Autoconscious mind and consciousness

Approaching to the perennial question between body and mind

ALEJANDRO MELO-FLORIÁN
Internal Medicine Specialist – Pontificia Universidad Javeriana
Bogotá D.C., Colombia
Competing interest: None
E-mail: alejandromeloflorian@gmail.com

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ABSTRACT

The experiences of the autoconscious mind are related to neural activity in the association areas of the brain, with a relative grade of correspondence but not identity. The unity of the conscious experience is based upon the autoconscious mind but not from the complexity of the neuronal wiring/ conexions in the association areas in the cortex. The hypothesis of Karl Popper of the Three Worlds permits to comprehend the reality and the autoconscious mind, trying to solve the perennial quest between body and mind. The concept of cortical modules (paramount for the interactionism or interactionistic dualism) allows the interaction between the autoconscious mind and the brain cortex at the level of cortical modules, which permits to the autoconscious mind to scrutiny continuosly the conformation of the cortical modules, thus allowing a reciprocity between the modules and the autoconscious mind. The autoconscious mind implies the presence of attention as an integrating agent in the raising of conscious experience.

Key words: autoconscious mind - Three worlds - cortical module - qualia - perennial question

RESUMEN

Las experiencias de la mente autoconsciente están relacionadas con la actividad neural de las áreas de asociación en el cerebro con un relativo alto grado de correspondencia. La unidad de la experiencia consciente se basa en la mente autoconciente, pero no en la complejidad del entramado neuronal de las áreas de asociación en el cerebro. La hipótesis de Karl Popper de Los Tres Mundos permite comprender la realidad y la mente autoconsciente, tratando de resolver la pregunta perenne del problema cuerpo-mente.
El concepto de módulo cortical es de capital importancia a la luz del interaccionismo (dualismo interaccionista) y permite la relación conceptual entre la mente autoconsciente y el la corteza cerebral a nivel de los módulos corticales, lo cual permite que la mente autoconsciente haga un escrutinio

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RESUMEN Las experiencias de la mente autoconsciente están relacionadas con la actividad neural de las áreas de asociación en el cerebro con un relativo alto grado de correspondencia. La unidad de la experiencia consciente se basa en la mente autoconciente, pero no en la complejidad del entramado neuronal de las áreas de asociación en el cerebro. La hipótesis de Karl Popper de Los Tres Mundos permite comprender la realidad y la mente autoconsciente, tratando de resolver la pregunta perenne del problema cuerpo-mente. El concepto de módulo cortical es de capital importancia a la luz del interaccionismo (dualismo interaccionista) y permite la relación conceptual entre la mente autoconsciente y el la corteza cerebral a nivel de los módulos corticales, lo cual permite que la mente autoconsciente haga un escrutinio

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constante sobre la actividad eléctrica de los módulos para resultar en una reciprocidad módulos/mente autoconsciente. La mente autoconsciente implica la presencia de atención como un agente de integración en la construcción de la experiencia consciente.
Palabras clave: mente autoconsciente - 3 mundos - módulo cortical - qualia - cuestión perenne

RÉSUMÉ

Les expériences de l'esprit conscient de soi sont liés à l'activité neuronale dans les aires d'association dans le cerveau avec un degré relativement élevé de la correspondance.
L'unité de l'expérience consciente est basée sur l'esprit conscient de soi, mais pas dans la complexité du réseau neuronal d'aires d'association dans le cerveau. L´hypothèse de Karl Popper sur les trois mondes pour comprendre la réalité et de l'esprit conscient de soi, face à l'éternelle question du problème corps-esprit.
Le concept de module corticale est d'une importance primordiale à la lumière de l'interactionnisme (dualisme interactionniste) et permet la relation conceptuelle entre l'esprit conscient de soi et le cortex cérébral au niveau des modules corticaux, qui permet à l'esprit de faire un contrôle conscient de soi constant sur l'activité électrique des modules de la suite dans les modules de réciprocité / esprit conscient. L'esprit conscient de soi, l'attention implique la présence d'un agent d'intégration dans la construction de l'expérience consciente.
(Traduction avec Google Translator)
Mots-clés: l'esprit conscient de soi - 3 mondes - module cortical - qualia - l'éternelle question

