« HOMO DIURNUS VERSUS HOMO NOCTURNUS »
Could it be possible to use patient's dreams in Clinical Medicine?

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STATEMENT

This paper is based on two working hypotheses from which stem two practical and clinical perspectives.

First hypothesis : that as evolved human beings, we sleep no differently than did our primitive ancestors, HOMO SAPIENS, in suffering therefore an internal hypnic world diametrically opposed to our conscious state of being awake.

Second hypothesis : that if one accepts the assumption that most of our dreams are produced during REM sleep, it is of these dreams that we should have the greatest recollection, given the frequency of REM cycles. Dreams would therefore be no more than reduced to image boxes containing the effect of strong sensations and emotions perceived during sleep.

Two practical and clinical consequences : Dreams perform the function of maintaining or re-establishing a balance in overall auto-perception and in addition, the oneiric images that we recall might be reconverted into original sensations and emotions thus providing, on the basis of the individual history of a patient, possible information on changes in his internal world.

HOMO DIURNUS Vs. HOMO NOCTURNUS

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ABSTRACT

Psycho-emotional relations of the civilised humans that we are, with the world around us, are certainly very different from those that must have had our very distant ancestor HOMO SAPIENS. One is led to believe that whilst asleep these same relations with our internal world are not so different.

This would determine a kind of double trauma that we suffer at the moment we fall asleep and then again upon waking up; trauma which was no doubt better tolerated by primitive man than by us today.

The dream which would be no more than containers in the form of images of strong sensations and emotions perceived during sleep, would have the function of maintaining or re-establishing the balance in overall auto-perception for each of us, in the same way as this was the case for primitive man.

Furthermore, should this be the case, it may be possible to reconvert the oneiric images that one recalls, into sensations and emotions which are produced during sleep, thereby providing information on the changes in auto-perception of the body of the subject under consideration.

One of the adventures that all human beings would most wish to undertake, is indeed to travel through time. To find oneself, for example, thrown back all of a sudden thousands of years into the past, into a past that was thought unattainable, far more so than any future.

And yet, if one cares to think about it, this voyage into the distant past is not only possible, but emerges as something that indeed happens to each of us when we pass from the state of being awake to that of being asleep. It is not a question of fiction produced by a vivid imagination, but of a pure and simple statement of fact that will even draw upon our most rigorous scientific knowledge. In fact, during the day, that is, when we are awake and fully conscious, we may assume that our way of life, of thinking and of reacting, must necessarily or at least in many respects, greatly differ from that of our first

ancestors. It is at any rate most likely that Homo Sapiens was preoccupied with catering, in a manner very different to our own, to his basic needs and sought in particular, to fit in with nature, that is, into the environment in which he lived. On the other hand, today we seem to have become chiefly preoccupied with dominating Nature, of putting it entirely at our disposal.

In addition, the fact that we now feel short of space on this planet Earth and that we are turning towards the cosmos, gives us quite a different mental outlook from that held by primitive man, who was trapped in a limited space and was undoubtedly used to living on a day to day basis.

Nonetheless, if the fact that until today we have not identified signs of existence of other intelligent life-forms on other planets can, on the one hand, give rise to a sense of our solitude, it also reinforces our belief that we possess sufficient capacities to become the indisputable masters of the Universe.

Nevertheless, once we are asleep, no scientific evidence exists to show that we sleep any differently than did our distant ancestors. Like them, we are forced to spend approximately one third of our existence in a particular state, that of sleep, which is in stark contrast to that typical of a state of being awake. Whether we are fully active or simply entertaining ambitious projects, or again, embracing our lovers, suddenly we must surrender to an unavoidable imperative, that of being carried away by sleep. Another cycle, or rhythm if one prefers, can turn out to be even more demanding than that which forces us to empty our intestines and in particular our bladder, as even the biological rhythm which forces us to feed ourselves can be better controlled than, at a certain stage, the need to fall asleep.

