it effects from the external world over the psychism (when the symbol is presented as perception, from a cultural object), and makes it possible to investigate the work of representation (when the image is expressed as symbol in an internal personal production, or is projected in an external cultural production).

The Symbol as Result of the Transformation of What is Perceived

The compensatory function of the symbol emerges here, as referential and a creator of order in space. The symbol contributes to fixing the center in an open field and to freezing time. Monument-symbols give psychological and political unity to nations. There is also a type of symbol that corresponds to non-collective productions, wherein one observes the compensatory function of the consciousness in front of the data from reality.

The Symbol as Translation of Internal Impulses

Symbolism in sleep and in artistic production is generally the correlate of cenesthetic impulses translated into levels of visual representation. Another case of symbolic manifestation as translation of internal impulses is that of certain gestures, known in the East as "mudras". Certain general body postures and their meanings are familiar to people the world over, and correspond to distinctions made in relation to the symbols of the point and circle, for example, an upright body with open arms symbolically expresses mental situations that are the opposite of those associated to the body's position when folded over itself, as in the fetal position).

Signics

The sign fulfills the function of conventionally expressing abstractions for the purpose of operating in the world, unifying phenomena that are distinct in nature in one same level of language. Expression and meaning are a structure. When the meaning of an expression is unknown, the sign loses operative value. Equivocal or multi-vocal expressions are those that allow various meanings, and their comprehension arises by context. The context gives uniformity to the level of language. But contexts are usually placed outside the ambit of a given level of language, giving rise to syncategorematic or occasional expressions. For example, in front of the same instance of a knock at the door, when someone asks, "Who is it?" different people answer, "Me"—and in each case it's understood who it is by the voice, the time of day, a visitor's expected arrival, etc. In other words, through contexts that are outside the level of language in which what is always said is: "Me". As for the sign as such, it may be the expression of a meaning, or it may fulfill the function of indicating another entity through its associative character.

Differences between Signs and Signical Categories

The connectives between signs are formalizations of relationships, such connectives being, in turn, signs. When signs lose their meaning due to a cultural shift, they are usually considered as symbols.

The Signical Function of Symbols and Allegories

When a symbol is given a conventional value, and it is taken in an operative sense, it is converted into a sign. Allegories also fulfill signical functions.

Allegories

Allegories are plastically-transformed narrations, in which what is diverse is fixed or there is multiplication by allusion; but also where the abstract is made concrete. The multiplicative nature of allegories has to do with the associative process of the consciousness.

The Associative Laws of Allegories

Similitude guides the consciousness when it searches for what is similar to a given object; *contiguity*, when it searches for what is proper to a given object, or for what is, was or will be in contact with it; *contrast.*, when the consciousness searches for what is in opposition to, or is in dialectical relationship with, a given object.

The Allegory's Situational Element

The allegory is dynamic and tells of situations referred to the individual mind (dreams, stories, art, pathology, mysticism), to the collective psychism (stories, art, folklore, myths and religions), and to human beings of different epochs in front of nature and history.

Functions and Types of Allegories

The allegory tells of situations, compensating the difficulties of total grasp. When one captures situations allegorically, it becomes possible to operate over real situations in an indirect way.

The "Climate" of the Allegory and the System of Ideation

In the allegory, the emotional factor is not dependent on the representation. The climate is part of the system of ideation and is what reveals its meaning for the consciousness. The allegory does not respect linear time or the way space is structured by the vigilic state.

The System of Tensions and the Allegory as Discharge

Laughter, crying, the act of love and aggressive confrontation are all means of discharging internal tensions. Specific allegories fulfill the function of provoking these types of discharges.

Composition of the Allegory

Continents (guard, protect or enclose what is inside them); contents (those that are included within an ambit); connectives (entities that facilitate or impede the connection between contents, between ambits, or between ambits and contents); attributes (are manifest when they stand out and tacit when they are masked). In the allegory the levels are emphasized (importance, hierarchies), textures (quality, and what the quality of an object means), and moments of process (ages). Allegories present themselves to the consciousness with a dynamic, and great capacity for transformism, inversion, expansion or reduction.

To carry out a complete interpretation of an allegorical system, it is a good idea to observe a work plan that begins by separating the symbolic and signical components. Subsequently, one must try to comprehend the function fulfilled by each one of the elements considered, and the origin of the allegorical raw material (if cultural objects are concerned, or a mixture of memories, of reveries or of oneiric images).

5. Behavior

We have seen the psychism as coordinator of relations between different environments: the body's internal environment, and the external or surrounding environment. The psychism gets information from both environments through the senses; it stores experience through the memory, and proceeds to make adjustments through the centers. This adjustment between environments is what we call "behavior," and we consider it as a specific case of expression of the psychism. Its base mechanisms are the instincts of individual preservation and of conservation), of the species, and the intentional tendencies.

Behavior is structured over the base of the innate qualities of the biological structure itself that the individual belongs to, and of acquired qualities codified over a base of trial-and-error experiences, with their accompanying registers of pleasure or displeasure. The innate qualities set down the coordinator's biological condition; the coordinator relies on these innate qualities and cannot isolate them without detriment. This biological base has an inertia expressed in the conservation and attainment of conditions that are apt for its expansion.

The acquired qualities arise from individual learning as the psychophysical structure displaces itself through space and time. Learning goes about modifying behavior in relation to the experiences of trial and error. These assays then provide guidelines for the individual's improved adaptation, achieved with the minimum resistance from the environment, the least effort in work, and the least energetic consumption. This form of adaptation allows for an energetic surplus (free energy that can be used in new steps of growing adaptation).

In every process of adaptation, the psychophysical structure orients itself through the indicators of pleasure and displeasure. Displeasure is configured as the signal of what endangers life, what is toxic, repressive, or is generally harmful for the psychophysical structure. Pleasure, at the same time that it stimulates and motivates the psychism, traces the optimal directions to follow. On the other hand, behavior encounters limits in the possibilities of the psychism, in the possibilities of the body, and the possibilities offered by different circumstances. The psychism's limits expand on the basis of the acquired qualities, but corporal limits cannot expand in the same proportion—in fact, these limitations increase with age. This does not mean the body doesn't have all the faculties for acting effectively in the environment; rather that the body imposes limits and conditions that the psychism cannot disregard without harming itself. In the relations between psychism, body and environment, the body will perform its objectal operations with lesser or greater success. In the first case there will be adaptation and in the second, non-adaptation.

The Centers as Specializations of Relational Responses

The simple, original mechanism of stimuli-response appears as highly complex in the human structure, one of its characteristics being the "deferred response," which is differentiated from the "reflex response" by the intervention of coordination circuits, and by the possibility of channeling the response through different centers of neuro-endocrinal activity. The centers work structurally among themselves and with their own registers, simultaneously with the general register that the coordinator has, and this is possible thanks to the information that arrives from the internal senses at the moment of action in the environment, as well as to the interconnections between centers and coordinator.

The Vegetative Center

Each living being, on the basis of the "plan" of its body, its genetic codes, assimilates substances from the external environment and generates the psychophysical energy necessary for life's preservation and development. In the human being, the vegetative center distributes the energy, sending out instructions from its many nervous and glandular localizations. It is therefore the basic center of the psychism, from which the instincts of individual and species preservation act, regulating sleep, hunger and sex. Basically, the signals that give instructions (i.e., information) to this center are registered cenesthetically, but signals coming from the external senses also have the capacity to mobilize or inhibit it.

The Sexual Center

This is the energetic collector and distributor that functions through alternating concentration and diffusion, mobilizing psychophysical energy in a localized or diffused way. Its work is both voluntary and involuntary. There is a cenesthetic register of the tension in this center, as well as of the distribution of energy to the other centers. The diminishing of tension is produced by the discharges proper to this center, and by means of discharges through the other centers. It can also connect tensions from the body and from the other centers. The sexual-vegetative structure is the phylogenetic base, starting from which the other centers have become organized in the evolutionary process of adaptation.

The Motor Center

Acts as regulator of the external reflexes—both conditioned and unconditioned—and of the habits of movement. Enables the body to displace itself through space. Works with muscular tensions and relaxations that are activated through nervous and chemical signals.

The Emotional Center

It is the regulator and synthesizer of situational responses, through its work of adhesion or rejection. When the emotional center gives “overflow” responses, alterations result in the other centers’ synchronization due to partial blockages.

The Intellectual Center

Responds on the basis of mechanisms of abstraction, classification and association. Works with selection or confusion in a range that goes from ideas to the different forms of imagination—whether directed or divagational—and is able to elaborate different symbolic, signical and allegorical forms. When incorrect responses from this center overflow outside its ambit, they produce confusion in the rest of the structure and therefore in the behavior.

The Structurality of the Centers’ Work

There are different speeds of dictation of responses to the environment, the speed of response having a proportional relationship to the center’s complexity. Whereas the intellect elaborates a slow response, the emotion and motricity do so at a greater velocity, and the vegetative center (in some of its expressions, such as the short reflex) shows, by far, the greatest response speed. The work of the centers is structural, which is confirmed by the concomitances in the other centers when one of them is working as the primary one. An example: intellectual activity is accompanied by an emotional tone (“a liking for study”) that helps maintain interest, while the motor level of work is reduced to the minimum. During vegetative reparation (because of illness, for example) all the energy is occupied in this task and the other centers’ activities are reduced to the minimum.

The centers can work in an unsynchronized way, which leads to errors in the response. There is a cenesthetic register and psychological perception of the centers’ structural work, and, because of this, in experiences of great internal conflict, the work of the centers is registered as a contradiction between thought, feeling and action.

Characterology

Peoples’ multiple tendencies., their different physical configurations, and the diversity of actions with which they respond to the world, make the task of establishing character classifications based on common features a very difficult one. A study of this type should consider that the situation of individuals in the environment is dynamic and variable; that throughout life they acquire experiences and can suffer accidents that can bring about profound transformations in behavior. A possible “Characterology” should attend to the combination of the innate and the acquired. Innate dispositions, which are also susceptible to change., are reflected in more-or-less typical psychic attitudes and corporal forms. On the other hand, this typicalness will be the result of the predominant work of one center over that of the others, with its characteristic speed of resonance and direction of the energy, but this will be modifiable depending on the situational structure. That is to say, a situational typology could also be established, since different responses are discovered in the same basic types. The cultural ways of the epoch, the social situation, the genre of daily tasks, etc., are added on to the basic type, and all of this configures what we call “personality.”

The Cycles of the Psychism

The human psychism, possessed of notable complexity, has as its forerunners other organic forms conditioned by nature's macrocycles, such as the seasons and the passage from day to night. Numerous variations modify the psychism's internal and external conditions. There are variations of temperature, luminosity, as well as the climatic changes of each season. All organisms are subject to a greater or lesser degree to the determinism of the natural cycles. The human being is not as conditioned as other species by organic cyclicity, and its psychism achieves modifications and an ever-increasing independence. A very clear case is the exercise of sex, which, in contrast to the other species, is independent of the seasonal cycles.

In the mechanisms of consciousness there are different rhythms, as demonstrated by the diverse bioelectric discharges that show up in the electroencephalogram. The centers have their own particular rhythms and the levels of consciousness have evident work cycles. When vigil completes its time of daily work, it "lowers" its activity and one begins to enter the period of sleep. Thus the period of sleep compensates the period of vigilic work. The metabolic cycles and the general vegetative rhythms operate within the mechanics of the different levels of consciousness.

The human being's major cycle is given by the vital time, which is completed as the individual goes through the different existential stages: birth, childhood, adolescence, youth, first and second maturity, elderliness, senectitude and death. In each stage there is a transformation of the psychism according to organic needs, interests, possibilities offered by the environment, etc. Finally, the psychosomatic cycles and rhythms show important modifications, in accordance with the changes of direction that take place at the moments when each vital stage begins, and declines.

The Responses to the World as Structuring Compensations

The consciousness in front of the world tends to compensate it structurally by means of a complex system of responses. Some responses reach the objectal world directly (expressed through the centers), but others remain in the consciousness and reach the world indirectly through some manifestation of behavior. These compensations of the consciousness tend to balance the internal world with respect to the external one. Such connection is established according to exigencies, with the individual finding herself pressed to respond to a complex world that is natural, human, social, cultural, technical, and so on. The "reverie nucleus" arises as an important compensatory response, and the "secondary reveries" as specific responses to the exigencies.

Reveries can be visualized as images; not so the nucleus, which is perceived as an allusive climate" as it is configured over time, increasing its power to direct a person's tendencies, their personal aspirations. In the stage when the reverie nucleus is wearing out, when it ceases to direct the psychism, the forms and images that it had adopted can be observed. For this reason the nucleus is easier to register at the beginning as well as at the end of its process, but not in its middle stage, which is when it most strongly directs the psychic activity. The paradox arises that the human being is unable to perceive what most determines its behavior, since the nucleus works as a background that responds in a totalizing way to the multiple demands of daily life.

The reverie nucleus" rules the aspirations, ideals and illusions that change in each vital stage. Following these changes or variations in the nucleus, existence is oriented in other directions and, concomitantly, changes in personality are produced. This nucleus wears out individually, in the same way that epochal reveries that have directed the activities of a whole society wear out. Whereas on one hand the nucleus gives a general response to the environment's demands, on the other it compensates the personality's basic deficiencies and lacks, imprinting a certain direction on the behavior. This direction can be weighted depending on whether or not it follows the line of growing adaptation. The reveries and nucleus imprint their powers of suggestion over the consciousness, producing the characteristic blocking of criticism and self-criticism proper to the infravigilic levels. For this reason, any direct confrontation with or opposition to the suggestion of the reverie nucleus" is useless, as it simply ends up reinforcing the compulsion. The possibility of producing a change of direction in an evolutionary line lies in making gradual modifications. The nucleus can regress or become fixed. In the first case, the psychism returns to previous stages, increasing the discords between processes and the situation in the environment. In the second case, when the nucleus becomes fixed, the individual is progressively disconnected from his environment, producing a behavior that does not adjust to the dynamic of events.

The reverie” nucleus launches the human being in the pursuit of mirages, which, when they are not realized, produce painful states (dis-illusions), while partial fulfillments produce pleasurable situations. We thus discover that the reveries and their nucleus lie at the root of psychological suffering. It is in the great failures—when expectations collapse and mirages fade—when the possibility arises for a new direction in life. In such a situation the “knot of pain” is exposed—the biographical knot that the consciousness suffered from for so long.

Personality

The systems of response (there are no isolated responses) go about organizing a personality, a mediator with the environment, which articulates different roles as codified systems of response in order to improve its dynamic.

The personality fulfills a precise function: it searches for the least resistance in the environment. This organization of roles that offer less difficulty in the relationship with the environment grows codified on the basis of learning through trial and error. The accumulation of behavior organizes a system of roles linked to situations, wherein some roles appear while others are hidden. This particular case is quite illustrative as a system of adaptation. In time, what we can call “circles of personality” are organized in different layers of depth. These circles are articulated according to the instructions of the reveries and the environments most frequented. Now then, in this interplay of roles that try to offer the least resistance to the environment, the roles may or may not be adjusted to a conventional, accepted consensus and give typical or atypical responses, respectively. Typical responses are not only codified by the individual but also by broad social groups, such that when a response arises in these groups that differs from the customary one, it can be disconcerting. This can occur above all in new situations for which there is no codified response. The response given in these situations can ultimately be opportune, or inopportune. Thus atypical responses appear that do not fit the situation, and the degree of inadequacy that they manifest can be weighted. Typical responses, though they can be adequate in an environment that is stable and relatively unchanging, are not such in a changing environment whose dynamic modifies customs, values, and so on. On occasion, the typicalness of the responses is an obstacle for adaptation to change. There are other, atypical manifestations that act as a catharsis of tensions, or that manifest negative emotions in the form of a catharsis of climates. Both of these atypical responses surface as a result of pressure from internal impulses that are expressed in situations with which the tensions do not necessarily coincide. In this case, the tensions and climates act as situational noise that abruptly bursts into the environment.

From the point of view of growing adaptation, the types of behavior that are of interest are those that offer multiple options of response, which is a situation that can enable an energy savings, usable for new steps of adaptation. Therefore, there will be responses of growing adaptation; but there will also be responses of decreasing adaptation, and this will happen as much in the case of atypical responses as in typical ones, with their differing degrees of timeliness. Thus, a particular behavior can either fulfill or not fulfill an adaptative function.

We can evaluate changes in behavior as significant or circumstantial. A change will be significant if the new orientation goes toward the evolutionary line, and it will be circumstantial if there is merely a replacement of roles, of ideology, an expansion of the circles of personality, an apex or a decline in the reveries, and so on. None of these last are indicative of an internal change. of importance. From a more general point of view, there is a significant change of behavior when a psychic instance is exhausted because the contents that were valid in one instance (with their characteristic theme and discourse) were progressively worn out until they were finally depleted. The psychism then orients itself toward a new instance, as an articulated response in its relation to the world.

The behavior is an indicator of the changes that are of interest. Many decisions to change, or plans for change, remain locked up in the psychism and for this reason do not indicate any modification; whereas when they are expressed in real changes in behavior, it is because some modification has taken place in the consciousness-world structure.

Appendix: Physiological Bases of the Psychism

A. Senses

The senses constitute the limits of the neuro-endocrine system and are apt for sending information signals regarding the external and internal environment to the centers of processing, coordination and response. The informative specialization of this information is carried out by cells (or teams of cells), converters of the environmental energy which have the property of transforming heterogeneous impulses that reach them from the exterior, into homogeneous impulses, common to any type of sense. The energy forms that reach these receptors are of varied types: Mechanical energy (as pressure or contact), electromagnetic energy (as light or heat), chemical energy (as smell, taste, oxygen-carbon dioxide content in the blood). These forms of heterogeneous energy have already undergone an initial stage of processing and are converted into a nervous impulse that reaches the information centers in the form of "bits" (signals). These differ from each other in frequency of signal and silence. There are numerous receptor cells with respect to their class and transformative activity, with around 30 different types having been identified at this time, each structured in its own particular way and giving rise to what are called the "senses."

The environment's energetic variables, however, are far more numerous than the number of senses that are apt for collecting them, as happens in the case of sight—a receptor of only 1/70th of the electromagnetic spectrum that is accepted and recognized as visible light. This case shows how the receptors are specializations of restricted phenomenal detection, and from this enormous ranges derive of silence for the equipment of perception. Here we recognize six more cases (hearing, smell, taste, touch, kinesthesia and cenesthesia), and from this an enormous range of perceptual silence results if we add up the insufficiencies of each sense. It is important to consider the receptors with respect to the distance from the transmission source (i.e., telereception, exteroception, interoception, etc.); the receptors' distribution in the body; the sensory pathways through which the homogeneous impulses travel; and the processing and coordination centers where these homogeneous impulses arrive. There they are once again differentiated, and the result is the "informative experience," which allows the apparatus to make perceptual distinctions in order to later work with structures of interpretation and structures of response that are adequate to the "portion" of world detected. We call "perceptible range" the particular form of energy that a receptor is most sensitive to. For example: the adequate stimulus for the eye's receptor cells is light; pressure is specifically captured by another type of receptor, but pressure on the eyeball will also stimulate the light receptors. This means that there are specific and non-specific ranges for each type of receptor that under certain conditions can considerably expand or contract their thresholds. It is also necessary to make a distinction between range (which refers to the quality of the phenomenon), and thresholds (which refers to the quantity or intensity of the phenomenon). These thresholds work with minimal levels of detection and maximum variables of tolerance. Each sense has been organized [in this Appendix] taking the following into account:

1. The Organ: Includes a minimal anatomic-physiological description of the organ or the receptors, as the case may be.
2. Mechanics: Describes in a simplified way the receptors' possible modes of operation upon transforming the energy coming from the environment into a nervous impulse.
3. Nervous Path and Localization: Briefly indicates the path followed by the impulses until reaching their destination point in the corresponding zone of the cortex.

The above is valid for the external senses. As for the internal ones (kinesthesia and cenesthesia), there are small explanatory variations owing to their particularities.

Sight

Organ: The eyes are complex, light-sensitive organs. Given their location, they enable humans to have three-dimensional vision of objects. This three-dimensional view is of course integrated into a system of perceptual interpretation that is considerably more complex than the organ itself. Equipped with straight and oblique muscles, the eyes possess an amplitude of movement of under 180 degrees. For some time now, the eye has been allegorically described as a photographic camera: a system of "lenses" (cornea and crystal) focuses the images on a photosensitive layer

(retina) located in the back of the eye; the eyelids and iris contribute to the system's protection and the regulation (in the manner of a diaphragm in the second case) of the light intensity received by the receptors.

Mechanics: It is accepted that the retina is a thin film made up of several layers of nerve cells. Light passes through these cells until it reaches the photoreceptors. These have been grouped in two main types: (a) thick bodies or "cones" that are concentrated above all in the center of the retina (fovea), and that provide information on color, working best in bright light; and (b) thin bodies called "rods," most of which are concentrated in the retinal periphery. These are more numerous than the cones and they are sensitive to semidarkness, and provide information on chiaroscuro. Both the cones and rods contain pigments, which, upon absorbing different types of light, become altered in their molecular structure. This alteration seems related to the nervous impulse that is sent to the brain.

Nervous Pathway and Localization: The external impulse having been transformed into a nervous impulse, it travels through the optic nerve, arriving after intermediary stages in the occipital cortex of both hemispheres of the brain.

Hearing

Organ. Sound waves penetrating through the outer ear conduits strike the eardrum or tympanic membrane, which retransmits the vibrations to three ossicles located in the middle ear. These ossicles, acting like levers, amplify the received vibrations ten to fifteen times and retransmit them to the cochlear fluid, where they are converted into nervous impulses (inner ear).

Mechanics: The cochlea, or snail shell, is divided internally and along its length by two membranes, forming three tunnels or scalas that contain different liquids. The vibration transmitted in the form of pressures of varying intensities exerted by the ossicles when they provoke diverse flexions in the membranes, will activate the receptor cells (ciliate or hair cells) located over one of the membranes (the basilar membrane). This activation would be the one that leads to differences of electrical potential and the stimulation of the nerve endings that carry the impulses to the cerebral location.

Nerve Path and Localization: The nerve fiber endings distributed in the basilar membrane form the auditory branch of the acoustic nerve, which conducts the nervous impulses to the upper part of the temporal lobe, after passing through intermediary stages that include the medulla oblongata and thalamus.

Smell

Organ: The olfactory membrane, which has a surface area of around five square centimeters, is located in the upper part of the nasal cavity. Odor-producing molecules are transported in the air that arrives through the nasal passages or the pharynx, and are dissolved in the secretions of the membrane's supporting cells. Distributed among these cells are ten to twenty million receptors, each of which is a neuron.

Mechanics. The receptor neurons end in the superficial part of the mucosa, with expanded endings (olfactory rods) from which cilia extend that are some two microns in length. How odorant molecules react with the receptors is unknown, though the hypotheses in this regard are many. The nervous impulse that is generated is transmitted by the receptors that end in the olfactory bulb, located above each nostril.

Nervous Pathway and Localization: In each olfactory bulb, the neuronal endings form glomerules, whence three nervous fiber bundles extend which end in the opposite olfactory bulb, in the limbic system, and in the olfactory area of the limbic cortex (allocortex), respectively.

Taste

Organ: The organs of taste, or taste buds, are tiny bodies formed by supporting cells and hair cells (receptors). They are concentrated above all in the walls of the taste buds that are on the dorsal surface of the tongue.

Mechanics: The taste receptors (hair cells) are chemoreceptors that respond to substances dissolved in the liquids of the mouth. How the molecules in solution interact with the receptor molecules to produce the nervous impulse is unknown, although there are hypotheses. There are four gustatory sensations registered in different areas of the tongue: Sweet and sour on the tip; acid on the edges and bitter in the back. The taste buds in each of these areas do not appear to be different in terms of cellular structure, but some of them, depending on which area they are found

in, will only respond to bitter stimuli, others to salty ones, and so on.

Nervous Pathway and Localization: The nervous impulses start from the taste buds, traveling along three nervous pathways going through the medulla oblongata and the thalamus, and reaching the gustatory projection area of the cerebral cortex at the base of the post-rolandic gyrus.

Touch

Organ: The receptors of this sense are distributed throughout different layers of the skin. They are more highly concentrated in certain areas of the body and less so in others, thus determining different degrees of sensitivity. These receptors are nerve specializations that appear differentially enabled for distinguishing between variations of temperature, pressure, contact and pain.

Mechanics: Variations in the stimuli are accompanied by a variation in the frequency of the nervous impulses constantly sent by the receptors through the nerve fibers. This variation in impulse frequency is the result of an electrochemical process, not well clarified, that is set in motion by the stimulus.

Nervous Pathway and Localization: The fibers coming from the receptors ascend through the medullary bundles up to the thalamus, and from there to the somatic sensitive cortex (post-rolandic gyrus).

Kinesthesia

Organ: The kinesthetic sense detects body postures and movements via specialized receptors that would seem to have the capability of discriminating between variations in muscle tone (muscle bundles); joint position (joint corpuscles); tendon stress and linear and angular acceleration of the head and body, including phenomena produced by gravity (receptors lodged in the semicircular canals, saccule and utricle of the inner ear).

Mechanics: When movement occurs or is suppressed, the receptors (proprioceptors) register variations in their tone. By means of an obscure electrochemical system, they convert the primary stimulus into a variation of impulses that are conducted as information.

Nervous Pathway and Localization: The sensitive nerves transmit impulses via the spinal cord to the cerebellum and cortex; some nervous branches lead to the sensitive layer and others to the motor localization area of the cerebral cortex.

Cenesthesia

Mechanics. Some of the variations in the internal environment are picked up by a set of nervous receptors called "interoceptors." The psychic information that they provide is normally registered in a distorted way (deformation and translation of impulses). Now then, these tiny organs (receptors) are related to points of automatic vegetative coordination (hypothalamus, thalamus and medulla oblongata). They basically intervene in respiratory, cardiovascular and temperature adjustments, and incite the body in general to satisfy its needs through translations of "hunger" (arteriovenous difference in blood sugar), "thirst" (osmotic pressure of plasma) and "pain." Visceral pain such as deep somatic pain initiates the reflex contraction of nearby skeletal muscles, and these contractions in turn generate pain, creating a vicious circle. On the other hand, the excitation of viscera frequently produces pain, not in itself, but in some other structure that may be located some distance away from it. This "referred" pain has numerous variants or forms of irradiation. The variations in sexual economy are also registered cenesthetically.

Nervous Pathway and Localization: The sensitive nerve fibers reach the central nervous system via sympathetic and parasympathetic pathways. The cortical reception zone encompasses almost the entire archicortex (limbic cortex) and part of the paleocortex, maintaining specialized connections with other areas. The theory of convergence tries to explain the case of "referred pain" mentioned above: There is convergence of visceral and somatic afferent fibers that act upon the same spino-thalamic neurons. Since somatic pain is more common and has "recorded" the referenced pathway, the impulses coming from visceral areas are "projected" over somatic areas. In synthesis, it will be a case of signal interpretation error.

B. Memory

In the terrain of the memory, physiological research has made important progress but experimentations have not yet been completely correlated (year 1975). For this reason, a satisfactory overview has yet to be provided to accompany the psychological explanations. The

results obtained with electroencephalography; the application of electrodes to the brain; the observations of the hippocampus and reflexology work deserve to be pointed out because of their significance. However, the nature of stable reminiscence itself is as yet unrevealed. The advances in the field of genetics are more important. With the discovery of DNA's participation in genetic memory, research is being carried out at present on certain basic aminoacids that intervene in this phenomenon. In general terms, and in the present state of the research, we can establish a classification of memory as: (1) genetic or inherited (by the transmission of traits from the same species, from progenitors to descendants), and (2) individual or acquired memory. In the first type of memory, aside from maintaining individuals within the same species, the genetic code regulates the organic changes in the individuals' different vital stages. Acquired memory, on the other hand, develops in different layers of depth according to the passage of time, from the oldest to another that is recent, and the immediate memory. Not much more can be added, except that it does not have a precise cerebral localization.

Working Range: The recording range is identical to that of the senses (upon a change, in sensory tone, the recording of information takes place), and to that of the activity of the consciousness at its different levels. It is accepted that everything that arrives to consciousness or that is produced by it is memorized, even if not everything is evocable. Theoretically, the only time when there would be no recording is in passive deep sleep (without images), with a minimum of cenesthesia.

Nervous Localizations: It is accepted that there seems to be no precise localization, but rather one that is diffused throughout the nervous system, in which reference is made to "low and high" levels of mnemonic track locations. The first is understood as referring to the medulla and limbic system; the second to the cortex in its areas of association—frontal, temporal and pario-occipital. The stimulation of temporal areas allows us to infer that memories are not stored there; rather that in this lobe, "keys" function for the liberation of memories located anywhere in the nervous system, normally working on the basis of similarity between recollection and sensory impulse or current of thought. On the other hand, the areas of language, vision and writing seem to effect a specific recording, together with specific work. It seems that the vital importance of the cortex for the memory and the importance of the hippocampus for "recording" have been experimentally proven. It is known that in the event of damage to one hemisphere (imprints of which are left), the other proceeds to regenerate memory, though not completely. It is therefore assumed that memory is diffuse and is spread throughout the cerebrum and brain stem.

Levels of Memory

If there is inherited information, there can be a level of genetic memory, and if there is acquired information, there is acquired memory. Acquired memory, in turn, has three levels, depending on the moment and the duration of recording: immediate memory, recent memory and remote memory. Inheritance has its biochemical basis in the cellular chromosomes, which transmit genetic traits from progenitors to descendants. Twenty-two basic aminoacids can be mentioned that are responsible for the "genetic code." The immediate memory is susceptible to being easily lost; not so recent memory. Remote memory persists after severe damage to the brain. In controlled experiments monitored with encephalographs, it has been observed that the hippocampus is involved in recent memory; the hypothalamus in memory maintenance and retention; and the hippocampus tissue of the temporal lobes in lasting memory. On the other hand, clinical therapy tells of cases such as anterograde (post-shock) amnesia, retrograde (pre-shock) amnesia, and combined retro-antegrade amnesia (forgetting prior to, during and after the shock). In any case, remote memory is difficult to affect, at least in its overall outlines. Memory recovery is gradual. First, isolated images appear that are gradually completed, until finally there are acts of recognition that have permanence. The nature of stable palinmnic awareness is totally unknown, but its resistance to electroshock and concussion leads one to presume that it has its basis in a biochemical change in the cell nucleus, in the RNA. The use of drugs that facilitate remembering or recording, such as caffeine, nicotine, amphetamine, or that inhibit memory such as puromycin, flag the chemical alteration. Finally, cerebral electrography tracks the electrical waves of cell work, verifying the phenomenon's electrochemical basis.

Mechanisms of Memory

Certain neuronal connections seem to explain the immediate and recent levels by reverberation—i.e., reinforcement of recording, lateral association, and forgetting. This is because

descending axons of the major pyramidal cells emit collaterals that give feedback with association neurons to the original dendrites. In addition, the recurring collaterals connect with neighboring neurons that associate other information, and with an inhibitory one that they bring back to the original neuron. These deep fibers receive specific and non-specific thalamic fibers that end in the first and fourth layers of the cortex.

There are indicators of the participation of the hippocampus in recent memory, and in the ciphering of memory, such that there could be a "recollection" in the hippocampus that would be distributed through the anatomical connection of the closed circuit, which, along with the thalamus and the amygdala, includes the frontal areas of the cortex. Information could arrive here, followed by cortical distribution and its final storage, keeping in mind that the frontal lobe is mentioned as being important for tasks of abstraction and is also related to emotional behavior. In this way, there would be a "collector," "distributors," and "storage" in the information. As for the thalamus, it connects with the reticular formation. Specific (or classic) and non-specific pathways go through this formation that carry information to be diffused in the cortex. This would be the direct sensory circuit or memory that would be closely linked to the levels of work of the nervous system, and could explain the enhanced recording of memory in vigil. The diffusion that could be performed through the thalamus (firing reticular system) would be an indirect route based on the limbic system that would provide the emotional substratum to all mnemonic activity. The hypothesis around the specific diffusion that the reticular substance could carry out would explain an extremely varied distribution of stimuli. The interconnection between lobes would explain the possible combinations that could be effected (for example, frontal with occipital and temporal; and since touch and sight are related in the temporal, the phenomenon of stereognosis would be the basis for a type of remembering together with the translation of impulses. A problematic point is the ciphering and discrimination of the datum: does the image arrive to memory, or is it formed there and recorded? The question is difficult to answer at present. The "internal circuit" makes one think and remember one's own thoughts, or remember images from dreams and reveries. These impulses would originate in the neocortex, for example, and through transmission by axons (white matter) it would relate with other cortical areas; or the thalamus and reticular matter could also intervene. As will later be seen (levels of consciousness), the participation of the latter is fundamental in order to activate and maintain vigil—a level that is indispensable for complex learning.

Reversibility in Memory

As for the reversibility of the mechanisms, this is not very clear; however the need for a vigilic level is. Here there is a synchronization between the ample degree of external perception (which progressively diminishes toward the level of sleep, wherein there is an increase of internal perception together with the imagination that is a transformer of impulses), with spontaneous and involuntary data from memory. Evocation is therefore only possible in vigil. It could be assumed that a datum, upon reaching its storage point, would trigger a remembrance at the same time it was recorded, which would explain automatic recognition (i.e., the sudden recognition of all the habitual objects through progressive conditioning). Finally, evocation would operate through "preferential pathways"—that is, through the pathways in which the track is progressively created.

Memory and Learning

It is known that for simple types of learning, the medulla is enough for the task, but in more complex learning the subcortex acts, and for large areas of storage, the cortex. Learning is understood as conditioning in the sense that, under certain repetitive conditions, the animal or man responds in the way it is being conditioned or taught to. In the case of man this is not so simple, because of the human being's complex mechanisms of understanding and comprehension. But in any case, learning something requires the reiteration of the mnemonic imprint so that it can later arise as a response. In the processes of memory and learning there are different cases, such as the deciphering of signals to retain the concept, or the association with similar, contiguous or contrasted images; the simple motor reflexes that are repeated and associated to others, with all of these forms allowing for numerous combinations. The basic mechanics is: to relate an unconditioned reflex (hunger, for example) with a conditioning stimulus (light, for example), in such a way that, upon relating an artificial stimulus, there is a conditioned response. In this simple task, which can grow in complexity, the brevity or reiteration of the conditioning, the insistence that leads to saturation or blockage, is important. When the reflexes are directed at something specific, we speak of "discriminated reflexes;" when they are conditioned for speedy response, "immediate

reflexes;” and when conditioned for a slow response, “retarded reflexes.”

It is known that the conditioning is more effective when there is a reward, or when there is an alternative of reward-punishment, pleasure-displeasure. There is an “elusive reflex” which leads to the avoidance of unpleasant situations and a state of alert or of vigilance which can be considered an “orientation reflex.” When the conditioning is aimed not only at responding, but also at operating in the world, we refer to the “Operative reflex.” In general, habituation and contradictory stimuli cause the reflex response to weaken. Originally it was thought that the cortex was at the base of the reflexes; but later it was seen that what was acting was the great base of the sub-cortical, thalamic and infrathalamic structure (observations with EEG). Electroencephalographic experiments also showed how, in the presence of an unknown object, there was detection of secondary evoked responses. This made the inference possible, with evidence in memory as well, of the constant structuring activity of the consciousness. The relationship between learning and vigil is fundamental for complex recordings, but it is variable in other aspects, as for example: A sudden memory can awaken a sleeping person, or a stimulus that would automatically be recognized in vigil is not recognized in semisleep. Abrupt sensory data can awaken a sleeping person, but so can the disappearance of habitual stimuli, or the noticeableness of one particular stimulus among others. These variable relationships have led to the thought of the existence of an information “analyzer” located in the area of the cortex, so as to make all the appropriate distinctions. Such an “analyzer” would be a factor of importance in the psychism’s coordination.

C. Levels of Consciousness

The brain is the apparatus that is responsible for the dynamic of the levels. It carries out this work with diverse components, the most noteworthy of which are the following:

Sensitive Pathway (Classic). A nerve bundle that ascends along the stem, carrying sensory impulses directly to the Cortex. During its ascent it branches out toward the cerebellum and the FRF, which process the information, distributing it in the sub-cortex before sending it, via the thalamus, also to the cortex.

Brain Stem. Connects the spinal cord (collector of impulses from the entire organism) to the brain, which in turn is connected to the cerebellum. Anatomically contains the reticular formation and, functionally, the centers that regulate vegetative functions such as heartbeat, breathing and digestion.

Firing Reticular Formation (FRF). Does not constitute an anatomical unit, but rather a mass of tissue formed by a fine network of fibers and neurons of structures that are very different amongst themselves. They are located longitudinally in the center of the stem and in the midbrain. All the fibers that come from the senses go through the FRF, which in turn connects with all the parts of the subcortex (via the hypothalamus) and the cortex (via the thalamus). Analyzes and assesses sensory information. In combination with the other subcortical centers, it transmits “nonspecific” (sensory) impulses, which modify the reactivity of the cortex. From our interest, it appears as the center of gravity of the alternating circuit of the levels of consciousness.

Hypothalamus. Located above the stem, it is a nervous-endocrine nucleus connected to the cortex through the thalamus and to the hypophysis through numerous capillaries and nerve fibers. With these last, a structure of neurohormonal interstimulation is formed, through which the hypothalamus integrates and coordinates diverse autonomous vegetative functions conjointly with the entire hormonal system. In itself it coordinates the information (especially cenesthetic information) among the different encephalic zones.

Hypophysis. Endocrine gland composed of an anterior pituitary lobe, an intermediary part (both made of glandular tissue) and a posterior lobe (of nervous tissue), each performing different functions. It is stimulated and regulated by hypothalamic hormones. Through the hypothalamus (feedback), it connects with the cerebrum and the nervous system in general. On the other hand, it regulates and controls the entire hormonal system through the blood (and more specifically, stimulates the thyroid, gonads and suprarenals, and such functions as growth, diuresis and vascular pressure, among others).

Thalamus. This is a transmitter of information coming from the cortex and sub-cortex. A center of control and integration of impulses, and re-elevator of tension

Limbic System. Old system of nervous regions located in the subcortex, seat of the emotion al functions and of vital functions such as nutrition,, the vegetative function in general and, in part, the sexual function. This structure of emotion al-vegetative functions is the explanation for

psychosomasis. It includes the hypothalamus, aside from other structures of importance.

Cortex. The most external brain layer (two millimeters thick) or grey matter (neuronal bodies). Controls the limbic center, sensation and movement in general (motor localization) and is the base of the “superior or thinking functions” (intellectual) given by multi-related localizations of response control and coordination, based on the recovery of present sensorial and memory information.

The subcortex encompasses the limbic system, hypothalamus, thalamus and midbrain. The white matter is a mass of connective fibers (axons) between the subcortex and the cortex (gray matter).

The Functioning of the Levels of Consciousness

The nervous system receives information on the changes in the external and internal environments through the sense organs. Given these changes, it makes adjustments through mechanisms that are response effectors, including changes in hormonal secretion, and these mechanisms are expressed through the action of the centers.

Through neuronal chains, the different sensitive pathways carry impulses from the sense organs to specific sites of interpretation and coordination in the cerebral cortex. Aside from these conductor systems there is another entry system, the firing reticular formation (FRF), a transmitter-modulator of impulses that come from all the senses (non-specific behavior), which is located in the brain stem’s central axis. This modulation of the sensory impulses will be related to our theme—the levels of consciousness. The first evidence that the brain (cerebral mass) regulates the generation of sensory impulses or their transmission in the specific pathways was the observation that stimulation of the FRF inhibits the transmission in diverse nuclei and sensory nervous pathways. This demonstrated the existence of cerebral mechanisms that are capable of increasing or decreasing the volume of sensory contribution, by means of effects over their pathways or over the sensory organs themselves. Additional effects on the sensory contribution were observed in experiments on electrical stimulation of the FRF, in which adrenaline was released, which makes the receptor thresholds drop and increases nervous transmission capacity (in the synapses), a mechanism that is also present in states of alert or emergency.

At the same time, more complex experiments revealed a second function of the FRF, when it was observed that its activity maintained the state of vigil, whereas its inhibition or destruction yielded indicators of sleep or coma. With the definition of the FRF’s regulating and modulating action over the contribution and distribution of sensory impulses in the brain, their central role became clear in maintaining—or inhibiting—the brain (cortical) activity characteristic of the vigil level.

Finally, added to the above is a similar action of the FRF over the response stimuli that come from the brain to the body. These stimuli also pass through the FRF and receive a “facilitating” or a “suppressing action,” depending on the level. In this way the FRF’s role in maintaining each level’s inertia, and the rebound of stimuli that would modify the level, is clarified even more.

As a result, the FRF shows itself as the center of gravity in the regulation of the different levels of consciousness. The levels, in turn, correspond to degrees of growing integration of the central nervous system’s functions, which coordinate and regulate the sensory system, the autonomous system, and the other organic systems in conjunction with the glandular system. Such functions are found in the cerebrum represented by structures of increasing complexity that range from primitive autonomous vegetative localizations, to the limbic emotional, and to the intellectual localization in the cortex. Each integrated fraction or level will correspond to a new level of consciousness.

