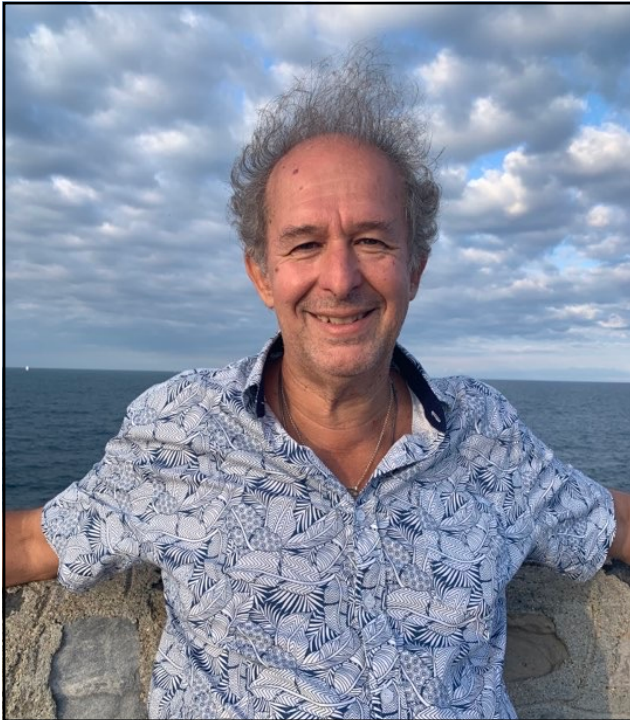




Ear Somatotopy

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1

The auricle in auriculotherapy

"The ear is the meeting place of all embryology, neurology, and pathology." Paul Nogier

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The ear somatotopy reflects the human body as a microcosm with unequalled precision.

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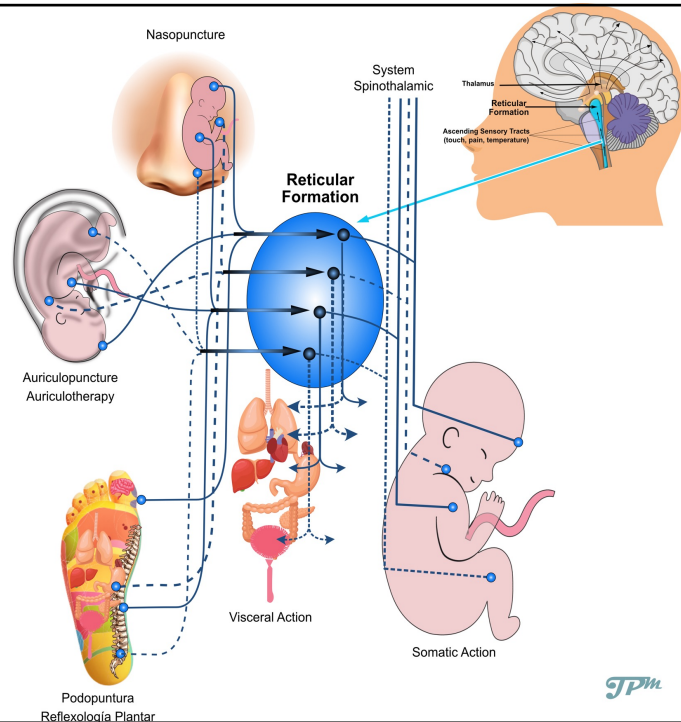
The locations were discovered at first by Dr Paul Nogier with pressure stimulus.

As when there was a disorder in the body, the pressure to the corresponding point was painful.

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These are the reflex points, involving nervous system for their action.