Not only do we lose at that moment an effective sensory contact with all that surrounds us and become unconscious of external activity, but from the active beings which we can be, we transform ourselves into inert and passive beings ; from the alert beings ready to react that we can show ourselves to be whilst awake, we metamorphose

into vulnerable beings, incapable of prompt reaction in the face of real threats and unforeseen dangers.

Furthermore, even the characteristics pertaining to sleep that current science has brought to light, such as the fact that we sleep two types of sleep which alternate, should have no doubt existed for primitive man. That during the sleep phases known as REM, implying a heightened cerebral arousal (with the concomitant revelation of a more than probable intensified consumption of both oxygen and glucose) accompanied by a significant fall in muscular tonus which paralyses a large part of our body, all this could not have not existed in primitive man, even though this all happened without his conscious knowledge.

This primitive man must have also, during the REM phases, had penal erections such as those of men today, erections which moreover, primitive man had perhaps already been aware of, as shown by prehistoric cave drawings.

Thus, it becomes indisputable that in sleeping each night, we regress, at least during several hours, to an organic state certainly identical to that of our distant ancestors whilst they also slept.

From this a striking first conclusion: this undoubtedly somewhat traumatic passage from a state of conscious awakeness to a state of unconscious sleep, coupled with a second analogous and opposite "trauma" as one wakes up, was perhaps better tolerated by Homo Sapiens, since it is probable that for him the world of consciousness and that of unconsciousness did not have as precise boundaries as they do for us. We can in this regard draw an analogous approximation with the experience of astronauts when, as they leave earth, they leave macro-gravity to then find themselves in micro-gravity, and vice-versa upon their return. If, however, it makes sense to imagine that the differential between the capacity of primitive man and our own to cope more easily with the double "traumas" of falling asleep and of waking up increases, one should perhaps deduce that

this same differential will but grow in the future and will be unavoidable in the long term without trying to suppress sleep or reduce it.

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Furthermore it is more than likely that during sleep, following the interruption in the main sensorial connections with the outside world that sleep imposes, the intensity of our auto-perception increases considerably and may indeed be violent. In order for us to notice our own body and its incessant functional activity whilst we are awake, an unusual sensation, in particular, such as a pain, generally needs to appear. We would however, be labelled hypocondriacs if we constantly listened to our body. As we well know, this sensitivity becomes at any rate more pronounced with age: indeed, in growing older our body which in youth, must have functioned automatically, is subjected to a closer and more attentive scrutiny.

The presumed increase in auto-perceptive intensity during sleep and especially during the REM phases should in principle be made up of sensations of differing degrees and characteristics, of which in part, perhaps the most intense and in a sense the most "personalised" transform themselves into what are termed emotions. Emotion, in sum, could be viewed as simply the product of a transformation of basic sensations, which one could metaphorically characterise as "original sensations" into more complex perceptions that are emotions, a little like molecules can, following the creation of more elaborate structures, give rise to the formation of specific proteins.

One should here recall the theory already put forward by William Jones, according to which it would not be emotions which give rise to sensations, but rather the reverse (11).

Without attempting to draw a final conclusion, one can nonetheless query why people are compelled to spend a good third of their lives in sleeping, which already appears to be too short, – especially now that the studies begun in the 1950s on the

structure of sleep have revealed that it is impossible to regard the state of sleep as a mere biological necessity for the recovery of energy. Practical questions in this respect, could even make us query whether it is not precisely sleep itself that provides us, with regularity, with the possibility of an essential re-balancing for our personal evolution.

It is highly probable, in addition, that those people who have a lot of difficulty in falling asleep, leaving aside the possible fear of losing the conscious control of oneself, fear, precisely, an intensification in auto-perception. One can note furthermore that during this heightened auto-perception, it is possible to assume that there is a release of very real internal "conflicts" between different types and degrees of sensations, taking shape, amongst other things, in the form of possible "conflicts" between different functions or even parts of the body. Those that suffer from insomnia with sudden awakenings may "prefer" a return to more externalised conflicts, thus enabling a conscious defensive strategy that can be better controlled.