As we know, in principle these levels can be of sleep, semisleep and vigil. Through the EEG we can have a register of the electric activity that each one generates, calling them “delta,” “theta,” “alpha” and “beta,” respectively, depending on their intensity and amplitude. These states are subject to daily cycles (largely dependent on the light) and vegetative biorhythms, and also vary with age. In synthesis, according to the sensory information on the environment, the organism’s internal state and hormonal reinforcement, different levels of activity and integration of the reticular functions arise in order to maintain a state of alert vigil; the functions of the limbic-midbrain circuit that intervene in the maintenance of vegetative (homeostatic) equilibria, and in the regulation of instinctive and emotional behavior; and finally, the cortex in charge of the so-called superior functions of the nervous system, such as learning and language.

In neurophysiological terms, the levels of consciousness correspond to different levels of work of the central nervous system, which are determined by the integration of increasingly more complex nervous functions that coordinate and regulate the peripheral and autonomous nervous

systems, and the other organic systems as a whole, with the glandular system. In the dynamic of the levels of consciousness, this intermediate factor of amplitude in the work performed by the nervous system is combined with an external factor given by the characteristics of the sensory impulses, and with a synthetic internal factor given by the nervous "transmission capacity." The brain's electrical activity (the reflection of its level of work) fluctuates between 1 cycle/sec (delta state) in the case of sleep, up to a maximum indeterminate frequency, considering in this case a functional limit of 30 cycles/sec (beta state), corresponding to active vigil.

Working Range. Each level of work (theta, delta, alpha and beta states) corresponds to the predominance or the presence of a higher percentage, of a type of frequency (wave) and microvoltage in comparison to the others. Finally, these levels are generally subject to the daily cycles that are typical of sleep, semisleep and vigil. It should be pointed out that, with age, the dominant wave in repose varies, accelerating until it reaches the alpha pattern in the adult.

Afferent Pathways

A sensory stimulus generates impulses that reach the cortex conjointly, through the FRF and sensory paths. These impulses process slowly through the FRF (due to its multiple synaptic relays) until reaching vast zones of the cortex, while those which follow the sensory paths are propagated with great speed (only two to four synapses) up to the specific primary areas of the cortex. The stimuli that produce awakening in the cortex (of synchronization) frequently produce hypersynchrony in the limbic system (specifically the hippocampus). It goes without saying that the diminishing of external sensory stimuli (darkness, silence) predisposes to sleep; that the systems of tensions and climates make it difficult (the presence of adrenaline, for example); that low tone (fatigue for example) induces it. In any case, the action of stimuli should be considered (from the point of view of the levels of consciousness) quantitatively and qualitatively. The following would be considered as characteristics of the sensory afferent impulses: their nature or specificity (receptor), their frequency, duration, extension and action potential. Later, the sensory impulses that ascend along the specific pathways also reach the FRF on its ascending path, which modulates and regulates them according to their current state of activity. On the other hand, general chemical information arrives through the bloodstream, reaching the FRF as well as the rest of the brain's nervous and glandular structures.

a) Sleep. When the FRF is inhibited (concomitantly with a low general vegetative tone, little neurotransmitter activity, and low-intensity and/or low-quality impulses), it also exerts an inhibitory action over the brain structures, especially the cortex. In addition, the FRF acts as a suppressor or inhibitor of ascendant sensory impulses (and in some cases, of the sensory organs themselves), determining a predominance of the internal (cenesthetic) information over the external information (from the environment).

Passive sleep. In this level, the suppressor activity of the FRF blocks the cortical and limbic functions and diminishes those of other subcortical structures, reducing the work of the brain to its most primitive functions. This corresponds to a level of sleep without images, with a low-frequency EEG delta pattern. In sum, this level integrates the brainstem-limbic circuit, in which the impulses do not excite the cortex.

Active sleep. At regular, distanced intervals, the thalamic-cortical circuit is activated, which is added on to the preceding interval and produces short periods of sleep with reveries, which in turn produce time zones of activity (desynchronizations) in the delta waves, recognized externally through rapid eye movement (REM).

b) Semisleep. An intermediate progressive level in which the FRF is activated, disinhibiting the subcortical structures and gradually integrating to the limbic system and the cortex. This effect is reinforced by the hypothalamic-cortical feedback that is established. Simultaneously unblocks the specific sensory pathways, which brings about an unstable balance between the external and internal information and increases the brain's work, starting from the moment of passage or "awakening." The EEG pattern is high frequency and low voltage and is called Theta. All the brain structures have been integrated, but their level of activity is not complete and nervous transmission (synaptic) capacity is as yet relative.

c) Vigil. The FRF integrates and "facilitates" the sensory and associative impulses, while maintaining the state of excitation of the cortex, which predominates over the subcortical functions, just as the impulses from the external senses predominate over the internal senses. The transmission capacity has considerably increased. Though attenuated, subcortical activity continues, which will explain in part the basis of numerous psychological phenomena such as

reveries and the reverie nucleus.

Transformation of Impulses

The brain presents different levels, which we organize as follows:

a) The Circuit's Center of Gravity: The FRF, which modulates and regulates, in a non specific way the contribution of sensory and associative impulses, the excitability of the cortex and the efferent of response.

b) Coordinator of Stimuli: The cortex, which basically operates as localization of the motor and intellectual functions, and the subcortex, which operates as localization of the vegetative (instinctive) and emotional (behavioral) functions. They transform the specific complex impulses and relate them by elaborating response-effector impulses, which are also specific and complex.

c) Processors of Stimuli: The brain stem, cerebellum and midbrain are nervous nuclei of confluence of impulses that produce an initial simple processing, elaborating reflex autonomous responses that are likewise simple. The other nervous structures appear basically as being connective pathways that are conductors of impulses. They are: the stem and midbrain (in their fibrous portions), thalamus and white matter. The specific pathways allow, at the cortical level, discriminative sensory perception (the intellectual function as such), while the FRF performs functions related to the levels of consciousness, among them that of "waking up," without which functions said sensory discrimination and the production of effective responses would be impossible.

Efferent Pathways

The impulses coming from the different points of the brain also pass through the FRF, in its descending part, which regulates and modulates the impulses according to their state of activity. Other efferent pathways will be given by the hypophysis and the blood stream and the direct fibers of the hypothalamus as the brain's connection valve with the glandular system and the organism in general, for effecting the organized responses in a coordinated way.

a) Sleep: In both types of sleep (passive and active) the efferent impulses are inhibited or suppressed by the FRF, especially when they compromise functions (motor ones, for example) that would modify the level. The brain, from the sub-cortex, maintains the vegetative and basic functions in a latent state at the minimal rhythm that corresponds to this moment of energetic regeneration and recuperation.

b) Semisleep: The most notable efferent variation, in this case, is the one that corresponds to the moment of waking up, in which the brain sends stimuli that strongly activate all the organic functions, increasing the overall volume of nervous circulation. Two basic chemical mechanisms participate here, which are the massive discharge of adrenaline (which in feedback activates the entire brain's nervous transmission capacity, and particularly the FRF), and the change in the sodium-potassium ratio.

c) Vigil: The "cortical fire" produced by the FRF in this level, its action as a "facilitator," and the integration of all the functions of the central nervous system liberate efferent brain stimuli, which, through the pathways described, will maintain all the functions proper to this state, the latter being expressed in the familiar form by all the centers. A case in point: It is observed that when the attention is concentrated at a specific object, some of the modulating mechanisms of the FRF are set in motion. The result is that, in part, the narrowing of the field of presence in this case is due to the fact that some of the incoming stimuli are "turned off" before they reach the cortex. As in this case, there are many other cases of central cerebral control of the sensory contribution (kinesthesia, for example). Also within the system of alert, there are cortical areas that (transforming and coordinating memory impulses) emit impulses of response that provoke awakening upon disinhibiting the FRF, but without producing any movement at all.

Chemical (Neurohormonal) Aspect of the Mechanics of the Levels

The endocrine system regulates and coordinates the body's diverse functions through the hormones secreted by the glands into the blood stream. Glandular participation in the phenomenon of the levels of consciousness is regulated from the hypothalamus (neuro-gland), the cerebral localization of the vegetative center. The hypothalamus acts indirectly via the hypophysis, and in cases such as those of alert or emergency, it does away with the hypophysis and sends efferent impulses directly to the glands that are involved in the elaboration of responses that the situation in the environment requires. The most significant case is the double safety circuit that it establishes

with the suprarenal glands in the secretion of adrenaline. The thyroid gland (thyroxin) and the gonads appear in the circuit as being secondary. This relationship with the hormonal system will be of interest to us in terms of its participation in the determinant brain activity of the levels of consciousness. We then consider the substances that act in a direct way over the various cerebral structures, and/or the connective fibers' transmission capacity. When we attend to these substances in their action as synaptic mediators and their degree of concentration in the different brain structures, we obtain another point of view. The modifications in the balance between sodium and potassium, blood sugar (insulin) level, the metabolism of calcium and the thyroid and parathyroid secretions, among others, appear as chemical feedback providers of vital importance in the dynamic of the levels of consciousness. The fall in the levels of glucose, calcium, potassium, and the depletion of the presence of adrenaline, are all related to marked functional disequilibria within each level, and in extreme cases produce mental and emotional stress. In contrast, their equilibrated metabolism will also correspond to an adequate integration of each level's work. On the other hand (and as secondary aspects), it is observed that any increase in blood pressure is matched by an increased excitability of the reticular formation and, consequently, of its activating function. Simultaneously, there is also a concomitance between a rise in level (reticular and general brain activation) and the supply of oxygen, which is at its maximum point at the moment of awakening.

D. Centers

The neurological "control keys" are located mainly in what we call the cerebrospinal apparatus, which is made up of the brain mass and the spinal cord. The endocrine system's intervention is important, which, in connections such as that between the hypothalamus-hypophysis, determines an intimate relationship between both systems. However, in this work, the neurological action is accentuated. If we view the senses as having the general characteristic of "bringing in" information from an environment (whether external or internal), then the centers become structured systems of response, even if one of them predominates in front of a given stimulus. Thus, the intimate emotional-vegetative-sexual connection will mean that, though one of them may operate predominantly over the others, the others will also be compromised. The endocrine aspect will act above all in the slow response systems, sustaining its activity in an inertial way, besides maintaining a constant level of activity that will be mobilized in an increasing or decreasing direction, depending on opportunity and type of response required, and always in relationship to the nervous system. This last will have fast response characteristics and will tend to rapidly break or reestablish the equilibrium.

Referring now to the "centers of control," we can divide them into three groups according to their localization: those with purely cortical localizations, with subcortical, and those with mixed localizations. Thus we locate the intellectual center in the cortex, the vegetative and the emotional in the subcortical part, and the motor and sexual in both the cortex and subcortex. The order of exposition is as follows: vegetative, sexual, motor, emotional and intellectual.

Vegetative Center

Working Range: From the point of view of its activity, we identify: The regulation of temperature, reflexes of thirst and hunger; reactions of defense and regeneration; regulation of the digestive, respiratory and circulatory systems; and metabolic activity of the functions of locomotion and reproduction.

Organ: Mainly the hypothalamus. It is made up of various nuclei and is located in the brain stem, beneath the thalamus. Very close by and underneath it is the hypophysis, a gland it directly connects with.

Afferent Pathways, Transformation, Efferent Pathways:

a) *Afferent Pathways:* The hypothalamus receives from: the reticular formation, the hippocampus, the amygdala, the thalamus, the lenticular nucleus, the olfactory bulb and nervous fibers with sensory impulses.

b) *Transformation:* We take as an example the reflex of 'doing': when the hypothalamus registers the reduction in the concentration of C1Na in the blood through the osmoceptors and chemoceptors, it increases its production of the antidiuretic hormone (ADH) elaborated by the hypothalamic supraoptic nuclei and that is also stored by the neuro-hypophysis. When said hormone is released into the blood stream, it produces reactions in the kidney, which contribute to

water retention. Another example: when there is a drop in the concentrations of cortisol and corticosterone in the blood stream, the hypothalamus stimulates the release of ACTH from the adenohypophysis. In turn, the ACTH stimulates the suprarenal gland's release of glucocorticoids.

c) Efferent Pathways: In complementation with the hypophysis and through it, via the blood stream to the thyroid gland, suprarenal cortex and gonads. Via the nervous pathway to the suprarenal medulla and through the hypothalamic-reticular fibers, to the reticular formation of the tegument, and from there to the motor nuclei of the bulb and the medullary motor neurons. To the hypophysis from the supraoptic nuclei.

Synthesis: We basically consider the vegetative center as a regulator of vital functions that operates mechanisms of equilibrium and servo-regulation.

Sexual Center

Working Range: As to its activity, we refer the sexual center to the sexual act itself, as corresponding to "charge and discharge."

Organ: Important points are: the gonads, the spinal center, the structure hypothalamus-hypophysis, and the cortical localization in the occipital lobe.

Afferent Pathways, Transformation, Efferent Pathways:

a) Pathways of diffused tactile origin encompassing the erogenous zones and touch in general; b) pathways of the genital apparatus that are also tactile, but of a concentrated and precise type; c) pathway that encompasses sensory-perceptual, mnemonic and cortical-subcortical-cenesthetic associative stimuli. The first two in part make up the short spinal reflex, and besides this, travel through the spinal cord, passing through the thalamus and the reticular formation to go on to the cortex. Afferent pathways of an endocrinal type: These have to do with the production and maintenance of a constant though cyclical level of sex hormone secretion, mobilized according to opportuneness. Here the hypothalamus-hypophysis-gonads (with the participation of other glands) configure a structure of the main secretor elements.

b) Transformation: Complex in character, with the intervention of the following: (1) a short medullary reflex; (2) the activity of medullary motor neurons which create longer reflexes, combined with the preceding type; (3) the nervous crossovers at the subcortical level; (4) the cortical projections and their interconnections.

c) Efferent Pathways: Two possibilities can be considered: (1) the sexual act itself; (2) when fertilization occurs and the gestation process proceeds. Here we'll consider the first case. Coming from the cortical-subcortical interconnection, bundles from the autonomous system descend through the spinal cord that will excite the genital apparatus, facilitating the feedback loop of stimulus-transformation-excitation, with a simultaneous increase in the activity until a threshold of tolerance is reached, in which the discharge is produced.

Synthesis: We locate the sexual center as operating within the mechanisms of the reproductive function. In the individual this activity is the expression of the species' instinct of preservation with its mechanisms: sexual act, fertilization, gestation and birth.

Motor Center

Working Range: The individual's mobility in space, which consists of voluntary and involuntary movements in which the skeletal and muscular systems act, coordinated by and with the nervous system.

Organ: The motor center which coordinates these activities is found at the level of: (a) the cortex, in the pre-frontal lobes of the cortex, the center of voluntary movements; (b) the spinal cord, acting as the center of involuntary movements, short reflex-arcs, and as the connective between the receptors and the cortex; (c) the cerebellum, which coordinates movements (balance).

Afferent Pathways, Transformation, Efferent Pathways:

At an initial level we will study the short reflex system.

a) Afferent Pathways: From the receptor via the sensitive fiber to the pre-spinal ganglion which acts as a retensor, to the medulla where the first transformation takes place.

b) Efferent Pathways: From the medulla to the post-spinal ganglion and through the neuromotor fiber to the effector. In the second level we find: From the receptor, via the afferent path, to the medulla; from here, via the neuromotor fibers (pyramidal and extra-pyramidal bundles) to the cortex, passing through the cerebellum. The second transformation occurs in the cortical locations

and goes out through the efferent pathways to the hypothalamus connected with the hypophysis, to the medulla, and from there to the effector, in this case the muscles.

Synthesis: The motor center is a transformer of electro-nervous sensory stimuli, which gives responses of mobility to the individual, for adaptation to the environment and survival.

Emotional Center

Working Range: Corresponds to what we habitually recognize as feelings, moods, passion (with its motor implications) and intuition. Intervenes as the “like” or “dislike” that can accompany any activity.

Organ: We locate the main activity in the limbic center, which is located in the deutencephalon or rhinencephalon and is composed of: the septum (septal nuclei of the hypothalamus), the anterior nuclei of the thalamus, the hippocampal gyrus, the anterior part of the hippocampus and the amygdala.

Afferent Pathways, Transformation, Efferent Pathways:

a) *Afferent Pathways:* The principal afferent pathways are the olfactory path, which connects directly to the amygdala, and the sensory fibers, which arrive to the limbic center through the reticular formation. Also, fibers that come from the cortex, frontal and temporal lobe and the hippocampus, reach the amygdala. From the olfactory bulb, one of its branches also goes to the septum.

b) *Transformation:* The afferent stimuli (impulses) produce chemoelectric modifications in the limbic center, which have as response an immediate viscerosomatic modification (structural relationship with the hypothalamus), including the cortical areas. The activity of the limbic center in turn integrates a structural emotional-vegetative-sexual expression.

c) *Efferent Pathways:* These modifications are not only expressed internally, at the chemoelectric and hormonal level, but they also modify the individual's behavioral activity. One element that this clearly expresses is motor activity. In addition, from the limbic center fibers are projected through the hypothalamus, which are sent to the autonomous bulbar centers and to the brain stem's reticular formation, and from here via the somatic motor neurons, the corresponding organs are innervated, as well as the muscles.

Synthesis: The emotional center's activity can be defined as “synthetic” —integrating not just its specific area with its own neurohormonal characteristics, but also elements of the vegetative and sexual operations. Its location and connections (thalamus-hypothalamus-reticular formation) allows us to understand its diffused activity even in cases of “non-emotional” characteristics, and its prolonged action beyond the initial impulse.

Intellectual Center

Working Range: Learning activities in general, the relations between data, elaboration of responses (beyond the reactive responses), the correlation of stimuli from different sources.

Organ: We localize this center in the cerebral cortex, made up of gray matter. It is usually divided into three layers, from the inside toward the outside: archicortex (phylogenetically the oldest layer); paleocortex (the intermediate layer); neocortex (the most recent layer). It is superficially divided in turn in correspondence with the four cerebral lobes: frontal, in the anterior part; parietal, in the middle upper part; temporal, in the middle lower part; and occipital, in the posterior part.

Afferent Pathways, Transformation, Efferent Pathways:

a) *Afferent Pathways:* The principal afferent pathways are those that make up the sensitive pathways, and they are afferent to what is called the sensory cortex, which predominates in the parietal and occipital lobe and, to a lesser degree, in the temporal and frontal lobes. The following are afferent: the thalamus, hippocampus, hypothalamus, reticular formation and cerebellum.

b) *Transformation:* We get an idea about this point upon observing the cortical interconnections. In general terms, we find one of the complex functions in the parietal lobe in the case of stereognosis (tactile recognition without sight), in which an adequate reception of the stimulus (transmission) is required. This information is synthesized and compared to similar previous sensory mnemonic tracks so as to recognize a given object.

c) *Efferent Pathways:* Aside from the intercortical connections, the efferent pathways are generally directed toward the subcortex and mainly to the caudate nuclei; the protuberance and cerebellum; the midbrain; the thalamus; the reticular formation and the mammillary bodies

(hypothalamus).

Synthesis: We note in this center a maximum specialization in man with respect to the rest of the mammals and the other species. Its main function of association and elaboration, together with the characteristic of deferring its response to stimuli, would seem to give a general idea about this center.

Psychology II

This is a summary prepared by attendees at the talks Silo gave in Las Palmas, Canary Islands, in mid-August 1976. Some of the passages preserve the colloquial style of the talks, marking an important difference between this material and Psychology I. On the other hand, this work returns to the themes of Psychology I, reexamining them this time in the light of the theories of the impulse and the space of representation.

1. The Three Pathways of Human Experience: Sensation, Image and Remembrance

Personal experience arises through sensation, imagination and remembrance. Of course, we can also recognize illusory sensations, illusory images and illusory memories. Even the “I” is articulated thanks to sensation, image and remembrance, and when the “I” perceives itself, it also works with these pathways, be they true or illusory. The same pathways are recognized in all the possible operations of the mind. In any of these pathways the existence of error is possible, the existence of illusions, but it is more difficult to admit the illusion of the “I,” though such a thing is also verifiable and demonstrable.

The three pathways of suffering and that which registers suffering are themes of special interest for us. We shall therefore examine sensation, image and remembrance, as well as that which registers and operates with this material, which is called “consciousness: and suffering” (or “coordinator”), and that at times is identified with the “I”. We will study the three pathways through which suffering arrives, and we will also study the consciousness that registers suffering.

Through sensation, imagination and remembrance, pain is experienced. There is “something” that experiences this pain. This “something” that experiences it is identified as an entity that, apparently, has unity. This unity that registers pain is basically given by a kind of memory. The experience of pain is compared to preceding experiences. Without memory there is no comparison; there is no comparison of experiences.

Painful sensations are compared to previous painful sensations. But there is something more: the painful sensations are also projected; they are considered in a time that is not the present; in a future time. If the painful sensations are remembered, or if the painful sensations are imagined, a sensation is also had of this remembering and this imagining. The memory could not provoke pain; the imagination could not provoke pain, if there were no sensation of the memory and of the imagination as well. One has a register, not just through the pathway of direct primary sensation, but also through the pathway of memory one has a register, one has a sensation. And through the pathway of the imagination one has a sensation. Sensation therefore invades the field of memory, invades the field of imagination. Sensation covers all the possibilities of this structure that experiences pain. Everything is working with sensation, and with something that experiences, with something that registers this sensation. Whether it is called, more specifically, ‘sensation’ as such; whether it is called ‘memory,’ or ‘imagination,’ sensation is always at its base—the detection of a stimulus is at its base, and something that registers that stimulus is in the other point, at the other extreme of that relationship.

Between a stimulus and something that registers that stimulus, we will have that initial structure configured. And it seems that that structure will move, trying to avoid the painful stimuli. Stimuli that arrive and are detected; stimuli that are stored; new situations that arise, and the structure’s action to avoid the new stimuli that are related to previous data. Stimulus that arrives at a point that receives the stimulus, and, from that point, response to the stimulus. If the stimulus that reaches that point is painful, the response tends to modify the stimulus. If the stimulus that reaches that point is not painful but is experienced as pleasurable, the response tends to make that stimulus remain. It’s as though pain wanted the instant, and pleasure, eternity. It’s as if—with this issue of pain and pleasure—there were a problem of times for that point that registers it. Whether we are dealing with painful or pleasurable stimuli, these stimuli are stored, they are kept in that time-regulating apparatus that we call ‘memory.’ We call these stimuli that arrive ‘sensations,’ but these arriving stimuli do not just come from what we could call ‘external world’ to the center of register,

but they also come from the 'internal world' itself, to the apparatus of register. We have already seen that what is painful can be imagined, that what is pleasurable can be imagined. And this matter of recording and of imagining is not linked to the external sensation as closely as are the other direct, primary sensations.

The scheme is simple: a stimulus that arrives; a response that is given. But let's not simplify so much as to consider the stimuli that arrive as pertaining exclusively to the external world of that structure. If there are also stimuli from the internal world of that structure, there must also be responses in the internal world of that structure. Sensation in general has to do with the register, with what arrives to the structure. Imagination, in contrast, has to do with what that structure does to get closer to the stimulus if it is pleasurable, or to get away from the stimulus if it is painful. In the image, there is already an activity proposed in front of the stimuli that arrive to that structure. We will later take a closer look at the function fulfilled by the image.

The memory, to the extent that it delivers pleasurable or painful stimuli, also mobilizes the imagination; and this imagination mobilizes that structure in one direction or in another. We have a stimulus that arrives, a structure that receives the stimulus, and a response that the structure gives. This is a very simple scheme: stimulus—reception apparatus—center of response.

The center of response makes the structure mobilize in front of the stimulus, not in any direction, but in a more or less precise one; and we recognize different activities to respond to the stimuli, different directions, different possibilities of response. We therefore distinguish between different possible centers to give possible responses to different types of stimulation. Naturally, all these centers of response will be moved at their base by pain and by pleasure; but in their activity they will manifest the responses differently, depending on whether one center acts or another. We will call the world of arriving stimuli, the "world of sensation." We will call that which is expressed toward the world of sensation, "response" (that which responds to the world of sensation will be called "center of response"). Since the responses are numerous and differentiated and each system of response has its own range, we will distinguish between diverse centers of response.

We shall call this entire structure that encompasses the register of the sensation and the response to the sensations that arrive—this entire structure that manifests itself—we shall call it "behavior." And we will observe that this behavior does not manifest in a constant way, but that it suffers numerous variations according to the state that structure is in, according to the moment that structure is in. There are moments when the structure perceives a painful stimulus with greater sharpness. There are moments when it does not seem to perceive it at all. There are moments when the structure seems to be disconnected from the sensations, when it seems to have no register of the painful sensations. This point of registering the arriving sensations with greater or lesser intensity, and of launching responses of greater or lesser intensity at the arriving stimuli, will depend on the structure's general state. We will generically call this state the "level of work" of that structure. This level, according to whether the structure is in one moment or another of its process, will enable it to give more accelerated, more intense responses, or less accelerated, muffled responses.

Let's review our schema. ¹

Not much is explained by the statement that the human being does certain things to satisfy its needs. The human being does certain things to avoid pain. What happens is that, if these needs are not satisfied, they provoke pain. But it isn't that someone is moved by an abstract idea of satisfying his needs. If someone moves, it is due to the register of pain. People often confuse these matters and it seems that the primary needs, when unmet, are the ones that cause the greatest pain. The sensation of hunger, as well as other types of sensations, is so painful, that if it is not satisfied it provokes an ever greater tension. For example, if violence is done to a human being or some part of his body is burned, he experiences pain and, of course, tries to give responses to the pain for it to stop. This is as great a need as feeding oneself, of eating—this of doing something so as to prevent the painful sensation from intensifying. In this case, this human being will try to flee from that which endangers the structure of his body. Sometimes a person has painful registers of hunger but they aren't hungry. They think of the hunger they might feel, they think of the hunger that someone else could be feeling, and the hunger that the other person could be feeling gives them a painful register. But what painful register do they have—could it be a physical pain? Not exactly. They can remember hunger, they are talking about the pain of hunger, but they don't register the pain of hunger—they register a different type of pain. And that register that they have of the pain can mobilize them tremendously.

Through the pathway of the image, through the pathway of memory, that person can also

experience a significant range of pains as well as of pleasures. They know that by feeding themselves, satisfying their immediate needs, a particular distension of their structure is produced. And they know that it is interesting to repeat that distension each time that the tension increases. They grow fond of certain forms of alimentation; they become habituated to certain tension-relaxing experiences.

The study of the centers makes it possible to differentiate activities that human beings carry out, primarily trying to satisfy their needs. On the other hand, the levels of consciousness explain the variation of those activities, according to whether the entire structure is acting in vigil, in semisleep or in sleep.

And we will observe a behavior in this structure, which is how it will express itself in front of stimuli, according to whether it is operating in a certain level of consciousness.

2. Specialization of Responses in Front of External and Internal Stimuli: The Centers

With the idea of “center,” the work of various physical points that are sometimes very distant from each other is encompassed. In other words, a center of response results from a relationship among different points of the body. If we speak of the center of movement, we note that it isn’t located in a precise physical place, but rather it corresponds to the action of many corporal points. The same thing will happen in the case of operations that are more complex than the body’s simple operations of response. When we speak of the emotions in the human being, it creates the impression that there is a point from which all the emotions are managed, and it isn’t like this. There are numerous points that work coordinately, provoking the response that we will call “emotional.”

Thus, the apparatuses that control the output of impulses of response toward the world are what we know as “centers.” The mechanism of stimulus and reflex response becomes increasingly more complex, until the response becomes deferred and coordination circuits intervene which are capable of channeling the responses, precisely, through different centers. Thus, a deferred response has traveled through numerous circuits before it is effected toward the external world.

We differentiate between a stimulus that can arrive from the senses to the consciousness, from an impulse that can arrive from memory. In this second case, numerous operations are carried out, and, in accordance with the level of the signal elaborated in the consciousness, the output is selected through one or another center. For example: we hit a part of the leg, the knee, and the leg moves without the need for the stimulus to go through the complex mechanisms of consciousness that finally elaborate their signal in the form of an image—an image that seeks the corresponding level in the system of representation—and from there acts over the adequate center to launch the response toward the world. It’s true that in the reflex response, almost simultaneously with it, an image is configured; but the stimulus has traveled neatly from the apparatus of reception to the center. Now taking the signal that unfolded as an image, we can follow its transformation until it arrives to the memory as an impulse, to be filed there and then return to the mechanism of coordination, where a new image is elaborated, and, although the stimulus can have already disappeared (when the reflex response was effected), from the memory information can continue to be sent, maintaining an image that, in turn, reinforces the activity of the output center.

The centers work structurally among themselves and with their own registers (together with the general register that the coordinator has), through the information that arrives from the internal senses at the moment they act in the environment, as well as through the connections between the centers and the coordinator. One also is aware of what is happening with the centers’ activity, given that upon carrying out functions of response, the centers also emit internal signals to the apparatus of sensation. Thus, the centers can continue giving signals of the response; they can stop that signal of response; the signal in question that reaches the centers can move aside and seek another channel, etc., thanks to the fact that in the same output there is a rerouting of the signal toward an inner apparatus that registers what is happening with the response. Thus, if I throw my hand in one direction, my hand could just keep swinging through the air; it could not reach the object; it could commit numerous errors if I don’t also have an inner sensation of its movement, at the same time that I have sensations through the other senses that are registering the diverse operations. Now, if I had to very carefully push this book that is in front of me on top of the table, I would have to regulate the my hand’s momentum, because if I miscalculated, the book could fall to the floor. Moreover, the resistance that this book offers me indicates how much pressure I must

bring to bear, and this is something I detect thanks to the response. That is to say, the motor action that I develop over the book meets with a certain resistance, of which I have an internal sensation; thanks to that internal sensation, I calibrate the activity. It is thus that one has a sensation of the activity of the centers of response.

The *vegetative center* is the base of the psychism, where the instincts of individual preservation and the species are activated, and, excited by the corresponding signals of pain and pleasure, they mobilize for the defense and expansion of the total structure. I have no register of these instincts apart from certain signals. Such instincts are strongly manifested at the moment when a part or the totality of the structure is compromised. The vegetative center is also mobilized by images, but images with a cenesthetic register. And these images are promoted by the state of sleep or of fatigue, for example. One has a cenesthetic register of this state, one has a cenesthetic register of what will later be converted into a sensation of hunger; one has a register of the sexual reflex. The cenesthetic register increases in case of sickness, but also in case of absence of external sensations. This center gives responses that are compensatory, equilibrating, to the cenesthetic impulses that arrive from various parts of the structure. Even when the sensorial signal goes to the vegetative center and gives a response, that signal can also act over the memory, and from the memory arrive at the coordination and have awareness of those signals. However, the consciousness of those signals is not what mobilizes the vegetative center's response.

The *sexual center* is the main energy collector and distributor that operates through alternating concentration and diffusion, with the aptitude for mobilizing the energy in a localized way or diffuse way. Its work is voluntary and also involuntary. And somewhat the same thing happens with the sexual center as with the vegetative center, of which the sexual center is, in turn, a specialization—the vegetative center's most immediate specialization. The tension in this center produces strong cenesthetic register, and from it energy is distributed to the rest of the centers. The decrease of the tension in the sexual center is produced through discharges proper to this center, through discharges, by means of the other centers, and by transmission of a signal to the consciousness, which converts the signal into an image. The sexual center can also collect tensions from the body and from the other centers, since it is strongly connected to the vegetative apparatus, which picks up the signals of all the cenesthetic impulses. The vegetative-sexual structure is the base from which all the centers are organized, and, in consequence, the entire system of responses. And this is so because the centers are linked directly to the instincts of preservation of the individual and of the species. This instinctive basis is that which nourishes the functioning of all the other centers of response. Should this base of responses (which supports the other apparatuses of response) break down, disturbances will be registered throughout the entire chain of responses.

The *motor center* acts as regulator of the external reflexes and of the habits of movement. It allows the body to displace itself in space, working with tension and relaxations.

The *emotional center* is the regulator and synthesizer of the situational responses, through its work of adhesion or rejection. From the work of the emotional center, the psychism's particular aptitude is registered for experiencing sensations of approaching what is pleasurable or of moving away from what is painful, without the body's necessarily performing an action. And it can happen that no external objectal reference exists, and yet the emotion of repulsion or the state of adhesion is experienced, because it is a matter of objects of one's own representation which provoke detonations of the emotional center (due to the arising of images). For example, there would be no need to flee since no objective danger is present, yet one flees from the "danger" from one's own representation.

The *intellectual center* responds to impulses of the mechanisms of consciousness known as abstraction, classification, association, etc. It works through selection or confusion of images, in a range that goes from ideas to the different types of imagination, directed or divagational, with the ability to elaborate forms of response such as symbolic, signical and allegorical images. Though these images seem abstract and "immaterial," one has an internal sensorial register of them and can remember them, follow their transformation in a sequence, and register sensations of correctness or error.

There are differences of speed in the dictation of responses to the environment. Said speed is proportional to the center's complexity. Whereas the intellect elaborates a slow response, the emotions and the motricity do it with greater speed, the inner velocity of the vegetative and sexual functioning being considerably greater than that of the other centers.

The functioning of the centers is structural. This is registered by the concomitances in the other centers when one is acting as the primary one. Intellectual work is accompanied by an emotional

tone, for example, a certain liking for the study that is being carried out, and which helps sustain the work. In this case (i.e., while one is studying), the motricity is reduced to the minimum. It is thus that while the intellectual response center works, the emotional center sustains the charge but to the detriment of the contiguous center, which is the motor center, which tends to be immobilized in the measure that intellectual interest is accentuated. In the case of vegetative recovery after an illness, the subject would experience fatigue or weakness and all the energy would go toward the body's recovery. The vegetative center would work full time to give equilibrating internal responses, and the other centers' activity would be reduced to the minimum.

The centers can work dysfunctionally, which also occasions errors of response. The contradictions arise in the work among the centers when the responses are not organized structurally, and the centers trigger activities in directions that oppose each other.

These centers that we separate in order to better understand them are really working in structure, with psychophysical energy circulating between them, or, more simply, nervous energy. In general, when activity increases in some centers, it decreases in others. It is as through we were always working with a set charge; then, with this same quantity of charge, when some work more, the others will have to work less. When someone runs, the motor center works at its maximum, but the vegetative center must regulate internal functions. Emotivity can even be the reason for that race, for that person's running. And finally, the runner could be carrying out intellectual operations. Let's give an example: he's running because someone is chasing him, and as he runs he is trying to figure out where he can go to slip away more easily, he is looking for a mode of escape from that threatening thing that is after him. And thus there are many things he can do while he runs. In this case, the activity that is most ponderable is the motor activity. The energy in the intellect diminishes each time the motor center moves into action. In our example, it's quite difficult to run away while someone chases you and to perform mathematical calculations at the same time. Something happens in the intellect while the motor center is being mobilized, but it doesn't mean that its activity disappears completely. The energy is practically annulled in the sex and in the emotions the energy acts, but in a variable way, depending on the incitement that started the race. If a person carries out complicated mathematical operations, his vegetative center will tend to quiet down. Either the vegetative center quiets down, or the intellectual work stops.

All these considerations have practical importance because they explain that hyperactivity in one center decreases the activity of the other centers, particularly of those we call 'contiguous.'

We have assigned an order to the centers, talking about the intellectual, the emotional, the motor, the sexual and the vegetative. We consider as contiguous those centers that, in this order, are laterally located with respect to any given center. We said that the overactivity of a center diminishes the activity of the others, particularly the activity of the contiguous centers. This last allows us to understand, for example, that emotional blockages or sexual overcharges can be modified from a determined activity of the motor center. This motor center acts 'cathartically' (this is the first time we will use this word; later we will use very often), discharging tensions. It also explains that the emotional center's negative activity, depression for example (which is not an overcharge but the contrary), makes the intellectual charge decrease as well as the motor charge. And a positive charge in the same center, enthusiasm for instance (unlike depression), can cause an overflow of the emotional center and produce an overcharge in the contiguous ones—intellectual overcharge and motor overcharge.

It is clear that when a center overflows and also gives energy to others, it does it to the detriment of some other center, because the energetic economy of the whole is more or less constant. And so, all of a sudden a center spills over, "is filled with enthusiasm," it begins to hurl energy at its contiguous centers, but someone is losing in all this. In the end the center from which all the energy is being suctioned and that the other centers usufruct, becomes discharged. The center is finally depleted of its charge and the discharge starts invading the other centers, until in the end, all of them are discharged. In this sense, if we had to speak of a center that gives energy to the entire machinery, we would refer to the vegetative center.

The sexual center is an important collector of the psychophysical energy. It will weigh the activity of all the other centers, influencing them in a manifest or a tacit way. Therefore, it will be included even in the superior activities of the consciousness, in its most abstract activities, and will make the consciousness search in one or another abstract direction, experiencing, however, a special like or a special dislike for those directions

Independently of the stimuli that arrive from the external world, the centers work with characteristic cycles. When the stimuli arrive, the normal rhythm that a center has is modified, but

later it resumes its level of work with the rhythm proper to it. These cycles and rhythms are different and produce certain characteristic repetitions. We recognize the respiratory cycles, circulatory cycles, digestive cycles. They pertain to the same center but it isn't that the vegetative center has just one rhythm; rather, in this center a variety of activities take place and each one of them has its own rhythm. These types of rhythms, like the others we have mentioned, are known as short cycles. Likewise, there are daily cycles and others of greater amplitude. There are cycles of biological stage. Daily work, for example, is organized according to ages and it is inappropriate to place a child aged five, or an 80-year-old senior, in activities that are proper to young adults.

Finally, we should add that the activity of the centers is registered in certain points of the body, even though these points are not the centers. The register of the vegetative center, for example, is an internal, diffuse corporal register. When one feels one's body, one experiences it in a diffuse way and not just in a precise part or area. The register of sex is experienced in the sexual plexus. The register of some emotions is felt in the cardiac plexus and in the respiratory area. Intellectual work is registered in the head ("one thinks with one's head," they say). And one should not confuse what mobilizes the activities with the register of those activities. We call what mobilizes the activities –'center,' and it has a dispersed neuroendocrinal basis, whereas the register of the centers' activities is felt mainly in certain localized points of the body.

3. Levels of Work of the Consciousness. Reveries and Reverie Nucleus.

Recalling the scheme we proposed above, there was nothing more than a structure, a system of stimuli and a center that gave a response to those stimuli. That center later specialized in different ranges; these were ranges of activities of response in front of the stimuli. And then we distinguished between different centers, but we also knew that the centers varied in the response, not just due to the variation of stimuli, but because they varied in the response because of the state that they themselves were in. We called the state in which the centers were found at a given moment: 'level of work.' The level of work, therefore, modulated the center's activity in its responses. If the level of work was high, the response toward the world was more effective, more manifest. If the level of work was low, the response toward the world was less effective.

In this structure we find the level of vigil, which favors activity toward the external world. On the other hand, we find sleep as a level that apparently blocks the response to the external world, even when the stimuli seem to fully arrive to the sleeping person. And there is an intermediate level—that of semisleep—which is a corridor that one passes through upon connecting with and disconnecting from the external world.

We speak of the levels of work and refer to them as the internal mobility that the structure of the consciousness has in order to respond to stimuli. These levels have their own dynamic and cannot be considered simple compartments that close or open. In reality, while one is working in a level, in the other levels there continues to be mobility with more reduced energy. That is, if we are, for example, in the vigil level, the level of sleep continues to work, though with reduced activity. In this way, there are strong pressures from the other levels with respect to the level that is expressed at that moment. Thus there are numerous phenomena proper to vigil that are affected by phenomena of the other levels, and there are numerous phenomena proper to sleep that are affected by the activity of the other levels. This conception of the levels, not as static compartments but rather as a totality of work potentials in simultaneous dynamic is important in order to later understand phenomena that we shall term 'rebounds' of contents, of 'pressure' from contents, etc.

Just as there are neuroendocrinal localizations that regulate the human being's activities of response (and which we encompass by designating them as 'centers'), there also localizations that regulate the levels of work of the consciousness. In effect, certain points send signals for the activity of vigil, semisleep and sleep to be effected. These points that send signals, receive instructions in turn from different parts of the body before they begin triggering their orders, which results in the formation of a closed circuit. In other words, when the body needs night rest, it supplies data to certain points which begin to emit their signals, and then the level of consciousness descends.... We don't want to get into any of the physiological or psychophysiological complications involved here; rather we are employing very general terms.² When certain substances start accumulating in the body, or when the day's work has provoked fatigue in the body, these accumulated substances and fatigue give out signals, they supply signals to a point that collects them. And this point that collects the signals also begins to send out its

messages, whereupon the level of consciousness descends. The level goes down until the subject feels sleepy and enters that state of sleep, and the circuit's reparative stage begins. Of course, it is not a matter of merely repairing the body with this of the 'lowering' of the level of consciousness. The drop in level of consciousness will make it possible for numerous complex phenomena to be produced and not just that of reparation. However, in principle, we can look at it in this way. In turn, when the repose has had a restorative effect, those points begin to send signals to the control point, which in turn emits its signals to start provoking the awakening. External stimuli or strong external stimuli can also trigger this phenomenon and produce the ascent of level, even when sleep has not yet completed its reparative effect. This is quite evident. Our subject is recovering, he is resting, but a shot that rings out near his ears will wake him up. And thus the cycles go about manifesting themselves, the rhythms are expressed in these levels and have their own rhythmicity, but when a phenomenon intervenes that breaks through the threshold limits, a trigger goes off from that center of internal control, and an awakening begins that is out of rhythm.