ZUZAMMENFASSUNG

Die Erfahrungen des Geistes sind autoconscious auf neuronale Aktivität im Verein Bereichen des Gehirns im Zusammenhang mit einer relativen Grad der Korrespondenz, aber nicht Identität. Die Einheit des bewussten Erlebens ist auf die autoconscious Geist aber nicht aus durch die Komplexität der neuronalen Verdrahtung / Conexions im Verein Gebiete in der Hirnrinde. Die Hypothese von Karl Popper der drei Welten ermöglicht, die Realität zu begreifen und die autoconscious Geist, versucht, den ewigen Streben zwischen Körper und Geist zu lösen.
Das Konzept der kortikalen Module (höchster Bedeutung für die Interaktionismus oder interaktionistische Dualismus) ermöglicht die Interaktion zwischen dem Geist und autoconscious der Hirnrinde auf der Ebene der kortikalen Module, die den Geist zu autoconscious Kontrolle ermöglicht continuosly die Konformation des kortikalen Modulen, so dass eine Reziprozität zwischen den Modulen und dem autoconscious Geist. Die autoconscious Geistes bedeutet die Anwesenheit der Aufmerksamkeit als eine integrierende Agenten bei der Hebung des bewussten Erlebens.
(Übersetzung mit Google Translator)
Stichwort: Selbst-Bewusstsein - 3 Welten - kortikalen Modul - Qualia - ewige Frage

RESUMO

As experiências da mente autoconsciente são relacionados à atividade neural em áreas de associação no cérebro, com um grau relativamente elevado de correspondência. A unidade da experiência consciente é baseada em mente auto-consciente, mas não na complexidade da rede neuronal das áreas de associação no cérebro. A hipótese de Karl Popper, um dos três mundos para compreender a realidade e mente auto-consciente, abordando a questão perene do problema corpo-mente.
O conceito de módulo cortical é de suma importância à luz do interacionismo (dualismo interacionista) e permite que a relação conceitual entre a mente consciente e do córtex cerebral, ao nível dos módulos cortical, o que permite que a mente fazer uma análise consciente constante na atividade elétrica dos

constante sobre la actividad eléctrica de los módulos para resultar en una reciprocidad

módulos/mente autoconsciente. La mente autoconsciente implica la presencia de atención como un agente de integración en la construcción de la experiencia consciente. Palabras clave: mente autoconsciente - 3 mundos - módulo cortical - qualia - cuestión perenne

RÉSUMÉ Les expériences de l'esprit conscient de soi sont liés à l'activité neuronale dans les aires d'association dans le cerveau avec un degré relativement élevé de la correspondance. L'unité de l'expérience consciente est basée sur l'esprit conscient de soi, mais pas dans la complexité du réseau neuronal d'aires d'association dans le cerveau. L´hypothèse de Karl Popper sur les trois mondes pour comprendre la réalité et de l'esprit conscient de soi, face à l'éternelle question du problème corps- esprit. Le concept de module corticale est d'une importance primordiale à la lumière de l'interactionnisme (dualisme interactionniste) et permet la relation conceptuelle entre l'esprit conscient de soi et le cortex cérébral au niveau des modules corticaux, qui permet à l'esprit de faire un contrôle conscient de soi constant sur l'activité électrique des modules de la suite dans les modules de réciprocité / esprit conscient. L'esprit conscient de soi, l'attention implique la présence d'un agent d'intégration dans la construction de l'expérience consciente. (Traduction avec Google Translator) Mots-clés: l'esprit conscient de soi - 3 mondes - module cortical - qualia - l'éternelle question