Nonetheless, many personality troubles or borderline cases as well as clearly psychotic troubles, indicate very often a basic disturbance in the auto-perception of the body itself. It follows that a better achieved re-equilibration during sleep by these sick people would indeed be desirable and undoubtedly beneficial.

In addition, in the domain of sexology, from a physiological perspective one can presume that the search for sexual excitement and the onset of an orgasm would also have the function of obtaining an intense auto-perception of ones body. Whilst for those who have perverse sexual leanings, including those characterised by a pronounced propensity for sexual violence, one can suppose that there is a desperate search for strong sensations in order to obtain the impression of possessing clearly perceptible and unchangeable corporeal identity. This, by ricochet, also gives rise to the supposition that these same subjects, whilst seeking out strong sensations, are not able to cope with them and metabolise them during sleep, but need to follow them up in carrying out their acts when they are fully conscious. In fact, people with a propensity for paraphylic behaviour nearly always have trouble either in falling asleep or at the time of waking up. In

addition, we may enlarge the concept of “perversion” by including within its scope, for instance, serious nutritional difficulties susceptible of becoming real “feeding perversions”: indeed, for the purposes here, those carrying this type of disorder equally present, and frequently so, sleep troubles.

Can one therefore envisage concrete action in respect of these clinical problems, by taking in charge firstly the sleep-awakening cycle, rather than restricting ourselves to seeing in sleep but a banal moment of rest? Furthermore, in the domestic difficulties encountered by couples one can often note a distinct loss of synchronisation in the manner of sleeping and in the distribution of sleep amongst the two members of the couple in crisis.

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Nonetheless, one of the elements of sleep is represented by dreams, or better still, if one wants to be more precise, by the recollection that we can have of our dreams. The fact of dreaming, and thus of recollecting them, has always presented a problem for humans. It is quite likely that Homo Sapiens had been as impressed by the memory of his dreams as by the onset of storms or the threat of wild animals, since the dream could upset the order of things by introducing within man the same sense of incoherence and incongruity. The explanation of the oneiric phenomenon in ancient times finished, as we know, by attributing dreams to obscure forces, presumed to be superior, belonging sometimes to the category of friendly divinities tendering advice, sometimes to powerful demonic influences prophesising dangers. The Egyptians, as much as the Greeks later on, had to a certain extent “tamed” dreams in willing to give, in the case of sickness and through the so-called procedure of incubation, suggestions for the diagnosis of the affliction at hand and also for an appropriate therapy.

Freud perhaps first led the way in enabling us to acquire the means of creating a true oneiric science. As we know, the psychoanalytical vision of dreams is centred notably on the idea that they target the realisation of a desire (6). And as this same desire

can in turn give rise to that which is prohibited, automatically the dream may reveal the existence of a conflict. This equally implies that the defensive strategies that intervene in the conflict in question introduce disguises of the oneiric content, which express themselves by interposed symbols. There are indeed nine editions, beginning with the first in 1900, of Freud's *Interpretation of Dreams*, and already he himself constantly tried to modify and complete his own vision of the oneiric phenomenon. Contemporary psychoanalysis continues constantly to rethink the way in which dreams can be interpreted and used (15, 18).

In contrast to this interpretative position on dreams, are current trends which argue that they can be explained in a more functional manner, to the effect that they serve both as a sort of repeated confirmation of the individual's genetic code (12), and as encouraging cerebral development via the go-between of sleep (7). A more descriptive position, belonging to the neuro-sciences, holds, for instance, the idea that oneiric images attempt to establish a type of fictional coherence in response to a strong cerebral stimulus. Alternatively, neuro-scientists prefer not to engage in providing explanations of the oneiric phenomenon which purport to be exhaustive and whilst increasingly showing an interest in dreams, freely admit that for the time being, there is not yet enough to provide us with sufficient data in this regard. This is not to deny that particular attention has been given to the probable role played by dreams in the learning process as well as in memorising (18, 20).