In the level of vigil we find the optimal unfolding of human activities. The rational mechanisms work fully and one has direction and control of the mental and corporal activities in the external world.

In the level of sleep, in contrast, the rational mechanisms appear greatly reduced in their work, and their control over the activities of the mind or the body are practically nul.

At some moments, sleep is completely vegetative and without images ; at others sleep seems to be under the total, absolute dominion of the vegetative center, and it seems as though only this structure were working, giving responses to internal stimuli. There are no images there that populate the screen of the consciousness; one is in a state in which internal data arrive and one 'responds' to those data also internally, and the vegetative center does all this with its characteristic automatism. But later a cycle of sleep begins with reveries, with images, that later are once again interrupted, and another period of sleep begins without them. This happens every night. Thus, even in the level of sleep, deep sleep, we find a completely vegetative state, without images, and a state in which the images appear. All of this has its cycles and rhythms.

We differentiate, of course, between levels and states. The images of sleep are very fast, they carry a strong affective charge and are powerfully suggestive for the consciousness. The material of these images is taken from daily life, though articulated capriciously. We will later see that "capriciously" is not quite the way it is, since when we get to the theme of the allegorical and other types of conformations in oneiric productions, we shall see that this is all subject to a set of laws that are quite precise. However, for now we'll say that things are articulated at whim. Sleep serves to restore the body and to put in order the mass of information received in the course of the day, besides serving to discharge numerous physical and psychic tensions.

In semisleep, phenomena from the other two levels are intermixed. One rises to semisleep from sleep, and it is reached before complete awakening. Also in full vigil one descends to semisleep in states of fatigue and the mixtures of levels begins to be verified. The level of semisleep is rich in fantasies and long chains of images that fulfill the function of discharging internal tensions.

Reverie in vigil is not a level but a state in which images proper to the level of sleep or semisleep break through by exerting pressure on the consciousness. These reveries act, they manifest in vigil through pressure from the other levels. This occurs with the objective of alleviating tensions; but reveries in vigil also serve to compensate situational difficulties or necessities experienced by the subject. This is, in its ultimate roots, related to the problem of pain, and pain is the internal indicator and the internal register that is had when the subject cannot express himself in the world, and, therefore, compensatory images appear. When we speak of fantasizing or revering in vigil, we do not refer to the level of semisleep, since the subject can continue to perform his daily activities mechanically, 'dreaming awake,' so to speak. The subject has not descended to semisleep or to deep sleep; the subject continues his daily activities; nonetheless, the reveries begin to hover about him

We observe that the mind shifts from one object to another, moment to moment. That it is very difficult to stay with an idea, a thought, without unrelated elements filtering in; that is, other images, other ideas, other thoughts. We call these erratic contents of consciousness 'reveries.' *These reveries or divagations* depend on the pressures from the other levels, also on external stimuli such as noises, odors, forms, colors, etc., and on corporal stimuli such as tension, heat, hunger, thirst, discomfort, etc. All these internal and external stimuli, all these pressures that are acting in the other levels are manifested by forming images and pressuring over the vigilic level. Reveries are unstable and variable, and constitute impediments for the work of attention.

We call “secondary reveries” those that are triggered daily and that have a situational (i.e., temporary) character. An individual who is in a situation is subjected to a set of external pressures and responses arise of secondary reveries. He changes to another situation and other responses of secondary reveries arise. We consider these reveries as secondary or situational because they are triggered in response, to compensate more-or-less precise situations.

However, there are other reveries of greater fixedness or repetitiveness which, though they vary, denote the same mental climate, the same mental ‘atmosphere.’ The images that emerge just once in a given situation and later disappear are quite different from these other images, which, even if we change situations, appear reiteratively. These reveries, which are not secondary, can change too, in their own way; but they have permanence, even if only in this aspect of mental climate—they have a similar flavor. As a digression, observe that the words we are using are completely sensorial. We speak of ‘climate,’ as though the perception of the phenomenon were tactile. We speak of ‘flavor’ as if one could taste a reverie...we will return to these particularities later on.

Sometimes these same reveries appear in the fantasies of semisleep and also in night sleep. The study of secondary reveries and of reveries in the other levels is useful for determining a certain fixed nucleus of divagation that is a strong orientor of psychic tendencies. In other words, that a person’s vital tendencies, apart from the conditions imposed by the circumstances, are launched toward attaining that image, that fixed reverie that guides them. This fixed nucleus will be manifested as an image ; this image will have the property of orienting the body, of orienting a person’s activities in a direction. The image points in a certain direction and that is where the entire structure goes.

The reverie nucleus orients numerous tendencies of human life in one direction that is not clearly noticed from vigil, and many of the reasons that a person might offer for some of his activities are in reality moved by the nucleus. They are not moved by his ‘reasons’— rather the reasons are a function of the nucleus. In consequence, changes in the nucleus provoke changes in the orientation of certain personal tendencies. The person always continues seeking for ways to satisfy his needs, but always the nucleus continues to weigh over the direction. In other cases the nucleus becomes fixed, it remains stuck to one stage of life, even if the general activities change progressively. This reverie nucleus is not visualized; rather it is experienced as a mental climate. The images guide the mind’s activities and we can register them, but the reverie nucleus is not an image; the reverie nucleus is what will determine compensatory images. Thus, the reverie nucleus is not an image but rather it is the mental climate that is experienced. The nucleus will motivate the production of certain images that, in consequence, will lead toward an activity.

An example of a negative nucleus is a permanent feeling of guilt, for instance. A man has a permanent feeling of guilt. He hasn’t done anything reproachable; or perhaps he has, but what he experiences is this state of guilt—he feels guilty. He has no image whatsoever, but he experiences that special state of consciousness. Let’s take, in another example, the tragic feeling about the future. Everything that will happen will turn out badly. Why? One doesn’t know. Let’s take the continual feeling of oppression. The subject feels oppressed, he says that ‘he can’t find himself’ and feels that things are about to crash down on him.... However there is no reason to think that all nuclei are negative.

The nuclei remain fixed for years, and the compensatory reveries of such nuclei emerge. For a long time these nuclei operate, and they give rise to the birth of compensatory reveries. Thus, for example, if the nucleus that constantly exerts pressure is similar to the feeling of abandonment, if the subject finds himself abandoned, if they feel unprotected, if they experience the feeling of no protection and abandonment, it is very probable that compensatory reveries of acquisitiveness, of possession will arise, and that these images will guide their activities. Surely this does not just happen in the individual sphere, but also in the social sphere and at certain historical moments. Surely, in eras of historical rupture, these images of rampant possession increase because the climates of abandonment, climates of dispossession, the lack of inner references increase.

The secondary reveries give compensating responses to stimuli, whether the stimuli are linked to a situation or to internal pressures, because their function is to discharge tensions produced by these internal difficulties. Therefore the secondary reveries are very variable but certain constants are observed in them. It can be noticed that these reveries revolve around a particular climate. These reveries vary depending on the situation, they are expressed in different ways, but they have something in common. And that thing in common that they have makes us note the presence of a particular climate that has to do with each one of them. This common climate that the secondary

reveries have is what informs us about the nucleus of great fixedness, which is not one that revolves according to the situation, but rather is the one that remains constant in the different situations.

In one of the examples mentioned, the subject is in a situation that is extremely disagreeable and he thinks that everything will turn out badly for him. We put him in a different situation that is very pleasant for him and he keeps on thinking that everything will end badly. And so, even when the situations vary, that climate continues exerting pressure and continues firing off images. When the reverie nucleus begins to manifest itself as a fixed image, said nucleus begins to vary since its basic tension is already oriented in the direction of discharge. We can use an illustrative figure: the sun is invisible when it is at its zenith; the sun is visible on the horizon, when it rises and when it sets. The same thing happens with the reverie nucleus—one doesn't see it when it is most active, even when its pressure is greatest. One sees it when it is just beginning, or one sees it when it is in decline. The nucleus can last for years or all of one's life, or it can be modified through an accident. Also, when a vital stage changes, the nucleus can change. If the nucleus, if the fixed climate has arisen, it is because it has to do with certain tensions; and when the vital stage changes, those tensions change considerably. Life's orientation begins to change and behavior undergoes important modifications. The orientation of life changes because the reveries that give a direction toward objects have changed; and the reveries that give direction have changed because the climate that determines them has changed; and the climates have changed because the internal system of tensions has changed, and the system of tensions has changed because the subject's physical stage has changed or because an accident has taken place that has also provoked the change in the system of tensions.

The centers that we have examined in some cases issue orders to other centers. Those voluntary centers, such as the intellectual center, give orders to the voluntary parts of the other centers, but not to the involuntary parts of the other centers, and even less to the instinctive centers, particularly to the vegetative center in its internal work. The intellectual center does not give orders, and if it does, no one responds. The blood pressure doesn't change, nor does the circulation, nor do the deep tones vary because the intellect issues orders. Things are the other way around. The internal pressures that lead to the birth of the reverie nucleus are linked to the functioning of the instinctive centers, and because of this, the nuclei vary with the changes of physiological stage, in the same way that serious physical accidents achieve similar effects. And so these nuclei don't change, for example, due to orders received from the intellectual center; rather these nuclei change when the vegetative activity changes; for this reason it is very difficult to voluntarily modify these nuclei. Such nuclei vary with the changes of physiological stage. Besides this, we have said that emotional shocks also can form or modify a nucleus of internal pressure, since the involuntary part of the emotional center (as we will explain) sends signals to all the centers, modifying their action. If the emotional shock is intense, it can modify the functioning of the vegetative center for a long time. There are millions of examples. The emotional shock can unleash, from that moment on, a new nucleus of pressure, with the appearance of the consequent compensation. The secondary reveries will also make evident the emergence of a new permanent theme (despite their variability), and the subject's searches or vital intentions will be oriented in a different way, his behavior in the world varying as well. The subject received a powerful shock, and starting from that shock his life changed. Starting from that shock, his activities and vital searches changed. These emotional shocks can act with such force that they also provoke serious alterations in some points of the vegetative center, since the involuntary part of the emotional center acts over the vegetative center and modifies it. Shocks that reach these levels of emotional depth can provoke serious alterations in some points of the vegetative center, followed by dysfunctions and somatizations—somatizations through emotional action; i.e., physical illnesses caused by emotional accidents.

To sum up: We've talked about the levels of consciousness, saying that there are corporal points from which these levels are managed, just as there are other corporal points that manage the centers. These corporal points detect signals and emit signals in turn, to make that structure's level of work ascend or descend.

We've said that in the level of vigil the intellectual activities are vastly deployed. That in the level of sleep these activities diminish considerably, even when the power of the images increases. And that in the level of semisleep, we find these things are mixed.

We have differentiated between levels of consciousness and states that a specific level can be in. We've said that the reveries that appear in the level of vigil are products of situational tensions

or products of pressures from the other levels. Thus the reveries that appear in the level of vigil are not indicative of levels, but rather they reflect states.

We've also said that these situational reveries have some kind of relationship amongst themselves—a relationship that does not go through the image, but through the climate. This relationship of climate that the secondary reveries have with each other allows us to speak of a reverie nucleus. This reverie nucleus has great fixedness and corresponds to deep tensions. The nucleus varies with difficulty throughout time, but there are certain deep emotional shocks that can bombard it, and changes of vital stage also provoke modifications in it.

The reverie nucleus is what orients the tendencies of human life. The secondary reveries give compensatory responses to situational stimuli and they are invaded by the climate of the reverie nucleus. The internal pressures that give rise to the birth of the reverie nucleus are linked to the functioning of the instinctive centers. Thus, these nuclei are strongly linked to the vegetative and sexual centers. In reality, these last are the ones that motivate the emergence of the reverie nucleus.

4. Behavior. Formative Landscape.

The study of the centers, of the levels of consciousness and of the behavior in general, should allow us to articulate an elementary synthesis of how the human psychic structure functions. It should allow us to comprehend, also in an elemental way, these basic mechanisms that guide the human being's activities according to suffering or pleasure, and should enable us to comprehend not just the real capturing that this human structure does of the surrounding reality, but also the illusory capturing that this structure carries out of the surrounding reality and of its own reality. These are the points that matter to us. Our guiding thread is launched in the direction of comprehending suffering, pleasure and the psychological data that could be real, or illusory.

Let's get into the theme of behavior.

The study of the centers' functioning and the discovery of their cycles and rhythms allow us to understand velocities and types of reaction in front of the world in their more machine-like aspects. On the other hand, the examination of the reveries and of the reverie nucleus puts us in contact with inhibitory or mobilizing forces of certain behaviors that are assumed in front of the world. But besides the mechanical psychic and corporal aspect, besides the mechanical aspect of behavior, we recognize factors of a social type, of an environment type, and of accumulation of experience throughout life, that act with equal strength as the mechanical factors in the formation of behavior. And this is so because, apart from the stimulations that can reach the psychic structure (and to which it responds immediately), there are other, non-occasional stimulations that remain within the structure and continue emitting signals with relative fixedness. We refer to the phenomenon of the retention of the instants in which phenomena are produced. These phenomena are not simply produced and then disappear forever. Every phenomenon that is produced which modifies the posture of the structure is, besides, stored in it. And so this memory that the structure is equipped with (a memory, not just of the stimuli, but a memory of the responses to the stimuli, and also memory of the levels that were working at the moment of the stimuli and of the responses) will exert pressure, will decisively influence the new events that take place in the psychism. Therefore, with each phenomenon that is produced, we will not find ourselves before a first situation; instead we *will be confronting the phenomenon and confronting everything as well that had happened to it previously*. When we speak of behavior, we refer to this factor of temporal retention, which is of extreme importance..

An important factor that is a former of conduct is one's own biography, which is everything that has been happening to the subject throughout his life. This weighs over the human structure as much as the event that is taking place at that moment. From this perspective, given a specific behavior in front of the world, the stimulus that is received at that moment has equal weight as everything that is a part of the structure's preceding process. Normally the tendency is to think that this is a simple system of stimulus and response, but if we speak of stimulus, everything that has happened before is also a stimulus of the present. In this sense, the memory is not a simple accumulation of past events. The memory, in this sense, is a system of stimuli acting from the past. The memory is something that has not simply accumulated in that structure, but it is alive, it is in force and is acting with equivalent intensity as the present stimuli. These events can or can not be evoked in a specific level of consciousness, but whether they are evoked or not, their action is

inevitable at every instant in which the structure is receiving stimulations from the world and is behaving before the world. It seems important to keep the biography in mind, the historical aspect of human life, and consider it as acting in a present way, not in a merely accumulative way as though it were a question of a reservoir that opens up its locks only when past events are recalled. Whether such events are remembered or not remembered, they were the formers of the behavior.

To speak of biography is the same as to speak of personal history. But that personal history, as we understand it, is a living and acting history. Personal history leads us to consider a second aspect, and it is the one that appears as a code in front of given situations. That is to say, the events coming from an environment draw, not one response, but a structured system of response. And this system of response serves in subsequent moments to effect similar behaviors.

These situational codes (that is, fixed conducts that the human being acquires, probably to save energy and also probably as a protection for its integrity), are the totality of the *roles*.

The roles are fixed habits of behavior that are progressively configured by the confrontation with different environments that a person is called upon to live in—a role for the job, a role for the family, a role for friends, etc. These roles do not act solely when a confrontation with a given environment arises; they also act at every moment, even if we are not confronted by the given situation. They manifest, they become evident, when the situational stimulus enters a specific zone of human conduct.

We distinguish between the family roles, work roles, different situational roles that a person can have fixed, can have recorded. It then becomes clear that when the person goes to his workplace, his behavior adapts, he assumes a role that is proper to his work that differs from the role he adopts with his family. Within the role he assumes in that given situation, however, there are many components proper to the roles of confrontation with other situations. It is as though numerous roles from other situations filtered into the situation that is recorded for responding to that environment. Sometimes those other roles do not filter in merely through action; they do not manifest with their characteristics through action but through inhibition. For example, a person has recorded his work role, has recorded his family role, and has recorded numerous other roles. But his family role is inhibitory; there is no reason whatsoever for his work role to manifest itself inhibitorily, and it then happens that these filtrations that are proper to the family relationship appear in the work relationship, and inhibitory phenomena arise that have not been recorded in the work role. This is extremely frequent, and a kind of transfer of inhibitory data or role activators that correspond to different zones of confrontation with the world, takes place

Just as we have been speaking of the centers' work that is of a dynamic and structural type, and we haven't spoken of those centers as if they were stagnant and isolated compartments; just as we have talked about a work of levels that is extremely dynamic, structural; in which the levels are mutually acting, we are also talking, in reference to behavior, of a structure (in this case of roles) wherein something more happens that goes beyond releasing a computer file card in front of a given stimulus.

One can observe a continual dynamic in the human structure. We try to find a few examples and see that very young people have not yet configured that protective layer of roles. The young find themselves lacking in protection in the confrontation with the world because they haven't yet recorded certain codes. They can have recorded the basic code of the family relationship and a few more besides. As they grow older and in the measure that the environment starts to demand a number of conducts from them, they gradually expand their layers of roles. This is what should happen. In reality it doesn't happen completely because there are several phenomena that impede the gaining of confidence in managing the environment. Errors of role are produced. This is the case of a person who behaves in one place using the role for other situations. For example, in their job they behave with family roles; they then relates to their boss the way their relates to their brother, and this logically brings with it numerous problems and clashes. There can also be a role error when the situation is new and the subject does not adapt successfully.

The study of one's personal history, of one's biography, and the study of these behavioral codes, these roles of conduct, clear up some aspects and throw light on some inhibitions in other areas. For example, in the centers' work as well as in the structuring of the reveries. Thus the action of these centers and levels of work is also modified by these codifications that are configured along the way by this personal history, by this biography. .

We can sharpen the focus of our study of behavior a little more by introducing some concepts that will be simple and operative. We call "landscape of formation" the set of recordings that configures the biographical substratum, over which the habits and basic personality features are

deposited layer by layer. The formation of this landscape begins at birth.

The basic structured recordings compromise not just a system of memories, but also affective tones, a characteristic form of thought, a typical manner of acting, and finally, a way of experiencing the world and of acting in it.

The structuring of the world around us that we progressively carry out is strongly influenced by that base of memories that encompassed tangible objects, but also intangibles such as values, social motivations and interpersonal relations. We can consider our infancy as the vital stage in which the formative landscape was fully articulated. We remember the family as functioning differently than today; our conception of friendship, of camaraderie and, in general, of interpersonal relations have also been modified. In those times, the social groups had a different definition; what one was supposed to do and not do (the epochal norms), personal and group ideals have also gone through variations. In other words, the intangible objects that constituted our formative landscape have been modified. Nonetheless, the formation landscape continues to be expressed in our conduct as a mode of being and of moving among people and things. That landscape is also a general affective tone and a 'sensitivity' of the era that is discordant with the present one

We should consider our own 'look' and that of others as important determinants of our formation landscape. The factors that have acted over us in order to produce a personal behavior through time, a codification on the basis of which we give responses and adapt to the environment, are numerous. One's own look regarding the world and the looks of others regarding oneself therefore acted as readjustments of conduct; and thanks to all of this, a behavior was formed. Today we rely on a vast system of codes that was "minted" in that stage of formation and we experience it as a biographical "background" that our behavior responds to as it applies itself to a world that, nevertheless, has changed.

Numerous conducts make up our current typical behavior. We can understand these conducts as 'tactics' that we use for living in the world. Many of these tactics have turned out to be adequate until today, but there are others that we recognize as inoperative, and even as generators of conflict. And all of this is of no little importance when the time comes to make judgments regarding our own lives around the theme of growing adaptation.

At this point in time, we are in a position to comprehend the roots of numerous compulsions associated to conducts that were initiated in the formative landscape. However, the modification of conducts linked to values and a certain sensitivity will be difficult to carry out without touching the global relationship structure with the world in which people live today

5. The System of Detection, Register and Operation. Senses, Imagination, Memory, Consciousness.

The three experiential pathways that we mentioned at the beginning (sensation, image and remembrance), should be studied with greater care.

Without sensation there is no pain, no pleasure. It is necessary that the imagination be registered. Without this register, we cannot speak of imagination. If we register the work of the imagination, it is because it reaches the point of register as sensation. Pain also opens up a pathway through the memory. The register of the pain that opens up its pathway from memory is possible, thanks to the fact that memory is expressed as sensation. Whether we deal with the imagination or with the memory, everything is detected as sensation. Pain is not in the imagination; pain is not in the memory—pain is in the sensation that every impulse is reduced to. One has memory of something because one registers that fact; one imagines about something because one registers that fact. And so it is the register, the sensation that gives us information on what is memorized, about what is imagined. It's clear that in order not to confuse things we will make a distinction between sensation as such (that which comes from the senses), and other sensations (that do not come from the senses) such as those that come from the memory or that come from the imagination. We won't call these last two 'sensation' in order to avoid confusion in the description.

However, if we are going to reduce things to their final elements, we verify that an image and a mnemonic datum arrive to something that registers them as sensation. We say that the activity of these senses is registered; we say that the memory's activity is registered, that the imagination's activity is registered. Upon saying "register," we make distinctions between one that arrived from one pathway and one that arrived from another; and we note that there is "something" that

registers. Without that “something” that registers, we cannot speak of what is registered. And what registers must also have its constitution. Surely we shall also have a sensation of it. We are speaking of the register of the entity that registers, and we call this entity “consciousness.”

That apparatus that registers is in motion and the activities it registers are likewise mobile; nonetheless, it has a certain unity. Sometimes this apparatus is identified with the “I”. But the “I,” unlike the consciousness, does not seem to be constituted from the beginning, but rather becomes constituted within the human being. On the other hand, one cannot speak of the “I” if its limits are not defined, and it seems these are given by the sensation of the body. This “I” must go about constituting itself in the human being in the measure that the entirety of the bodily sensations are constituted... naturally, the memory is in the body, the imagination is in the body, the senses are in the body and the apparatus of register of all these is in the body and is linked to the sensations of the body.

Since the body’s sensations operate from birth (and even before), already from the beginning this general sensation of the body that some identify with the “I” already goes about constituting itself; but in reality, we are talking about the consciousness as apparatus of register. Let’s say that in very early infancy, very soon after birth, the “I” does not function. One is not born with an “I”. The identification with one’s own “I” is realized in the measure that the sensations of the body are codified, thanks to the apparatus of memory. There is no “I” without memory, and this memory cannot function if there are no data. These data begin to be articulated to the extent that experience develops. We are saying that a child does not have an “I”. A child can perceive a “we,” but does not know if his body begins or ends in an object. A child does not know if he is “I” or if his mother is “I”. This “I” is gradually articulated through the accumulation of experience.

We said that all psychic phenomena and processes are in the body; but where is the body? The body, for the “I” that has become constituted, is outside of the “I” and is inside it. What are the limits of the body? The body’s limits have to do with sensation. But if the sensation were extended beyond the body, what would the body’s limits be then? This point is of certain importance, because if we distinguish external touch as the body’s limit, for example, then the body ends where external touch ends. The body begins there where sensations are registered on the skin. But it could happen that one didn’t have tactile limits, that the temperature of the skin was at the same thermal level as the environment around the skin, and then one would not know exactly what the limits of the body were, how far that body reached. We know of many sensorial illusions and we know that when a person stretches out in a relaxed state and the ambient temperature is very similar to that of the skin, one feels as though the body were growing bigger, not because any extraordinary phenomenon is taking place—on the contrary, the illusion of the body’s enlargement takes place because the body has no limits, and there are no limits to it because the temperature of the skin and of the environment is the same. Thus it is that, depending on the limits set for the sensations, the sensation of one’s own body is constituted.

We say that one of the pathways of pain is the pathway of sensation, and when we speak of sensation, we are already referring to what is perceived through certain apparatuses that the body is equipped with. Let’s see. I have the sensation of an external object. However, I also have the sensation of an internal pain. The sensation of that internal pain —where is it? Surely, I register it in that apparatus that we spoke of at the beginning. But where is the sensation? The sensation seems to be in the interior of my body. And when I see the external object, where is the sensation? The sensation is also in my body. And what makes me distinguish between the object that is inside and the object that is outside? Not the sensation, certainly, since both the sensation of what happens outside and that of what happens inside is registered inside me. I cannot register a sensation of what there is outside, outside my body. I have to register the sensations (whether it is a matter of external objects or internal ones) inside my body. But I say, nevertheless, that an object that I perceive is outside. And how can I say about an object that I perceive that “it is outside,” and of another one, that “it is inside,” if anyway, the register is always inside? There must be some particular functioning of the structure that makes it possible to establish these distinctions.

I remember a job I was performing. Where do I register the memory of that event? I register it in my interior. I imagine a job that I will carry out immediately or that I will carry out in the future. Where do I register that which I will do? I register it in my interior, of course. But the events that appear on my screen of representation appear as though they were “outside.” I am remembering, perceiving, or imagining activities that seem to occur outside. The internal representation that I have of all that, appears before me as though it were occurring in the external world.

If I now observe where I register these images (whether they are proper to my imagination or to

my memory), I see that I register them on a kind of “screen,” a sort of “space” of representation. And this space of representation is inside me. If I close my eyes and remember something, I observe that what I remember arises on a kind of screen, on a space of representation. And what am I doing then with all of this that happens inside, with respect to the objects and events that take place on the outside? Surely I must be doing something different from what happens in the exterior. I will say that I “reflect” it, I’ll say that I “translate” it, I’ll say whatever I want, but in every case I am carrying out operations in my interior that have something to do with phenomena that are not proper to it.... How all of this equipment functions is a matter for careful study.

How might a sensation that I attribute to an object of the external world and a sensation I attribute to an object of the internal world be different from each other? In the sensations in themselves, or in certain limits that the body imposes on these worlds?

We must recognize that a certain relationship exists between the sensations one has of the external world, the memories one has of the external world, and the imagination one has of the external world. We cannot say lightly that all that is illusion. It is not illusion, for the simple reason that if I think of an object and later I mobilize myself toward that object and I have the sensation of that object, there is something that agrees between what I have remembered of the object, between what I have imagined about the object, and what I now perceive of the object. It is evident that I can memorize that object and later open my eyes and find myself in the object’s presence. The forms, colors, distances can be less or more accurately imagined, but I can find myself in the midst of all that. Moreover, I can tell someone else that there is an object over there, and that someone else can imagine or find the object. That is to say, there is something that agrees, whether deformed or not. However, it is also clear that I could be color blind, for instance, and perceive that object, which is of one color, as being of another. And so, even if there is accord among all these functions, there can also be accord between illusions. For us it is important to comprehend how it is possible for such heterogeneous functions to agree, because somehow they agree and they do so, thanks to that coordinating and processing apparatus of all those different data. It’s evident that these signals are coordinated amongst themselves and there is a consciousness that coordinates them. Among the functions of the consciousness there appears the “I” that I register as the point of decision of my activities in the outer world, and of certain activities that I regulate voluntarily in my inner world. The “I” is in the body. But how is that “I” in the body? Is it in the body as a physical localization, or has this “I” been constituted by a mass of experience, a sum total of experience? Or perhaps this “I” is a structure that is articulated by the different signals that reach a specific point? It can be that this “I” that coordinates, begins coordinating once a critical informative mass is acquired; because if this mass has not been formed as yet, the “I” does not appear and the body itself is confused.

We will study part by part how all this works, of the sensations that are registered in the exterior of the body and in the interior of the body.

We have a scheme wherein this structure appears that impulses arrive to and from which responses go out. These arriving impulses reach a specific apparatus that detects them. This impulse-detecting apparatus is the apparatus of the senses. This apparatus carries out a census on data from the external world and also from the internal world. The data reach this apparatus, but besides this I perceive that these data can be updated even if they are not arriving at this moment. I say then that these data that reach the point of register, also simultaneously reach an apparatus that stores them. The data is stored. Whether they are data from the external environment or from the internal environment, the data that arrive are stored. There where I have a register of the data, simultaneously I have undergone the recording of the same and this now puts me in the situation of extracting previous data. All this occurs in front of senses that have different physical localizations and that are in continuous movement, but that have relations among themselves and that are not absolutely compartmentalized. And so, when one detects something, modifications happen to the other senses. If one perceives through or by means of the eyes, it is thanks to the fact that the seeing sense is in motion (not simply in external physical muscular movement to localize the light source), it is in activity. The eye does not enter into activity simply upon perceiving light. The visual sense is in movement, it is in activity and a variation is produced in it when an impulse arrives. All the other senses are also in activity and when the eye perceives a phenomenon that is external to it, a variation is also produced in the movement of the other senses.

What happens in the external senses is also happening in the internal senses. The internal senses are also in activity, such that it can very well happen that someone is perceiving an object with the eye and, at the same time, they are internally perceiving a stomach ache. And this

perceiving of the object with the eye, simultaneous with perceiving the stomachache with the internal senses, makes the information go to memory simultaneously. An example: I arrive in a city and everything turns out badly for me. Later I remember that city and what do I say about it? I say, "That's an awful city." And why do I say it's an awful city? Because I did badly there. And what is that about 'it went badly for me'? Is it simply because of the perceptions I've had? Or because of a number of situations I was in, a number of registers of another nature that are not external perceptions? No doubt other registers have been at work, other internal sensations. Surely it's what happens with everything and not just with that unpleasant city. It seems that when I register something, I record it, and if I register it simultaneously with the data from other senses, I also record it in simultaneity with them. It seems that one is continually receiving a stream of information from all the senses and one is continually recording all that information. And it seems that the information from one sense is conditioned by and hooks up with the information from another sense.

Sometimes, upon capturing certain fragrances through the olfactory sense, the memory evokes complete visual situations. And what does the sense of smell have to do with all those visual situations? It's obvious that the senses are enchained among themselves. Sometimes when one sense is set in motion, the others lower their activity level. When all the senses are being bombarded, there is a problem for the register. But when one pays attention (and we will see later on what this paying "attention: as aptitude of consciousness is about) to one sense, the other senses tend to quiet down. It's as though all the senses were making noise with their scanning action and were alerting that "I". As if all the senses were engaged in a search. Then, when a signal reaches a sense, all the others tend to quiet down. The senses, even when they don't perceive any internal data, are in movement and are producing their noise, are providing information on themselves. There is a background of noise that lowers as the senses specialize in a specific zone of perception.

And the memory, what does it do? It gathers data from the senses and gathers data on the operations of that apparatus of registers too. I remember, for example, the mental operations that I've been carrying out. First, I have a sensation of the mental operations themselves, but I can speak of my mental operations because I have a sensation of them. I have a sensation of my operations, they are internal sensations, as much sensations as a stomach ache. We are taking certain precautions and discussing certain postures that are circulating, postures that presuppose that mental operations have nothing to do with the body because the body has to do with the operations of the digestive apparatus, or with what the eyes perceive, and when we talk about matters of the "spirit" such things must not be related to the body (?). We are challenging those who assume that there is a spirit that has nothing whatsoever to do with the body. And if there is a spirit that has nothing to do with the body and it is the one that carries out these operations, then who registers these operations? Where are these operations registered? And how then are these operations evoked? If one speaks of a spirit it will be because I have a register of that spirit; and if I have a register of that spirit, it's because something can receive an impression from that spirit. And if I don't have any sensation of that spirit, then I can't speak about it.

There are others who think that the psychic apparatus is a sum total of sensations, as if there were no other complex and delicate apparatuses coordinating these sensations, making them function in structure. We've had discussions with them as well, with those who believed that the activities of the mind were a simple sum total of sensations. It is very different to say: "I have sensations of the work of the senses, the memory and the imagination," than to say, "They are sensation." There are distinctions among them and there are very different functions that the apparatuses of sense and the apparatuses fulfill. And so we do not exactly share that rough, sensualist thinking. Neither do we share that other strange thinking that speaks of the "spirit" as if there were an entity that had nothing to do with the registers or with the sensations. There are those who speak of the mind, of the mind's pain, because the pain of the body has nothing to do with it. And this pain of the mind—how is it experienced? "It is experienced with the spirit," they say, in the same way that artistic sensations are experienced in the spirit. And who is that gentleman ("the spirit") who performs so many operations outside the body, and how is it that I have data about that gentleman?

We understand by "apparatus" the structure of the senses, the structure of the memory and the structure of consciousness with their different levels. These apparatuses work integrately and the connections between them are effected through impulses that, in turn, undergo distributions, translations and transformations.

Senses

The apparatus of senses finds its origin in a primitive touch that has become progressively specialized. The chemical senses (taste and smell) work with particles that produce certain chemical transformations, and as a result they submit the datum. The mechanical sense (touch) that functions on the basis of pressure and temperature. The internal senses of cenesthesia and kinesthesia function, sometimes chemically, sometimes mechanically. One has the register of what happens in the intrabody also through pressure, through temperature and through chemical transformations and reactions. We know of the senses of hearing and vision as physical senses. Hearing functions by percussion; sight through the physical reception of a vibratory action

In the internal senses, the cenesthetic sense provides the information on the intrabody. We know there are numerous tiny organisms, numerous small organs in the intrabody that collect chemical, thermal, pressure samples. The detection of pain also plays an important role. It could be thought that there is a small, specialized apparatus for detecting pain, but in reality, all the senses, when they reach a certain limit of tolerance, send us painful sensations. These sensations are what immediately set in motion an activity of the structure to provoke the rejection, the elimination of these intolerable sensations. Thus the sensation that is captured in one sense is immediately linked to the activity of rejection of what is painful. The centers' work is detected cenesthetically, internally, as are the different levels of work of the consciousness. The sensation of sleep, the sensation of tiredness, can also be experienced. The cenesthesia is an extremely important sense which has been paid very scant attention. The internal sense later specializes and differentiates between the kinesthesia and cenesthesia. When vigil drops down in its level of work, when the level of consciousness lowers, this internal sense increases its emission of impulses.

Since the senses work in dynamic and in structure, all of them are in a search, they carry out a sweep and produce a background of noise in the information. However, when a person sleeps and closes his eyelids, his contact with the external world doesn't disappear totally; rather, the background of noise lowers considerably, and with the decrease of the information on the external world, the information from the internal senses increases relatively. We cannot say with precision whether the internal impulses increase when the level of consciousness drops, or whether when the level of consciousness goes down, the work of the external senses is reduced as well; but the work of the internal senses becomes evident. When the level of consciousness goes down, the impulses from the internal world are manifested with greater intensity.

These internal senses are not localized in the face, as almost all the others are, nor are they located in specific points, nor can they be directed with precision. Their work invades all and they provide their data without any act of the will on our part. One can, for example, close one's eyes and make the perception that was reaching the eye, disappear. One can train the eye in one direction or another, but one can't do the same with the internal senses. One can pay better attention to certain internal sensations, but these inner sensory apparatuses do not have that mobility and they cannot be suppressed. Thus their localization is characterized by its non-precision, on one hand, and neither do they have mobility, i.e., they cannot be directed like the other senses. Among the internal senses we distinguish the kinesthetic sense, we had said that it provides data on movements, corporal postures, physical balance and imbalance.

And so we have this sum total of apparatuses in dynamic that supplies us with data on the external and internal worlds. The tracks of this internal and external information, as well as the tracks of the operations of the consciousness themselves in the different levels of work, will be received in the apparatus of memory.

The psychic structure (the consciousness) will coordinate the data from the senses and the memory recordings.

As we have said before, the data does not simply reach an apparatus that perceives it and that is inactive; rather the data reaches an apparatus that is in motion. This datum that arrives to the apparatus that is in movement configures the perception. And so sensation is a theoretical atom; but in what happens in reality is the datum that reaches a sense that is in motion, is configured and structured. This we call "perception," which is the sensation plus the activity of the sense. The register is therefore a structuring that the sense does with the data, and not simply the data.

Characteristics Common to All the Senses

a) All of them carry out activities of abstraction and structuring of stimuli according to their aptitudes. We are saying that the sense eliminates many data that reach it and configures other data that do not reach it. Considering some examples about the frog eye's perception, you will

remember that this little creature only had the perception that there was another living being in front of him when a certain form appeared (curved and balloon-shaped), and when the form also showed movement. And if that form did not appear but there was movement, or the inverse, no register was produced in this little fellow's detection apparatus. If you remember this, you will comprehend what we are referring to when we speak of the abstraction that the sense carries out, and, besides, the structuring that the sense performs. And from this structuring of diverse data, the perception arises.

b) All the senses are in continuous movement. They are like radar stations sweeping different ranges. There is also experimental proof of this.

c) All of them work within a range according to a particular tone that must be altered by the stimulus. In other words, each sense is in motion within a specific tone. When perception arises it is because a variance has been produced in the tone of that sense. You remember the experiments with the frog's optic nerve that was always cycling at one pulse per second, and when the nervous stimulus arrived, it began to cycle at a greater speed. The sense was in movement. For the perception to be produced, it is necessary for the stimulus to appear between sensory thresholds. The sense is pulsating, but if the arriving stimulus doesn't have sufficient energy, it is not perceived. If it goes beyond the potential of tolerance, it is not perceived as a sensation or perception proper to that sense, but as pain. These thresholds have mobility. The thresholds also expand or contract. Thus, normally, when certain internal activities such as attention are focused on a sense, its threshold tends to dilate and the thresholds of the other senses tend to contract. When the internal senses work fully, widening their thresholds of perception, the external senses tend to reduce their ranges. When the attention is focused on the external senses, the ranges, the thresholds of internal perception, tend to contract. Thus, for there to be perception, it is necessary that the stimulus appear between sensory thresholds. A minimum threshold below which perception does not take place, and a threshold of maximum tolerance that, when surpassed, produces sensory irritation or saturation, or what we generically term as "pain." If there is a background of noise that comes from the same sense or from other senses, or there is a background of noise coming from memory that is supplying data while perception is taking place; or there is a background of noise because consciousness in general is supplying data, the stimulus must raise its intensity for it to be registered and without going beyond the maximum threshold so that saturation and sensory blockage will not occur. When a man is divagating, dreaming awake, and his images are occupying his field of consciousness, the stimulus that appears must increase its activity in order to be detected. In any case, when one is divagating or dreaming awake, the internal cenesthetic activity is increasing; therefore, the ranges of external perception are lowering. It is therefore necessary that we increase the activity of the external world and, for example, say: "Hey! Wake up,!" When the maximum threshold is exceeded or there is sensory blockage, it is indispensable to make the background noise disappear for the signal to reach the sense. Another case is that established in the law of reduction of the constant stimulus due to adaptation of the threshold. That is, these clothes we're wearing now, at first give us a tactile sensation, but time passes and we no longer feel them. Not just because we've been distracted away from the problem of the clothes and we are into something else—not just because of this—but because the constant stimulus decreases in intensity. As time passes, the constant stimulus is attenuated for the perception. And so when a stimulus lies within the threshold but becomes constant, the threshold adapts to it to leave it in at its limits and not continue having a register, which would disturb other activities of the apparatus. And so we have numerous stimuli, but when the stimuli become constant, the thresholds of the senses adjust so that the background of noise will disappear. Otherwise, our bombardment with perceptions would be constant and we would have such a background of noise that there could be very little distinction made between the new perceptions that might appear. Thus it is that perception takes place between ranges, minimum and maximum thresholds of tolerance. These thresholds are in continuous motion. When there are constant stimuli that appear within these ranges, the latter adjust in order for the perception of that stimulus to diminish. We call this, law of decrease of the constant stimulus, due to threshold adaptation.

d) All the senses work between thresholds and limits of tolerance that allow variations depending on education and according to metabolic needs (in reality, it is here where the root of sensorial existence lies). The variability characteristics are important to distinguish sensorial errors.

e) All the senses translate perception into one same system of impulses. These impulses are the ones that will be distributed in various ways. We don't want to get into the physiological question, but let's

note that all the senses translate the perceptions into one same system of impulses, and we will call this “homogeneity of the impulses from the different senses.” Thus on one hand, I see, on the other I hear, on the other I taste, but all this of hearing, tasting, seeing, etc., is translated into one same system of homogeneous impulses. One works with the same type of impulse. Sounds do not go through the inside of one’s head, nor do visual images, nor do gustatory or olfactory sensations.

f) All [the senses] have physical localizations, physical terminal localizations, whether precise or diffuse, connected to a system that coordinates them. All the senses have nervous terminal localizations, whether precise or diffuse, always connected to the central nervous system and to the peripheral or autonomous nervous system, from where the apparatus of coordination operates.

g) All the senses are connected to the organism’s general apparatus of memory.

h) All the senses have their own registers which are given by the variation of the sense’s tone when a stimulus appears.