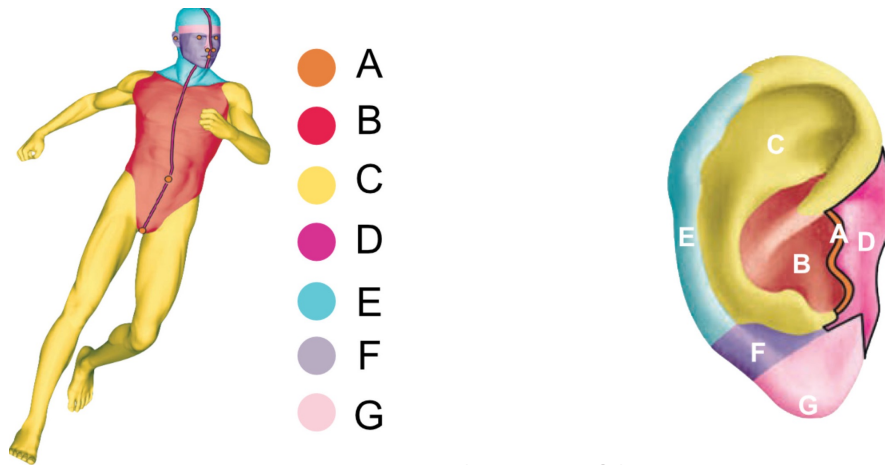
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Later Paul Nogier discovered the VAS signal, pointing correspondences that are far below the conscious perception threshold (such as palpable pain).

He also discovered that the ear has clearly defined areas that oscillate in different ways, which is expressed in seven different frequency signatures.

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Later Paul Nogier worked closely with Dr René Bourdiol professor of Neurology and embryology researching, on the correspondences between the original embryological structures in their derivatives.

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The diverse innervation of the auricle can be explained by its embryological origin.

The three hyoid buds and the three maxillary buds from the 21st day of embryonic development will give birth to the auricle.

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The innervation is complex due to the involvement of various nerves.

These include cranial nerves such as the trigeminal nerve (V) facial nerve (VII), glossopharyngeal nerve (IX) and vagus nerve (X), in addition to branches of the cervical nerve from C3 and C2.

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The auricle is the most richly innervated structure of the organism, which explains the extraordinary properties of the auricle.

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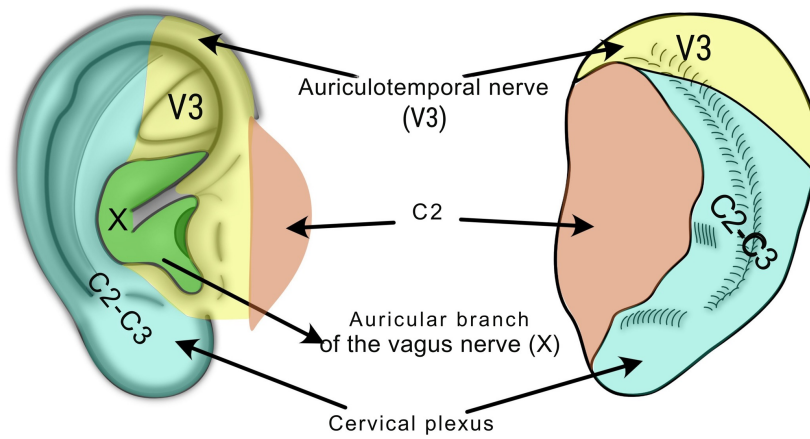
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The auricle can be divided in 3 parts:

- The concha is innervated by the vagus nerve (X) and carries the localizations of structures originating from the endoderm.
- The anthelix is innervated by the trigeminal nerve and houses the localizations of the structures originating from the mesoderm.
- The helix and lobule are innervated by the cervical nerve (C2 and C3) and bear the localizations of structures originating in the ectoderm.

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The tragus is innervated by the glossopharyngeal nerve (IX) and the facial nerve (VII), harboring localizations of structures originating in the ectoderm.

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The ear may be considered as a kind of embryological matrix, condensing neurological and histo-embryological body information.

It is important to emphasize that precise stimulations also activates the information field of the ontogenic development as a source of regeneration process.

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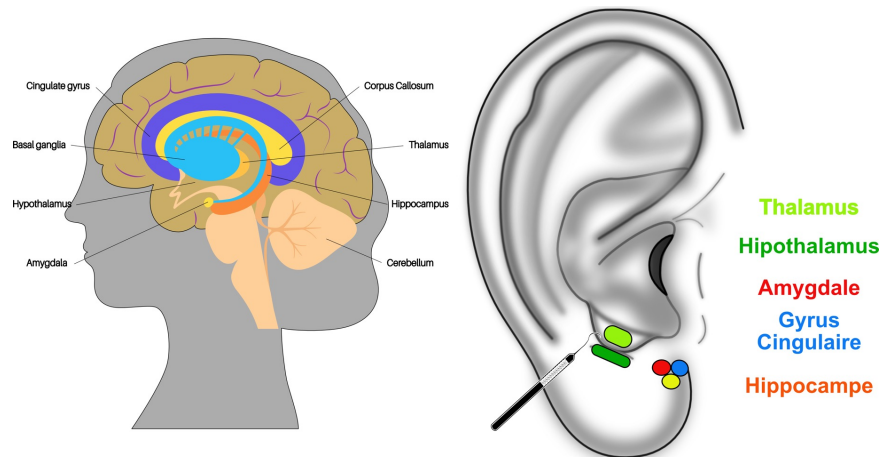
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In photonic medicine