Whilst it is known that dreams can occur during periods during which sleep is at its deepest, and therefore that which is classified as N-REM, the belief has nonetheless taken hold that most dreams would occur in particular during those REM phases of sleep which are apt to stimulate an acceleration and an intensification of cerebral activity (9).

Although we know that these REM phases of sleep are not absolutely indispensable for dreams to take shape (18) it is certain that in laboratory experiments, if one wakes the subject that has been dreaming at the moment when he shows signs of rapid eye movement, he immediately relates the content of the dream which, it appears,

he was then having. On the other hand, if one wakes a subject who does not show these signs, and who therefore, was in an N-REM phase of sleep, it is less likely that he will relate a dream with as rich a content. Cerebral lesions can at any rate interfere in oneiric production even to the extent of suppressing at least temporarily the capacity to dream (4, 5). In addition, depressive states, for example, as well as certain medications, are susceptible of altering the frequency and the distribution of REM sleep cycles.

An important problem arises from all these considerations. Since in a night of approximately eight hours sleep, there will result from a recorded hypnogramme a total of approximately two hours of REM phases, the latter being the potential producers of dreams, how is it that we can remember so little of our dreams?

So too, a related problem remains, that of the real duration of our dreams. In this respect, the so-called dream of guillotine described by Alfred Maury, remains famous (17). He sees himself taken in a cart towards the scaffold at the time of the French Revolution, has visions of then climbing towards the guillotine, putting his head in place in order to be decapitated, and he even feels the blade arriving on his neck. Only at that moment, he suddenly wakes up and realises that a piece of the canopy bed of the period had fallen on his head. So, how much time could this dream have really lasted all-in-all? How did the sleeper, practically in an instant, put into place in his brain an entire scenario suggesting the carrying out of his sentencing to death in a precise historical context? In other words, is oneiric production a regular phenomenon, but not generally emanating from the level of the consciousness, or on the contrary, could a state of consciousness specific to dreams have a random connection with the state of consciousness typical of being awake? Or again, could the oneiric phenomenon be irregular or occasional and its connection with REM phases of sleep having but a fortuitous significance (18)?

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The dream, made up essentially of images, thus giving the impression of a sort of scenic image comparable to a film occurring within ourselves, could be explained in a

new way (2), all the more so as, for example, those blind from birth, not being able to produce images, often premise the recital of their dreams on a sound or olfactory scenario.

One is, in sum, encouraged to think that at the origin of the oneiric experience there is at first only a considerable increase in auto-perceptive intensity induced by a state of sleep, accentuation which is likely to become excessive during REM phases and therefore require efficient measures of modulation, or even of pure "containment" of this overflow of energy concomitant to the rupture with perceptible links with the outside world. One can note that that to which we attribute the characterisation of overflow of hypnic energy could represent a real systematic recharge of vitality for each individual. Yet it is possible to assume, as a result, that it would be during sleep that our vital energy is at its peak, rather than when we are awake.

Furthermore, sexology once again, can show that human beings have often greater difficulty in managing pleasure and therefore our vital energy, than pain, and hence the drop in energy. And it is precisely sexual arousal, if it is considered excessive, that can provoke a form of imbalance, more intense than, for instance, that induced by aggressiveness (1).

More precisely, not far removed from the point of view of neuro-science that dreams are merely an attempt to lend a vague coherence to that which is perceived in sleep by the person asleep entirely involved in his or her own inner feelings, we can presume in fact, that dreaming means in particular, to "contain" in an authentic "image box" the solipstic experience of someone confronted by himself without a filter and without distractions. This leads one to think that the recollection of a dream, be it spontaneous or the product of a sudden awakening in a laboratory during the onset of an REM phase, the oeniric recital or experience at hand is merely the translation, or better still, the transposition in images of feelings and emotions felt during sleep. In basing ourselves on what has been seen, one can however, say from a practical and clinical perspective that this would enable a form of "reconversion" once again, of the oneiric

images related by the subject into feelings and emotions which, in turn, could be inserted into a well defined context based on the personal history of the subject under consideration. In a way that the spontaneous recollection of a dream, when it occurs, should be an indication or a type of point of reference associated with the need for a constant psycho-emotional and psychosentive re-balancing (13).