All the senses can commit errors in the perception of the datum. These errors can originate from a blockage of the sense, for example, due to sensorial irritation. We irritate a sense, we go to the threshold of tolerance and the perception that we have of the datum that irritates the sense is a powerfully modified perception that has nothing to do with the object. Thus, these errors can come from the blockage of the sense because of sensorial irritation, but also because of a failure or deficiency of the sense. You are familiar with cases of myopia, deafness, etc. Also due to the lack of intervention of another or other senses that help to provide parameters, that help provide references regarding the perception. For example, you hear something that is apparently distant, and upon seeing the object in question you begin to hear it in a different way. This is a very frequent case of auditory illusion. One believes that the object is far away, and the perception is adjusted only when one sees it and localizes it visually. Since we know that all the senses work in structure, then normally data is being received, information is being received from the different senses. And with this information perceptions are being configured about the world that surrounds us. Thus, when the parameters fail and we have just one sensory datum, in these cases an illusion in the perception is produced. There are also errors of sensation or of perception, caused by mechanical agents. Such is the case of seeing light due to applying pressure on the eyeballs. In almost all the senses we find examples of illusions produced by mechanical action.

Imagination

It is very difficult to differentiate between the stimulus that, coming from a sense, reaches an apparatus of register, and the image that it summons up, the image that the stimulus awakens. It is quite difficult to distinguish between the impulse of the sense and the image that corresponds to that impulse. We cannot say that the image and the impulse of the sense are the same. Neither can we distinguish, psychologically, the velocities of the internal impulse and the velocity of the image. It’s as though the image and the impulse were one same thing, when in reality they are not.

When considering the image it is necessary to take a few precautions. In the first place, we should recognize that images do not just correspond to sensorial stimuli, but are also called up from memory; and secondly, we must always be alert before the naïve interpretation that makes the image appear as solely corresponding to the visual sense.

For some primitive students of these matters, the image has performed a second-class function in the economy of the psychism. For them, an image is a kind of degraded perception, a second-class perception. In other words, if a gentleman looks at an object and later closes his eyes and evokes that object, he observes that this evocation that he carries out of the object is of inferior quality in comparison to the perception. With the eye he can perceive the object better and more clearly than by evoking it. Besides, this memory is tinted by a number of bizarre elements that contribute to the confusion that results concerning the object. Therefore the representation that is had of the object’s presentation appears to as a degradation, a kind of fall in the perception. From this understanding of things, the scholars referred to left the image filed away in the inventory of secondary phenomena of the psychism. Neither did they have much clarity with respect to the fact that images do not just correspond to the visual sense, but each sense is a producer of images that correspond to it. And finally, it was believed that the image only had to do with the memory, and not that it was closely linked to the sense.

In reality the image fulfills numerous functions. We will need to comprehend the function of the image in order to later understand that, when this image mobilizes itself, it will act over the centers and will carry energy from one point to another, producing transformations of vital importance for the economy of the psychism. For now, if the senses appear in order to give information on the phenomena of the external or internal world, the images that accompany the perceptions of the senses are not simply for repeating the data of the information received, but for mobilizing activities with respect to the arriving stimulus. But let's observe this in an example from daily life. I'm at home and the doorbell rings. The doorbell is a stimulus for me; I perceive it. I then quickly jump up from my chair and go to open the door. The following day, the doorbell rings and the stimulus is the same one, but instead of jumping up from my chair and going to open the door, I stay in my chair. In the first case, I was waiting for a letter that the postman was supposed to deliver that morning. In the second case, I was expecting a neighbor to knock on my door and ask to borrow a pan. If in my presence or my copresence there was one datum or another, this stimulus in one case or in another, it has been limited to mobilizing a specific image. In the first case, the stimulus mobilized the image of the postman whom I was expecting. Of course, I was occupied with something else and at that moment I wasn't expecting the postman. Certainly I was into something else, but when the stimulus arrived it mobilized a set of images that I was somehow expecting. When these images were mobilized, I jumped up from my chair and went to the door. However, in the second case I had another system of ideas and when the stimulus arose it didn't mobilize the image of the postman; rather it mobilized the image of my neighbor, among other reasons, because I had already received the letter I expected the day before. And so when this second image arose, my body was mobilized in a different way, or it wasn't mobilized

And so the old story that everything works so simply based on matters of stimuli and responses that correspond to those stimuli, isn't so. Even when in an elementary circuit such as that of the reflex, in a short reactive arc, the stimulus arrives and without any voluntary action the response comes out, besides the setting in motion of a response, an image has been immediately generated that is also producing its effect. And so, a sensation is unfailingly accompanied by the arising of an image. And what in fact mobilizes the activity is not the perception, but the image.

We will see how this image has properties that we have studied when we have spoken about "muscular tonicity," in which the muscles are placed in a certain tone of activity, following visual images. The visual images go in a specific direction and the muscles are adjusted toward that direction. It is perhaps the stimulus that is moving the muscles? Not at all. It is the image that is moving the muscles. We must recognize that certain images do not just activate our external musculature—they also activate the internal musculature and numerous physiological phenomena are set in motion. The image mobilizes internal phenomena, which produces activity toward the external world, as if the function of the image were to return energy to the external world from which the sensations had arrived.

The internal senses also have to receive information on what is happening in the activities of my consciousness, because if I didn't have information on what was happening in the activities of my consciousness I would be unable to give continuity to those processes. Thus the internal senses are capturing, not just visceral data, data from the intrabody, but they are also capturing what is happening with my activities and with the operations of my consciousness.

The "apparatus" that is the former of images functions at different levels of work, contributing to the modification of not just the activity of the consciousness, of the coordinator, but also to that of the apparatuses themselves, of information from the memory and from the centers' activities.

Of course, data arrive on the functioning of the consciousness to the internal senses. In turn, the consciousness also can act to orient the senses in one direction or in another, and make them pay attention to one sensory range and ignore another. These are in reality functions of the consciousness, more than functions of the senses. We should study this when we touch on the topic of the structuring that the consciousness carries out. However, at any rate, it is good to note that the senses are moved by the activity of the phenomena that arrive to them and they are also moved by the direction imprinted on them by the coordinator apparatus. When the senses do not limit themselves to merely receiving impressions from the external or internal world, but they are intentionally directed, then we are in the presence of the phenomenon of reversibility.

It's quite different to hear a noise, because the noise is produced without the participation of my intention, and to go looking for a specific noise. When I'm looking for something specific using my senses, I am directing the activity of the sense from the mechanisms of the coordinator. And also, apart from directing the senses, it is very different when I simply perceive a data, from when I am

conscious of the perception of that data. I hear the doorbell and it doesn't mean much to me. But when I hear the doorbell and this hearing of the doorbell is something that involves my awareness, in the sense that I isolate it from an undifferentiated mass of stimuli and I pay attention to it, then I'm working, not with perception of an undifferentiated stimulus, but with the apperception of that stimulus. There is work carried out then that is not simple detection followed by perception; rather there is work done in which I pay attention to the perception. I call this 'apperception'. Moreover, I can predispose all my senses in the direction of apperception. Observe that it is very different to limit oneself to riding atop a mass of perceptions, from being in an apperceptive attitude. In this attitude, all the stimuli that arrive are registered with attention I can be in an attitude of indifference and the stimuli arrive anyway, or I can be in an attitude of attentiveness to the stimuli's sudden appearance, the way a hunter waits for the hare to leap out. I can be very attentive, waiting for certain stimuli to emerge, and even when the stimuli don't arise, I am in an apperceptive attitude. Taking the mechanism of reversibility into consideration will be very important in order for comprehending the problem of the levels of work of the consciousness, and to clearly recognize a few illusory phenomena.

We are trying to emphasize, among other things, that the senses are not just bringing in information from the external world, but they are working in a very complex way, directed in some of their parts by the activity of the consciousness. It isn't simply the phenomena of the external world or the visceral internal phenomena that are influencing the senses, but the activity of the consciousness is influencing the work of the senses. If this were not so, there would be no explanation for why certain perturbations of the consciousness should modify the register one has of the external world. By way of an example: ten different persons can have a different perception of the same object (even though they are the same distance away from it, under the same lighting conditions, etc.), because there are certain objects that lend themselves for the consciousness to project its work over them. In reality, the consciousness does not project its work on the objects; the consciousness projects its work on the senses, and then modifies the system of perception. The consciousness can project its images on the apparatus of reception, the apparatus of reception can return this internal stimulation, and then one can have the register that the phenomenon has arrived from the exterior. If this is so, then certain workings of the consciousness can modify the structuring that the senses perform on the data from the external world.

Memory

Just as the senses and all the other components of the psychism do not work in isolation, neither does the memory work isolatedly. The memory is also working in structure. The memory, as we have said before, has the function of recording and retaining the data that is coming from the senses, data coming from the consciousness; and the memory also has as its function the supplying of data to the consciousness when the consciousness has a need for those data. The memory's work gives references to the consciousness for its temporal location among phenomena. Without this apparatus of memory, the consciousness would have serious difficulties locating the phenomena in time. It wouldn't know if a certain phenomenon was produced before or after, and it couldn't articulate the world in a temporal sequence or succession.

It is thanks to the fact that there are different memory ranges, and it is thanks also to the existence of thresholds of memory that the consciousness can locate itself in time. It is also surely thanks to the memory that the consciousness can locate itself in space, since mental space is by no means disconnected from the times of consciousness—times that are supplied by phenomena that come from memory. Thus, these two categories of time- space function in the consciousness, thanks to the supply of data that the memory provides. We can examine this more slowly.

Just as we speak of a theoretical atom of sensation, we also refer to a theoretical atom of reminiscence. But this is theoretical because they do not exist in the phenomena experienced. What can be registered is that in the memory, data coming from the senses and from the consciousness are received, processed and arranged in order in the form of structured recordings. The memory receives data from the senses, receives data from the operations of the consciousness, but aside from this it arranges the data in a certain order and structures them; it carries out a very complex work of compilation and organization of the data. When the level of consciousness descends, the memory starts putting all the data in order that had been filed away in another level of consciousness. At one level the memory is working, registering, filing away all the daily data, the day's data that are coming in. And at another level of work, the memory begins to

classify and to organize the data that was received in vigil.

In sleep, which is another level of consciousness, we will find that the memory is processing data. And the putting into order that is done in the memory with the data that have been received is not the same classification of that data that is done when they are being received.

Thus, at this moment I am receiving information through the senses, and this information that I receive is being filed away in memory. However it turns out that when my level of consciousness goes down and I go to sleep, I also encounter those data from the daily world, from the world of vigil. All that raw material that I've received during the day and that I have recorded appears, but this raw material is not articulated in the same way in my internal system of representation. What had a sequence during the day, follows another order when the level of consciousness falls. And then what happened in the end now happens at the beginning; recent elements are connected to very old elements in my memory, and there an entire internal structuring is carried out with the raw material received during the day and with the previous data from different sectors of memory that correspond to an ancient memory, a more-or-less mediate memory. The memory is an 'apparatus' that performs different functions, according to the level of work that the structure of consciousness is in.

The data are recorded by the memory in different ways:

- 1) strong stimulus is recorded strongly in the memory. A
- 2) is also strongly recorded by means of simultaneous entry through different senses. Data
- 3) recording is also made when the same data on a phenomenon is presented in different ways. If I present it in one way, I record it in one way; if I present it in another way, I record it in another. My consciousness is structuring it, is articulating it; but apart from this, I have received an impression A and an impression B. The recording takes place because there is a repetition and, besides, because the data are being recorded that the consciousness is structuring regarding the object in question. A
- 4) also records through repetition as such. One
- 5) data are recorded better in context than individually. The
- 6) are also recorded better when they stand out or are noticeable because of a lack of context. They
Something that stands out, something that is impossible predisposes toward greater attention and, therefore, it is also recorded more strongly.
- 7) quality of a recording increases when the stimuli are distinguishable and this happens in the absence of background noise, because of the sharpness of the signals. The

When there is saturation because of repetition, a blockage is produced. Advertisers have used the law of repetition in a somewhat exaggerated way. Through repetition a datum is incorporated; but repetition also brings about sensory fatigue. Besides this, what is valid for the senses in general is also valid for the memory, i.e., the law of decreasing stimulus the longer the stimulus is sustained. If we keep up a constant dripping of water, the repetitive dripping of the water does not succeed in recording the dripping water. What it achieves is that the recording threshold closes up, just as the threshold of perception also closes up and therefore the data ceases to influence. When an advertising campaign is excessively reiterative and insists on inconsiderate repetition, basing itself on the law of recording through repetition, it produces saturation in the memory and the data no longer enters, it produces sensory irritation and memory saturation. In some animals one works with the reiteration of the stimulus, and instead of recording the stimulus strongly and obtaining an appropriate response, the animal ends up falling asleep.

When there is absence of external stimuli, the first stimulus that appears is recorded strongly. Also when the memory isn't supplying information to the consciousness, there is a greater predisposition for recording. And the memory releases information, compensatorily, when data are not arriving to the consciousness. Let's imagine one case. A gentleman is locked up in a cave

where no stimuli from the outer world arrive. No light reaches it, no sound, no blasts of wind that impress his tactile sensitivity...there is a more-or-less constant temperature. The external data are diminished. Then memory begins to release its stored data. This is a curious functioning of the memory. A person is locked up in jail, or they are put inside a cave, and then, since there are no external senses working and no external data, in any case the memory supplies data to the coordinator. If we eliminate the external sensory data, memory immediately begins to compensate by supplying information. Memory does this because, in any case, the consciousness needs all these data in order to locate itself in time, in space; and when consciousness does not have references of data that stimulate it, it loses its structurality. And the "I" —which had arisen due to the sum total of stimuli and the sum total of work of the apparatuses—finds that now it doesn't have stimuli and it doesn't have data coming from the apparatuses. The "I" loses its structurality and experiences the sensation that it is disintegrating, it is losing inner cohesion. It then calls on the references from data even if they only come from memory, and this sustains the precarious unity of the "I".

Remembrance—or more precisely, evocation—arises when the memory supplies already-recorded data to the consciousness. This evocation is produced intentionally by the consciousness, which differentiates it from another type of remembrance that is imposed on the consciousness.

Let's use a simile to make these mechanisms more or less symmetrical with what we had said happens to the senses and the consciousness. Here the stimuli arrive from the memory to the consciousness and we say: "remembrance." When consciousness went toward the stimuli we spoke of "apperception." And when consciousness went toward the data of memory, i.e., goes about locating the datum that interests it, then we speak of "evocation." One evokes when the attention is directed at a specific range of stored memories.

We know that data arrive to consciousness from the external senses and also from the internal senses. This information arrives simultaneously to the consciousness. It means that when I evoke, when I go to the memory to search for the external data, very frequently that data that I am bringing from memory comes mixed with the other data that accompanied the perception. In other words, if I am now receiving external information and it goes to memory, I am also receiving internal information that goes to memory. When I evoke what happened, not just the external data will present itself in my consciousness, but also the internal data that accompanied that moment. This is of vital importance.

Consider what happens when we remember. When I remember, I observe the object, I close my eyelids, I remember the object. Depending on how good, average or bad my visual education is, the reproduction of that impression will be more or less faithful. Do I only remember the object, or are there a few more things that I remember besides? Observe carefully. We are not talking about chains of ideas, about associations roused by the remembering of that object—there are these as well—I remember the object and a few other things come up as well. We go to the memory of the object itself. I observe the object, close my eyelids; the object is reproduced from memory—an image of the object appears. But this image of the object that appears, besides having other visual components since I am working with the eye, has components for me, in my internal register, of muscular tones and a certain flavor, a certain climate that has nothing to do with the perception. And so I am remembering about that object, not just the recording that the object submits to me, but the recording of my state at the moment when it was produced. Of course this has tremendous consequences, because if it was just a matter of the memory being a filing device of sensory data, the matter would be simple. However it turns out that the information that I am receiving from the external world is being associated to the state that the structure was in at the moment of the recording. And we say more: we say that there can be evocation and the data that are stored in memory can reach the consciousness, thanks to that fact that the data of the phenomena are recorded, together with the data of the structure. Because evocation, if you pay close attention, will work, not by searching for images —it will search for states. And the images are identified that correspond to one situation or another, not through the image in and of itself, but based on the state that corresponds to it. Observe what you do when you remember: now you want to remember your house. How do you go about remembering your house? Observe what you do. Don't you experience a kind of inner sensation? And that sensation, before the image of your house comes up, that internal sensation—is it a sensation of images? No—it is a cenesthetic sensation. That cenesthetic sensation is searching among different internal states for the general climate that corresponds to the recordings of visual images of your house.

And when you evoke a horrible image, will you search among different monster masks to find

the exact one, or will you look for it in the climate that corresponds to that particular level of memory that impresses you as 'horrible'? You won't look among images; you'll search among masses of internal stimuli that accompany the existing recordings. When the image is finally evoked by the consciousness, one is then in readiness for the image to carry out operations, trigger discharges, mobilize muscularly or mobilize an apparatus for it to start working with that image, and then for intellectual operations to appear, or for emotions to be mobilized, etc. When the image has jumped onto the screen of representation then, one is ready to act. But the system of evocation does not work among images; it works by searching among states. Approaching everything that has to do with physiology, it's as though we were to say that visual images are not recorded in the neurons; small, microscopic images are not left inside the neurons. Rather there are electrochemical currents that are not images, and when the phenomenon of evocation is produced, one doesn't go looking for those microscopic images until one finds them, but rather one searches for electrochemical levels that give one the register corresponding to that level, wherein the image will be subsequently articulated. One doesn't evoke, therefore, through images, but through the states that accompanied the sensory perception of that moment.

Let's give an example that we always use. I come out of a place and realize I've forgotten something. What do you register then—an image? Or do you register a curious sensation? Certainly not an image, because in that case you would know what you had forgotten. You have the curious sensation of something that you've forgotten. And what do you do immediately? You start searching for images, one appears and you say: "Not this one;" another one appears and you say: "This isn't the one." You start working by eliminating images. What guides you in your search? Are you guided by the image? No, it isn't an image that guides you; you are guided by a state that makes different images arise, and when an incorrect image appears you say: "No, this isn't what I forgot because I've got it with me." And so you continue, guiding yourself by the internal states until, finally, you hit on the object and experience the sensation of discovery. And you say: "*That's* what I forgot!" Throughout the work of searching you were looking among states, and those states were the ones that triggered the images, and you went on, producing the recognition. The state of the act of searching for an object is very different from the state that corresponds to the act of encountering (of impletion) the object. The registers one has are very different. However, in all cases we are talking about states that are accompanied at high speed by the images.

In an example we gave before, of the "unpleasant city" that I recall, I can say that I recognize it not just because its images appear, but because the state appears that I was in at the moment when I recorded the data of the city. And that city will be disagreeable or it will be pleasant, or it will be a city with such and such characteristics—not due to the evocation of simple images that I can have, but because of the states that were produced at the moment I recorded them. Observe a photograph from another era. A kind of crystallization of past times. You see that photograph and immediately, that photograph that materializes the happy event of that moment awakens in you the nostalgic sensation of something that is present, of course, but that is lost. And there is a comparison, a confrontation between this that is present and that other that was lost; this state that has had to do with the recordings of that moment, and the present state in which I am recording such data.

We had said that remembrance—more precisely, evocation—arises when the memory delivers already-recorded data to the consciousness. This evocation is produced intentionally by the consciousness, which distinguishes it from another type of remembrance that is imposed on the consciousness. An example is when certain memories invade the consciousness, which on occasion can coincide with a search or with psychological contradictions that emerge without any participation from one's own consciousness. There is a difference between searching for a datum in memory, and the other case in which data arise spontaneously from memory and invade the consciousness with greater or lesser force, depending on how big a charge they carry. There are states of memory that reach the consciousness, release images, and these images impose themselves on the consciousness obsessively. That image that arrives from memory or that the memory releases, that invades the consciousness and obsessively imposes itself—is this due to the image in itself, is it due to the remembrance in itself, or is it because of the state that accompanies the image? No doubt, it is due to the state that accompanies the image. And that obsessive image that corresponds to a situation I was in a long time ago, this image that imposes itself on me has a powerful charge (we will say afterwards) that is "climatic." And so it arrives associated to a state, to the state in which that phenomenon was recorded.

There are degrees of evocation, different degrees according to whether the datum has been

registered with greater or lesser intensity. When the data lightly brush the threshold of register the evocation will be slight as well. There are even cases when there is no memory of the datum, but when one perceives it again, one re-cognizes it. And there are data that are working in the threshold of perception, which for us in this case is also a threshold of memory. Something that became fashionable at one time, called “subliminal” action, or so-called subliminal advertising, that seemed to be an interesting phenomenon but later turned out a fiasco, was a simple, quite elementary mechanism, in which a stimulus was fired at the perception threshold. The subject didn’t finish registering the datum, but the datum entered anyway. And we know that the datum entered because, for example, it later appeared in the subject’s dreams. And besides, because the subject in a certain state was able to remember what apparently was not perceived at that moment, that he had not seen. Therefore there are a number of data that in any case hit the threshold of perception, they are not registered at that moment by the consciousness, but they go to memory. And those data, if they go to memory, also go there related to the particular state that accompanies them. Moreover, for the data to exert an influence in advertising, it was necessary to associate the firing off of the subliminal object to a specific emotion. If the idea was to advertise a drink, it wasn’t just a question of putting the drink inside an alternating sequence of 16 frames of a reel of publicity film (we know that if we insert the object in one frame every 16 frames of film, we will see the film but we won’t see the subliminal flash passing that will be working just inside the perceptual range). If we chose certain parts of the film (the ones with the greatest emotional warmth) and in those parts we inserted the product in question, then when the subject evoked the film, the subliminally-recorded phenomenon would act over them with greater intensity. That was the idea; it worked very elementally. And it doesn’t seem that the sales of products featured in this advertising system went up, but there are still people who believe in the “power of that terrible secret weapon.” We are not dealing with the problem of subliminal propaganda here. We are dealing with the problem of the image or the phenomenon that barely touches the threshold and is recorded, but it is being recorded simultaneously with a state. Starting from the minimum thresholds of evocation, there are increasingly more intense gradations until reaching the automatic remembrance that is rapid recognition. Let’s take the case of language. When one is speaking and has deeply incorporated a certain language, one isn’t remembering the words one must articulate in order for the voice to come out. This happens during the learning stage, when one is learning another language, but not at the moment when the linguistic system has been incorporated to the point of becoming automatic. There one is working with ideas, working with emotions, and memory then supplies data according to the states that arise in the person who wants to develop their ideas. How curious it would be if the memory were simply the recording of sensory data! To be able to speak we would have to reproduce everything that was produced when we learned to talk—at the very least we would have to reproduce the entire signage system. But when I am speaking I am not looking for the signical system. What I am looking for are my ideas, my emotions, and the signical articulations are then released, those signical images that I later launch in the language. Automatic remembrance is acting, rapid recognition remembrance. And the recognition of an object is produced when the perception is compared with previously-perceived data.

Without recognition, the psychism would experience a continual being-there-for-the-first-time in front of the phenomena, despite their repetition. It would always be the same phenomenon and there could be no recognition, and thus the psychism would be unable to advance—certain fashionable currents of opinion notwithstanding. They are of the opinion that it is an “interesting psychological breakthrough” for the consciousness to work without memory. If these preachers worked without memory, they couldn’t even explain the system to others.

On the other hand, forgetting is the impossibility of bringing the already-recorded data to the consciousness. Its very curious how sometimes complete ranges of memory are forgotten, of situations, of concepts. In some cases what could be recalled in a certain climate is erased and therefore all the phenomena recorded in memory that have anything to do with that state are erased as well. Entire ranges are erased because they might call forth that image associated to painful climates.

In general, forgetting is the impossibility of bringing already-recorded data to the consciousness. This happens because of a blockage in the reminiscence that impedes the reappearance of the information. However, there also exist “functional” types of forgetting that impede the continual appearance of memories, thanks to the mechanisms of interregulation that operate by inhibiting one apparatus while another is functioning. This means that, fortunately, one isn’t continually remembering everything; that fortunately it is possible to remember by situating objects and

phenomena in different moments, in different times. Fortunately we do not continually remember because in this case the reception of data from the external world would be greatly disturbed. With such a background noise from continuous remembering, it's clear that we would have problems observing new phenomena and naturally our intellectual operations would also be strongly disturbed if we were subjected to continuous bombardment from memory. We will even see how forgetting or amnesia or blockage also operate, not because of a defect, but in order to fulfill an important function in the psychism's economy. Perhaps it isn't that the structure is defectively assembled, but that it is fulfilling some function, even when it commits errors.

We can observe different levels of memory. In the acquisition of individual memory, in the first moments when one begins to perceive and already starts to record, a kind of "substratum" is formed (to give it a name), a kind of ancient memory substratum, a profound layer of memory. Over this base of memory, which is the data base that the consciousness will work with, a system of relations becomes structured that the consciousness later implements. It is the most ancient memory from the point of view of the foundations of the operations performed. Over this older memory all the recordings that continue to be registered throughout life go about being "deposited"—this is a second level of memory. And there is a third level of memory, which is the immediate memory, of the immediate data that we work with. Normally the profound memory is filed away with force, without any production in its substratum of significant operations, whereas in the recent memory an entire work of putting in order, of classification and filing of data must be carried out. Also, between these levels (i.e., the most recent level, the immediate level and the mediate level), something like "differences of potential" are established, we could call them, in which the new data enter and also go about modifying the mediate memory. If we were to carry out a simple, schoolbook classification, we would speak of an ancient memory, a mediate memory and an immediate memory, and the biggest job of classification would be given to the immediate memory, more than to the other types. Even if the older data aren't worked with intensely, they are very deep-rooted. It's as though they created a field into which the new data falls. For this reason we have serious difficulties in doing work with the ancient memory. We can carry out works with the immediate memory, acting indirectly over the mediate memory, but it is extremely difficult for us to modify the deep imprints of the substratum. This is the background that has remained, strongly recorded; it is the one that is exercising influence over the new potentials that arrive to the archivist. Thus, in reality the internal tensions of the memory are exerting influence—what we could call types of 'internal climates' of the memory—over the new data.

In any recording, as well as in the memorization of what is recorded, the work of the emotions has an extremely important role. Thus, painful emotions or painful states that accompany a recording later give us a register that is different from that of the recordings effected in pleasant emotional states. Therefore, when a certain external sensory recording is evoked, the internal states that accompanied it will also arise. If the external data is accompanied by a defensive emotional system, a system of painful emotions, the evocation of what was recorded will come tinted by that entire system of painful ideation that accompanied the recording of the external data. And this has important consequences.

There is also a kind of a situational type of memory. One records a person in a certain situation. Soon one sees that same person but in a situation that has nothing to do with the first one. Then one meets up with that person, registers them as familiar but without fully recognizing them; the images don't coincide because the image of the person in the new situation doesn't coincide with the situation in which the person had been first recorded. In reality, all types of recordings are situational and we can speak of a kind of situational memory in which the object is recorded by context. When the context that the object is in is later modified, we detect a certain flavor of familiarity in the object, but we can't recognize it because the referential parameters have changed. We then have difficulties with the recognition due to the variation of the context, upon confronting the old image with the new one. In the mechanisms of evocation—in remembrance in general—there are problems because sometimes we don't know how to localize the object if we can't find everything that accompanied it before. What we have said about evocation (that one doesn't search for images but rather for certain tones) is also valid for this case.

The entry pathways of the mnemonic impulses (i.e., the impulses of memory) are the internal senses, the external senses and the activities of the coordination apparatus. On the other hand, the stimuli that arrive follow a double pathway—one pathway that goes directly to the apparatus of register, and one pathway that goes to the memory apparatus. It is enough for the stimuli to lightly brush the sensory thresholds for them to be registerable. And minimal activity in the different levels

of consciousness suffices for the recording to take place. On the other hand, when the memory is updated through the translation from impulse to image and from image to center (since there is in turn a register of the center's functioning), memory is reinforced. We are saying this: if an impulse of memory arrives to consciousness, and in the consciousness this impulse is converted into an image, this image acts over the centers and these emit the signal toward the outside. Upon effecting the signal outwards, in any case the center's activity is registered in the internal senses. Therefore, how does one learn, really? Does one really learn through the datum that reaches the senses and is archived in memory, or does one learn when one carries out the action? A little of both.

In school education it has been assumed that a transmitter source emits a signal, a receptor source captures the signal, and this is what learning consists of. It seems that things don't quite work in this way. It seems that one learns when the data that leaves from memory reaches the consciousness, is translated into an image, mobilizes a center and goes out like a response (whether the response is intellectual or emotional or motor). When this impulse converted into an image mobilizes the center and the center implements, one has a simultaneous internal register of that center's action. When this entire feedback circuit is established is when the recording is accentuated. In other words: one learns by doing and not simply by registering. If you work with a child by giving him explanations and the child is simply in a receptive attitude, his learning situation will be very different from that of a child who is given data and asked to structure relationships between the data and explain what he learned. Since simultaneously there is a circuit between the one who teaches and the one who learns, the same operations of the one who learns, the asking by the learner about the one who teaches makes the teacher have to carry out works and establish relations that he himself had not thought of. And so, in this relational system, everyone learns. It is a relational system between both interlocutors, in which, of course, the scheme of cause-effect doesn't work. What works is a continual re-adaptation in structure, in which the datum is being viewed from different points and there is not just the active attitude of the one who supplies data and the passive attitude of the one who receives the data.

In the circuit between senses and coordinator, the memory acts like a kind of connective, like a bridge, on occasion compensating the lack of sensory data, whether through evocation or through involuntary remembrance. And in the case of deep sleep, where there is no entry of external data, cenesthetic data combined with data from memory are reaching the consciousness. In this case, the mnemonic data do not appear to be intentionally evoked, but at any rate the coordinator is performing a job – it is putting data in order, it is analyzing, it is carrying out operations with the participation of memory. Even in the state of deep sleep, all these operations are being carried out. Consciousness is doing this. As you know, we don't identify consciousness with vigil. Consciousness for us is something much vaster, and for this reason we speak of levels of consciousness. Very well, the consciousness, in its level of sleep, is occupied with the mechanical work of classification and ordering of the data. In the level of deep sleep there is reorganization of vigilic raw material, i.e., from recent memory. This is why the dreams of the day have to do preferentially with the raw material that was received in the course of the day. Of course long associative chains are established there and the datum of that day, the day's raw material in turn hooks up and connects with the previous data; but we are dealing basically with the day's raw material (the recent memory), which is working on the formation of the reverie nucleus.

The coordinator can address itself to the memory through evocation. We call this evocation "reversibility mechanism." It requires an activity from the coordinator in the search for sources. There are also numerous errors of memory. The most common memory error is false recognition, which arises when a new datum is related incorrectly to a previous one. This situation I am in now is extremely similar to another situation I was in before, except that I've never seen this object before that I have now. Since situational-type recordings exist, I now experience the sensation of already having seen the object; and it's not that I've ever seen it before, but that I recognize similar situations to the one I'm in now and that have already happened at some other time. Then I emplace this new object within that other situational memory, and it appears to me as recognized. Sometimes the opposite happens. An object that I recognize summons up a situation that I have never experienced before, but that I have the impression of having lived through. A variant of this, the variant called "mistaken remembrance," is that of replacing a datum that does not appear in memory with another one, as if one were filling an information vacuum.

The generic term for a register of a total impossibility of evoking data or complete sequences of data is "amnesia." There are different classifications of these amnesias, of these forgettings. There

can be amnesias that are not just referred to a specific object, or to objects are linked with it contiguously, contradictorily or similarly. Amnesias can also operate wherein what is erased is not a certain object, but a certain situation, and [the erasing] is acting in the different levels of memory. An example: I don't forget what happened just five days ago, but I forget, in different stages of my life, some situations that are related amongst themselves. The forgetting is therefore not just linear in a temporal range, but sometimes it is selective of a specific situation that is repeated in different vital stages. That entire range is erased—apparently so, because in reality it is very difficult for something to be erased from memory. What normally happens is that the datum cannot be evoked because there is no register of such a sensation, because that sensation of the register corresponding to that range was influenced by other types of sensations—by painful sensations, among others. The painful sensations that accompany the recordings of certain phenomena are the ones that tend to disappear in the evocation. Since these painful sensations are rejected by the entire structure, then everything that accompanies them is rejected. Basically it is the mechanism of pain in the recording of a datum that sooner or later will make the datum vanish; it will make the datum disappear, at least in its evocative aspect. In any case, whatever was recorded with pain is either forgotten or is once again evoked in the consciousness, but the lateral contents that accompany it will have been transformed. There are recordings that are 'branded' on one's memory, as some would say, that are painful recordings. However, if one examines these painful recordings well, it will be apparent that numerous phenomena that accompany them have been drastically transformed. Every recording is associated to other, contiguous ones. There is therefore no such thing as an isolated remembrance; rather the coordinator selects, from among the memories, those that are necessary to it.

Referring to the problem of the recording of something painful and something pleasurable, the following question comes up: What happens when a sensory stimulus is recorded pleurably, but because of other circumstances it provokes moral pain or intellectual pain? Imagine a person who, because of his moral formation, has problems with certain sensory data of a pleasurable kind. There, pain and pleasure are mixed together. It turns out that this person registers physical pleasure, and that register of physical pleasure at the same time creates a problem of moral valuation for him. How will he evoke that register then? Most probably, in future he won't even want to remember what happened. But it is equally probable that a kind of obsessive state will arise in him with respect to that situation. Then we will meet this good person who, on one hand, represses the evocation of the pleasurable registers, and, on the other, the pleasurable registers surge up and impose themselves on his consciousness.

Consciousness

We understand the consciousness as the system of coordination and register that is effected by the human psychism. Sometimes we talk about "consciousness" and other times of "coordinator," and still others of a "registerer." What happens is that even when the same entity is concerned, it is fulfilling different functions; but we are not dealing with different entities. A very different matter is what we call the "I". We don't identify that "I" with the consciousness. We consider the levels of consciousness as different ambits of work of the consciousness, and we identify the "I" with that which observes the psychic processes—not necessarily vigilic ones—that develop. In vigil I go about registering and carrying out numerous operations. If someone asks me, "Who are you?" I will answer: "Me."—and I will add to that, an ID card, a number, a name or things of this sort. And I have the impression that that "I" will register the same operations from inside, it will observe the operations of the consciousness. For now we already have a distinction between the operations that the consciousness carries out and this observer that refers to those operations of the consciousness. And if I pay attention to how I go about observing things, I see that I observe things "from inside." And if I observe my own mechanisms, I see that my mechanisms are seen "from outside." If I now lower the level of consciousness and I go down to sleep, how do I see myself? I walk along the street, in a dream; I see cars that pass by, people that walk by—from where do I see the people who pass, the cars that drive past? From inside myself? (As I see you now, and I know you are outside of me, and therefore I see you from inside me.) Is this how I see myself [in sleep]? No, I see myself from outside. If I observe how I see from the level of sleep, I see myself seeing the passing cars, the passing people, and I observe myself from outside. Do it another way—try it with the memory. Now you remember yourselves in a situation when you were children. Good. What do you see in that scene? Do you (as children) see yourselves from inside, the way you see the things

that surround you? You see yourselves from outside. In that sense, where is the “I”? Is the “I” inside the system of structuring that the consciousness carries out, and perceives things, or is the “I” outside? On one hand, one has the impression that in some cases it is inside and in other cases it is outside. And on the other hand, one sees that upon observing the same operations of the consciousness, the observer is separated from these operations. In any case, the “I” appears as separate—be it inside or outside. What we do know is that it isn’t included in the operations.

That I then—how is it that I identify it with the consciousness if all the registers that I have are of separation between the “I” and consciousness? If I observe all the registers that I have of the “I,” I will see that all these registers are of separation between this thing I call “consciousness and operations of the consciousness” and what I call “I”.

How is this “I” constituted; why does this “I” arise and why do I make the mistake of associating the “I” to the consciousness? Firstly, we don’t consider as conscious any phenomenon that is not registered; neither do we consider as conscious any operation of the psychism in which coordination tasks do not participate. When we speak of ‘register,’ we speak of registering at different levels. This is because we do not identify consciousness with vigil. Consciousness is something broader. Usually consciousness is linked to vigilic activity, and everything else is left outside of the consciousness.

As for the fundamental mechanisms of consciousness, we understand as such the mechanisms of reversibility, which are the faculties of the consciousness for directing itself to its information sources through attention. If it addresses itself to the sensory source, we speak of ‘apperception.’ If it directs itself to the memory source, we speak of ‘evocation.’ There can also be ‘apperception in evocation’ when a datum that was recorded in the threshold of register is apperceived. Such is the case of subliminal recording, where one does not realize when it takes place, but nonetheless, later on it can be evoked.

I call ‘perception’ the simple register of the sensory data. Here we are together, a noise is heard; I perceive the noise. My interest then can direct itself to the source of the noise, but the fact is that the datum imposed itself on my register. This I will consider as perception. Naturally it is extremely complex, a structuring has taken place and all that. On the other hand, I call ‘apperception’ the search for the sensory data. Thus I perceive when the datum imposes itself on [the sense]; I apperceive when I look for the datum. I term a ‘remembrance’ this element that does not come from the senses but comes from memory, and arrives to the consciousness. I call ‘evocation’ the activity of the consciousness that directs itself toward searching for the data from memory. But there are also other cases that make things a bit complicated for us: “apperception in the evocation,” for example, in which the acts of the two apparatuses seem to mix together. This is the case in which the datum has been recorded in the sensory threshold and at that moment I don’t have vigilic consciousness of what has happened with that datum, but the datum has been registered in memory. Then, later on, during a work of evocation the datum emerges. Let’s see an example. I see numerous people on the street, I scan them automatically with my gaze and, later, remembering what happened, I say, “But a friend of mine walked in front of me and I didn’t say hello to him!” Here I am working with apperception in the evocation. That is to say, I am focusing on what happened in memory, I am evoking, and upon evoking, something arises that was recorded but without my being properly aware of it, at the moment it was recorded. Then, of all the sensations of register that I now have in the act of evoking, I select and I go to one of them.

The performance of the reversibility mechanisms is directly related to the level of work of the consciousness. And we say that, as the levels of consciousness descend, the work of these mechanisms decreases, and vice versa. This will be of great practical importance for us in subsequent works. In the measure that the level of work of the consciousness diminishes, the mechanisms of reversibility are progressively blocked, its activities begin decreasing. And as we raise the level of work of the consciousness, the work of reversibility (i.e., the consciousness’s direction of its own mechanisms) rises.

There is a minimum structuring, on the basis of which all the mechanisms of consciousness function: that of act-object. Acts-objects function in the consciousness in the same way stimuli-registers work, linked together by this mechanism of structurality of the consciousness, this intentional mechanism of the consciousness. Acts are always referred to objects, whether the objects are tangible, intangible or merely psychic.

Just as the senses and memory are always at work, so the consciousness is continually launching acts, directing itself toward objects. The bond between an act and an object is not permanent since acts exist that are launched in a search for their object, which is precisely the

situation that gives dynamic to the consciousness.

Some psychologists thought it was a fundamental characteristic of the consciousness that the act of consciousness should be linked to the object. That there could be no act without an object and no object without an act. Of course they didn't rule out the possibility that the object to which the consciousness was referred could change. If this were not so, the consciousness would meet with serious difficulties in moving from one object to another, because at the moment of transit the act would find itself without the same object. It is thanks to this act's ability to work in search of objects that the consciousness can shift from some objects to others. Strictly speaking, those psychologists discovered a great truth and it is that the act of consciousness is referred to an object, and even if the object changes the consciousness directs itself "toward." The consciousness, therefore, is intentional and behaves like an act-object structure. And so the objects of consciousness—be they perceptions that arrive to the consciousness, representations, abstractions, etc.,—all of them appear as the objects of acts of consciousness. And therefore I can look for a specific memory—this is an object. Now I can search for a specific perception—this is an object. Now I can perform an abstraction—this is an object. But the operations that I carry out are of a varied nature—there are different types of acts.

This intentionality of the consciousness (this directing the acts of consciousness toward determined objects) is always launched toward the future, toward things that must appear. This activity of futurization of the act of consciousness is extremely important. The intentionality is always launched toward the future, which is registered as the tension of searching.

If I am going to remember what happened half an hour ago, I am preparing myself to launch my act of consciousness toward the future. At this moment I "as yet" have not found what happened ten minutes ago, but I'm searching for it. Surely in the future I'll find what I'm looking for. Now, finally, I've found what I was seeking. Inevitably, the consciousness moves in future mode and in this way it works, going back or reverting over past events. Inevitably, the time of consciousness is that of futurization; it goes toward what will happen to the consciousness, even in the case of remembrance. So these people who go toward the past and remain rooted there, fixed on the past, it seems as though their dynamic of consciousness had become crystallized—even for these people the dynamic of consciousness continues to act. In all cases I go about creating registers of past things, but the direction of my consciousness always is in the search, it is always advancing, even if it is trying to bring back events that already took place a long, long time ago. The structuring of the times of consciousness is different according to the variation of the consciousness's level of work. The data are stored in succession in a particular way and later I can evoke their successive order, but this doesn't function in the same way in other levels of work of the consciousness. The succession of events is modified depending on the level of consciousness. Things that happened before can appear to happen afterwards, the subsequent events can seem to be previous events, and the peculiar mixture is produced that happens in dreams.

There are two important characteristics in the structuring that the consciousness does according to the level of work that is operating: the ordering of the times [of consciousness], on one hand, and the variation of reversibility, on the other.