It is important to recall the significance of the limbic system in autonomic functions and its regulations, and to understand that **the auricle of the ear serves as an interface to the limbic system**, according to the hypothesis put forward by Professor Pierre Magnin.

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The limbic system

The word limbic derives from the Latin "limbus," meaning edge or boundary.

The limbic system is therefore a set of brain structures that form the lower boundary of the cortex.

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The limbic system is a set of brain structures including the hippocampus, amygdala, thalamus, hypothalamus, septum, limbic cortex, and fornix, which support a variety of functions including emotions, behavior, olfaction and long-term memory.

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The hypothalamus is a complex structure that maintains the body's vital functions within certain physiological limits (a process known as homeostasis) which ensures our survival and that of our species.

It is intimately connected to the pituitary gland through its neurohormones, which modulate pituitary hormone secretions and their multiple effects on the body.

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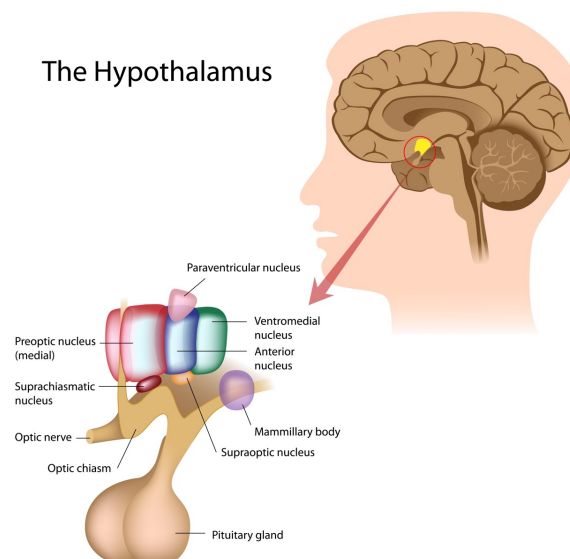
During this evolution, it has established connections, often reciprocal, with numerous other brain regions, including the brainstem, other parts of the limbic system, and several areas of the cortex.

The hypothalamus is also connected to many other brain regions to fulfill its role as a signal integration center for the body's overall survival. Although most of these connections are bidirectional

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The Hypothalamus



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The hypothalamus is indeed a complex structure that is subdivided into numerous nuclei (or clusters of neurons) involved in one or more specific functions.

The anterior hypothalamic nucleus plays an important role in maintaining body temperature and in sleep.

The most lateral part of the ventromedial nucleus is involved in controlling food intake.

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The supraoptic nucleus, which contains neurons sensitive to the osmotic pressure of the blood, is involved in the body's fluid balance through the hormone vasopressin it produces.

The suprachiasmatic nucleus, located just above the optic chiasm, is innervated by the retina and plays a role in our circadian rhythms.

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We should not forget that each particular nucleus of the hypothalamus, even the smallest, is often involved in more than one function.

The paraventricular nucleus, for example, influences attachment behaviors, fluid and food intake, and the stress response, in addition to controlling blood pressure, body temperature, certain gastric reflexes, and even the immune response!

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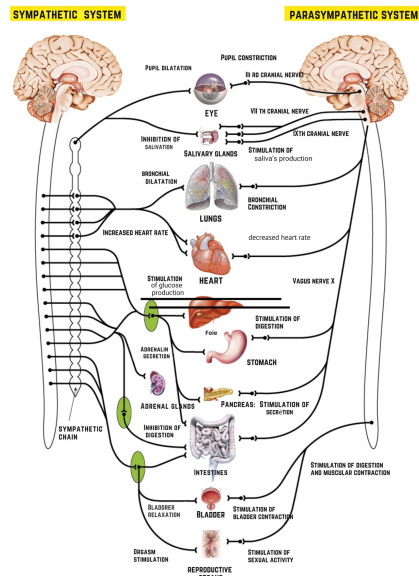
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Other neurons in the hypothalamus control the autonomic nervous system, thus modulating our visceral emotional responses.