All dreams in short, would be reduced to their possible recollection, thus excluding in advance the possibility that there may be dreams hidden in the memory and inapt for one reason or another to manifest themselves. One phrase allows us to pin-point this last point and that in a concise fashion, by use of the very precision particular to the Latin language. One can thus assert: *Somnium sui memoria (est)*, the dream reduces itself to its recollection.

In addition, one can even introduce a mathematical formula in support of the idea that a rebalancing referred to above should take place in practice between implicit memory, this is, unconscious or even corporal memory, and explicit memory, that is conscious memory. This mathematical formula could be expressed in the following manner:

$$O = \frac{IM}{EM}$$

where O is ONEIRO in Greek, meaning the dream.[1] Further, keeping in mind what has been called a reconversion of oneiric images into feelings or emotions not only allows one to highlight any possible perturbed auto-perceptions relative to bodily functions or given parts of the body, but might also provide information as to their intensity.

A subsequent illustration of the above proposition is to use as an analogy, the zoom mechanism of a camera. The zoom, as we know, enables photos to enlarge or reduce images targeted by the camera's own lens. Yet an excess in auto-perception, especially of the emotional type, likely in addition to attach itself to a real pre-occupation

of the subject, could be “boxed in” either in the oneiric images creating directly highly anxious scenes, such as war scenes or catastrophes, or on the contrary, by using images associated with more mundane preoccupations.

In other words, while asleep, each subject appears spontaneously to try to rebalance themselves in respect of their auto-perception, though the success of this is not always guaranteed. One can nonetheless assume that nightmares are not always the effect of a failure with a view to readjusting this psycho-organic equilibrium, since a fair number of nightmares, on the contrary, could reveal themselves to be a form of self-training for better supporting the intense violence of feelings and emotions. A probably automatic function of the drop in muscular tonus during the REM phase would be to contain these intensified auto-stimulations resulting from the state of sleep.

Hence a notable fact: if this drop in muscular tonus which normally brings about fairly widespread forms of muscular paralysis, is insufficient, one faces reactions of a motor sort, which can range from a few sudden movements to the possibility that the subject performs somnambular acts which are sometimes very violent and quite often inhabitual. This does not exclude, in this regard, possible relations between this phenomenon, called more specifically REM phase troubles, and that which is called in contrast, nocturnal terrors.

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By way of conclusion, one can without ado affirm that Homo Diurnus, the human being awake and in a fully conscious vigilant state, is future oriented, which enables the individual to glimpse the realisation of his plans and the persistence of technological progress. The present with its potent but fleeing feelings and emotions, one could say, is often more disturbing than satisfying without a shred of doubt. Nonetheless, when he goes to sleep, this same Homo Diurnus transforms himself into Homo Nocturnus and is confronted by the vital energy of the present against which the future appears still very

[1] This formula was developed by a professional mathematician, Mrs J. Weger, of Geneva.

fluid. All the more so as it is a present of a somewhat unchangeable nature, as in all probability it is identical to that which it already was at the beginning of humanity; an internal constant as opposed to the variability of the outside world.

It follows that the dream places itself as an indicator of inevitable oscillations between that which we know of our personal history of which explicit memory is the witness, and that which has been “chosen” by our body day after day in a vital and inextricable epigenetic mix which has given rise, in short, to implicit memory, which is also far more powerful than explicit memory.

To conclude, the recollection of a dream would then be but the result of auto-monitoring, warning us that our future path has suffered or must suffer some necessary readjustments for our adequate evolution.

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