The effectiveness of the reversibility mechanisms and the ordering of the objects in the times of consciousness are fully vigilant characteristics. We can speak of another kind of mechanism, or another type of function of the consciousness, such as the attention, which is an aptitude of the consciousness that makes it possible to observe the internal and external phenomena. When a stimulus gets past the threshold, it awakens the interest of the consciousness and occupies a central field toward which the attention is directed. In other words, the attention works according to interests, according to something that in some way makes an impression on the consciousness

A stimulus arises that gets past the threshold, and then, there being no other things to deal with, my attention directs itself toward the stimulus that calls for attention. In other words, the attention is always guided by interests, which are registers. The object can remain within a central field, in which case I am fully focused on it. If I consider that object fully, the objects that surround it lose interest for me in the sense that my attention encompasses the object and, secondarily, its field expands out to include others. But my attention is directed toward an object. I call this, field of presence—i.e., everything that appears in my attention in a sovereign way. And everything that doesn't appear strictly connected to that object becomes diluted in my attention. It's as though the other things surrounding the object were of no interest to me. I consider this gradual disinterest in other objects as entering into the field of copresence, though that copresence is also acting and accompanies the central object's presence. Therefore we should not confuse the field of presence

and copresence with the old representation of the “attentional focus,” that supposedly made the object of attention stand out and gradually blurred the other objects, reducing these last to a state of inactivity.

These fields of copresence, though they appear to be phenomena that are strictly circumscribed to the mechanisms of consciousness, have to do with the memory. In a first moment I am observing an object. This object is surrounded by other objects. The object I attend to is the most important one, but there are also others. These operations have to do with the attention and they have to do with perception. If I evoke the central object that I previously observed, it will then enter my field of presence; but I can now also evoke, and place in my field of presence, the objects that were secondary at the moment of perception; such that, in evocation, I can displace my field of presence to the copresences. What was secondary can be converted, in the evocation, into the primary. I can do all this because, in any case, there has been a register of the present object and of the copresent objects.

And these copresences in memory will perform very important functions because they will make it possible for me to link together a number of objects that are not present in one moment of recording, but that have been recorded before. This will enable me to say: “Ah, this looks like something else that I saw before!” “Ah, this is similar to that other thing!” “Aha, this is different from that one!” “Aha, this is related to that!” It is because, as I go about perceiving, the memory is also working and numerous data are working copresently in front of what I am seeing. This work of presences and copresences makes it possible to structure the new data that are arriving, even if by means of the perceptions. If the pressure from those data of copresence didn’t exist, I couldn’t structure the new arriving data.

Thus we say very simply that, when the attention works, there are objects that appear as central and objects that appear in the periphery—objects that appear copresently. This attentional presence and copresence happens in the case of both external objects and internal objects.

When I attend to an object an evident aspect becomes present, and what is not evident operates in a copresent way. This object that I’m seeing is present only in terms of what I am able to perceive of it; the rest of it is “concealed.” But the part that is concealed acts in a copresent way. I do not imagine that what is in front of me is just a line, or merely a plane, or two planes that I simply perceive. I realize that it is a body. All of this is working copresently, and all of it is more than the perception that I have. Every time I perceive, I perceive the object plus what accompanies it. The consciousness does this on top of the perception. And I am always perceiving, I am structuring more than what I perceive. Sometimes I do it well, sometimes not so well. This inferring more about an object than what is perceivable of it is characteristic of the consciousness. The consciousness works with more than what it needs to attend to—it goes over and beyond the observed object. In the different levels of consciousness, one experiences the same thing. For example, in vigil there is copresence of reverie, and in dreams there can be copresence of vigil. Who hasn’t had the sensation while they were dreaming that they were awake? Who hasn’t had the sensation of knowing, while they slept, that they were dreaming? Who hasn’t had the sensation in vigil of being more-or-less asleep, when they became aware of the force of a sequence of reveries? The levels are working copresently and sometimes one has a register of this fact. Sometimes contents from other levels bloom in vigil, and then I become aware of the pressure exerted by those contents. My vigil is invaded by a state, my vigilic level of consciousness is invaded by a state that does not correspond to the world of perception; by objects that have nothing to do with the objects I perceive in daily life. The states that arise in my vigil make me aware that other levels are operating simultaneously with the level of vigil. This is also copresence of the work of the other levels, simultaneous with the work of a specific level.

In this singular consciousness there are also some abstractive and associative mechanisms. The abstractive capacity of the consciousness also increases in the level of vigil. We say in general that reversibility increases in vigil, the management of attention increases, the order of events in time increases, and also the abstractive work of the consciousness increases. In semisleep and sleep, all the mechanisms we’ve described before experience a drop in their level of work, and the capacity for abstraction decreases as well. As the level falls, the capacity for abstraction diminishes; one is less able to think abstractly. Fewer mathematical operations can be done when one is sleepy, and few mathematical operations are done when one is asleep. However, as the level of consciousness lowers, the associative capacity increases. There is also association at the base of vigil, but vigil is specialized in the abstractive mechanisms. Speaking of the imagination, we say that its work is manifested by the activation of the associative mechanisms. We verify that there

is a spontaneous imagination, so to speak, a simply associative imagination, and a directed imagination. There's a big difference between associating things in a disorderly way and establishing relations between different events the way a novelist can, for example. He writes "Chapter 1," "Chapter 2," and the imagination creates an order. Spontaneous, chaotic and associative imagination is quite different from an imagination that puts in order everything associative that has been taking place. This last is often called "directed imagination." Art makes much use of this type of imagination.

There are important distinctions between the abstractive operations and the imaginative operations. The abstractive ones have greater logic; they put in order the world of data, whereas the imagination does not busy itself with putting in order, but with working with images that function based on associations and that go from the identical to the identical, or from the similar to the similar. That is one pathway, which we call "similitude." Similitude is, for example, the association: "red = blood." By *contiguity* or proximity, one can associate: "bridge = river." And by *contrast* one can associate "white = black," "high = low," and so forth. Divagational imagination is characterized by free association, without a guide, in which the images are turned loose and imposed on the consciousness, above all in dreams and reveries. In directed imagination, on the other hand, there is a certain operative freedom of the consciousness in its vigilic level, which allows for a direction around a plan of inventiveness, in which it is of interest to formalize something as yet nonexistent. Someone follows a plan and says: "I'm going to write on such topic" and they set the imagination loose, but more-or-less according to a plan.

Depending on whether the impulses that arrive to the consciousness are worked on by one or another of the mechanisms pointed out, i.e., by the mechanisms of abstraction or by those of association, different translations will be obtained which will be formalized in different representations. Normally the abstract works have little to do with the image. On the other hand, when the associative mechanisms are activated, the base of the work is the image. This matter of the image leads us to questions of vital importance.

6. Space of Representation ³

Some psychologists believed the image to be a bad "copy" of perception, and, in sum, an error of the consciousness. For us the image fulfills many functions, and one of the most important functions of the image is that of carrying impulses to the response apparatus. Therefore, when an image appears, a response tends to be mobilized. When an abstraction arises, a response is not necessarily mobilized. In this case of the "things I imagine," what is happening is that I carry impulses from the representation to the response apparatus. We will see this through the example of "muscular tonicity". If I imagine an object to the right of my body, little by little it will tend to point in that direction. If I imagine it to the left, the same happens in that other direction. The hand moves more easily in the direction of the object thought of; it is more difficult for it to move in the opposite direction. The image is predisposing the work of the motor center in one direction or another.

Let's expand on this. A person is at home and feels hungry, and immediately goes to the refrigerator. Anyone would say that in front of the stimulus, that response operates. As easy as that! But what is this about, that to the "hunger-stimulus" corresponds the response to "go to the refrigerator"? Why is it, for example, that when someone feels hungry they don't go to the toilet? How does the person do it so that the refrigerator appears and not the toilet? Surely something very fast has happened that not even they were able to visualize, but it acted. It is of utmost importance to comprehend the function carried out by the image, because it is what prepares the corporal tone and finally moves the body in a particular direction. When we say that "the image carries psychic charges to physical levels," we are very far from what the psychologists thought who assumed that the image was a degraded perception. Let's relate the work of images to that of the red blood cells. These red blood cells reach the lungs and load oxygen. From there they travel through the bloodstream to discharge the oxygen in different parts of the body. When they do so, they load themselves up with corrupted gases, then they return to the lungs to unload their charge. So too these connectives of psychic work (the images) pick up charges from one site, carry them to another, discharge them, once again pick up charges, and so on, carrying out the transfer of psychophysical energy. The images go about moving impulses from place to place, which on occasion are tensions, on occasion irritations, occasionally data of perception, occasionally memory data. These impulses are translated into images, which, when manifested, are launched

toward the centers of response. Then the centers move, either defending the body or provoking flight, or approaching things that are pleasurable. And it is thanks to these images that the registers of what is pleasurable and what is painful can be converted into bodily activity. But the same thing also occurs regarding the pleasurable and the painful, in the very activities of the mind. Some images are fulfilling the function of discharging tensions in the representation, through the function of evoking pleasurable objects or situations that serve the economy of the psychism. These images always tend to open up a pathway, and, in doing so, they encounter resistances. There are, precisely, certain images that impose themselves obsessively because they are unable to open up a channel. Certainly there are procedures for allowing the image to find its way and manifest toward the center in question. And this shows us clearly the cathartic function of the image. The image is later converted into words, for example, and some tensions are discharged through the words or continue being transformed in their displacement toward the centers. Besides this, we will find not only the “cathartic” function (the transporting of the image’s charge), but also the “transfereential” function that the image has, when it goes about separating itself from the field of impulses that motivated it.

Let us ask the question: How is it possible that, in the level of sleep, the images that are so powerful do not move the body? They ought to, because of tonicity, move the body more than in vigil. If there are more images as the level drops, then during sleep the body ought to move more. However, what is normal is that in sleep the body does not move behind the images. Here a blockage mechanism operates that can be tracked physiologically—a mechanism that operates when the level of consciousness drops, by cutting off the connection with the work of the motor center. Then the images appear, and the discharge that would mobilize the body doesn’t pass through.

When we speak of images we are not just speaking of visual images. Each sense produces its own type of image, and thanks to this, one can have representations of olfactory phenomena, gustatory, auditory phenomena, etc. Normally, above all in this kind of culture and with this type of education, the images are associated to vision. However, you can verify in yourselves that you can also represent odors or you can remember voices without necessarily depending on visual representation. What you remember in relation to smell or sound, takes place in “some part” of the representation. Naturally you will distinguish, with respect to the location of the phenomena of auditory representation, between the sound that arrives from outside and the sound that you represent. or imagine. This last is not just “inside” (and this already flags for you a space of representation), but that “inside” is located in some “place.” This place is not necessarily seen, but it is experienced and it is felt. Now you’re at a concert, you have the orchestra in front of you. You close your eyes, you’re very attentive to the sounds of the instruments. You hear an instrument to the left. Then you hear an instrument to the right. If you pay attention to your eyes you will see that when you listen to something from the left, your eyes move to the left, and when you listen to the instrument on the right, your eyes move to the right. In this way you are following, not exactly the music, but the producer-sources of the sounds with your eye movement as well. From this you can infer (in yet another case of tonicity), that wherever the attention to the phenomenon goes, even if it is not visual, the eyes will also follow that source; such that, although the eye can have nothing to do with music, nothing to do with sound, the eye follows in space the stimuli that are arriving to the ear. Moreover, it is said of a sound that it is “high” or “low,” because also (if you observe what happens with the representation of these sounds and observe the register of the eye’s movements), you will verify that, as the sounds become higher pitched, the eye tends to move upward. As the sounds become deeper, the eye tends to move downward. Apparently there is no connection between the eye and the ear. But *since all the senses produce their representations, and this representation is given in a mental space, this space sets an ambit where the representations are emplaced that have originated from different perceptual sources. This space is nothing other than the totality of internal representations proper to the cenesthetic system.* And so the mental space is a sort of screen that reproduces the impulses of one’s cenesthesia. Thus, every phenomenon of perception that arrives to the apparatus of coordination is emplaced at some point of the representation screen. Whether it is a matter of a sound, a smell, or an object that enters visually, in every case it is emplaced at some point of the space of representation. This space not only has gradation on two planes—it has depth, it has volume, and it approximately replicates one’s own body. It is a “body” of representation, or—if you prefer—a “spatial referential background.”

If you remember the orchestra in our example, perhaps you’ll also remember the music and the

“spatial” emplacement of the different instruments and sounds. It will also be verifiable that, in acts of remembering, the eye moves in search of the “sound”-producing source, locating the “places” from where said “sound” originates. When sounds that are “distant and to the front” are remembered, they are emplaced at a depth of the space that is different from that of the memory of sounds located “near and to the front,” and this gradation of internal distances is accompanied by the readjustment of the eye, as though it were perceiving phenomena from the external world. These categories of “near” and “far,” combined with the positions “front” and “back,” “to the right and left,” “up” and “down,” clearly show us the volumetrics of the space of representation. If this space has at least three dimensions, then all phenomena (even tactile, gustatory or olfactory) will have possibilities of emplacement as to height, breadth and depth. This depth of the space of representation is what enables the location of phenomena, whether they have come from the internal world or from the external world.

Here we must establish that *the “barrier” separating the “internal” and the “external” is touch*, appropriately divided into internal and external touch. One important location of the “tactile barrier” is in the face, where precisely the majority of the external senses are concentrated within a small space.

Therefore, there exists a gradation system in the space of representation that makes it possible to locate the phenomena starting from their source, and besides, to distinguish up to a certain extent between the world of cenesthesia and the world of the external senses. Thanks to the existence of the space of representation, a system of impulses arrives to consciousness and is translated into an image. This image is again translated, firing activity at a center and the latter is activated in the direction of a certain range and depth of the referenced space. On the other hand, there is also perception of the center’s work, the perception generates the corresponding image, and in this way, in a feedback circuit, the general activity goes about adjusting itself.

If the internal representation is emplaced at the level of the cenesthetic phenomena, these images that are converted into responses will mobilize phenomena at cenesthetic levels. If the representation is triggered in the gradations proper to external activities, they will then mobilize centers in an external direction. Of course there can be numerous errors in the emplacement of an image within a level of representation, and therefore it would be of interest to have access to procedures that would allow the displacement of the image (which is the basis of the response) toward the appropriate point of the inner space of representation.

The space of representation adopts different characteristics according to whether one level of consciousness or another is acting. When a phenomenon appears in the space of representation, in vigil, it is different from when it appears in the level of sleep. When you see yourselves in a dream, you emplace yourselves in some point of the space of representation differently than when you remember a phenomenon. In the first case, you see yourselves included as an image inside that space, but you observe yourselves from an external point of sight (i.e., you see yourselves from “outside”). In the second case, you recognize the phenomenon inside the space of representation and you observe it from yourselves (in other words, your point of sight is “outside,” as in the previous case, but you do not see yourselves from an external point of sight; rather you see the object from yourselves as though looking through your eyes, recognizing the object included in the space of representation). If you have the point of sight “outside,” the internal space appears as a container and one’s self image appears contained within that space. In this case, the consequences of the translation of image into movement will be different than if you are “outside” as a point of sight and as an image (since you look from yourselves and, therefore, you are container and the observed object is content).

The first happens in dreams. You see yourselves within the space of representation. What do you mobilize then? You mobilize the image of yourselves. But this is very different from your not seeing yourselves, but rather seeing the phenomenon as included in that space. Therefore, although there are physiological explanations for the disconnection of motricity that is produced with the lowering of the levels of consciousness, of course there are psychological registers that enable us to comprehend that, precisely in dreams, the mobilization of images toward the world is paralyzed, because the register that the subject has of himself is observed from an external point, and, therefore, he becomes included in the internal space. We must again underline that the registers we are mentioning about one’s own self image and the point of observation should not necessarily be considered as being visual images. In the congenitally blind, according what they explain, no visual representations appear; and yet there is no doubt that they remember auditory, gustatory and other types of phenomena very well. They don’t need visual images. In any case, in

the blind the representations of the other senses appear as spatially located.

This is a good time to make a few observations on the structuring of the consciousness and the space of representation, and on some errors that take place in their work. According to whether the impulses that arrive to the consciousness are worked on by one or another of the mechanisms of abstraction, classification, divagation or directed imagination, different translations will be obtained that formalize multiple representations. As for the errors of work of the consciousness, we can consider them as different from the *errors that occur in the relationship between the consciousness, senses and memory, which we generically term "dysfunctions."* *Hallucination, for example, is not a dysfunction but an error of the coordinator.* It is produced when representations appear that are "projected" and perceived "outside" the consciousness, and they are experienced as real objects or situations emplaced in the external world, with the characteristics proper to the phenomena that are perceived with the senses. In this sense, *all phenomena produced in the levels of sleep and active semisleep are hallucinatory phenomena, because of the powerfully suggestive register of reality they present to the observer, whose point of sight is "outside" the scene, in a way that is similar to vigil.*

Hallucinations (in vigil) are configurations performed by the consciousness over the basis of memory. *They usually appear in situations of acute exhaustion; because of lack of stimuli; in certain illness and in situations where there is danger of death. They are frequent in the case of physical debility and in cases of emotionated consciousness (which we will discuss further on), in which the coordinator loses its capacity for displacement in time and space.*

As dysfunctions of the consciousness in relation to the senses, we can mention the inability to coherently relate data, when data from one pathway are attributed to another.

There are numerous dysfunctions of the consciousness related to the memory, and they occur in the different levels of consciousness. It can be affirmed that the different levels have the function of compensating the mass of information, occasionally giving structuring responses or, rather, compensatory responses. This makes us think that if a phenomenon falls within the field of one level of consciousness, it immediately tends to be structured, related with others. From this level, a compensatory response is also immediately generated. These are levels that are subjected to successive disequilibria due to the irruption of new phenomena.

In the level of deep sleep, the work of the external senses is minimal. There is no other information from the external environment other than what gets over the threshold imposed by sleep itself. The work of the cenesthetic sense is predominant, contributing impulses that are translated and transformed by the work of associative mechanisms, giving rise to oneiric images, the images of sleep. The characteristics of the images at this level are their great power of suggestion, their great hypnotic capacity. Psychological time and space are modified with respect to vigil. The act-object structuring frequently appears with no correspondence among its elements. A specific object is searched for and another arises that completes the search in an extraordinary way. Likewise, climates and situations tend to become independent of each other, such that the acts of consciousness in the different levels do not coincide with the objects of consciousness, as occurs in vigil. Aside from this, the charges that accompany representations of the level of deep sleep become independent from the objects, that, in vigil, would maintain a closer connection. The disappearance of criticism and self-criticism is typical in sleep, but as the level of consciousness rises, these mechanisms augment their work.

The inertia of the levels and the ambit in which the phenomena are located cause the mobility of the levels and the passage from one level to another to be gradual, more-or-less slow, and have a certain continuity. In this way, the exit from and entry into sleep are done by passing through semisleep, and cases of direct passage from vigil to sleep—without minimal registers of the passage through the intermediary levels—are quite extraordinary. If, starting from the level of sleep, a subject awakes in a state of alteration, the inertia of the previous stage of semisleep will operate in this case of vigil, dragging contents from the preceding moment.

In the level of semisleep, which precedes vigil, the external senses begin sending information to the consciousness—information that is not totally structured, because there is also interference from reveries and the presence of strong cenesthetic register. The contents of sleep lose their suggestive power, though they continue to appear, due to a sort of semi-vigilic perception which already provides new parameters, supplies new references. The suggestibility continues to act, above all in the case of certain very vivid images that we call "hypnogogic images." On the other hand, the system of intermittent reveries reappears. It is in this level where the reverie nucleus and the secondary reveries can be more easily registered, at least in their climates and basic tensions.

The level of semisleep has different characteristics, depending on whether it acts in pre-sleep (dragging contents from vigil), or in post-sleep (dragging oneiric contents). It is also possible to observe the case of an altered state of consciousness that occurs only under certain conditions. The reverie mode that characterizes this level (we continue to speak of semisleep) is usually transferred by the action of inertia to vigil, providing the raw material for divagation although elements of vigilic perception can also be present. Surely, in the transit from one level to another, the space of representation becomes modified as well as the subject's emplacement of himself in this space. In this ambit the coordinator can already perform some coherent operations. We also mention that this level is highly unstable and therefore easy to disequilibrate and alter. We also find the states of passive and active semisleep. Passive semisleep offers an easy passage to sleep, as though the subject allowed himself to simply "fall" and collaborates with a system of progressive relaxation. On the other hand, we speak of active semisleep, when semisleep is predisposing itself toward vigil. This state can be converted into an "altered" one when one passes to a "false vigil," because the system of relations with the external world has been connected but without relinquishing the system of ideation of semisleep.

In vigil the external senses contribute a greater flow of information, regulating the internal senses by inhibition and making it possible for the coordinator to orient itself toward the world in the psychism's compensatory work. Here the mechanisms of abstraction, the mechanisms of criticism and self-criticism operate, attaining high levels of manifestation and intervention in the tasks of coordinating and registering. The reversibility mechanisms, which were manifested minimally in the preceding levels, can function extensively here in vigil. The force of suggestion of the infravigilic contents diminishes with the expansion of the system of references based on external data. There is a tone of active vigil that can be attentive, with maximum management of apperception, and there is also a tone of altered vigil. Passive vigil can also be attentive or altered. In this last case, silent divagation appears, and the more-or-less fixed reveries.

There are numerous relationships between levels that produce reciprocal alterations. One level cannot act over another, nor can a transfer of charge take place from one level to another, without the level being affected. Any level that acts over another ends up being affected in turn. At least four factors can be cited that affect the relationship between levels. We call one of them "inertia," another "noise," another "rebound," and another, "dragging." Let's talk a little about inertia. Each level of consciousness tries to maintain its own level of work and sustains its activity until it finalizes its cycle. We already talked before about how, in general, all of this was subject to cycles. And of course, vigil tries to stay in vigil for a cycle, during a more-or-less adequate length of time—the time when people carry out their daily activities. When fatigue increases (not just muscular but deep fatigue), then vigil's cycle is already declining. But until then, in full vigil this state tries to maintain itself.

The following cited cases are the consequences of each level's structural inertia, which tends to maintain itself and extend its characteristic type of articulation. The case of "noise" takes place when the previous level's inertia appears as a background of perturbation in the superior level's work. The inertia of semisleep appears as a background of perturbation in the state of vigil, which the subject has reached upon waking. As noise, we can distinguish emotional climates, tensions, and contents that do not correspond to the coordinator's work at a given moment. The "rebound effect" arises as the response of a level into which contents from another level have been introduced, after overcoming the defenses of inertia or upon reaching the defenses of inertia. Thus there can be a content that moves around and when it reaches a certain level it meets with strong resistances it encounters "the level's defenses." We say that the content "rebounds" —it returns to its original field. On occasion, contents, climates and tones that are proper to a level move around and remain in another level as "draggings." The previous level is no longer there, but what had been visualized in that level is transferred and remains behind in another level as a "dragging." Persons who wake up altered by a dream that came before are already in full vigil, and they maintain the images of the dream or the climate that the dream happened in—they maintain it as a dragging in vigil, and for quite some time.

There are important cases of climates, tensions or contents that are fixed in the psychism, that are dragged for a long time and appear in the different levels. These are cases of dragging, not from one level over another, but rather of a fixed content that appears in the different levels of consciousness and that can appear with different images but with the same characteristic climate. We are talking of dragging in a very generic sense

We must make some distinctions between tones, climates, tensions and contents. "Tones" are

considered in relation to energetic intensity. The operations in each level can be effected with greater or lesser intensity, with greater or lesser tone; and on occasions a tone can be converted into a factor of noise. Too much volume in an activity makes it disproportionate in relation to the context of the other activities. We have always called "climates" (at least in the language we are using here), "mood". Because of their variability, climates appear intermittently and can cloak the consciousness for a certain length of time, tinting all its activities. We must differentiate these mood states, which have a strong emotional charge, from the emotional operations that accompany the entire functioning of the psychism. If the mood state, the emotional background is of distaste in general, whatever the object is that falls into that field, it will take on the characteristics of distaste. The climates can be fixed in the psychism and perturb the entire structure, impeding mobility and displacement toward other, more opportune climates. These fixed climates circulate through the different levels, and in this way they can pass from vigil to sleep, continue there, return to vigil, and so on, for a long time. All this is different from the situational climates that appear in precise situations. "Tensions" have a more physical, more "corporal" root. Of course everything is corporal, but these tensions have a more "corporal" root in the register that one has of them, since we perceive them directly in our musculature. Climates, on the other hand, are registered diffusely. The connection of these tensions to the psychism is not always direct, since muscular relaxation is not always accompanied by mental relaxation; rather the consciousness can continue having its tensions and alterations while the body has already obtained a state of relax. This is of some importance when we consider the systems of discharge of tensions. People tend to believe that a physical, muscular discharge is always correlated to mental distension—sometimes this isn't so. At times a curious contradiction is produced in the subject who physically experiences that discharge of tensions, and yet, continues to undefined tensions.

We should keep in mind how this circuit of senses, memory, coordinator, levels and centers is integrated. The connectives between the senses, memory, consciousness and centers reveal important aspects of the psychism's functioning. These connective circuits work interregulatedly. They are regulated among themselves, adjusted among themselves in continual dynamic, thus leading the entire psychism toward a complex self-regulation. When the coordinator performs apperception of a perception, for example, evocation is inhibited. The coordinator is now attentive to an object of perception, and, in the meantime, while it is attentive to that object, the data that the memory mechanically supplies are blocked. You will say that, in any case, the memory supplies information so that the datum that is coming from perception can be recognized. But the evidence disappears of the memory's operations, hence the door is opened for the entry of perception and the attention is directed toward it. Inversely, apperception of the memory inhibits perception. Observe even a subject's gaze when he is evoking—he tends to shut his eyelids, he tends to lessen the activity of external senses. And on the other hand, observe what happens in disturbed minds when processes that ought to be interregulated and compensated are mixed together. The contrary happens—the subject is immersed in an evocative world and their gaze becomes fixed, glassy and blank, giving one to understand that a kind of hallucinatory activity is taking place, in which what is happening in their evocation is transferred to the objectal world, cloaking it, as if external information were being received.

When the external senses are operating, the entry of internal stimuli is slowed down, and vice versa. The greatest interregulation manifests in the changes of level of work, when, with the fall into sleep, the reversibility mechanisms are blocked. As our level of consciousness goes down, the reversibility mechanisms are progressively blocked and the associative mechanisms are then powerfully released.

There is also automatic interregulation between the senses. When sight expands its mean threshold, touch, smell and hearing diminish, and the same thing occurs among the other senses. The eyes close so that one can hear better, etc.

As for the space of representation, where there are images that come from different senses, very interesting phenomena occur. As the level of consciousness drops, the dimensions of the space of representation expand and it becomes "volumetric." This is so because, as the level of consciousness descends, the register of the external senses diminishes and the internal cenesthetic register expands. And so, as one descends in level, along with the increased register of the signals from the entire intrabody there is likewise an increased translation of the volumetric configuration of the mental space. The latter acquires greater dimensions and amplitude. As the level of consciousness rises, the signals coming from the cenesthesia are dimmed, they diminish and the confrontations begin with the data from mental operations and the data from the external

senses. Therefore, *the rise of the level of consciousness signifies the “flattening of the space of representation,” lack of register of the other configurations that are effected in the deeper levels.*

Of course the space of representation operates in full vigil, but instead of acquiring volume this space is “flattened,” marking the differences in the representation of internal and external phenomena. Just the same, it also has its depth. When I represent in full vigil a phenomenon that is behind me, I represent it in a sort of mental space, which, in this case, includes the area behind my head, even if there are no eyes there. Since the eyes and the other external senses are emplaced in the external and anterior surface of the body, when a type of representation such as we have mentioned occurs (i.e., seeing what is behind me), I have references so as to mark the differences between the phenomena of external perception and those of internal representation. This doesn't happen when we descend in level and we can observe the phenomenon in any direction, because the cenesthetic register come from all directions. Then I can see myself, as in dreams, from the outside, as though I was perceiving myself from the registers that I have in different parts of the space of representation. Upon observing the representations in a space that is different from vigilic space (i.e., the space in the level of sleep), such contents appear as if they were outside the observer, since the observer is (as a point of view) emplaced on the periphery of the space of representation, acting as a “container” of the represented objects. But it happens that oneself (as representation) can be placed within that space and be observed from the limits of the container. Of course, that “oneself” can be represented in different ways: as a visual image, or as a sum total of non-visual registers. In the vigilic level the external world is observed as unincluded in the space of representation, and “oneself” is identified with the point of view that appears at the other extreme of the relationship, being excluded from the world whence the perceptions come, except in cases of hallucination while in vigil, in which the space of representation is modified and internal contents are “projected” to the external world, and are consequently taken to be perceptions coming from the external senses. And if this happens it is, in turn, because the reversibility mechanisms have blocked, altering the level of consciousness.

7. Impulses: Translation and Transformation

Morphology of the impulses: Signs, Symbols and Allegories

The impulses that arrive to the coordinator from the senses and the memory are transformed into representations, into images. The consciousness processes these structures of perception and reminiscence to elaborate effective responses in its work of equilibrating the external and internal environments. While a reverie is an image -response to the internal environment of the consciousness, a motor displacement is a movement-response to the psychism's external environment, and the displacement is also led by images. In the case of intellectual ideation carried to signical levels, we have another type of image -response that will fulfill communication functions, as is the case of language. But we also know there are certain signs and pure, abstract ideas that revert to the interior of the psychism.

On the other hand, any representation that arises in the coordinator's field of presence calls forth associative chains between the object presented and its copresence. Thus, while the object is captured in precise detail in the field of presence, in the field of copresence there are relationships with objects that are not present but are linked to it, and memory plays a fundamental role.

The theme of impulses is of importance because of the coordinator's particular way of working with representations, which it does through two pathways. Through the *abstractive pathway* it operates by reducing phenomenal multiplicity down to its essential characteristics. Whether the phenomena are from the external or internal world, there is abstractive activity, on the one hand, and *associative activity* on the other. The representations are structured on the basis of similarity, contiguity, contrast and other lesser forms, with different orderings established according to the level in which they operate.

Starting from these two pathways of abstraction and association, the consciousness organizes images within a space of representation. These images are connections between the consciousness that forms them, and the phenomena of the objectal world (internal or external) that they are referred to. There would be no communication between the objectal world and the consciousness if these phenomena did not exist, which have started out as impulses from some of the pathways that produce these images, which are emplaced in the level that corresponds to them

on the space of representation, and fire their signal at the corresponding center so that the transformed signal can be manifested to the external or internal world.

The impulses will be powerfully translated and transformed before reaching the consciousness; before arriving to the abstractive and associative apparatuses, according to the previous sensory conditions, and later, according to the work of the levels of consciousness. We are saying that the impulses that start out from the sensory apparatus and arrive to the consciousness, and in the consciousness open up the abstractive pathway or open up the associative pathway, even before arriving to the consciousness these impulses may be transformed or translated. Upon being transformed or translated, they open up the different pathways with information that does not exactly correspond to the datum that arrived to the sense. The same will occur with data coming from memory; they open up the associative or abstractive pathways in the consciousness, but before reaching it they have undergone translations and transformations.

Let's point out once more that impulses spring from each sense that are later translated into the corresponding images, although such images are not visual (except, of course, those of sight). All the senses fire off their sensory impulse, which will be translated into an image that corresponds to the sense: auditory images, tactile images, cenesthetic images, etc. In this way, the cenesthetic impulses will produce images, but the phenomena of translation and transformation phenomena will complicate things to the point where images will appear that correspond to one sense, when in reality such images have come from the impulses of another sense. Thus, for example, an internal cenesthetic datum arrives to consciousness and opens up an associative or abstractive pathway, but this datum, on arriving to the consciousness, appears or is configured as a visual image, when in reality its primary source was cenesthetic. Cenesthesia does not inform with visual images; however there has been a transformation of the impulse and it has arrived to the consciousness. The primary datum was cenesthetic but now a representation appears that is visual, auditory, or of another type. It is very difficult to follow the impulse in question, precisely because of the transformations that take place along the way. This has prevented people who are concerned with these matters from comprehending how it is that the psychic apparatus functions, what the mobility that an impulse has is like, how it is transformed, how it is translated, and how its final expression takes place, that is so distanced from the conditions that originated it.

The problem of pain acquires another valuation when the comprehension is attained that what produces pain in one point can be illusorily transformed, translated, and new deformations experienced in the evocation. As for suffering—this time we do not refer to pain—the same considerations apply, since when the impulses are transformed into images that do not correspond to each other, they will mobilize responses that likewise do not correspond to the initial impulses of suffering. And so the problem of pain and suffering considered simply as sensations has its mechanics, but since the impulses arrive deformed and transformed in their representations, it is necessary to appeal to the work of the imagination in order to comprehend them in their totality. Consequently, it isn't enough to explain pain simply as sensation. It is necessary to comprehend that this painful or agonizing sensation is transformed and translated by the imagination and also by the data coming from the memory. Pain and suffering end up becoming powerfully deformed, translated and transformed by the imagination in general. And so many sufferings do not exist anywhere, except in the images that are translated and transformed by the mind

We will speak of the impulses produced in consciousness in a characteristic way, after having taken specific routes known to us as the abstractive and the associative pathways. These impulses in the consciousness could open up other channels, but we will be concerned with just those two.

When the impulses reach the consciousness, they are structured in a characteristic way, that structuring depending, among other things, on the level of work that the consciousness is in at that moment. The images that will later be produced have been structured in a characteristic way. In general we call these structurings that are carried out with the impulses, "form." If forms are conceptualized as entities separate from the psychological process, they can finally be considered as having an existence in themselves, and it can be believed that the representations are meant to fill these forms. There a few ancients who thought like this, that such forms existed and that internal processes then arrived to fill up the forms. In reality, forms are mental ambits of internal register that make it possible to structure different phenomena. When we speak of the "form" of an internal phenomenon of consciousness, we are mentioning the particular structure that the phenomenon has. We don't speak of independent "forms"; rather, we speak of how the phenomena are structured. Common language refers to this in a simple way: People say, "Things are organized in a special way." Or, "Things are done in such a way, in such a manner." This is what we refer to when

we speak of form. And we can identify forms with images, once these images have left the associative or abstractive pathways.

We can speak of forms as structures of perception, for example. Each sense has its form of structuring the data. The consciousness will later structure the data with characteristic forms that correspond to the different pathways. For example, there can be different forms of one same object, according to the channels of sensation that are used, according to the perspective with respect to the object, and according to the type of structuring that the consciousness effects. All those forms that are had of the same object can make the object appear to us as different from itself, as if different objects were concerned, according to whether that object was perceived by the ear, for example, or by the eye. Apparently two different objects are being dealt with, because the data from the object is structured in different ways.

In learning there is somewhat of a problem, because in the measure that a total image of the object is being obtained, different perceptual forms must be made to agree. And thus, I am surprised upon hearing the sound of an object that does not coincide with its (auditory) image, that seemed to me was the corresponding one. I have held the object in my hands and I have taken note of its weight; I have observed it visually, but the object falls to the ground and emits a sound that it would not have occurred to me to represent. What shall I do then with data that is structured in such different ways—with auditory, tactile, olfactory sensory data, etc.—to make them match in my structure of consciousness? This is possible because this entire diverse system of perception is structured within a form of perception that is linked to internal registers. When I recognize an object, I say that it can use different signals, different signs that are codifications of register. When I have a codified register of an object and the object appears before my perception, I can consider it complete even if I only have one sector of its totality. Signs awaken codified registers in me. The signs of language are not just signs. I hear a word and, after I consider it conceptually, I can say about it that it is an expression with a meaning. But considered from the structure of the consciousness, the word that arrives is an impulse whose register—for me—is codified. And so a word sets diverse activities of my mind in motion because it releases the corresponding register, and another word releases another type of register, and so on. But it happens that these expressions that reach me are structured with a specific form. Many words articulate phrases, they articulate sentences, they articulate a grouping, and these groupings function at times as codified signs. It will no longer be a matter of my considering the word “house” as a sign, because it is codified as a register in me. Now there will be an entire grouping of words that is codified in a structured way, such that these structures, these forms of organizing language, also appear as codified in me.

The different levels of consciousness each provide their own formal ambits. This means that the different levels of consciousness structure the data that arrive to my consciousness in a different manner, a different form. Each level proceeds as the most general structure of ambit, and it (that level) is linked to characteristic forms. The forms that emerge in the consciousness will depend to a great extent on the level that is setting down its structuring ambit. The stimulus becomes converted into form—that is, the stimulus will be converted into an image when the consciousness structures it from its level of work. Thus, one same stimulus will be translated into different forms, into different images. And these images can be moved around in the consciousness.

Since the sign codified in me appears again, I recognize it and it appears in a characteristic form located on my space of representation. My consciousness can perfectly well transfer the image that has come from one sense into images that correspond to other senses, because, for the purposes of recognition, a single characteristic or band of perception can be enough to structure the whole object. Thus it could happen that a datum coming from the eye could be internally transferred to a datum coming from the ear. In other words, translation could operate in the consciousness of a perceptual datum as though that datum had come from another sense. Thus, though the sign may awaken different images, there is correspondence among themselves as to their location in the space of representation, and insofar as the function they will later fulfill as images when they are fired at the corresponding centers. In this case, in which I hear the crackle of fire nearby and I see the fire very close by, I smell the fire very close by—in all these cases, the perceptions that reach me through different channels are structured in a characteristic global representation, and all the perceptions are interchangeable, able to take each other's places. Replaceable among themselves, and therefore translatable. They are emplaced at the same level of representation, ready to trigger the same type of danger warning. And so if I hear, smell, or see the fire, these initial perceptions can be translated. The displacement of the external perceptual

data sets my internal register in motion. If I observe a line in space and my eye follows the line in a direction, I will also note that displacement in my internal register. In this way, what is happening in the eye is happening in my internal space of representation. Therefore it won't be a matter of indifference what type of images appear outside, since the corresponding image will follow specific movements, it will be emplaced at different points and depths of my inner space. And so it would be enough to study what the eye does as it follows certain phenomena of perception to comprehend what is going on internally in my system of register.

Signs

There is what is conventionally called "*symbol*" and what is called "*allegory*," even though neither of these representations has been defined with much precision. Internally, *a symbol is an image that arises from the abstractive channel, and an allegory is an image that arises from the associative channel.* The two differ as to their structuring and their general form. The images that have started out from the abstractive pathway are reductive, they are divested of secondary characteristics, they synthesize a number of characteristics or they reduce the most essential of all the characteristics present to an abstraction; whereas the images that correspond to the associative pathway are multiplicative images.

There are also representations that perform the function of encoding registers. We call them "signs." In this sense, the word, for example, is a sign that is codified, that summons up a type of register in me, and, besides, awakens an array of phenomena and processes. If you say to a person: "fire," they probably won't perceive anything more than the word 'fire,' but since that register is codified, a complex system of reactions will be activated inside them; and with each word that is launched, with each sign, that encoding and the codifications immediately associated to it are evoked.

Of course the signs come from different pathways. For example, I can establish a signical system of relations with another person by moving my arms, gesticulating in a certain way. If I gesticulate in a certain way in front of a person, the person receives that internally encoded datum. And what happens with that datum's internal codification? It activates in their interior the same process that has given rise to the image in the other who had launched the sign. Thus, a phenomenon is produced of an unfolding, in which we finally arrive at same register. If the same register were not to arrive, there would be no possibility of communication between the two people. And if someone indicates something to me with a gesture, I must have the same internal register of that gesture as the other person, otherwise I would be unable to comprehend the significance of that operation for them. It is thanks to the codified registers that relationships can be established between people. Whether it is a matter of words, of gestures, of looks, or of general body postures, in every case we are talking about signs that establish communication because the same codification of register is had of them. With one sole gesture, for example, a complex system of codified registers can be triggered. With a single gesture, for example, it is possible to make another person feel very uneasy.

We can speak of *signics* and study it in the world of human communication. Expression and meaning form a structure and are inseparable. When the meaning of an expression is unknown, it loses its operativity. Expressions that allow for different meanings are understood by context. A sign can be the expression of a meaning, or it may signal through its associative character. Signal codes are implemented using signs that indicate objects, phenomena or activities. It is clear that both symbol and allegory can perform signical functions. In the first case, an inverted triangle on a signpost along a roadside can indicate road work by a public works entity. In the second, a lightning bolt drawn on a sign attached to a fence may indicate "Danger: Electric Hazard."

Our interest is focused on the internal signs, or such signs as trigger registers codified in oneself. Just as a gesture is launched outwards as a sign that the other interprets, so too, numerous signs, symbols and allegories can be emplaced in the external world and interpreted by others.

Symbols

A point, in external space, will function in the same way as a point in the internal space of representation. We verify that perception of a point without references makes the eye move in all directions, since the eye searches for perceptual parameters in order to frame it. The same will

happen to a point of representation. Before an imagined point, parameters will be searched for, references, even if in reference to the borders of the space of representation. The point will go up, will go down, will go to one side or to the other; an effort can be made to maintain that point, but it will become apparent that the “internal eye” will search for references within the mental space. Hence, a point without references makes the eyes move in all directions.