This influence on the autonomic nervous system is exerted through various connections with nuclei in the brainstem and spinal cord.

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If we consider the hypothalamus from front to back (along its anteroposterior axis), we can say that the anterior and medial part of the hypothalamus has an excitatory effect on the parasympathetic nervous system.

Its activity is therefore associated with rest and digestion.

This translates concretely into physiological reactions such as a decrease in blood pressure, heart rate, and respiratory rate, an increase in intestinal peristalsis, and an increase in the acidity of gastric juices, etc.

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The parasympathetic system

Its activation leads to a general slowing of bodily functions in order to conserve energy.

What is increased, dilated, or accelerated by the sympathetic system is here diminished, contracted, and slowed.

Only digestive function and sexual appetite are favored by the parasympathetic system.

The latter is associated with a neurotransmitter: acetylcholine.

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Conversely, activation of the posterior and lateral hypothalamus tends to excite the sympathetic nervous system, in other words, the fight-or-flight response and its physiological corollaries: increased respiratory and heart rate, blood pressure, pupil dilation, inhibition of digestion, etc.

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The sympathetic system

Its activation prepares the body for physical or mental activity. In the face of significant stress, it orchestrates the fight-or-flight response.

It dilates the bronchi, accelerates heart and respiratory activity, dilates the pupils, increases sweating and blood pressure, but decreases digestive activity.

It is associated with the activity of two neurotransmitters: norepinephrine and epinephrine.

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In photonic medicine, we use the auricle as an interface. The advantage of the auricle is that it provides an identifying representation of healthy or diseased areas of the body and its tissues.

According to Professor Pierre Magnin's hypothesis, the pinna is considered to be a transfer of information expressing the limbic system, and can in a way be considered as a 'snapshot' of the limbic system.

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The auricle does not offer the investigator somatotopic projection points or territories, but rather integrative relationship zones between lesion-inducing functional disturbances (or direct lesion repercussions) and the resulting neurovegetative adaptations.

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Conscientiously exploring the auricle allows us to question the brain - which has given its consent to the pathology - and involve it in the healing process.

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The colored exploration of the ear according to the different color frequencies used corresponds to an identification of the threat or organisation of disturbance(s), reflecting ruptures in electromagnetic coupling, both tissue and cellular.

- This exploration can detect attacks before lesions form (prevention). It can also be used to monitor the development and regression of the disease.
- Finally, it offers the possibility of identifying a restoration, or even a cure.

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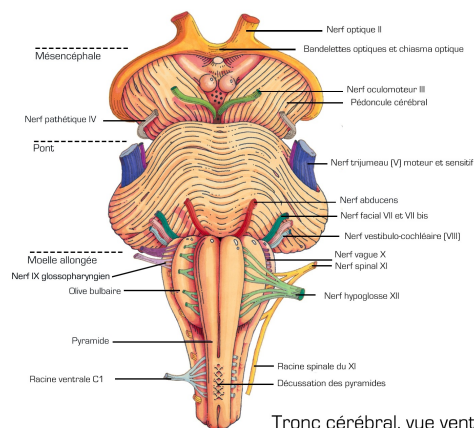
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Before beginning exploration and treatment, it is important to bear in mind that auricular localisations are contralateral for territories located below the pyramid for sensory and motor fibres, and homolateral for neurovegetative fibres, at least for acute disturbances and diseases.

Above the pyramid, motor and sensory localisation are homolateral.

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Tronc cérébral, vue ventrale

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For a deeper understanding

This system includes numerous precortical and subcortical brain structures.

The limbic system offers a rich integration and dissemination of sensory, perceptual, and motor information, which it selects, classifies and stores.

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Within the limbic system, there is a transmitting pole and a receiving pole.

Information from outside the limbic system enters the limbic system and reaches the septum, where distribution occurs.