A horizontal line leads the eye in that direction, in the horizontal direction, without much effort. But a vertical line provokes a certain type of tension. In the space of representation, the displacement of the image through “heights” and “depths” presents greater difficulty than horizontal displacements. Internally, a constant “horizontal” movement could be followed that would end up returning to the original position, whereas it would be more difficult to “go up” and, circularly, arrive from “below” back to the point of origin. So, too, the eye can move with greater ease in a horizontal direction.

Two lines that intersect lead the eye to move toward the center and stay framed.

The curve leads the eye to include space. It provokes the sensation of limit between what is internal and external to it, sliding the eye toward the area included inside the arc.

The intersection of two curves fixes the eye and makes the point arise again.

The intersection of a curve and a straight line fixes the central point and breaks the isolation between the spaces included and excluded in the arc.

A straight broken line breaks the inertia of the eye’s displacement and demands increased tension in looking. The same occurs with discontinued arcs. If a horizontal line is observed in the space of representation and this horizontal line is broken and made to descend, the inertia that the phenomenon has been sustaining is broken, is halted, producing an increase of the tension. If the same thing is done with the horizontal, but it is broken upwards instead of downwards, another type of phenomenon will be produced. However, in any case the inertia will be broken.

The repetition of equal segments of discontinued straight or curved lines once again places the eye movement in a system of inertia; therefore, the tension in the act of looking diminishes and distension is produced. That is, the pleasure of the rhythm registered in the curves that repeat or in the segments of straight lines that are repeated, and that has been so important for decorative aims. Also in the case of the ear, the effect of rhythm is easily verified.

When straight lines and curves end up connecting together in a circuit, *the symbol of the frame and the field appears. In the space of representation, the major frame is given by the limits of said internal space; but, of course, it is variable. In any case, its limits are the major frame. What takes place inside that frame is in the field of representation. Taking, for example, a square and placing a point within its field, a different system of tensions will be noted, depending on whether the point is close to a discontinuous straight line (an angle of the square), or is equidistant to all the angles. In the second case, a kind of equilibrium is made evident. That point can be removed from the square and placed outside of it, verifying a tendency on the part of the eye to include it inside the field of the square. Surely this will be repeated in the internal representation.*

When straight lines and curves separate from the circuit, a symbol of expansion emerges (if their direction is toward aperture), or a symbol of contraction (if their direction is toward closure).

An elementary geometric figure acts as referential of manifest centers. There is a difference between manifest center (where lines cross) and tacit center (where the eye directs itself without direction from lines). Given a square, the tacit center arises in the crossing of its diagonals (even though the lines are not drawn), but it becomes manifest when a point is placed there. Manifest centers thus appear when curves or straight lines are cut and vision becomes stagnant. Tacit centers are those that appear as though they were placed there, operating as though the phenomenon existed. No such phenomenon exists, but the register of stagnant vision does.

In the circle there are no manifest centers. There is only a tacit center—that which provokes eye movements toward the center.

The point is the manifest center par excellence. Since there is neither frame nor tacit center, this center moves in any direction.

The void is the tacit center par excellence. Since there is neither frame nor manifest center, this center provokes a general movement toward itself.

When a symbol includes another symbol in its field, the second is the manifest center. Manifest centers attract the eye toward themselves. A manifest center placed in the space of representation attracts all of the psychism’s tensions toward itself.

Two centers of tension provoke a void in the tacit center, displacing vision toward both poles, and, later, toward the center of the void, creating intermittent tensions.

Within the field of a frame-symbol, all the symbols are in relationship, and placing one of the symbols outside the frame establishes a tension between it and the set that is included. With the space of representation as the major encompasser, this same thing happens. All the images tend to be included presently in the space, and the copresent images will tend to express themselves in that space. The same thing occurs among levels in their relationship of images. And in the space of representation there could be a certain image (an obsessive image, for example) that prevented the approach of other representations. Moreover, this happens when the attention is actively trained on a content, thus preventing the interference of others. But there could be a great void that would allow deep contents that arrive to its field to easily manifest themselves.

Symbols external to the frame are related among themselves only by their reference to the frame.

Signs, allegories and symbols can mutually serve each other as a frame, or serve as a link between frames.

Curves concentrate vision toward the center, and points disperse the attention to outside the field.

Color does not modify the symbol's essence, though it gives it weight as psychological phenomenon.

The symbol's action of form is effected to the extent that said symbol is registered; that is, if someone is placed inside a room and does not know that it is cube shaped, spherical or pyramidal, then the action of form does not take place. But if someone knows or believes (for example, experimentally, with their eyes blindfolded) that they are included inside a pyramidal room, then they will experience very different registers than if they believe they are in a spherical room. The phenomenon of the "action of form" is effected, not by the form itself, but by the representation that corresponds to the form. These symbols that operate as containers will produce numerous tensions in other contents. They will give dynamic to some, they will include others, others will be excluded by them, etc. Summing up, a specific system of relationships will be established among the contents, in accordance with the type of symbolic containers that they configure.

Allegories

Allegories are agglutinations of diverse contents in a single representation. Due to the origins of each component, allegories are usually understood as representations of "imaginary" or fabulous beings—an example is a sphinx. These images, though fixed in one representation, fulfill a "narrative" function. If "Justice" were mentioned to someone, it could be an expression they had no register of, or it could have several meanings that would be presented in associative chains. If this were the case, "Justice" could be represented for that person as a scene where different people performed judicial activities, or perhaps as a blindfolded woman with a balance in one hand and a sword in the other. This allegory would have synthesized the diverse, presenting a sort of narrative in a single image.

In the space of representation, allegories have a curious aptitude for moving, modifying themselves so as to transform themselves. While symbols are fixed images, allegories are images that go about transforming themselves, that carry out a sequence of operations. It is enough for an image of that nature to be released for it to take on a life of its own and start performing operations divagationally, whereas a symbol located in the space of representation goes against the current of the consciousness's dynamic, and an effort is required to try to sustain it without divagations that would transform it and make it lose its properties.

An allegory can be taken from the interiority and placed outside, for example, like a statue in a square. Allegories are transformed narratives in which the diverse is fixed, or multiplied by allusion; but also where the abstract is concretized. The allegory's multiplicative character is clearly linked to associative processes.

To comprehend the allegory, it is a good idea to review how ideas are associated to each other. In a first case it is said that *similarity* guides the mind when it searches for what is similar to a given object; *contiguity*, when it searches for what is proper to it, or for what is, was, or will be in contact with a given object; *contrast*, when it searches for what is in opposition or in a dialectical relationship with a given object.

We observe that the allegory is powerfully situational. It is dynamic and relates situations referred to the individual mind as happens in dreams, in some personal divagations, in pathologies and in mysticism. However, this also happens to the collective psychism, as in stories, art, folklore,

myths and religion.

Allegories fulfill different functions. Allegories tell of situations, compensating difficulties of total grasp. When a phenomenon appears and is not adequately comprehended, it is allegorized and a story is told instead of making a precise description. If what happens when it thunders is not well understood, it is probable that a story will be told about someone running through the heavens; if it is not understood how the psychism functions, then stories and myths will come in order to explain what is happening in oneself.

By capturing situations allegorically, it is possible to operate over real situations in an indirect way, or at least, so the allegorizer believes.

In allegories the emotional factor does not depend on the representation. In dreams allegories arise which, if they had an exact correspondence with daily life, would trigger typical emotions. However, in dreams emotions are triggered that have nothing to do with the representations that are acting.

One example: the dreamer sees himself tied down over a railroad track. The roaring locomotive rushes toward him, but instead of feeling desperate, the dreamer starts laughing so hard that he even wakes up in surprise.

An internal state can be allegorized and one can say, for example: "It's as if I could feel myself falling down a tube." The inner sensation that is experienced and registered is a kind of desperation, an emptiness, etc., but it can be allegorized as "falling down a tube."

To understand an allegorical system it is necessary to bear in mind the climate accompanying the allegory, because the climate is what will point to the meaning. And when there is no agreement between image and climate, we must be guided by the climate and not by the image to understand the profound meanings. When the climate is perfectly intertwined with the corresponding image, there is no problem with following the image—which is easier to follow. But in case of discord, we would always be inclined in favor of the climate.

Allegorical images tend to displace energy toward the centers so as to effect a response. Of course, there is a system of tension and a system of discharge for these tensions; and the allegory goes about playing the role of "connective red blood cell" that carries charges along the stream—in this case, through the circuit of the consciousness. When there is a translation of these charges, of the allegory that acts over a center an energetic manifestation is produced. Such energetic manifestations can be recognized in intense expressions such as laughter, crying, the sexual act, aggressive confrontation, etc. These are the most adequate means for the alleviation of internal tension, and when allegories arise they normally tend to fulfill the function of discharge.

Considering *allegorical composition*, one can prepare a type of inventory of the resources one can make use of. Thus we can speak of the "containers," for example. The containers guard, protect or enclose what is in their interior. The "contents," on the other hand, are those elements included within an ambit. The "connectives" are entities that facilitate or hinder the connection between contents, between ambits, or between ambits and contents. The "attributes," which can be manifest or tacit (when they are concealed), refer to the properties of allegorical elements or of the total allegory. We also point out the "levels," "textures," "elements," and "moments of process." These moments of process are allegorized as ages, for example. Finally, we should mention the "transformisms" and the "inversions."

On becoming interested in an allegory, upon attempting to comprehend an allegory, we try to establish certain *rules of interpretation* that can help us comprehend what the allegory means and what function it is fulfilling in the economy of the psychism.

1. When we want to carry out an allegorical interpretation, we reduce the allegory to a symbol in order to comprehend the system of tensions that the allegory is emplaced in. The symbol is the container of an allegory. Thus, if in an allegorical system several people appear who are arguing in a town square (square or oval shaped, for example), the square is the major container (with its special system of tensions, according to its symbolic conformation), and in its interior are the people arguing (contents of that symbol). Symbolic reduction considers the town square as a container that imposes its system of tensions on the situation (for example, bifocal tension if the town square is oval shaped), in which contents are deployed in a conflictive way (people arguing).

2. We try to understand the allegorical raw material; that is, what channels the main impulse comes from. Does it come from the senses (and from which sense or senses?), or from the memory? Does it come from a mix of senses and memory, or does it come from a characteristic state of the consciousness that tends to carry out these selective articulations?

3. We try to interpret on the basis of the associative laws, based on commonly- accepted

patterns. Thus, when we interpret these associations, we must first ask ourselves what the allegory means, what it means for us. And if we want to interpret an allegory placed in the external world, such as a picture, for example, we should ask its producer what those allegories mean to him. But we could be separated by many hundreds of years from the allegorizer, and with our epochal or cultural meanings it would be difficult for us to interpret what it meant for the economy of the allegorizer's psychism. However, we could come to intuit or have information on the meanings that were proper to that era. We therefore say that it is always good to interpret in accordance with associative laws and on the basis of commonly-accepted patterns. And if a social allegory is studied, one must investigate its meaning by consulting persons who are or have been agents of such allegorical system. They will be the ones who will clarify the significance and not us, since we are not, nor have we been, agents of that allegorical system; therefore we would "infiltrate" our contents (personal or cultural), into the meanings, deforming them. An example: Someone tells me about a portrait that an old lady comes out in. If upon my asking him what the old lady in the picture means to him, he replies, "Kindness," I will have to accept it and it won't be legitimate for me to provide a different interpretation by introducing my own contents and system of tensions. If I ask someone to tell me about the allegory of the kind old lady, I will have to accept what they tell me; otherwise I would dictatorially and illegitimately be ignoring the other person's interpretation, preferring to explain everything according to what happens to me. Therefore, if the allegorizer speaks to me of "kindness," I have no reason to interpret that "kindness" as a repressed and deformed sexual content. My interlocutor isn't living in a sexually repressed society like nineteenth-century Vienna; he isn't a participant of the Neoclassical atmosphere of the Preciosists who read the tragedies of Sophocles—he is living in the twentieth century in Rio de Janeiro, a participant, in any case, in a neo-pagan cultural atmosphere. And so the best solution will be for me to accept the interpretation given me by the allegorizer, who lives and breathes the cultural climate of the city of Rio de Janeiro. We are well informed of where the interpretations of certain psychological and anthropological currents have ended up, which substituted the narratives and interpretations of people who were directly involved, with the researcher's special devotions.

4. We try to comprehend the plot. We differentiate between plot and themes. A plot is the story, but within the story there are specific themes. Sometimes the themes remain and the plot changes; or the themes change but the plot is always the same. This occurs, for example, in a dream or in a sequence of dreams.

5. When the climate and image coincide, one follows the image.

6. When climate and image don't coincide, the guiding thread is the climate.

7. We consider the reverie nucleus, which appears allegorized as an image or as a constant (fixed) climate, through different allegorizations and through the passage of time.

8. Anything that fulfills a function is the function itself and no other. If in a dream one kills with a word, that word is a weapon. If with a word one revives or cures someone, that word is an instrument for reviving or for curing—no something else.

9. It is a matter of interpreting color, recognizing that in allegorical representations, the space of representation goes from dark to light, such that as the representations climb up, the space itself grows lighter; and as they go down, the space darkens. In all planes of the space of representation, different colors with different gradations can appear.

10. When one comprehends the composition of the different elements that configure an allegorical system, when one understands the relationship between the components and when one can make a synthesis on the function that is fulfilled by the elements and their relationships, then a level of interpretation can be considered to be resolved. Of course one may study new levels of interpretation in greater depth if necessary.

11. To understand an allegorical system's process and unfolding, various interpretative syntheses must be achieved over time. Thus, a complete interpretation at a given moment cannot suffice if one is unable to glimpse the process or the tendencies toward which the allegorical system in question could proceed. It may be necessary to have access to various interpretations through time.

8. Operative

This mental space, which exactly corresponds to my body, can be registered by me as the sum total of cenesthetic sensations.

This “second body” is a body of sensation, of memory and of imagination. It has no existence in and of itself, though on occasion some have tried to give it a separate existence from that of the body. It is a “body” that is formed by the sum total of sensations from the physical body; but depending on whether the energy of the representation goes to one point or to another, it mobilizes one part of the body or another. And so, if an image is concentrated in a level of the space of representation—more internal or more external, at one height or at another—the relevant centers are set in motion, mobilizing energy toward the corresponding part of the body.

These images that arise do so, for example, because of a specific corporal tension, and then we will look for the tension in the body, in the corresponding point.

But what happens when there isn't that tension in the body, and yet a phenomenon of allegorization appears on the screen of representation? It may be that no such tension is present in the body. But it could be that a signal starting out from memory and that acts over consciousness, and in the consciousness sparkles as image, reveals that the impulse from memory had an influence over some part of the body. There was a contraction produced at that moment which launched the impulse that, registered in consciousness, appeared on the screen as allegorization; and this gives us to understand that the phenomenon is launching its pulsations from a point of the body. These phenomena [of memory] belong to the past, they are not present, there is no permanent tension acting; nevertheless, this tension (which is not a tension in and of itself, but rather is an impulse recorded in memory), sets a tension in motion with the corresponding cenesthetic register, and later will end up appearing as an image. As a specific “bit” in the system of register is evoked, a specific signal, and this signal is released toward the mechanism of consciousness, concomitant phenomena could appear of bodily contraction or inflammatory bodily phenomena.

I am investigating phenomena that do not exist in the present. Phenomena that I can register in my own body to the extent that they are evoked, but that do not exist constantly in the body—rather they exist in memory, and upon being evoked, are expressed in the body. And so this space of representation has the character of being an intermediary between some mechanisms and others, because it is conformed by the sum total of cenesthetic sensations. In it, transformed phenomena of external or internal sensations are manifested, and in it phenomena are expressed that had been produced a long time ago and that are emplaced in memory. Also in it, there appear phenomena that don't exist at that moment in the body, but that, as products of the imaginary work of the coordinator itself, they end up acting over the body.

This is a good time to carry out a review of activities that are oriented toward the modification of certain psychic behaviors.

The set of techniques that we call “Operative” enables us to operate over phenomena, to modify phenomena. Encompassed within Operative are several techniques: techniques we call *catharsis*, techniques we call *transference*, and various forms of *self-transference*.

In recent years the word “catharsis” has come back into use. Once again the gentleman appeared who sat in the presence of someone who had psychic problems, and once again said to him, just like thousands of years ago: “Now then, my friend, let the cat out of the bag and explain the problems that you have.” And then they let the cat out of the bag and explained their problems, and a kind of inner cleansing (or internal “regurgitation”) took place. That technique was called “catharsis.”

Another technique of Operative was also called “transference.” One took a person who'd already produced their catharsis and relieved their tensions, in order to begin a somewhat more complex work. That work consisted of making the person “transit” through different internal states. Upon transiting through these states, the person who no longer was suffering from important tensions could move around in their internal landscape, displacing, “transferring” problems or difficulties. The subject imaginarily transferred oppressive contents toward other images—images that neither had affective charge nor compromised the subject biographically....

We had previously talked about the registers of tensions in the simple act of attending. You recognize this well. You can attend with tension or without it—there is a difference. You can sometimes loosen the tension and attend. Normally you believe that when you let go of the tension in order to attend, you lose interest in the theme. It does not happen like that. However, for a very long time you have associated a certain amount of muscular tension to the act of attending, and you believe that you attend when you are tense. But attention has nothing to do with this.

And, what happens with tensions in general—not just with the tensions of attention? In general we locate tensions in different parts of the body, especially in the muscles. We are talking about

external muscular tensions. I voluntarily tense a muscle, and I have a register of that tension. I voluntarily tense my facial muscles; I have a register of that tension. I tense different muscles of my body, and I have a register of that tension. I go about familiarizing myself with this technique of artificial tension. I have great interest in obtaining as many registers as possible, tensing the different muscles of my body. And I am also interested in dissociating the tensions I had previously produced. I have observed that when one point tenses up, other points tense up. Later I try to distense the point, but sometimes the other muscles that accompanied the tension do not distense. If you work with certain parts of the body, you verify that, upon wanting to tense one point, that point and other points tense up; and later, upon distensing that point, the point becomes distense, but not the others.

This happens not just with these types of voluntary works—it happens in everyday life as well. In front of a problem of daily confrontation, for example, a muscle system gets tense; the confrontation with the object disappears, the muscles involved distense—but not the others that accompanied them at the moment of the tensing up. A little more time and everything ends up distensing. Sometimes it happens though that considerably more time passes, but the other points don't distense.

Who among you doesn't recognize more-or-less permanent muscle tensions? There are those who register these tensions sometimes in the neck, at times in some other part of their body. Right this minute, if you observe closely, you can discover unnecessary tensions that are operating in different parts of your body. You can register this. And as you can see, what you are registering in different parts of your body is not carrying out any function at all.

Now then, we distinguish between external muscular tensions of a situational type, and continual external muscular tensions. In the case of *situational tensions*, the subject tenses certain parts of his body, and when the difficulty disappears (in our example, the confrontation), the tension also disappears. These situational tensions surely fulfill very important functions, and it is understood that it isn't our intention to put an end to them. There are others—the continual ones, not the situational ones—and these continuous tensions involve the aggravating circumstance that, if a certain confrontational phenomenon is produced besides, they increase. Later they go down once more, but the continuous tension level is retained.

Using certain procedures I can distense continuous tensions, but this does not guarantee that different systems of tension won't remain inside me. I can work on my entire external musculature, do as many exercises as I like, but nevertheless, internally, the tensions will continue acting. What is the nature of these internal tensions? Occasionally, they are of a *deep muscular* type; and occasionally I register these tensions as *deep irritations*, as visceral irritations that emit impulses and that go about configuring a system of tensions.

When we refer to these profound tensions, we are talking of tensions that are not very different from the external ones, but that have a very important emotional component. We could consider these two phenomena as being gradations of one same type of operation. We now speak of these *emotionally-tinted internal tensions*, and we define them as *climates*—not very different from tensions in general, but having a strong emotional component.

What happens with some phenomena such as depression and *tensions*? A person feels bored (boredom is a relative of depression); one thing is the same to him as the other, he has no special preference—we would say he has no tensions. Perhaps he registers himself as lacking in vitality, but behind this it's quite possible that there's a strong emotional component. In the situation that he is in, we note that there are strong emotional currents of a negative type, and we think that if these emotional currents appear, it is because even without external muscular tensions, there are internal tensions that can be internal muscular tensions; or, on other occasions, phenomena of internal irritation. Sometimes it happens that there is no continuous system of tensions or continuous irritation, but due to the confrontation with a given situation, mnemonic phenomena are released, phenomena of memory that effect their internal firings; and then the register of lack of vitality or boredom arises, or internal oppression, or the sensation of enclosure, etc.

Normally we can manage external muscular tensions voluntarily. On the other hand, we cannot manage climates voluntarily because they have a different characteristic: they follow the subject even when he has left the situation that motivated the climate. You will remember the phenomena of dragging, the ones that follow the subject around even though the situation has passed. These climates follow the subject to such an extent that he can change his entire situation, go through different situations over the years, and still continue having that climate that pursues him. These internal tensions are translated in a diffuse and totalizing way. This point also explains the

characteristics of emotion in general, which operates by totalizing, synthesizing. It does not operate by referring to a specific point of bodily tension; neither is it referred to a point of pain in the intrabody—which could very well be localized—rather it is referred to a state of invasion that the consciousness is in. We are therefore dealing with non-localized cenesthetic impulses. This is clear

When the mechanism of translation of impulses contributes images that correspond to that diffuse climate, we speak of correspondence between *climate and theme* (a theme correctly corresponds to the climate). It is then very probable that the person who experiences a certain climate says that they “feel confined,” for example. This “confinement” is a type of visual representation that coincides with the emotional register, and there are some who are more exaggerated and don’t just talk about “confinement” in general, but they explain that they feel locked inside a specific kind of box with such-and-such characteristics. In vigil this isn’t too clear for them, but as soon as their level of consciousness drops a little, that box that they are in does appear. Of course, when the translation mechanisms operate with force, when the cenesthetic registers are more intense and when the allegorical pathway is set in motion, it is easier to track these phenomena.

Sometimes images appear that *do not correspond to the climates*. Finally, there are cases in which a *climate without images* is registered. In reality there is a cenesthetic image acting in all cases, and the emplacement of this general, diffuse image in the space of representation disturbs the activity of all the centers, because it is from that space of representation that the images trigger their activity toward the centers

One lowers the potential of climates through cathartic discharges, through motor abreactions which are manifestations of that energy toward the outside of the body; but although on these occasions there is a reduction of the tension, its displacement, its elimination does not necessarily take place.

The techniques that correspond to the transformation and displacement of climates are the transferential techniques. Their objective is not the lowering of an internal tension’s potential, but rather to transfer the charge of one image to another image.

It is only partial to say that climates are generated solely by the translation of signals of deep, involuntary contractions, and that such contractions, captured by cenesthesia, are transformed into diffuse images that occupy the space of representation. This is an incomplete statement. In the first place, because the register can be non-specific but generalized—as in the case of violent emotions—and these states correspond to discharges that circulate throughout the organism and are not referred to the specificity of a tension.

As for the origin of these phenomena, they may originate in internal senses or act from memory, or act from consciousness. When the impulse corresponds to a purely corporal phenomenon, cenesthesia takes this datum and sends the corresponding signal, which appears as a diffuse image—that is, one that cannot be visualized (i.e., it appears as a cenesthetic image, not as a visual image). Cenesthesia then sends the corresponding signal and the diffuse image appears, which in any case arises in the space of representation.

There are those who say that when they’re angry they “see red,” or that their space of representation is modified and they see the object that has provoked their anger as “smaller.” Others say that it seems to “stand out more,” and so on. We are not talking about the localized impulse, but about the diffused emotional state, which in any case has begun from the cenesthetic register and has been translated into a cenesthetic image that cannot be visualized. Sometimes it also has translations that can be visualized, but this is not the case here. This image emplacement that is non-visualizable takes place on the space of representation and basically mobilizes the instinctive centers. A register in memory is effected of everything that took place. If, on the other hand, the first impulse comes from external senses and at the end of the impulse circuit the instinctive centers are also mobilized, this is recorded in memory as associated to the external situation. This motivates a recording wherein the external impulse, that impulse that came from the exterior, now remains linked to an internal corporal state.

Returning to the first case, the one where an internal impulse is released due to a vegetative disorder, for example. In this case too there is an associated situational recording, if external senses for their part are working. But if this were to be produced while the external senses were not working or were working very slightly (as in the level of sleep), the situational recording could solely be referred to data from memory, since it would update itself at that moment, and at the end of the circuit a strange association of phenomena from Time 2 (i.e., the cenesthetic register) to phenomena from Time 1 (i.e., the datum from memory) would be left in memory.

We have seen cases where the point of departure of the impulse is the *intrabody*, and it is associated to situations of external perception; and cases of the same impulse but associated to *memory*, because at that moment the external senses are not working. We have also seen the case of the impulse *that starts out from external senses and ends up mobilizing cenesthetic internal registers*, it being possible from that moment on for the external situation and the internal register to be left recorded in memory.

Memory for its part can supply impulses, and upon mobilizing registers, unleash associative chains of images (not just visual images but images from any other sense, including the cenesthesia), which in turn awaken new deliveries of data, configuring a climatic emotional state, but one which is associated this time to a new situation that is being perceived by external senses

Finally, *consciousness* itself, in its elaboration of images, can set in motion all the above, as well as add its own activity with the final recording in memory of external situations associated to imaginary elements. In any case, the enchainment between senses-memory-consciousness is indissoluble, non-linear and, of course, structural.

And therefore, if the first firing is one of physical pain, the final configuration could be one of moral suffering, and there could be the presence of true cenesthetic registers that are powerfully recorded in memory, but associated simply to the imagination. Physical pain often ends in moral suffering that is articulated with elements that are illusory but that can be registered. This fact teaches us that the illusory, though it may have no “real” existence, can be registered through several concomitances that possess unquestionable psychic reality. Not much is explained by saying that a phenomena is “illusory;” neither does it clarify much more to say that illusions are registered, just as the so-called non-illusory perceptions are registered. Illusory suffering has a register that is real for the consciousness. It is where transference has its best field of work—in illusory suffering. This is different from what happens with the basic painful impulses—whether translated or deformed—which can be divested of other illusory components, without necessarily making physical pain disappear as a result. But this does not lie within the theme of transference as such.

The automatic enchainment of suffering can be dissociated. This is the primary target of transference. *We see transference as one of Operative’s many tools, basically aimed at disarticulating suffering, liberating the consciousness of oppressive contents.* Just as catharsis liberates charges and produces instances of temporary—though at times necessary—relief, transference aims at the permanent transfer of these charges, at least in reference to a specific, existing problem

Let’s now examine some aspects of the compensatory functioning of the psychism’s apparatuses. The thresholds of the different senses vary in structure and the thresholds of the internal senses vary compensatorily with respect to the thresholds of the external senses. The phenomena of the cenesthetic threshold, upon the lowering the impulses from external senses, enter into perception and begin emitting signals. We are saying that, when the external impulse diminishes, the other internal phenomena that were operating at the [minimum] level of threshold and that we were not registering, appear in a mode that is possible to register. Therefore, with the lowering of level of consciousness, the arisal of phenomena of the intrabody that was not manifest in vigil becomes possible to perceive. Upon the disappearance of the noise from the external senses, those other phenomena become manifest. With the fall in level, the internal impulses appear that give signals to consciousness, taking the associative channels. When this associative pathway wakes up, the phenomena of translation operate with great force.

Let’s go back to the problems of the phenomena of translation and transformation of impulses. In front of an object that I perceive visually, I can recognize other, non-visual characteristics that I can perceive, depending on the situation. These different perceptions relative to the same object have been associated in my memory throughout my life experience. I have an articulated register of perceptions. We are now considering something more than the structuring of perception that a single sense carries out; we are considering the structuring that is performed in front of an object by the sum total of data from different senses, data which were incorporated to the memory over time. I have at my disposal the articulation of the different characteristics of each object, such that when one of them is captured, the other characteristics associated to it are also released. This is already the basic mechanism of the translation of impulses. And what is it that is translated? Let’s see an example. An auditory impulse awakens mnemonic registers, registers in which the visual impulses at that time were associated to auditory impulses. Now only the external auditory impulse arrives, and the visual register appears in my space of representation. This is frequent in vigil, and it is thanks to

this mechanism of association of senses, it is thanks to the structuring of the senses, that we can configure important sectors of the external world.

In the same way that the space of representation goes about being articulated from early infancy onwards, so too the objectal world is articulated from early infancy on. At this stage of learning, children do not seem to coherently articulate the different registers that they have of one same object. As we have commented on elsewhere, children do not distinguish well between their own body and their mother's body. Besides this, they are not so good at capturing the relationship between the type of stimulus reaching a sense and the function that the object performs. They also confuse the apparatus of register to the point that many times one sees a child putting something he wants to eat in his ear, and we observe him carrying out different kinds of substitutions. Children are unable to articulate the entire system of perception; they do not articulate it more-or-less coherently. Neither is their space of representation coherently articulated. A building that is far away is of course perceived as being smaller than when it is close, but they reach for it with their hands to grab a chimney, or perhaps a window, and eat it. There are children who do this with the Moon, which, as you know, is beyond the arm's reach—or was.... Stereoscopic vision, which gives us depth of field and allows the articulation of different distances in space, is configured gradually in a child. Also, the internal space of representation progressively acquires volume. It is clear that a child is not born with the same objectal articulation that adults have, but that the data that is supplied by the senses later allows the psychic apparatus to carry out its work, always basing itself on memory.

We are studying these first phenomena of *translation of impulses*. For example, a phenomenon that acts over a sense activates a chain in which images appear that correspond to other senses, but in relation to the same object. What happens in those strange cases of association of an object's characteristics, in which these are deposited in another object? Here we have a much more interesting translation, because now a gentleman hears the sound of a bell and doesn't evoke the image of the bell, but that of a relative. Now one is not relating the object that one is hearing, to the object that at another moment one saw, or to an object that at another moment one smelled—now one is associating the first object to other phenomena, to other images that accompanied the recording of a moment, but that are not referred to the object in question, but to another type of object. Primarily one makes associations between the different perceptual characteristics of a given object. But we are talking about something more—about an object to which not just its different characteristics are associated, but all those phenomena that in the past were related to it. And these phenomena compromise other objects, they compromise other people, they compromise entire situations. We then speak of the phenomenon of translation of impulses, which refers not just to the characteristics of one same object, but to those of other objects and situational structures that were associated to that given object. It therefore seems that *the structuring is effected by relating different perceptions of one same object, and in accordance with situational contexts*.

Something more. It so happens that since there is internal impulse, if that internal impulse has enough signal potential to reach the threshold of register, then upon perceiving the sound of the bell, the subject experiences a curious emotion. He is no longer translating impulses or associating impulses among the different characteristics of that object and other impulses that accompany it, or between structures of complete perception, but something more—he is translating between complete structures of perception and structures of the register that had accompanied him at that moment.

If we see that an impulse that corresponds to a sense can be translated and transferred to another, why shouldn't we also be able to translate impulses that are registered by external senses and that contiguously evoke impulses that have been recorded from internal senses? It isn't that difficult. It so happens that the phenomenon is somewhat amazing and takes on bizarre characteristics as the level of consciousness goes down. But its mechanics isn't that strange.

Let's remember that memory—studied in layers as ancient memory, mediate memory and recent memory—is in movement. The raw material that is closest is today's—that's where we have the newest data. But there are numerous associated phenomena that are referred to ancient memory and they cause us problems, since the register of an object which can be associated to recent phenomena is accompanied by phenomena from ancient memory in a translative way. This is quite extraordinary and happens particularly with a certain type of sense. Due to its structuring, the olfactory sense is the richest in this type of production. The sense of smell usually awakens very great associative chains of a situational type, and many of them very ancient. You know the example: the quality of a certain smell is perceived, and complete images from infancy are

released. And how are those images released? Are you reminded of the same smell—simply the same smell—from twenty years ago? No, you remember a complete situation from long ago that has been triggered by the present perception of that smell.

The translation of impulses, which at first appears simple and easy to investigate, ends up becoming complex. Diverse sectors of memory, apparently incoherent structurings of perception, internal registers that are associated to externally perceived phenomena; productions that are imaginary, but that at the same time interfere in the external register and associate themselves to it; operations of memory that, as they are translated, take up, in a level of consciousness, the associative pathways—all of these make it difficult to comprehend the general scheme.

Up until here we have seen the impulses associating and translating themselves from one into the others. But there are also other, very curious phenomena: those of transformation. The image that was structured in one way, shortly after begins to acquire other configurations. This is a process that occurs in the associative pathways, in which the associated impulses that arise in the space of representation take on a life of their own and start to deform, transform themselves, showing us one mobility over another mobility. And with these problems we find ourselves before the techniques of transference. We must give fixedness to all this, we must be able to rely on general laws of some kind that enable us to operate in this moving chaos. We need some Operative laws, something that never fails to respond, under the same conditions, yielding the same results. And this exists because, fortunately, the body possesses a certain permanence that we will be able to operate. However if this were to happen exclusively in the psychic world, there would be no way of operating—there would be no reference.

The corporal objectal reference is what will enable us to say that, even if a pain in an area of the body is translated in different ways, evokes different contiguities of images, creates mixtures of memories and of times—that phenomenon will be detected in a specific zone of the space of representation. And we will be able to comprehend many other curious phenomena and many functions, thanks to the fixedness of the body. This body is an old friend, a good companion that provides us with references for us to move around in the psychism. There is no other way we can do so.

Let's see what happens with the space of representation and the phenomena that are triggered from it.

I imagine. a horizontal line in front of my eyes. I shut my eyes. Where do I imagine it? Well, I imagine. it ahead and outside. Now I imagine. my stomach. Where do I imagine. it? Below and inside. I now imagine. that line in the place where my stomach is and this creates a problem of location for me. Now I imagine the stomach ahead of me and outside, and this, too, creates a problem of location for me. When I imagine. my stomach below and inside, I don't just imagine. my stomach, but also I have a cenesthetic register of it, and this is a second component of the representation. Now I can imagine. the stomach in front, above and outside, but I don't have the same cenesthetic register. And so, when the image is emplaced in the correct place, it has the cenesthetic component of register, which provides us with an important reference. With a little effort, you will also be able to imagine. the stomach above and outside. But how will you imagine. it? Perhaps like a drawing, as you've seen it in books. But if instead, you imagine. it below and inside, what do you imagine. it as? As the drawing? No way. Do you have a visual image? No way. You could have one that was associated, because of the translation phenomenon—but what is that about imagining it in the space of representation, below and inside? It is about working with another type of image —with a cenesthetic image.

So according to whether the image is emplaced on the space of representation in one point or another, and at a level of depth or at another, not only is there the register of the image, but there is also the proper cenesthetic representation at such space and at such depth. When the objects emplaced on the space of representation are observed "from the background" of that space, we say that we are working with vigilic articulation. That is, we see the phenomena that are external to us (or that are termed "external") as outside our head. I now can imagine. faraway objects that are outside my head. From where do I register those images? From inside my head—this is the sensation that I have. Nevertheless, I wouldn't say that those objects are inside my head. If I now take the object that I imagined. outside, and this time I imaginarily place it inside my head, I'll have a cenesthetic register-aside from the image that I've emplaced in the interior of my head. Depending on the level of depth in the space of representation, we come to have a type of internal register, or a type of cenesthetic register. This is of considerable importance for comprehending the subsequent transferential phenomenon.

I can imagine., from the background of this screen of sorts, the phenomena that are outside my head, and also, upon imagining phenomena that are inside my head, I can have an emplacement inside that mental space. I can make a bigger effort and imagine. that object inside my head as if it were seen at the same time and from different places. It is possible to see the object from different points, as if “the one who represents” was surrounding the object; but normally one represents the object from a certain background.

There are quite a few difficulties with the mental space emplaced from the head backwards, not so from the head forwards. Almost all the external senses are located in the frontal zone of the head, and this is how one perceives the world and how the mental space that corresponds to it is articulated; but from the ears toward the back, perception and representation grow more difficult

Behind you are the curtains of this room, and you can imagine them without seeing them. But when you observe the curtains behind you on the space of representation, you might be asked: “Where do you see the curtains from?” You see them from the same screen—except that, on the screen, an inversion of sorts has been produced. You don’t get behind the curtains—you position yourselves in the same point of internal emplacement. And now it seems to you that the curtains are outside of you, but to the rear. This creates problems for us; but in any case, we continue being emplaced in the background of the space of representation.

The space of representation creates a few problems of “topography.” I imagine. now, phenomena that are far from this room, that are outside this room. I cannot try to place my consciousness outside this room. Nonetheless, I insert those objects inside my space of representation. Those objects are emplaced in the interior of my space of representation. Where then is the space of representation, if it is referred to objects that are outside? This illusory phenomenon is extremely interesting, given the fact that the representation of objects can be extended beyond the space in the immediate proximity of my senses’ perception, but never outside my space of representation. And it turns out that my space of representation is precisely internal and is not external.

If one examines this incorrectly, one believes that the space of representation extends out from the body, toward the outside. In reality, the space of representation extends toward the interior of the body. This “screen” is configured thanks to the sum total of cenesthetic impulses that provide continuous references. This screen is internal, and it isn’t that the phenomena I imagine. outside flash onto this screen; in any case, I go about imagining them inside, but at different levels of that internal screen’s depth.

When we say that the images that appear in different points of the space of representation act over the centers, it becomes clear that they could not act over the centers if the screen were emplaced outward. The images act over the centers because the impulses go inward, even when the subject may believe that the phenomena are emplaced outside. And here it is good to clarify that I am not negating the existence of the external phenomena; rather I am questioning their configuration, given that they (the referenced phenomena) present themselves to me in front of my filters of perception and they are articulated on my screen of representation.

As the level of consciousness drops, the structuring of the space of representation is modified and the phenomena that previously were seen from inside, believing them to be outside, with the fall of the level of consciousness are seen outside, believing them to be inside; or they are seen inside, believing them to be outside. That background of the screen where I was emplaced when I referred to imagined. external phenomena—where is it now in my dreams, when “I” see myself placed outside of “that” which sees? And I see myself from above, from below, from a distance, closer in, etc. It turns out that now the space of representation truly adopts internal characteristics at its limits. The space of representation becomes internal when the level of consciousness falls, because the stimuli from external senses have disappeared and the work of the internal senses has been reinforced. With the reinforcing of the cenesthetic impulses, the internal space of representation has acquired fullness, and now we have these phenomena occurring in the “interior” of the space of representation as such. Images appear in which the space of representation takes on accentuated characteristics, according to the scanning performed by the cenesthetic impulses. In dreams, the space of representation appears as having boundaries that are wall-like, or like containers of all types, and occasionally appears like one’s own head, inside which the remanent oneiric phenomena arise. The largest of containers in the fall of the level of consciousness is, precisely, the space of representation ’s borders.

The instinctive centers (vegetative and sexual) are mobilized powerfully with the fall in level of consciousness, though there may be some concomitances of an emotional type, and also some

intellectual and almost no motor concomitances. When the emplacement of the phenomena occurs in the space of representation that corresponds to the low level of consciousness, the greatest firing-off of images goes to the vegetative center and to the sex—which are the most internal centers and the ones that work with the registers of cenesthetic sensations, while the other centers tend to be very closely linked to impulses from the external senses. On the other hand, images that in daily life do not mobilize important charges or discharges in the referenced centers, can turn out to be quite powerful when the level of consciousness falls. In turn, strong internal images are configured from the work of these two centers since a perception is had of the centers' work that is converted into an image. This phenomenon is reversible, and just as the space of representation is configured by the cenesthetic impulses, so too any image that is emplaced at a certain level of the space of representation in its inner layer, acts over the corporal level that corresponds to it.

Let's now reconsider what has been said regarding the objectal associations of different senses; regarding the translations of impulses with respect to one same object; objectal associations between objects and situations; and the translation of the impulses of an object with respect to the other objects around it. The objectal associations referred to external and internal situations (i.e., cenesthetic impulses), are complex registers that are recorded in memory. These recordings always exist as a background of each phenomenon of representation (i.e., of an image) and they are linked to precise zones and depths of the space of representation.

We already have a few elements at our disposal to enable us to comprehend what happens in the transit of images in the space of representation, in the levels of sleep and semisleep. We already comprehend the first steps of what we will call "techniques of transference." These techniques will be effective, they will fulfill their objectives, if in fact these phenomena that appear on the representation screen in the low levels of consciousness (upon being transformed) mobilize different parts of the body, different tensions in the body, or they displace mnemonic phenomena that produce tensions expressed in corresponding images. When we act over these images, we modify the system of associations that have motivated the tensions.

Our problem will lie, in these transferential techniques, in associating or dissociating the climates from the images. In other words, separating the climates from the themes.

At times situations will arise in which we must associate an image to a climate, because without the image we will only find cenesthetic images that cannot be visualized, and because they cannot be visualized, neither can they be moved to different heights and different levels in the space of representation. We will then be obliged, in dealing with certain climates, to associate them to certain images in order to later mobilize these images in the space of representation, and, in so doing, "drag" the climates. If we don't proceed in this way, the diffuse climate will be distributed in the space of representation in such a way that we will be unable to work with it.

And at times, owing to another peculiar functioning of the phenomena in the levels of sleep, we encounter visual images to which charges that do not exactly correspond to them are adhered; and therefore we will try to *dissociate these charges and transfer other, appropriate charges to the images.*

And so we will have to resolve numerous problems in the transference of charges, in the transference of images, in the displacement of images and in the transformation of images.

Psychology III

This material is a summary prepared by those who attended the explanations given by Silo in Las Palmas, Canary Islands, in early August, 1978.

1. Catharsis, Transference and Self-Transference: Action in the World as Transferential Form

We should consider two circuits of impulses, which finally give an internal register. One circuit corresponds to perception, representation, new capturing of the representation and internal sensation. And another circuit shows us that from every action that I launch towards the world, I also have an internal sensation. That intake of feedback is what allows us to learn as we do things. If there were no capturing of feedback taking place within me of the movements that I carried out, I would never be able to perfect them. I learn to type on my keyboard through repetition. That is, I record actions by trial and error. But I can record actions only if I carry them out.

From my doing, I have a register. A great bias exists that at times has invaded the field of pedagogy: a prejudice that says things are learned simply by thinking about them. Of course something is learned, because from thought one also has a reception of the datum. However, the mechanics of the centers tells us that they are mobilized when images reach them, and the mobilization of the centers is an overcharge that triggers their activity toward the world. There is a feedback intake of this triggering of activity that goes to memory and also goes to consciousness. This feedback intake is what allows us to say, for example, "I hit the wrong key." In this way I register the sensation of accuracy and of error: thus I increasingly perfect the register of accuracy, and from there, the correct action of typing grows more fluid and automatic. We are talking about a second circuit that delivers to me the register of the action I perform.

On another occasion we saw the differences that exist between acts that are called "cathartic" and "transference" acts. The first referred, basically, to discharges of tensions. The second allowed the transfer of internal charges, the integration of contents, and the broadening of the possibilities for development of the psychic energy. It is well known that where there are "islands" of mental contents, of contents that do not communicate among themselves, difficulties occur for the consciousness. If for example one thinks in one direction, feels in another and finally acts in still another, there is a register of "things not fitting together", a register that is not one of fullness. It seems that only when we lay down bridges between the internal contents that the psychic functioning is integrated and we can advance a few more steps.

We are familiar with the transference works among the techniques of Operative. By mobilizing certain images and traveling with said images to the points of resistance, we can overcome those resistances. Upon overcoming the resistances, we provoke distensions and we transfer the charges to new contents. These transferred charges (worked on in post-transference elaborations), enable a subject to integrate some regions of his internal landscape, of his internal world. We know about these transference techniques and about others such as the self-transference ones, in which the action of an external guide is not required; rather, one can guide oneself internally with certain images that are codified beforehand.

We know that action, and not just the work of images that we have been mentioning, can bring about transference phenomena and self-transference phenomena. One type of action will not be the same as another type. There will be actions that allow the integration of internal contents, and there will be tremendously disintegrative actions. Certain actions produce such a burden of grief, such regret and internal division, such profound anxiety, that one would wish never to repeat them ever again. And yet such actions have already remained strongly adhered to the past. Even if one were never to repeat such an action in the future, it would continue to pressure from the past without getting resolved, without allowing the consciousness to move, transfer, integrate its contents, and allow the subject that sensation of internal growth that is so stimulating and liberating.

It is clear that it isn't a matter of indifference what actions one carries out in the world. There are actions that give one a register of internal unity, and actions that give a register of disintegration. If one studies this question of acting in the world in the light of what we know about cathartic and

transferential procedures, many things regarding the theme of integration and development of the contents of consciousness will be made considerably clearer. We will return to this after taking a quick look at the general scheme of our Psychology.

2. Scheme of the integrated Work of the Psychism

We present the human psychism as a sort of integrated circuit of apparatuses and impulses in which some apparatuses, called “external senses,” are the receptors of the impulses from the external world. There are also apparatuses that receive impulses from the internal world—the intrabody—which we call “internal senses.” These internal senses, very numerous, are of great importance for us and we should emphasize that they have been given very little thought by naïve Psychology. We also observe that there are other apparatuses, such as those of memory, that capture all signals that arrive from the exterior or from the interior of the subject. There are other apparatuses that regulate the levels of consciousness, and, lastly, there are apparatuses of response. All these apparatuses, in their work, at times make use of the direction of a central system that we call “consciousness.” Consciousness relates and coordinates the functioning of the apparatuses, but it can do so thanks to a system of impulses. The impulses come and go from one apparatus to another. Impulses that travel through the circuit at tremendous speeds; impulses that are translated, deformed, transformed, and in each case give rise to highly differentiated productions, of phenomena of consciousness.

The senses, which continually gather samples of what occurs in the external and internal environment, are in permanent activity. Not a single sense stays still. Even when a person sleeps and their eyelids are shut, the eyes are collecting samples of that dark curtain; the ears are receiving impulses from the external world, and so it happens with the classic and elementary five senses. But internal senses are also taking samples of what is happening in the intrabody. Senses that gather data on the blood pH, alkalinity, salinity, acidity; senses that take readings of arterial pressure, that take readings of the blood sugar, that take temperature readings. Thermoceptors, baroceptors and others continually receive information on what goes on inside the body, while simultaneously the external senses also capture information on what goes on outside the body.

Every signal that is received by the intraceptors passes on to memory and arrives to consciousness. Better said, these intrabody signals unfold and all the samples gathered arrive simultaneously to memory and consciousness (to the different levels of consciousness that are regulated according to the quality and intensity of these impulses). There are impulses that are very weak, subliminal, at the limit of perception. There are impulses on the other hand that become intolerable, precisely because they reach the threshold of tolerance. Beyond that threshold, these impulses lose the quality of being the simple perceptions of a given sense, becoming converted into a homogeneous perception irregardless of the sense they come from, and delivering a painful perception.

There are other impulses that ought to reach the memory, the consciousness, and yet they don't arrive because there was an interruption in an external or internal sense. It also happens that other impulses do not reach the consciousness, not because of a break in the receptor, but because some unfortunate phenomenon has produced a blockage at some point in the circuit. This can be illustrated with some cases of blindness known as “somatizations.” The eye is examined, the optical nerve is examined and the occipital location is examined, and so on. Everything in the circuit works fine and yet the subject is blind, and their blindness is not due to an organic problem but to a psychic problem that they were confronted with. Another subject goes dumb or deaf, and yet everything is working well in the circuit as far as its connections and localizations... but something has blocked the path of the impulses.

The same happens with the impulses that come from the intrabody, and this is not recognized very much but it is of utmost importance, because it happens that there exist numerous “anesthesias”—to give them a name—of impulses from the intrabody. The most frequent are the anesthesias that correspond to impulses from the sex, such that there are many people who, because of some type of psychic problem, do not adequately detect the signals that originate from that point. When a blockage has been produced and these signals are not detected, what should normally arrive to the consciousness (whether in its foremost attentional field or at subliminal levels), undergoes powerful distortions, or does not arrive.

When an impulse from the external or internal senses does not arrive to consciousness, the

latter carries out work as though it were trying to reassemble that absence by “borrowing” impulses from memory, compensating for the lack of the stimulus it would need for its work of elaboration. When because of an external or internal sensorial defect, or simply due to a blockage, an impulse does not arrive from the external or internal world, then memory launches its sequence of impulses, trying to compensate. If this doesn’t happen, the consciousness takes charge of capturing a register of itself. A strange job that the consciousness does is one in which it becomes like a video camera positioned in front of a mirror, and now one sees, onscreen, a mirror within a mirror and so on, in a process of multiplicative reproduction of images in which the consciousness re-elaborates its own contents and tortures itself, trying to obtain impulses from where there are none. These obsessive phenomena are a little like the video camera in front of a mirror.

Just as the consciousness compensates by taking impulses from another point, when the impulses from the exterior or from the intrabody are very powerful, the consciousness also defends itself by disconnecting the sense, as if the consciousness had its own safety valves. We also know that the senses are in continual movement. When one sleeps, for example, the senses that track the external noise reduce their threshold; then many things that would be perceived in vigil no longer enter when the threshold closes, but just the same, signals are being captured. And normally, the senses are lowering and raising their thresholds according to the background of noise, that surrounds us at that moment. Of course, this is the normal work of the senses, but when the signals are irritating and the senses cannot eliminate the impulse no matter how low the threshold, the consciousness tends to globally disconnect the sense.

Let’s imagine the case of a person subjected to sustained external sensory irritation. If the city noise increases, if visual stimulation increases, if that entire bundle of news from the external world increases, then a kind of reaction can be produced in the person. The subject tends to disconnect his external senses and “fall inward.” He begins to be at the mercy of his intrabody impulses, to disconnect, his external world in a process of ‘estrangement’ of the consciousness.

But what we refer to isn’t so dramatic—it is about an entering inside oneself when one tries to avoid the external noise. In this case, the subject who wanted to reduce the sensory noise will encounter nothing less than the amplification of the intrabody’s impulses; because, just as there exists a regulation of limits in each one of the external and internal senses, so too the system of internal senses compensates the system of external senses. We can say that, in general, when the level of consciousness drops (towards sleep), the external senses lower their thresholds, increasing the perception thresholds of the internal senses. Inversely, when the level of consciousness rises (towards waking), the subject begins to lower the perception threshold of the internal senses and the threshold of external perception opens up. But it happens that even in vigil, as in the previous example, the thresholds of the external senses can contract and the subject can enter into a situation of “escape” in front of the irritation that the world produces in him.

To continue with the description of the large blocks of apparatuses. We observe the operations performed by the memory upon receiving impulses. *Memory always captures data, and in this way a basic substratum has been formed since early infancy. On the basis of this substratum, all of the data of memory that progressively accumulate will be organized.* It seems that the first moments of life are the ones that determine, to a great extent, the subsequent processes. But the ancient memory becomes increasingly more distanced from accessibility by the consciousness in vigil. Over the substratum, the most recent data accumulate until arriving at today’s immediate data. Imagine the difficulties that exist in this matter of recovering very ancient contents of memory that are at the base of the consciousness. It is difficult to get there. One has to send out “probes.” Moreover, the probes that are launched are sometimes rejected by resistances. As a result, fairly complex techniques have to be employed so that these probes can collect their samples from memory, with the intention of rearranging the contents that in some unfortunate cases were poorly fitted together.

There are other apparatuses, such as the centers, that carry out a task that is considerably simpler. The centers work with images. The images are impulses, originating from consciousness, that are fired at the corresponding centers and these centers move the body in the direction of the world. You are familiar with the functioning of the intellectual, emotional, motor, sexual and vegetative centers, and you know that in order to mobilize any of them it will be necessary for the appropriate images to be triggered. It could also happen that the charge, the firing intensity is insufficient. In this case, the center in question would move weakly. It could also happen that the charge is excessive and then a disproportionate movement would be provoked in the center.

On the other hand, when these centers—which are also in continuous movement and working

in structure with the rest—mobilize charges toward the world, they take energy from the contiguous centers. An individual has some problems that are reflected in his intellectual motricity, but his problems are of an emotional nature. Thus, the images that are proper to the motricity of the intellect are contributing to the reorganization of contents; however, the emotional problem isn't remedied by that re-elaboration of unbridled images, or by a "churning around" of fantasy images. If instead of abandoning himself to his reveries this person were to get up and start moving his body, working with his motricity, it would suction the negative charges of the emotional center and the situation would change.

However, normally people try to manage all the centers from the intellectual center and this brings about numerous problems, because, as we have already studied elsewhere, the centers are managed from "below" (where there is more energy and speed) and not from "above" (whence the psychic energy is invested in intellectual tasks). In short, all the centers work in structure; all the centers, upon launching their energy toward the world, suction energy from the other centers. Sometimes one center is overcharged and when its potential overflows it also energizes the other centers. These spillovers are not always negative, because even though in one type of overflow one might become enraged and lash out with reprehensible actions, in another type of overflow one can become enthused, joyful, and this energetic overcharge of the emotional center can end up being very positively distributed throughout all the other centers.

On the other hand, sometimes a great deficiency is produced, a great emptiness, a great suction from the emotional center. The subject begins to work in the negative with the emotional center. To illustrate with an image, it is as though a "black hole" is produced in the emotional center that concentrates matter, contracts space and absorbs everything towards it. Our subject becomes depressed; his ideas become darkened and his motor potential—even his vegetative potential—goes down. Dramatizing a little, we add that even his vegetative defenses drop, and so a number of responses that his organism normally generates are now attenuated; his body is now more prone to illness.

All the apparatuses work at greater or lesser intensity in accordance with the level of consciousness. If our subject is in vigil, he is awake, very different things happen than if he is asleep. Of course there are many intermediate states and levels. There is an intermediate level of semisleep that results from a mixture between vigil and sleep. There are also different levels within sleep itself. Paradoxical sleep—sleep with images—is not the same as deep, vegetative sleep. In this deep vegetative sleep, the consciousness does not take in data—at least, not in its central field. It is a sleep similar to death, that can last quite some time, and if on awaking one did not pass through paradoxical sleep, one has the sensation of a contraction of time. It is as though time had not passed, because the time of consciousness is relative to the existence of phenomena in it; such that, there being no phenomena, for the consciousness there is no time. In this sleep where there are no images, things go too quickly. But it is not completely like this, because when one lies down to sleep and sleeps for a few hours, what has actually happened is that there have been many moments of cycles. Thus one has passed through paradoxical sleep, then through deep sleep, then through paradoxical, then through deep, and so on. If we wake the subject when he is in deep sleep without images (which we can verify from the outside thanks to EEG or REM), he may not remember anything from the streams of images that appeared in the stage of paradoxical sleep (where one observes from the outside, the Rapid Eye Movement beneath the sleeper's eyelids); whereas if we wake him at the moment he is dreaming with images, it is possible that he may remember his dream. On the other hand, to the one who woke up, it will seem that time got shorter because he doesn't remember everything that occurred in different cycles. of deep sleep.

It is in the low levels of consciousness, as in the levels of paradoxical sleep, where the impulses of the intrabody do their work with the greatest ease; it is also where memory works with great activity. It happens that when we sleep, the circuit restores itself—it takes advantage of sleep not just to eliminate toxins but also to transfer charges, charges of contents of consciousness, of things that were not properly assimilated during the day. The work of sleep is intense. The body is still, but there is intense work being carried out by the consciousness. Contents are reordered, the film is rewound and once more fast forwarded, classifying and putting in order the day's perceptual data in a different way. During the day a very great perceptual disorder accumulates because the stimuli are varied and discordant. Conversely, in sleep an extraordinary order is brought about. Things are classified in a very correct way.

Of course we get the impression that it is the other way around, that what we perceive during the day is very orderly and that in sleep there is great disorder. In reality things may be very well

ordered, but the perceptions that we have of those things are tremendously fortuitous, very random, whereas the sleep state in its mechanics goes about re-elaborating and placing the data in their "card indexes." Sleep does not only perform this extraordinary task; besides this, it tries to reassemble psychic situations that have not been solved. Sleep tries to launch charges from one place to another, to produce cathartic discharges because there are excessive tensions. In sleep many problems with charges are resolved; profound distensions are produced.

But also in sleep, transference phenomena are produced, of charges that are dispersed from some contents to others, and from these to still others, in a forthright process of energetic displacement. Many times, after a beautiful dream, people have experienced the sensation that something "fell into place," as though an empirical transference had been produced, as if the dream had carried out its transference. But there are also "heavy" dreams from which one awakens with the sensation that an internal process hasn't been properly assimilated. The dream is making its attempt to re-elaborate contents but is unsuccessful, and so the subject comes out of that level with a very bad sensation. Naturally, sleep is always at the service of restoring the psychism.

3. The Consciousness and the "I"

What does the consciousness do while the different apparatuses tirelessly work? *The consciousness has a sort of "director" of its diverse functions and activities, known as the "I".* Let's look at it like this: somehow I recognize myself, and this is thanks to the memory. My "I" is based on memory and the recognition of certain internal impulses. I have a notion of myself because I recognize some of my internal impulses that are always linked to a characteristic emotional tone. Not only do I recognize myself by my biography and my memory data; I recognize myself by my particular way of feeling, my particular way of comprehending. And if we were to take away the senses, where would the "I" be? The "I" is not an indivisible unit, but results from the sum total and the structuring of the data from the senses and the data from memory.

A few hundred years ago, a thinker observed that he could think about his own thought. He then discovered an interesting activity of the "I". It wasn't about remembering things, nor was it about the senses providing information. Moreover, this gentleman who noticed that problem very cautiously tried to separate the data from the senses and the data from memory; he tried to carry out a reduction and be left with the thought of his thinking, and this had great consequences for the development of Philosophy.

But now we are concerned with understanding *the psychological functioning of the "I"*. We ask: "Can the 'I' function then, even if we remove the data from memory and the data from the senses?" Let's look at this point carefully. The entirety of acts through which the consciousness thinks of itself depends on internal sensorial registers; the internal senses provide information on what occurs in the activity of the consciousness. That register of the consciousness's own identity is given by the data from the senses and the data from memory, plus a peculiar configuration that grants the consciousness the illusion of identity and permanence, despite the constant changes that take place in it. *That illusory configuration of identity and permanence is the "I"*.

Let's comment on some tests performed in a sensory deprivation chamber. Someone has entered and immersed their body in water, let's say at a temperature of around 36°C (that is, he gets into a bath in which the ambient temperature is equivalent to skin temperature). The chamber is climate controlled to ensure that the parts of the body that are above water are kept moist and at the same temperature as the liquid. All ambient sounds, olfactory and luminous stimuli are suppressed, etc. The subject begins to float in the darkness, and soon begins experiencing some extraordinary phenomena: one hand seems to grow noticeably longer, and his body has lost the sensation of its limits.

But something curious is produced when we reduce the ambient temperature slightly inside the chamber. When we lower the temperature of the external environment in relation to that of the liquid by a couple of degrees, the subject begins to feel that he "exits" through the head and the chest. At certain moments, the subject begins to experience that his "I" is not in his body, but outside it. And this extraordinary rarefaction of the spatial location of his "I" is due, precisely, to the modification of the impulses from the skin at some specific points (i.e., on the face and chest), while the rest of them are totally undifferentiated. But if the temperature of the liquid and the chamber are made the same again, other phenomena begin to take place. In the absence of external sensory data, memory begins launching streams of data that compensate that absence, and very old

memory data can begin to be gathered. Most notable is that these data from memory sometimes do not appear as they normally do when one remembers images from one's life—instead they appear “outside” the head. As if the memories were “seen over there, outside oneself,” like hallucinations projected, on an external screen. Sure, one doesn't have much notion of where one's body ends; therefore neither does one have much of a reference of where the images are emplaced. It feels like the functions of the “I” are strongly altered. A kind of alteration of the functions of the “I” is produced through the simple expedient of external sensory suppression.

4. Reversibility and Altered Phenomena of Consciousness

In this scheme that we are describing once again, *the apparatus of consciousness works with reversibility mechanisms*. In other words, just as I can perceive a sound—mechanically, involuntarily—I can also pay attention to the source of the stimulus, in which case my consciousness tends to lead the activity towards the sensorial source. It is not the same to perceive as to apperceive. Apperception is attention plus perception. It is not the same to memorize (wherein consciousness passively receives the data, and now something crosses my mind, arriving from the memory), as to remember—wherein my consciousness goes to the memory source, and works with unique procedures of selection and discarding).

And so the consciousness is equipped with mechanisms of reversibility that work according to the state of lucidity that the consciousness is in at that moment. We know that as the level drops, it becomes increasingly more difficult to voluntarily go toward the sources of stimuli. The impulses impose themselves, the memories impose themselves, and all of this starts controlling the consciousness with great suggestive power, while the defenseless consciousness limits itself to receiving the impulses. The level of consciousness drops, critical sense diminishes, self-criticism diminishes, reversibility diminishes with all its consequences. Not only does this happen in a fall in level of consciousness, but also in altered states of consciousness.

It's clear that we do not confuse levels with states. For example, we can be in the level of vigilic consciousness but in a passive state in an attentive state, in an altered state, and so on. Each level of consciousness allows for different states. In the level of paradoxical sleep, the states of tranquil sleep, altered sleep and somnambulistic sleep are different from each other. *Reversibility can also fall in one of the apparatuses of consciousness due to altered states, and not because the level has dropped.*

It could happen that a person is in vigil and yet, because of a special circumstance, they suffer from powerful hallucinations. They would observe phenomena that for them would be from the external world, when in reality they are *externally* projecting some of their internal representations. Those contents, those hallucinations would be exerting great suggestive power over the person, just as a person in deep sleep is under the suggestive power of their oneiric contents. However, our subject would be awake, not asleep. Likewise, because of a high fever, the action of drugs or of alcohol, and without having lost the level of vigilic consciousness, a person would find herself in an altered state of consciousness, with the resulting arising of abnormal phenomena.

The altered states are not so all-enveloping; rather, they can affect certain aspects of reversibility. We can say that any individual in full vigil can have a blockage in some apparatus of reversibility. Everything functions well, their daily activities are normal; they are an average person. Everything works wonderfully...except in one point. When that point is touched, the subject loses all control. There is a point of blockage of their reversibility. When that point is touched, their sense of criticism and self-criticism diminish, self-control is diminished, and strange internal phenomena take control of their consciousness. But this is not so dramatic, and it happens to us all. To a greater or lesser extent, we all have our problems with some aspect of the reversibility mechanisms. We do not manage all of our mechanisms quite at will. It can happen, then, that our famous orchestra director, the “I”, may not be such a director when some aspects of reversibility are affected, when dysfunctions occur among the different apparatuses of the psychism. The example of the chamber of silence is very interesting; in it we comprehend that it is not a matter of a fall in the level of consciousness, but of the suppression of impulses that ought to reach the consciousness—and there the notion itself of the “I” is altered, is lost. Ranges of reversibility are also lost, ranges of critical sense, and compensatory hallucinations occur.

The sensory deprivation chamber shows us the case of the suppression of the external stimuli, and phenomena of interest seldom occur there if not all the sensory references have been

eliminated. At times there is a lack or insufficiency of impulses coming from the internal senses. We give these phenomena the generic name “anesthesias.” Due to some kind of blockage, the signals that should arrive do not. The subject enters a rarefied state their “I” becomes distorted, some aspects of their reversibility are blocked. And so, *the “I” can become altered due to an excess of stimuli or from a lack of them. But in any case, if our director-“I” were to disintegrate, the activities of reversibility would disappear.* On the other hand, *the “I” directs operations by using a “space,” and depending on the emplacement of this “I” in that “space,” the direction of the impulses will change. We speak of the “space of representation” (different from the space of perception).*² On this space of representation—which the “I” also takes samples of—impulses and images are continually being emplaced. According to whether an image is launched at a certain depth or level of the space of representation, a different response goes out to the world. If in order to move my hand I visually imagine it as though I were seeing it from the outside, I imagine it moving toward an object I want to reach for, not because of this will my hand really displace itself. That external visual image does not correspond to the type of image that must be fired in order for my hand to move. For this to happen I must use other types of images—a cenesthetic image (based on internal sensation) and a kinesthetic image (based on the muscular register and the register of the position of my hand when it moves).

It could happen that all of a sudden I make a mistake in the type and emplacement of the image towards the world. I might have suffered a certain “trauma” (as people liked to call it in other times); and then, when I want to get up from the chair I’m sitting in, I make an error in the emplacement of the image in my space of representation, or I get confused and choose another type of image. What would be happening to me? I would be sending out signals, I would be seeing myself get up from the chair, but it could happen that I was not triggering the correct cenesthetic and kinesthetic images, which are the ones that move my body. If I were to make a mistake with the type of image or its emplacement, my body might not respond and remain immobile.

Inversely, it could happen that this person who has been paralyzed ever since the famous “trauma” and can’t emplace his image correctly, might receive a powerful emotional impact from a shaman healer or from a religious image, and as a result of this phenomenon of faith (a powerful emotional cenesthetic register), he reconnects the correct emplacement or correctly discerns the appropriate (cenesthetic) image. And it would be quite an impressive event for someone in front of these strange external stimuli to end their paralysis and come out walking. It could happen, if they were able to correctly reconnect the image. And just as there are many somatizations, there can also be many de-somatizations, according to the play of images that we have been discussing. Empirically, this has happened many times and numerous and diverse cases have been duly recorded.

This subject of the images is not a minor question. There’s our “I”, firing off images, and each time an image goes out, a center is mobilized and a response goes out to the world. The center mobilizes an activity, whether towards the external world or towards the intrabody. The vegetative center, for example, mobilizes firing activities towards the intrabody and not towards the external motricity. But the interesting thing about this mechanism is that, once the center mobilizes an activity, the internal senses take samplings of the activity that was triggered toward the intrabody or toward the external world. Then if I move my arm, I have a notion of what I’m doing. This notion of my movement is not given by an idea, but by cenesthetic registers proper to the intrabody and by kinesthetic registers of bodily position delivered by different types of introceptors. It happens that as I move my arm, I have a register of my movement. It is thanks to this that I can go about correcting my movements until I reach the right object. I can correct them with greater ease than a child, because a child still doesn’t have the memory, the motor experience, to perform such controlled movements. I can correct my movements because I receive the corresponding signal for each movement I make. Of course this happens at great speed and I have a signal of each movement I produce in a continuous feedback circuit, that allows for correcting as well as for learning the movement. Thus, I have a feedback intake from each action that a center mobilizes towards the world, that returns to the circuit, mobilizing in turn different functions of the other apparatuses of consciousness.

We know there are forms of motor memory. For example; when some people study, they can do it better walking than sitting down. In another example, someone interrupts their dialogue with another person they were conversing with as they were walking, because they’ve forgotten what they were about to say. However, when they return to the place where they lost the thread of the conversation, they can recall it completely. And to conclude, you know that when you have

forgotten something, if you repeat the bodily movements previous to the moment of forgetting you can recover the forgotten sequence. In reality there is a complex feedback of the outgoing action: samples are taken of the internal register, it is re-injected into the circuit, goes to memory, circulates, is associated, transformed and translated.

For many people, above all for Classical Psychology, everything ends when an act is carried out. And it seems that everything is just beginning when one carries out an act; because this act is re-injected, and the re-injection awakens a long chain of internal processes. Thus we work with our apparatuses, interconnecting them by means of complex systems of impulses. These impulses are deformed, transformed and substituted, some by others. In this way then, and according to the examples previously given, this ant that's crawling up my arm is quickly recognized. But an ant that crawls up my arm while I'm sleeping isn't easily recognized; instead that impulse is deformed, transformed and sometimes translated, giving rise to numerous associative chains, depending on the mental line that is working at that moment. To complicate things a bit more, when my arm is in a bad position, I realize it and shift my body. But when I'm sleeping and my arm is in a bad position, the sum total of the arriving impulses is captured by the consciousness, translated, deformed and associated in a unique way. It happens that I imagine an army of wasps attacking my arm, then these images will carry a charge to my arm and the arm will move in a defensive action (which will get me into a better position), and I'll continue sleeping. These images will be useful, precisely, for sleep to continue. These translations, and deformations of impulses will be at the service of the level's inertia. These images of the dream will be serving to defend their level itself.

There are very many internal stimuli that give out signals during sleep. Then, at the moment of paradoxical sleep, these impulses appear as image. It happens that, for example, there is a deep, visceral tension. What will happen? The same thing that happened with the arm, but inside. That deep visceral tension sends a signal and it is translated as image. Let's suppose something easier: a visceral irritation sends the signal that is translated as image. The dreamer now sees herself in a fire, and if the signal is too intense, the "fire" will end up breaking the inertia of the level; then the subject will wake up and take an anti-acid, this sort of thing. Otherwise, the level's inertia will be maintained and other elements will be associated to the fire that will contribute to diluting the situation, because the same image can work by firing inward and provoking distensions. In dreams, impulses from different internal tensions are continually being received, the corresponding images are being translated, and these images that mobilize centers also mobilize the vegetative center, which gives responses of internal distension. Thus the deep tensions emit their signals and the images rebound inward, provoking the distensions that are equivalent to the tensions that had been triggered.

When the subject was a small boy, he received a strong shock. He was deeply affected by something he saw. Many of his external muscles contracted. Some deeper muscular zones contracted as well. And every time he remembers that scene, the same type of contraction is produced. Now it happens that the scene is associated (by similarity, contiguity, contrast, etc.) to other images that are apparently unrelated. Then when these images are evoked, the original images appear and the contractions are produced. Finally it happens that with the passing of time, the first image that was the one that produced the tension has already been lost in ancient memory. And now, inexplicably, upon receiving an impulse followed by the release of an image, the contractions are produced. It happens that when he is in front of certain objects or situations or persons, powerful contractions awaken in the subject, and a strange fear that he is unable to relate to what happened in his childhood. One part has been erased and the other images have remained. Each time that in his dreams, images are released that trigger the contractions, and samples are taken of them that once again are translated into images, an attempt is being made in the consciousness to distense and to transfer the charges that are fixed to an unresolved situation. In the dream an attempt is being made, with the triggered images to resolve the oppressive tensions; and besides, an attempt is being made to displace the charges of certain contents to others of a lesser potential, with the aim of separating or redistributing the original, painful charge.

Keeping in mind the empirical cathartic and transferential work that is carried out during sleep, the techniques of Operative can follow the process of capturing impulses and firing images at the points of resistance. However, a few brief digressions are necessary here concerning the classification of the techniques of Operative, the general procedures and the objective of such works.

We group the different techniques of Operative³ in the following way: (1) Cathartic Techniques: Cathartic Probe, Feedback Catharsis, Catharsis of Climates and Catharsis of Images. (2)

Transfereential Techniques: Guided Experiences,⁴ Transferences and Exploratory Transferences.
(3) *Self-Transference Techniques.*

In transferences, the subject emplaces himself in a specific level and state of consciousness, in a level of active semisleep in which he descends and ascends in his internal landscape; advances or retreats; expands or contracts; and in doing so, our subject encounters resistances at certain points. For the person guiding the transference, these resistances that the subject encounters are important indicators of blockage, fixation or contraction. The guide will do what he can so that the subject's images may gently reach the resistances and overcome them. And we say that when a resistance can be overcome, a distension is produced or a transference of charge is produced. Sometimes these resistances are very great and cannot be tackled head-on because they produce reactions, or rebounds, and the subject will not feel encouraged to undertake new works if he has gone through a failure upon attempting to overcome his difficulties. Therefore, in cases of big resistances the guide does not advance frontally, but rather retreats, and "in a roundabout way" approaches them again, but reconciling internal contents and not acting with violence. The guide always orients herself based on the resistances, in the procedure of the work with images. He works in semisleep on the part of the subject, so that the latter can present a series of familiar and manageable allegories. Working with allegories in the level of active semisleep, the guide can mobilize images, overcome resistances and liberate overcharges.

The final objective of the works of Operative is that of integrating contents that are separated, such that this vital incoherence that one perceives in oneself may be overcome. These mosaics of contents which do not fit together well; these systems of ideas wherein one recognizes contradictory tendencies; these desires that one wishes one didn't have; these things that have happened and that one would not want to repeat; this tremendous complication of unintegrated contents; this continual contradiction, is what we mean to gradually overcome with the support of the transfereential techniques of integration of contents. And once familiar with the transfereential techniques, our interest is to venture into diverse types of self-transfereential work, in which one can already do without an external guide, using a codified system of images to orient one's own process. In self-transferences, unreconciled biographical contents are retrieved and it is possible to work on imaginary fears and sufferings located in a psychological present or future. The sufferings that are introduced into consciousness through its different times and different pathways can be modified by using self-transfereential images that are fired at the appropriate level and ambit of the space of representation.

We have oriented our works in the direction of overcoming suffering. We have also said that the human being suffers because of what he believes happened in his life, because of what he believes is happening, and because of what he believes will happen. And we know that the suffering that the human being undergoes because of what he believes is real, even if what he believes is not real. By working on oneself, one can access these painful beliefs and re-orient the direction of the psychic energy.

5. The System of Representation in Altered States of Consciousness

In our displacements through the space of representation, we reach its limits. As the representations descend, the space tends to darken; and inversely, as they go upwards, the clarity grows. These differences of luminosity between the "depths" and the "heights" surely have to do with the information from memory, which since earliest infancy associates the recording of luminosity to the high spaces. One can also verify the increased luminosity of any visual image emplaced at eye level, whereas its definition diminishes as it is located away from that level. Logically, the field of vision opens up with greater ease in front of and upwards from the eyes (towards the top of the head), more than forwards and downwards (towards the trunk, legs and feet). Despite the above, some painters from cold and foggy lands show us, in the lower planes of their canvasses, a special lighting where there are often snow-covered fields, as well as a growing darkness towards the high spaces, which often appear as covered with clouds.

In the depths or in the heights, objects appear that are more or less luminous; but upon representing such objects, there is no modification in the general tone of the light that may be found at the different levels of the space of representation.

On the other hand, and only under specific conditions of altered consciousness, a curious phenomenon is produced that irrupts, illuminating the entire space of representation. This

phenomenon accompanies powerful psychic commotions that deliver a very profound emotional cenesthetic register. This light that illuminates the entire space of representation manifests in such a way that, even if the subject goes up or down, the space of representation remains illuminated, without depending on any particularly luminous object; rather, the entire “environment” now appears to be affected. It is as if the TV screen were set to maximum brightness. In such a case, it is not a matter of some objects that are more illuminated than others, but of a generalized brightness. In some transferential processes, and after registering this phenomenon, some subjects return to vigil with an apparent modification of their perception of the external world. Thus, objects are brighter, sharper and have more volume, according to the descriptions usually given in these cases. When this curious phenomenon of illumination of the space is produced, something has happened to the system of structuring of the consciousness, that now interprets habitual external perception in a different way. It isn't that “the doors of perception have been purified,” but that the representation that accompanies perception has been modified.

Empirically and by means of diverse mystical practices, the devotees of some religions try to make contact with a phenomenon that transcends perception and that seems to irrupt in the consciousness as “light.” Through different ascetic or ritual procedures, through fasting, prayer or repetition [chanting], they seek to make contact with a kind of light source. In transferential and self-transferential processes, whether by accident in the first case or in a directed manner in the second, one has experiences of these curious psychic events. It is known that they can be produced when the subject has received a strong psychic commotion; that is, his state is approximately an altered state of consciousness. Universal religious literature is full of numerous accounts regarding these phenomena. It is also interesting to note that, on occasions, this light “communicates” and even “dialogues” with the subject, just as is occurring in these times with lights that are seen in the sky and that, when they reach the fearful observers, give them their “messages from other worlds.”

There are many other cases of variations in color, luminous quality and intensity, as occurs with certain hallucinogens, but such cases are unrelated to what is commented on above.

According to descriptions in many texts, some people who apparently died and returned to life had the experience of leaving their bodies and directing themselves towards an ever-brighter light, without being able to describe very well whether they were moving towards the light or it was moving towards them. The fact is that the protagonists have an encounter with such a light that has the property of communicating and even of giving instructions. But in order to be able to tell these stories, one has to be given an electric shock in the heart, or something of the kind, and then our heroes will feel that they are retreating and moving away from the famous light that they were about to make interesting contact with.

There are numerous explanations concerning these phenomena, explanations along the lines of anoxia, the accumulation of carbon dioxide, alterations in certain brain enzymes. But for us, as usual, it is not so much the explanations that are of interest—they can say one thing today and something else tomorrow—but rather the system of register, the affective emplacement that the subject undergoes, and a kind of great “meaning” that seems to erupt unexpectedly. Those who believe they have returned from death experience a great change due to the fact of having registered a “contact” with an extraordinary phenomenon, that suddenly emerges and whose nature they cannot quite comprehend—i.e., whether it is a phenomenon of perception, or of representation—but which appears to be of great importance since it has the ability to suddenly change the meaning of human life.

Furthermore, it is known that *altered states of consciousness can occur in different levels, and, of course, in the level of vigil*. When one is enraged, an altered state is produced in vigil. When one suddenly feels euphoria and a great joy, one is also brushing against an altered state of consciousness. But when people talk about an “altered state,” they tend to think of something infra-vigilic. However, altered states are frequent, they manifest in varying degree and quality. Altered states always imply the blockage of reversibility in one of its aspects. There are altered states of consciousness even in vigil, such as the states produced by suggestion. Everyone is more-or-less easily influenced by the objects shown in advertisements or magnified by media commentators. Many people in the world believe in the bounties of products promoted over and over again through different marketing campaigns. These products can be consumer commodities, values, points of view on different topics, etc. The decrease of reversibility in altered states of consciousness is present in each one of us and at every moment. In more profound cases of susceptibility we are already in the presence of the hypnotic trance. The hypnotic trance works at the level of vigilic

consciousness, even if the one who coined the word “hypnosis” thought it was a type of sleep. The hypnotized subject walks, comes, goes, moves around with their eyes open, carries out operations, and also, during the post-hypnotic effect, continues to act in vigil, but obeying the mandate given them during the hypnosis session. We are dealing here with a powerfully altered state of consciousness.

There are the pathological altered states, in which important functions of the consciousness are dissociated. There are also non-pathological states, where it is possible to provisionally split, divide the functions. For example, in certain sessions of spiritism, a person can be talking and at the same time his hand begins writing automatically and starts passing on “messages” without the subject’s being aware of what is happening.

A very extensive list of altered states could be drawn up with the cases of functional divisions and splits in the personality. Many altered states accompany defensive phenomena that are activated when adrenaline is triggered in front of danger, and this produces serious modifications in the normal economy of the consciousness. And of course, just as there are very useful phenomena in the alteration of consciousness, there are also very negative ones.

Altered states of consciousness can be produced through chemical action (gas, drugs and alcohol), through mechanical action (whirling, forced breathing, pressure on the arteries) and through sensory suppression. Also through ritual procedures and a ‘placing-in-a-situation’ thanks to special conditions using music, dances and devotional operations.

There exist the so-called *crepuscular states of consciousness*, in which there is a blockage of overall reversibility and a subsequent register of internal disintegration. We also distinguish some states that may be occasional and can well be called “*superior states of consciousness*.” These can be classified as: “ecstasy,” “rapture,” and “recognition.” The states of ecstasy tend to be accompanied by gentle motor concomitances and by a certain generalized agitation. *States of rapture* are rather more marked by powerful and ineffable emotional registers. *States of recognition* can be characterized as intellectual phenomena, in the sense that the subject believes, in an instant, that he “comprehends all;” in one instant he believes there is no difference between what he is and what the world is—as though the “I” had disappeared. Who hasn’t suddenly experienced a great joy for no reason: a sudden, growing and strange joy? Who hasn’t experienced—without any apparent cause—a realization of profound meaning in which it became evident that “this is how things are”?

It is also possible to penetrate into a curious *altered state of consciousness through the “suspension of the ‘I’.*” This presents itself as a paradoxical situation, because in order to silence the “I” it is necessary to keep watch over its activity in a voluntary way, which requires an important action of reversibility that reinforces, once again, what one wishes to annul. And so suspension is only achieved through indirect routes, by progressively displacing the “I” from its central location as object of meditation. This “I”—a sum of sensation and memory—suddenly begins to silence itself, to de-structure. Such a thing is possible because the memory can stop delivering data and the senses (at least the external ones) can also cease supplying data. *The consciousness is then in a situation of finding itself divested of that “I” —in a kind of void. In such a situation, a mental activity that is very different from the habitual one can be experienced.* Just as the consciousness nourishes itself with the impulses that arrive from the intrabody, from outside the body and from the memory, it also nourishes itself with the impulses from responses that it gives to the world (external and internal), and that once again feed the reentry into the circuit. And through this secondary path, we detect phenomena that are produced when *the consciousness is capable of internalizing towards “the profound” in the space of representation.* “The profound” (also called “the Self” in one contemporary psychological current), is not exactly a content of consciousness. The consciousness can reach “the profound” through a special work of internalization. In this internalization, that which is always hidden, covered by the “noise” of the consciousness, erupts. It is in “the profound” where the experiences of sacred spaces and times are encountered. In other words, in “the profound” one finds the root of all mysticism and all religious sentiment.

PSYCHOLOGY IV

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1. Impulses and the diversification of Impulses.

In Psychology III¹ it was stated that the work of an impulse, in whatever circuit, ends up producing an internal register in the subject. One of the circuits deals with perception, representation, a renewed taking of the representation, and the internal sensation in general. Another circuit traces the route of the impulses that end up in those actions launched towards the external world—of which the subject also has internal sensation. This feedback of awareness is what allows one to learn through one's own actions, whether by improving on a previous action or by ruling out an error that has been committed. All of this was made clearer through the example of learning to use a keyboard.²

Furthermore, every impulse whether it ends in the intrabody or the exterior of the body produces registers of different placements in the space of representation. This makes it possible to point out that the impulses of the intrabody locate themselves at the coenesthetic - tactile limit, towards the "inside" of the body, and that those impulses that terminate in actions in the external world are registered at the kinesthetic - tactile limit, towards the "outside". Whatever the direction of the impulse (which necessarily counts on a correlate of information or internal sensation) it will always modify the general state of the circuit. As regards the impulses' capacity for transformation we can consider two types: 1. those which we call "cathartic", capable of freeing tensions or of discharging psychophysical energy, and 2. those that we call "transferential", which permit the transfer of internal charges, the integration of contents and the expansion of the possibilities for development of the psychophysical energy. Every impulse, then, independently of its direction, has a predominantly cathartic or transferential capacity. Moreover, in every impulse there exists a quota of gratification or discomfort that permits the subjects to select their acts of consciousness and corporal actions.