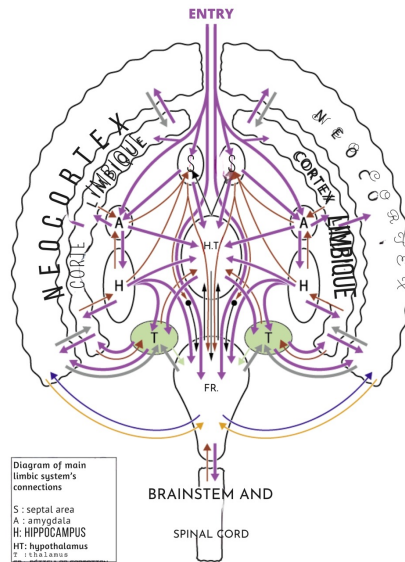
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This information is then routed to various structures (amygdala, hippocampus, optic layers, hypothalamus, etc.), from which it is transmitted to the cortex on one hand, and to the reticular formation on the other.

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Through limbic stimulation, the hypothalamus becomes the organizing center for the autonomic functions of sleep and wakefulness, and it regulates cortical activity.

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Pierre Magnin stated:

“We lack the anatomical means to specify the reality of a limbic expression localized to the ear, which is essentially based on the continuous activity of the hypothalamic nuclei.

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This interpretation stems from personal experience and these are correlations between VAS measurements and experimental use of certain medical techniques (EEG, arterial partial pressures of blood gases, ventilatory phenomena) that allow us to identify some convergences in representation. »

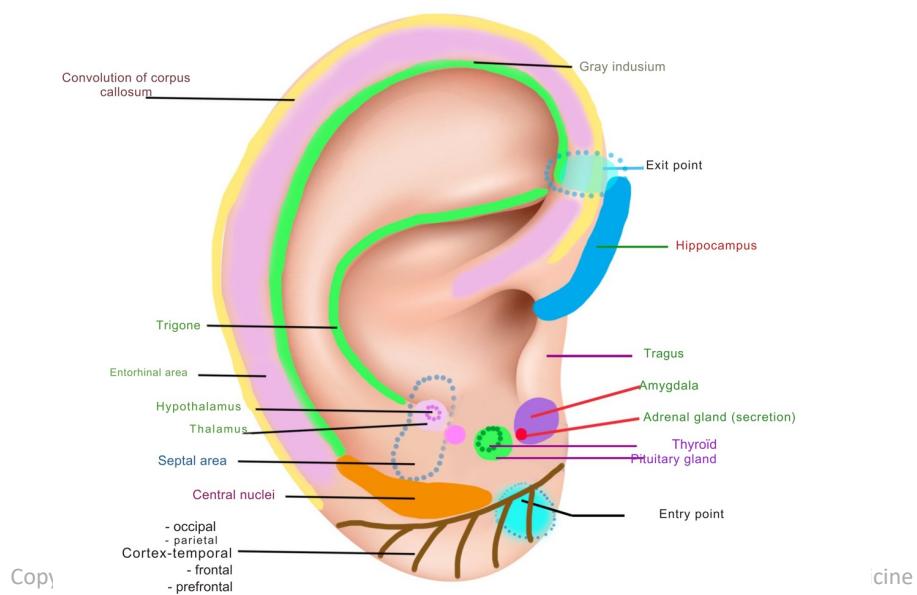
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These images are therefore "analog projections" of possible or potential limbic representations, and are merely hypotheses intended solely to facilitate the investigative work.

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On the ear, we find three projections of the limbic system: the centers of the nervous system, the gyrus of the corpus callosum, which connects to the entorhinal areas and the first cerebral areas, and the projection of the septum's distribution.

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Below the gyrus of the corpus callosum, and along with it, are three major pathways:

- the gray indusium,
- the trigone, which is the vascular and nervous redistribution system for the entire human body.

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This is a central arc that originates at the septum, circles around it, and, once all the pathways have been gathered, empties into the hippocampus.

This area corresponds to the limbs, spine, and concha.

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The reticular formation, or substance reticularis, is anatomically located below the occiput and extends downward.

This area is very rich and interesting to treat : it is possible to apply colors and frequencies to it .