The impulses "diversify" through various systems of feedback such as those that permit comparisons of the registers of perceptions with the registers of representations and with those that necessarily accompany "retentions" or memories of the same. Other kinds of diversifications exist that more or less voluntarily "focus" on perceptions and representations. These diversifications have been termed "apperceptions," that is to say, the selection and direction of the consciousness towards the sources of perception and also "evocations", that is to say, the selection and direction of the consciousness towards the sources of retention. The voluntary and involuntary direction and selection of the consciousness towards its different sources constitutes the function that has generically been referred to as "attention".

2. Consciousness, attention and the "I"

We term "consciousness," the apparatus that coordinates and structures the sensations, images and memories of the human psychism. Furthermore, it is not possible to locate the consciousness in a precise place in the central nervous system or at a certain cortical or subcortical point or depth. It is also not a matter of confusing specialized points of work, such as the "centers", with the functional structures that can be verified throughout the totality of the nervous system.

For greater expository clarity, we designate as "conscious phenomena" all that occurs in the different levels and states of vigil, semisleep and sleep, including those which are subliminal (i.e. those which occur at the limit of registers whether perceived, represented or remembered). Of course, when speaking of the "subliminal" we are not referring to some supposed "subconscious" or "unconscious".

Often the consciousness is confused with the "I," when in reality the latter doesn't have a corporeal base, as does what can be identified as the registering and coordinating "apparatus" of the human psychism. We previously stated that: "...This register of the consciousness own identity is given by the data of the senses, and the data of memory, plus a peculiar configuration that gives to the consciousness the illusion of permanence, in spite of the continual changes that it can verify

within itself. *This illusory configuration of identity and permanence is the "I"*.³ It is frequently seen in altered states of consciousness, that while the consciousness maintains itself in vigil, specific impulses that should arrive as registers are blocked, and the notion of the "I" undergoes an alteration or estrangement; the consciousness loses reversibility, critical sense, and at times the de-contextualized images take on a hallucinatory external "reality". In this situation, the "I" is registered as located in the external limit-zones of the space of representation and at a certain "distance" from the habitual "I". The subject can experience phenomena of registering and feeling that come from the external world although, rigorously speaking, these are not phenomena of perception but rather representation. These phenomena, where representation is substituted for perception and as such located within an "external space" (towards whose limit the "I" moves)", we refer to as "projections".

3. Spatiality and temporality of the phenomena of consciousness⁴

In active vigil, the "I" locates itself in the more external zones of the space of representation, "lost" in the limits of external sense of touch, but if I have an apperception of something that I see, the register of the "I" shifts. In this moment I could say to myself: "From where I am I see an external object that I register within my body". Even though I am connected with the external world through the senses there exists a division between spaces, and it is in the internal space that I locate the "I". If I subsequently have an apperception of my breathing I might say to myself: "I experience within me the movement of my lungs. I am inside my body but I am not inside my lungs". It is clear that I register a distance between the "I" and the lungs, not only because I register the "I" in the head which is far from the thoracic cage but because in all cases of internal perception (as may occur with a toothache or headache), these registers will always be at a "distance" from me as observer. But here we are not interested in this "distance" between the observer and the observed, rather the "distance" from the "I" towards the external world and from the "I" towards the internal world.

Certainly we could point out very subtle nuances in the variability of the "spatial" positions of the "I", but here we are highlighting the diametrical locations of the "I" in each of the mentioned cases. In this description, we can also say that the "I" can be located in the interior of the space of representation but in the kinesthetic tactile limits that give the notion of the external world and inversely, in the coenesthetic tactile limits that give the notion of the internal world⁵. In any case, we can use the image of a biconcave film (as the limit between worlds) that dilates or contracts, and in this way focuses or blurs the register of external or internal objects. In vigil, the attention is directed, more or less intentionally, towards the registers of the external or internal senses. This management of its direction is lost in semisleep, sleep or even in altered states of vigil since in all these levels and states reversibility is affected by phenomena and registers that are imposed on the consciousness. *It is very evident that not only memory, perception and representation take part in the constitution of the "I" but so does the position of the attention in the space of representation. Consequently, we are not speaking about a substantial "I" but rather an epiphenomena of the activity of the consciousness.*

This "I - attention" seems to carry out the function of coordinating the activities of the consciousness with one's own body and with the world in general. The registers of the position and elapsing of mental phenomena overlap in, and also become independent of, this mental coordination. In this way, the metaphor of the "I" ends up taking on identity and "substantiality," becoming independent of the structure of the functions of the consciousness.

On the other hand, the repeated registers and recognition of the action of attention goes being configured in the human being from very early on in the measure that the child arranges more or less voluntary directions towards the external world and the intrabody. Gradually, along with the management of the body and certain internal functions, the punctual presence is strengthened as is a copresence in which the register of one's own "I" is constituted as concentrator and background of all mental activity. We are in the presence of the great illusion of the consciousness which we call "I".

We should now consider the location of the “I” in the different levels of consciousness. In vigil the “I” occupies a central position given by the availability of the attention and reversibility. This varies considerably in semisleep, when the impulses that come from the external senses tend to become weakened or fluctuate between the external world and a generalized coenesthesia. It is during sleep with images that the “I” internalizes itself. Lastly, it is in vegetative sleep that the register of the “I” disappears⁶. The transformations of the impulses in vigilic reveries appear in the sequences of free association with numerous allegorical, symbolic and signic translations that make up the special language of the images of the coenesthesia. Of course we are referring to the uncontrolled sequences of images typical of the associative pathways and not to the imaginary constructions that follow a, more or less, premeditated development,⁷ nor are we referring to the translation of impulses channeled through the abstractive paths which also are manifested as symbolical and signic images. Impulses, transforming themselves in different levels also cause the register of the “I” to vary in depth or superficiality in the space of representation. To sketch this out we could point out that psychic phenomena are always registered not only between the “spatial” coordinates x and y but also in respect to z; “z” being the depth of the register in the space of representation. Of course the register of any phenomenon is experienced in the tridimensionality of the space of representation (according to greater externality or interiority with respect to the impulses’ depth, vertical height, and horizontal lateral position)—something that can be verified through apperception or representing impulses originating from the external world, the intrabody or the memory.

Avoiding the complications of the descriptions proper to Phenomenology we should now consider some topics which it has exhaustively studied⁸. We say that in vigil *the fields of presence and copresence* allow us to locate phenomena within a temporal succession, establishing the relation of events from the present moment where I am located along with previous moments from which the *flow* of my consciousness comes as well as subsequent moments, to which this flow is directed. In any case, the present instant is the barrier of temporality and even though I cannot give an account of it because when I think about it I count only on the retention of what has happened in the dynamic of my consciousness, its apparent “fixity” permits me to go “back” or “forward” toward the phenomena that are no longer and those that are not yet. It is in the *temporal horizon* of the consciousness that all events are recorded. And in the restricted horizon that fixes the presence of *acts and objects* a field of copresence will always be acting in which everything will be connected.

This is different from what occurs in the elapsing of the physical world; events of consciousness do not respect chronological succession, rather they turn back, persist, become actualized, modified and futurized, altering the present instant. The “present instant” is structured by the intercrossing of the retention and the protention. For example: a painful event imagined in the future can act over the subject’s present; diverting the tendency that has moved his body in the direction of a previously desired object. In this way, the laws that serve in the spatio-temporality of the physical world are considerably diverted in mental objects and acts. This independence of the psychism, through “deviation” of the physical laws, brings to mind the idea of “*clinamen*” which Epicurus presented in order to introduce freedom into a world dominated by mechanism.⁹

Taking the structurality of the consciousness in relation to the “apparatuses” and the different pathways through which the impulse circulates as understood, we can consider this in its various transformations, as the basic “atom” of psychic activity. However, this atom does not present itself in isolation but rather in “impulse trains”, in configurations that give rise to perception, memory and representation. In this way, the insertion of the psychic in external spatiality begins with the impulses which become protentions of kinesthetic images and move towards the exterior of the tridimensionality of the space of representation, moving the body. It is clear that the coenesthetic images and those corresponding to external senses act in an auxiliary mode (as “compounded signals”) in all phenomena in which the selecting and regulating of motor direction and intensity are involved. Finally, it is in this flow of impulses relative to the time and space of the consciousness that the first events occur that will end up modifying the world.

At this point it would not be out of place to make a general reflection about the events in which the psychism acts from, and toward, its externality. To begin with, we observe that material objects

are presented as spatiality to the “tactile” reception of the external senses which differentiates the corpuscle, the wave, the molecule, pressure, temperature, etc. And we end up saying that these “impressions”, or impulses external to the psychism, put into motion a system of interpretation and response that could not operate if it wasn’t for an internal space.

We are affirming, in the broadest possible way, that by variation of impulses between “spaces”, the psychism is penetrated by, and penetrates, the world. We are not speaking of closed circuits between stimulus and response but rather of an open and growing system that grasps and acts through accumulation and temporal protention. On the other hand, *this “opening” between “spaces” does not occur through crossing the barriers of a monad¹⁰ but rather because the consciousness from its origin is constituted from, in, and for, the world.*

4. Structures of Consciousness.

The different ways of being a human being in the world¹¹, the various circumstances of experience and doing, correspond to complete structurings of consciousness. Thus: the “unhappy consciousness”, the “anguished consciousness”, the “emotional consciousness”, the “disgusted consciousness”, the “nauseated consciousness”, the “inspired consciousness”, are prominent cases that have been well described.¹² It is pertinent to note here that such descriptions can apply to the personal, the groupal and the social. For example, to describe a structure of consciousness of panic one should begin from the collective situation, as is recognized in the (legendary and historic) origins of the word “panic” that designates a special state of consciousness. With the passage of time the word “panic” has come to be used with increasing frequency to explain an alteration of individual consciousness.¹³

However, the previously cited cases can be understood individually or as an assemblage (in consideration of the intersubjectivity constitutive of the consciousness). Variations in these global structures always occur and will occur in the concurrent phenomena as is the case of the “I”. Thus, in various states of consciousness in full vigil we register the location of the “I” in different depths of the space of representation.

To understand the foregoing, we must appeal to the differences between levels and states of consciousness. The classical levels of vigil, semisleep, deep paradoxical sleep and deep vegetative sleep, do not present difficulties of comprehension. But in each one of those levels we have the possibility of recognizing different positions of the psychic phenomena. Taking some extreme examples we say that when the “I” maintains sensory contact with the external world but is lost among its representations or evocations, or if it is aware of itself without significant interest in its actions in the world, we are in the presence of a *vigilic consciousness in the state of absorption*. The body acts externally in a sort of “irreality” that on being deepened can end up in disconnection and immobility. It is a matter of the “I” slipping towards a constant presence of registers of evocation, representation or tactile coenesthetic perception and therefore the distance between the “I” and the external object is “increased”.

In the opposite case the “I” lost in the external world displaces itself towards the tactile kinesthetic registers with neither criticism nor reversibility towards the acts being carried out. Here we are dealing with a case of *vigilic consciousness in a state of alteration* as can occur in what are called “violent emotions”. In this case, what is decisive is the importance with which the external object is charged, shortening the distance between the “I” and the perceived object.

a. Structures, states and non-habitual cases.

We call those behaviors that present abnormalities with respect to the individual or group parameters under consideration, “non-habitual”. It is clear that if the population of a country, or a human group, goes mad we are not going to cease considering these to be cases of “non-habitual” behaviors just because of the number of representatives. In any case, that human collective should be compared with stable situations in which it has lived and where reversibility, the critical sense

and control of its acts, has predictable characteristics. On the other hand there are “non-habitual” cases that are fleeting and others that seem more rooted or even unfold as time passes. It is not our interest to typify those social conducts from the point of view of the law, the economy, or of psychiatry. Perhaps anthropology or history could provide us with more motives for reflection on these cases.....

If our interest in “non-habitual” behaviors carries us to the field of the personal, or at the most to that of the immediate interpersonal, the criteria of reversibility, critical sense and control of one’s own acts will continue being valid in relation to that personal or interpersonal history. What was mentioned earlier is still applicable in regards to those fleeting “non-habitual” cases, both those that seem established as well as those which will unfold in their abnormality as time passes. Therefore we carry our study of the “non-habitual” out of the territory of pathology to focus it within our Psychology, in two large groups of states and cases; those that we call respectively, “perturbed consciousness” and “inspired consciousness”

b. “Perturbed consciousness”.

There exist diametric positions of the “I”: between altered states that range from everyday activity to violent emotion and between states of absorption that range from reflective calm to the disconnection of the external world. There are also altered states in which the representations are externalized as projections in such a way that they are fed back to the consciousness as “perceptions” originating in the external world. There are other states of absorption, in which the perception of the external world is internalized—introjected.

We have read and listened to well researched accounts and reports of individuals who suffered hallucinations while in difficult situations in high mountains, in polar solitudes, in deserts and at sea. The physical state of fatigue, anoxia and thirst; the psychic state of abandonment in the monotony of silence and solitude; the extreme thermal environmental conditions, these are elements that can cause cases of hallucinatory alterations or, more frequently, cases of specific illusory alterations.

On the other hand, on the side of introjected absorption, the external sensation arrives to the consciousness but the corresponding representation operates disconnectedly from the general perceptual context, feeding back to the consciousness which interprets and registers the phenomenon as “meaningful” interiority, as a representation which appears “to direct itself” to the interior of the subject in a direct fashion. For example: the colored lights of the traffic signals in a big city suddenly begin to “send” mysterious codes and clues to the eyes of an anxious pedestrian who, starting from this moment, considers themselves as the only person capable of “receiving” and understanding the significance of the messages.

Projected altered states, as well as the introjected states of absorption, correspond to the transitory or permanent perturbation of vigilic consciousness which we have mentioned here as cases of diametric placement in the location of the “I”. Furthermore, we should also mention the states of alteration and absorption in the level of sleep with images, and semisleep.

In Psychology III we reviewed numerous cases of transitory perturbations of the consciousness¹⁴. We mentioned the situation of a person who projects their internal representations and is left very suggestible to them, in a similar fashion to what occurs in full sleep when one receives the suggestions of oneiric images. This refers to hallucinations which also occur in states of intense fever; chemical action (gases, drugs, and alcohol); mechanical action (spinning, forced breathing, pressure on arteries); by suppression of the external senses (isolation chamber) and by the suppression of internal senses (cosmonauts in zero gravity).¹⁵

We should also consider accidental perturbations in daily life. These manifest in sudden changes of mood, such as fits of rage and explosions of enthusiasm, which in greater or lesser measure permit us to experience the displacement of the “I” towards the periphery at the same time that reversibility fails and the state becomes increasingly altered. We can observe the contrary, when in the face of sudden danger the subject contracts or flees, trying to put distance between

themselves and the threatening object. In any case, the displacement of the "I" is inward. In this same vein we can confirm certain curious infantile behaviors. In fact, children often use toy monsters to "resist" or "fight off" other monsters that are watching or drawing close in the night. And, when that technology does not work there always remains the recourse of hiding under the sheets; hiding the body in the face of horrifying threats. It is clear in these cases that the "I" becomes absorbed and introjected.

c. "Inspired consciousness".

The inspired consciousness is a global structure capable of achieving immediate intuitions of reality. On the other hand, it is well suited to organize ensembles of experience and to prioritize expressions which are usually transmitted through Philosophy, Science, Art and the Mystic.

To assist with our development we could ask and answer in the manner of school children: Is inspired consciousness a state of absorption or alteration? Is inspired consciousness a perturbed state, a rupture of normalcy, an extreme introjection, or an extreme projection? Doubtless inspired consciousness is more than a state, it is a global structure that passes through different states and that can manifest in different levels. Furthermore, the inspired consciousness perturbs the operation of habitual consciousness and breaks the mechanics of the levels. Finally, it is more than an extreme introjection or an extreme projection since it makes use of either of these depending on its purpose. This last point is made evident when the inspired consciousness responds to a present intention or, in some cases, when it responds to an intention that is not present but that acts copresently.

In philosophy importance is given neither to inspiring dreams nor flashes of inspiration, but rather to direct intuition as applied by some thinkers in order to apprehend immediate realities of thought without intermediation of deductive or discursive thought. This does not refer to "intuitionist" currents in logic or mathematics but to thinkers who give priority to direct intuition as in the case of Plato's Ideas, of Descartes' clear and distinct ideas which leave aside the deceptions of the senses, and of Husserl with his descriptions of Noesis, and "suspension of judgment" (epoché).¹⁶

From the history of the science we can salvage examples of flashes of inspiration that permitted important advances. The best-known, though dubious, case is that of Newton's famous "falling apple".¹⁷ If this indeed happened, we should recognize that the sudden inspiration was brought about by a slow but intense search oriented toward the cosmic system and the gravity of bodies. By way of examples, we could also keep in mind another case, that of the chemist Kekulé¹⁸ who one night dreamt of several intertwined snakes which inspired him to develop notions in organic chemistry. Doubtless, it was his constant preoccupation with formulating the linkage among substances that continued to work even at the level of paradoxical sleep, taking the pathway of allegorical representation.

In Art there are many examples of inspiring dreams; as in the case of Mary Shelley¹⁹ who declared before friends, that she felt an "...empty incapacity of invention that is the greatest misfortune for an author", but that night she saw in her dreams the horrible being that was to become the inspiration of her novel "Frankenstein or the Modern Prometheus". Something similar occurred with the dream of R. L. Stevenson, which set in motion his fantasy story "The Strange Case of Doctor Jekyll and Mr. Hyde"²⁰ Certainly in the field of the arts the vigilic inspiration of writers and poets are the best known cases. Nevertheless, we know of inspirations, in other media, such as, painters like Kandinsky²¹, who in "Concerning the Spiritual in Art", described the inner need that expresses itself in artistic work as inspiration. Literary and plastic artists, musicians, dancers and actors have all tried to connect to non-habitual mental and physical environments seeking inspiration. The various artistic styles which respond to epochal conditions are not simply fashions or ways to generate, capture, or interpret the artistic work, but rather ways of "preparing oneself" to receive and to give sensory impacts. This "disposition" modulates the individual or collective sensibility and is, therefore, the one pre-dialogical²² that permits us to establish communication esthetics.

We find a vast field of inspiration in the Mystic. We must point out that when we speak of the "mystic" in general we are considering the psychic phenomena of the "experience of the sacred" in its various depths and expressions. There exists a copious literature that speaks of the dreams²³, visions in semisleep,²⁴ and the vigiliic intuitions²⁵ of those persons who are references for religions, sects and mystical groups. There are also numerous abnormal states and *extraordinary cases of experiences of the sacred that can be classified as Ecstasy, that is mental situations in which the subjects remain suspended—absorbed, dazzled within themselves; as Rapture, uncontrollable motor and emotional agitation in which the subjects feel transported, carried out of themselves to other mental landscapes, to other times and spaces; and finally, as "Recognition" in which subjects believe that they comprehend everything in a single moment.* In this point we are considering the inspired consciousness in its experience of the sacred which varies in the way it faces these extraordinary phenomena, and by extension those mental operations have been attributed even to the rapture of the poet or the musician, cases in which "the sacred" may not be present.

We have mentioned the structures of consciousness that we call "inspired consciousness" and we have demonstrated their presence in the vast regions of philosophy, science, art and the mystic. But inspired consciousness acts frequently in everyday life; in intuitions, vigiliic inspirations, semisleep and paradoxical sleep. "Hunches," falling in love, the sudden comprehension of complex situations and the instantaneous resolution of problems that troubled the subject for a long time are examples of inspiration in daily life. These cases do not guarantee correctness, truth, or the coincidence of the phenomenon with respect to its object, but the registers of "certainty" that accompany them are of great importance.

d. Accidental phenomena and desired phenomena.

The consciousness can structure itself in different forms, varying through the action of specific stimulus (internal or external), or through the action of complex situations that work in an undesired way, an accidental way. The consciousness is "taken"²⁶ in situations where reversibility and self-criticism are practically annulled. In the case that concerns us, "inspiration" bursts into mechanisms and levels, sometimes acting in a less obvious way as a "background" of the consciousness.

Furthermore, anguish, nausea, disgust and other configurations can appear suddenly or maintain themselves as more or less prolonged mental backgrounds. For example: when I accidentally turn over a rock and discover a roiling mass of small insects that might swarm towards me or sting my hand, I experience revulsion towards this formless life that assaults me. I also register a suppressed aversion when I perceive something sticky, damp and warm advancing towards me. But this immediate rejection goes beyond the simple motor reflex response to danger since it commits me viscerally causing a rejection that can end in the reflex of nausea, retching, excessive salivation, and in the extraordinary register that the distance between me and the object, or between myself and the disgusting situation, has "shortened". This shortening of space in the representation brings the object into a type of existence that allows it to "touch me" or to "get inside of me," provoking retching as a ritual expulsion from my intrabody. The "closeness" referred to is as unreal as the corresponding reflex retching. Consequently, the relation between the disgusting object and the retching response takes on its own characteristics which are outside of the real objects involved. They are converted into a ritual in which the object and the act form a particular structure, the structure of disgust. This accidental configuration of consciousness also occurs when facing a morally or aesthetically repugnant object, as in the case of a novel plagued by naiveté, plays on words and lukewarm, saccharine sentimentality, infused with a diffuse vitality. All of this ends up provoking in me a visceral defense that averts a profound "invasion" of my body. These structures of consciousness compromise my unity, affecting not only ideas, emotions, and motor reactions, but my somatic totality.

I believe that it would be opportune to make a small digression at this point. It is possible to consider advanced configurations of consciousness in which all types of violence provoke repugnance with the corresponding somatic correlates. The establishment in society of such a structuring of non-violent consciousness would be a profound cultural conquest. This would go

beyond ideas or emotions which in present societies are only weakly manifested, to begin forming part of the psychosomatic and psychosocial framework of the human being.

Returning to our theme: We have recognized structures of consciousness that configure themselves accidentally. We also observe that there occur configurations that respond to desires, or to the plans of those who "put" themselves in a particular mental situation in order to cause the phenomenon to arise. Of course, as with the desire for artistic inspiration or the desire to fall in love, such things function at times, and at other times they do not. The inspired consciousness, or better still, the consciousness prepared to achieve inspiration appears, with various and suggestive examples, in philosophy, science, art, and also in everyday life. Nevertheless, it is especially in the mystic that the search for inspiration has given rise to psychological practices and systems that have had, and continue to have, an unequalled level of development.

We recognize the techniques of "trance"²⁷ as belonging to the archeology of mystical inspiration. So it is that we find trance in the most ancient forms of magic and religion. People have relied on potions²⁸ and the inhalation of fumes and vapors to provoke it.²⁹ Other techniques that are more elaborate in the sense of allowing the subject to control and progress in their mystical experience have been refined over a long period of time. Ritual dances, repetitive ceremonies, fasts, prayers, exercises of concentration and meditation have all undergone considerable evolution.

e. Displacement of the I. Suspension of the I.

The Sybil of Cumae, not wishing to be taken by the terrible inspiration, despairs and twists about shouting: "Already he comes, already the god comes!". And, almost effortlessly the god Apollo descends from his sacred wood to the deep cave, where he possesses the prophetic.³⁰ In this case as well as in other cultures, entrance into trance occurs through internalization of the "I" and by an emotional exaltation in which is copresent the image of a god, of a force, or of a spirit that takes over and supplants the human personality. In cases of trance, the subject is placed at the disposition of an inspiration that permits them to grasp realities, and exercise powers unknown in everyday life³¹. Nevertheless, we often read how the subject resists and even fights with the spirit, or god trying to resist the rapture in convulsions that make one recall epilepsy, but that is part of a ritual that affirms the power of the entity that bends the normal will.³²

In Central America, the Haitian Voodoo cult³³ allows us to understand techniques of trance realized through dances aided by the use of fish toxin based potions.³⁴ In Brazil, the Macumba³⁵ illustrate other variants in the mystic of trance attained through dance aided by use of an alcoholic beverage and tobacco.

Not all cases of trance are as colorful as those mentioned. Some Indian techniques such as those utilizing "yantras," complex geometric figures, allow one to arrive to trance through the interiorization of progressively smaller triangles, which on occasion end in a central point. Also in the techniques that use "mantras" the subject goes increasingly deeper until arriving at absorption, through the repetition of a profound sound. Many Western practitioners do not have success with visual and auditory contemplations because they are not prepared emotionally and limit themselves to repeating those figures or sounds without internalizing them with the emotional or devotional force required for the coenesthetic representation to accompany the narrowing of the attention. These exercises are repeated as many times as necessary until the practitioners experience the replacement of their personalities and the inspiration is fully experienced.

The displacement of the "I" and its substitution by other entities can be verified in the cults mentioned earlier as well as in the most recent Spiritist currents. In these the "medium" in trance is taken by a spiritual entity which substitutes for the habitual personality. Something similar occurs in hypnotic trance when the subject deeply interiorizes the suggestions of the operator raising the representation of the voice to the "place" normally occupied by the habitual "I". Of course to be "taken" by the operator the subject must have a receptive state of "faith" and follow the instructions received without harboring doubts.³⁶ This point demonstrates an important characteristic of the

consciousness. We are saying that while realizing a vigilant and attentive operation there appear reveries that are at times unnoticed, or which end up diverting the direction of the mental acts that are being carried out. The field of copresence is always acting even though the objects present to consciousness take the attentional focus. The great quantity of automatic acts carried out in vigil demonstrates the capacity of the consciousness to carry out different works simultaneously. Certainly, dissociation can reach a pathological degree but it can also manifest with force in almost all the phenomena of inspiration. On the other hand, the displacement of the "I" cannot be complete in the spirit trance or hypnosis. This is verified in what is called "automatic writing" which is carried out without faltering even though the attention of the subject is focused in conversation or other activities. Frequently, we find this dissociation in "cryptography" in which the hand draws while the subject is deeply involved in a telephone conversation.

Advancing towards absorption we could end up at a point in which the automatisms are left behind and where we are no longer dealing with a question of displacements or replacements of the "I". We have at hand the example given by the practice of the "prayer of the heart" as carried out by the Orthodox monks of Mount Athos.³⁷ The recommendations given by Evagrio Pontico³⁸ turn out to be most adequate in order to avoid representations (at least those of the external senses): "Do not imagine the divinity in you when you pray, nor let your intelligence accept the impression of any form whatever; maintain immaterial and you will understand." In broad strokes the prayer functions in this way: the practitioner in silent retreat concentrates on the heart, takes a short phrase and gently draws the phrase, along with the air, down to the heart, finishing the inhalation and "putting pressure" so they go deeper inward. Later, the air is exhaled very smoothly, without losing the attention in the heart. The monks repeated this practice many times a day until some indicators of progress such as "illumination" (of the space of representation) appeared. For the sake of precision we should acknowledge the passage through a state of trance in some moment of the repetitions of those prayers. The passage through trance is not very different than that produced in the works with yantras or mantras, but in the practice of the "prayer of the heart" the intent is not to be "taken" by entities that replace one's own personality, rather the practitioner ends up surpassing the trance and "suspending" the activity of their "I".

In this sense, in the practices of Yoga one can pass through different types and levels of trance, but we should keep in mind what Patanjali³⁹ says in Book I Sutra II: "The yogi aspires to the liberation from the disruptions of the mind". This system of practices goes in the direction of trance, disassociation, and the surpassing of the habitual "I". In advanced absorption the "suspension of the "I", of which we have sufficient indicators, is produced in full vigil and outside of any trance. It is evident that even from the beginning of their practice the subject is oriented toward the disappearance of the "noises" of consciousness dampening the external perceptions, representations, memories and expectations. Some practices of yoga⁴⁰ allow the mind to be quieted and to place the "I" in state of suspension for a brief period.

f. Access to the profound levels.

Doubtless the substitution of the "I" by a force, a spirit, a god, or the personality of a sorcerer or hypnotist, is something present in history. As we have seen the suspending of the "I" while avoiding any substitution as in some types of yoga and some advanced mystical practices is also something known though not so present. So then, if someone could suspend and then cause the "I" to disappear, they would lose structural control of the temporality and spatiality of their mental processes. They would be in a situation previous to that in which they learned to take their first baby steps. They would not be able to communicate to themselves nor coordinate the mechanisms of consciousness; they would not be able to appeal to memory; they would not be able to relate to the world and they would not be able to advance in their learning. We would not be in the presence simply of an "I" dissociated in some aspects, as occurs in certain mental conditions; rather we would find ourselves with someone in a state that would seem like vegetative sleep. It follows that these notions of "abolishing the "I" or "abolishing the ego" in everyday life are not possible. Nevertheless, it is possible to arrive at the mental situation of abolishing the "I", not in everyday life but in determined conditions that start off from the suspension of the "I".

Entrance to the profound states occurs from the suspension of the "I". From that suspension, significant registers of "lucid consciousness" and comprehension of one's own mental limitations are produced, which constitutes a great advance. Regarding this transit one should keep in mind some inescapable conditions: 1. that the practitioner has his or her Purpose clear—what they desire to achieve as the final objective of this work; 2. that they count on sufficient psychophysical energy to maintain their attention absorbed and concentrated on the suspension of the "I" and 3. that they can continue without interruption the continuous deepening of the state of suspension until the temporal and spatial references disappear.

With respect to the Purpose, it should be considered as the direction of the whole process, even though it does not occupy the attentional focus. We are saying that the Purpose must be "recorded" with sufficient emotional charge so that it is able to operate copresently while the attention is busy with the suspension of the "I" and in the subsequent steps. This preparation conditions all of the subsequent work. As for the psychophysical energy necessary to maintain the attention in an interesting level of concentration, the main impulse stems from the interest that forms part of the Purpose. On verifying a lack of potency and permanence, one should review the preparation of the Purpose. What is required is a consciousness cleared of fatigue and with a certain minimal education in the reduction of the attentional focus onto a single object. Continuing in the deepening of the suspension until achieving the register of "emptiness" signifies that nothing should appear as a representation, or as a register of internal sensations. There should not, and cannot be a register of this mental situation. And the return from the mental situation of suspension to habitual vigil is produced by impulses that reveal the position and the discomforts of the body.

We can not say anything about this "void". The recovery of inspiring meanings, of the deep meanings that are beyond the mechanisms and the configurations of consciousness, are carried out by my "I" when it returns to its normal vigilic work. We are speaking of a type of perception, different from the ones we know, of "translations" of deep impulses, which arrive from my intrabody during deep sleep, or of impulses that arrive to my consciousness at the moment of "return" to the normal vigil. We cannot speak of that world because we do not have registers during the absence of the "I"; as Plato mentioned in his myths, we have only "reminiscences" of that world.

Notes to Psychology

Psychology I

- ¹ This phrase justifies the addition at the end of this summary of the Appendix, "Physiological Bases of the Psychism." The author stated verbatim: "In order to achieve an integrated vision of the work of the human psychism, we will present its different functions in a metaphor of 'apparatuses' that may be possible to localize physiologically."
- ² For the application of these studies on apparatuses of the psychism, consciousness, impulses and behavior see Ammann, L. *Self Liberation*. York Beach, Maine. USA: Samuel Weiser, 1981.
- ³ For a presentation on the theme of impulses see Caballero, J. *Morfología: Símbolos, signos y alegorías*. Madrid: Ed. Antares, 1997.

Psychology II

- ¹ Refers to explanations given in Corfu in the year 1975 and published as *Psychology I*.
- ² See *Appendix* on the physiological basis of the psychism in *Psychology I*.
- ³ On the space of representation, see *Silo. Collected Works. Vol. I*. "Psychology of the image".

Psychology III

- ¹ Refers to Point 8 in *Psychology II*.
- ² To expand on this point, the reader may refer to the conference entitled: "About the Riddle of Perception," *Silo Speaks. Collected Works. Vol. I*.
- ³ See Ammann, L. *Self Liberation. Second Part. Operative*. York Beach, Maine. USA: Samuel Weiser, 1981.
- ⁴ To comprehend and use this technique, see *Guided Experiences*, especially the introductory lecture of this book's presentation in *Silo Speaks. Collected Works. Vol. I*.

Psychology IV

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- ¹ This refers to the explanations given in the Canary Islands in 1978 and which have been published as *Psychology III*, in *Notes on Psychology*. Silo. Collected Works Vol.II. USA. Latitude Press, 2006
 - ² Op.cit., Catharsis, Transferences and Self-transferences. Action in the world as transferential form.
 - ³ Op. cit., *Consciousness and the I*.
 - ⁴ Cf: *Space of Representation* in *Psychology II*. Silo. Collected Works Vol. 2
 - ⁵ Cf: *Psychology of the Image*, in *Contributions to Thought*. Silo. Collected Works Vol. 1, Latitude Press 2002
 - ⁶ Note from the editors: In "paradoxical sleep" or sleep with images, the register of the I "moves away from" the external world or becomes diluted in disjointed images until disappearing in a situation that only with great difficulty is under the control of the dreamer. As for profound vegetative sleep, electroencephalography shows a total absence of images. Neither is REM (rapid eye movement) detected, and this coincides with retrograde amnesia for the psychic events that occurred within this total forgetting of the "I".
 - ⁷ cf. The 1989 conference on the Guided Experiences given in the Ateneo de Madrid in *Silo Speaks Book Presentation, Guided Experiences. Silo Collected Works Vol. 1*. USA, Latitude Press 1999
 - ⁸ Note from the editors: For a greater understanding of the apparatus cf. Cartesian Meditations. Second Meditation. 19. Actuality and Potentiality of intentional life. Husserl E. The Hague, Martinus Nijhoff. 1960. Also see: *Being and Time, division 2, IV Temporality and Everydayness*. As well as section 70 *The Temporality of the Spatiality that is Characteristic of "Dasein"*. M. Heidegger, New York. Harper & Row. 1962.

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- ⁹ It seems that Epicurus defended Democritus' Theory according to which atoms in motion form the physical world. However, he added in response to an objection of Aristotle's, that the atoms suffer deviations, and inclinations, which permit their encounters. The doctrine pertaining to the idea of the "clinamen", doesn't seem to have been fully formulated until three hundred years after Epicurus. cf: Lucretius De Rerum Natura, II, 289- 93.
- ¹⁰ Note from the editors: Since Pythagoras the *monad* has been conceived as the primary or fundamental unit from which numbers are derived. Through the years, the idea of the monad underwent important changes until, in the Renaissance and with Giordano Bruno's *Of Monads*, the constitutive atoms of reality are living and animated. In the XVIII Century Leibniz in his *Principles of Nature*, characterizes the monads as "atoms" without beginning or end that combine without interpenetrating and which possess their own force. Contemporaneously, Kant in his *Physical Monadology* describes the monad as an indivisible point, as opposed to the space that is infinitely divisible.
- ¹¹ We understand "world" as the synthesis of internal-external world.
- ¹² Editor's Note: In his *Phenomenology of the Spirit* Hegel refers to "alienation" as the "unhappy consciousness" which is registered as consciousness tearing at itself so it is found separated from, and dispossessed of, the reality to which it belongs. In *The Concept of Dread*, Kierkegaard studied the "anguished consciousness" which manifests with regards to its object that is "nothingness". Many "philosophers of existence" draw on the phenomenological method to describe the acts and objects of consciousness' synthesis. Sartre in his *Outline of a Theory of Emotions* describes "emotional consciousness" and Kolnai in *On Disgust* describes the "consciousness of disgust".
- ¹³ Editor's Note: Pan was a beneficent, pre-Hellenic divinity of the shepherds, fields and flocks. In one legend he appears during the battle of Marathon sowing "terror and panic" among the Persians and helping the Athenians who, starting at that moment, spread his worship throughout Greece. The adjective "panic" refers to the divinity in general, but "panic" is also used to denote the collective and contagious state of consciousness, that indicates an imminent danger. At present Psychiatry has coined the term "panic syndrome", weakening the initial collective meaning.
- ¹⁴ *Psychology III. "The system of representation in states of altered consciousness"*
- ¹⁵ TN. Unlike in common English usage, in Spanish the term 'cosmonaut' does not imply that the space travelers are of any specific national origin.
- ¹⁶ Plato and Aristotle knew of the differences between intuitive and discursive thought; Plato giving priority to the former. For Plato the Ideas of the Good and the Beautiful are given by direct contemplation and are real, while good things and beautiful things derive from these Ideas and do not possess the same immediate reality. We recognize important contributions in Descartes' thought which thinks about itself without intermediation and in Husserl's direct contact with the noesis, the acts of thinking, and with the noemas, the objects linked intentionally with the acts of thinking.
- ¹⁷ Isaac Newton, 1666 Woolsthorpe, U.K.
- ¹⁸ In 1865 at Bonn, Germany Augustus Kekulé established the theory of the tetravalency of carbon and the hexagonal formula of benzene.
- ¹⁹ Mary Godwin. This history is taken from the notes which Polidori wrote in his diary on June 18, 1816 in the Villa Diodati on the shore of Lake Lemán, Switzerland.
- ²⁰ R.L. Balfour. Samoan Islands, 1886.
- ²¹ Vasili Kandinsky in Moscow, 1911.
- ²² Silo Speaks in Collect Work Vol 1, *Conference "On the Conditions of Dialogue"*, presented at the Academy of Sciences in Moscow 1999.
- ²³ IV Brihadaranyaka Upanishad. "When the human spirit returned to repose, he retains with him the

materials of the world in which is contained all things, and so creates and destroys its own glory and irradiation, so that the spirit glows with its own light”.

- ²⁴ The Bible, Daniel X:7 New Revised Standard Version: “I, Daniel, alone saw the vision; the people who were with me did not see the vision, though a great trembling fell upon them, and they fled and hid themselves.”
- ²⁵ The Avesta. Gathas. Yasna XLV ,2-3. " I will proclaim this first teaching to the World. This teaching that the Omniscient Ahura Mazda revealed to me. I will speak of the two first Spirits of the world, of which the kind one said thus to the wicked one: There is nothing that our thoughts, our commandments, our intelligence, our beliefs, our works, our consciousness, or our souls agree on".
- ²⁶ Understanding “taken” as being neither directed or controlled by the subject.
- ²⁷ In official psychology trance is considered as; “a state of dissociation of the consciousness characterized by the suspension of all voluntary movement and the existence of certain automatic activities.”
Diccionario Enciclopédico de la Psique. B.Szekely. Ed.Claridad. Buenos Aires 1975.
- ²⁸ Soma (for the Indians) and Haoma (for the Iranians), are the most ancient intoxicating drinks. In the Vedic Hymns 730 (2), we read: “*You are the singer, you are the poet, you are the sweet juice born of the plant. In the intoxication you are the giver of all good.*”
- ²⁹ In Delphi the priestess of Apollo (pythia or pythoness) sat on a tripod located by a fissure in a rock from which rose an intoxicating vapor and she commenced to prophesize with incoherent words. In the preceding days the pythia had been immersed in fasting and chewing on Laurel leaves.
- ³⁰ Virgil’s fantastic description of the story of Cumae surely counts on more than enough information of the procedure used by the Sybils throughout Greek and Roman history. In any case, in Book VI of the Aeneid the Sybil says: “He is here, the god is here! And as she spoke these words at the entrance to the cave, her countenance changed and lost color. She tossed her hair; panting and breathless, her chest swollen, full of sacred furor, she seemed taller, her voice does not resound like that of the other mortals as the god’s presence drew nearer.”
- ³¹ *Shamanism: Archaic Techniques of Ecstasy*, M. Eliade, Princeton University Press, 1964. Among other matters the author surveys the distinct forms of shamanic trance in Central and Northern Asia; in Tibet and China; among the ancient Indoeuropeans; in North and South America; in South East Asia and Oceania.
- ³² The ancients called epilepsy the “sacred disease”. In the convulsions of this illness they believed they saw a struggle in which the subjects defended themselves from the alteration which was upon them. The gods announced their arrival through the “aura” they sent in advance to the subject. It was supposed that after the "attack" the subject remained inspired to prophesize. Not in vain is it claimed that Alexander, Caesar and even Napoleon suffered from the "sacred disease" because, after all, they were men of combat.
- ³³ Originating in Togo and Benin
- ³⁴ *De la mort a la vie: essai sur le phenomène de la zombification en Haiti* R. Toussaint.Ed. Ife. Ontario. 1993.
- ³⁵ Originating from the Yoruba people of Togo, Benin and Nigeria, but also combining influences from Senegal and West Africa in general.
- ³⁶ It is clear that from the "animal magnetism" of Mesmer and Pueysegur up to modern hypnosis which began with J. Braid, it has been a matter of the elimination of totally unnecessary paraphernalia.
- ³⁷ The tradition of the “prayer of the heart” began in the XIVth C. at Mount Athos, Greece. It expanded out of the monasteries with the publication in 1782 of the Philokalia of the Greek monk Nicodemus The Hagiorite. This was published in Russian a little later by Paisij Velitchkovsky.

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- ³⁸ Evagrio Pontico, of the “Desert Fathers” wrote his apothegms in the IVth C. He is considered one of the precursors of Mount Athos.
- ³⁹ The *Aphorism of Yoga or Yoga Sutra* compiled by Patanjali in the 2nd Century is the first book of Yoga. It conserves unabridged 195 short and masterly sentences.
- ⁴⁰ M. Eliade’s *Técnicas del Yoga* and also *Yoga Immortality and Freedom*.