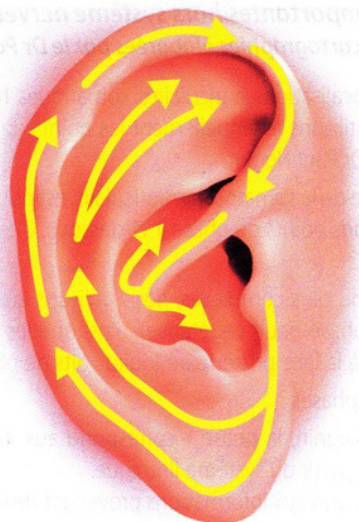
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It is always important to work on the auricle (the outer ear) while respecting the direction of information flow within the limbic system.

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Information travels up through the anterior trigeminal nerve to the septum, which then redistributes it.

The gyrus of the corpus callosum connects to the hippocampus, below the genu of the helix.

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The gray indusium, located in the ear at the inner part of the gyrus of the corpus callosum, provides information about the parenchymal tissues.

There is a somatotopic redistribution of information within the limbic system, which then reaches the amygdala and the hippocampus.

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Information in the ear originates in the limbic system.

Within the limbic system, information travels directly from the reticular formation to the hypothalamus for all important information (endocrine system, pain, etc.), but it also travels to the amygdala via the septum.

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Information enters the septum, where it is filtered, and from the septum, it is redistributed, passing through the amygdala (which also has a filtering function) before returning to the hippocampus for processing.

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From there, it travels to the thalamus, the corpus callosum, and then, from the corpus callosum, it diffuses to the gyrus of the corpus callosum.

The thalamus is located on the antitragus. The corpus callosum is at the edge of the gyrus.

The hypothalamus is located within the antitragus, and the pituitary gland is also located within it, very anteriorly.

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The reticular formation is located behind the ear; therefore, it is important to take VAS readings at the entry point and on the reticular formation.

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Thus, we see that the limbic system plays an essential role in photonic medicine, since it provides us with the knowledge and use of an alarm bell, a call signal, and an irreplaceable regulator of action: the VAS, thanks to its central integration and the metamerism distribution of the sympathetic system throughout the organism, even to its most secret parts.

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This explains how the search for VAS emission triggered by the punctiform projection of colors onto the auricle of the ear allows the practitioner to interrogate the brain and elicit its cooperation in the healing process, to explore the physiology of the organs and their potential disturbances, and, based on the response perceived through the pulse, to precisely choose the colors and frequencies to use.

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This allows for the refinement of the clinical diagnosis, its confirmation if necessary, and its localization.

Taking the pulse also allows for control of the intensity and duration of the therapeutic flow, thus ensuring its effectiveness.

Furthermore, it offers the practitioner the advantage of being able to qualitatively and quantitatively assess the therapeutic protocol established for each patient, and to judge the results obtained.

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The advantage of the auricle is that it provides a clear representation of the healthy and diseased areas of the body and its tissues.

We use the auriculotherapy maps identified and proposed by Dr. Paul Nogier as a visual aid, due to their ease of use.

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In the case of photonic use, color exploration of the ear according to different usable color frequencies corresponds to the identification of potential disturbances or the organization of disturbances, reflecting disruptions in electromagnetic coupling, both at the tissue and cellular levels.

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This is therefore a broader exploration with a different temporal scope, since it can detect aggressions before lesions develop, hence its potential use for preventative purposes.

It can also allow for monitoring the progression of a disease and its regression.

Finally, it offers the possibility of identifying restoration or even a cure.

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It is important to establish this distinction, since photons do not have a symptomatic purpose compared to other therapeutic methods.

They are primarily etiological in nature.

This explains the potential discrepancies between the information received by photons and that received by the search for auricular points in auriculotherapy.

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These observations lead us to believe that **there is no contradiction between the methods, and that there may even be complementarity.**

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In practice, let us remember that the peripheral sensorimotor nervous system decussates at the level of the pyramids.

Sensory and motor disorders affecting everything below the pyramid are therefore found contralaterally in the corresponding areas of the auricular somatotopy.

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An acute disturbance can affect a single function, while a chronic condition involves the entire autonomic nervous system.

The different lateralization of information in acute and chronic cases thus depends on the level of involvement of the autonomic nervous system.

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