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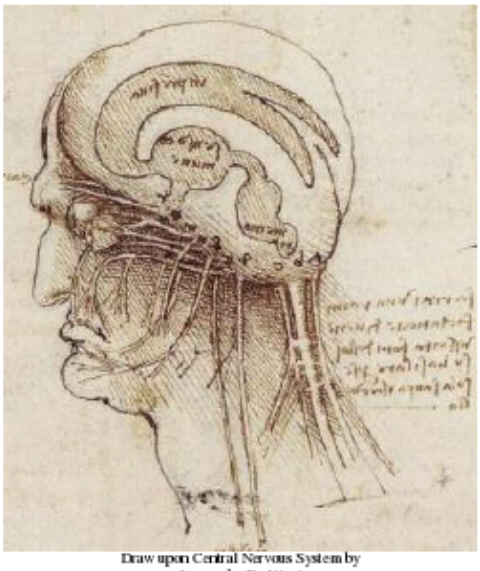
módulos de resultar em módulos de reciprocidade / mente auto-consciente. A mente consciente, a atenção implica a presença de um agente de integração para a construção da experiência consciente.
(Tradução do Google Tradutor)
Palavras-chave: a mente consciente - 3 mundos - módulo cortical - qualia - pergunta perennial

SOMMARIO

Le esperienze della mente autocosciente riguardano l'attività neurale in aree associative del cervello con un grado relativamente elevato di corrispondenza. L'unità dell'esperienza cosciente si basa sulla mente cosciente, ma non nella complessità della rete neuronale delle aree associative nel cervello. ipotesi di Karl Popper dei tre mondi di comprendere la realtà e la mente cosciente di sé, affrontando la questione perenne problema mente-corpo.
Il concetto di modulo corticale è di fondamentale importanza alla luce dell'interazionismo (dualismo interazionista) e permette il rapporto concettuale tra mente auto-cosciente e la corteccia cerebrale a livello della modules corticale, che permette mente di fare un controllo cosciente di sé costante sull'attività elettrica dei moduli al risultato in moduli reciprocità / mente consapevole. La mente cosciente di sé, l'attenzione implica la presenza di un agente per l'integrazione nella costruzione dell'esperienza cosciente
(Traduzione con il traduttore di Google)
Parole chiave: la mente cosciente di sé - 3 mondi - Modulo corticale - qualia - eterna questione

Introduction

The relationship between the mind-body dyad has caused lifelong curiosity for mankind in all branches of human knowledge since ancient times. How is it consciousness, intellectual work, intelligence?
These fascinating questions have been addressed and traditionally focused by religion, philosophy, then in more recent times by psychology, psychiatry, cognitive neural science. Currently the search on the structure and nature of conscious experience shows that consciousness can be considered an irreductible entity that exists at a fundamental level and from a holonomic point can not be understood as the sum of simpler parts (Chalmers, 1996).



Draw upon Central Nervous System by
Leonardo Da Vinci

The nature of science is always the creation of laws to explain apparently unpredictable events, thus making them possible to understand and predict at the present time: in this neuroscience is near to meet its Champollion to unveil the parallel meanings between the multiple levels of nervous system and

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behavioral organization, providing conceptual bridges between the anatomical and ultrastructural measures the complex patterns of behavior over time.
The enigma related to our processes of awareness and understanding of our own mental contents and voluntary control of our own thinking poses a perennial problem when trying to be addressed by dualistic scientific approaches on the nature of mind, because the mind issue is challenging in nature when it is tryed to focus on natural sciences grounds.

The analysis of our mental contents, intellect and intentional thought can be viewed in the light of autonomy as self-regulated type when they are deemed as a result of an organization.

Clarifying the concept of organization, it represents a paradigm in life sciences because it implies mutual influences between levels of analysis bringing complex relationships to consider between the upper and lower levels of causality (Ryan, Kuhl & Deci, 1997 http://www.ncbi.nlm.nih.gov/pubmed/9449002).
On the other hand, self-regulation is one of the main issues in the so-called theory of clinical development, which is quickened by a renewed interest in mental and physical aspects of being and their interaction in development.
Thus, autoconscious and cognitive processing of the experience itself considered as a perennial problem is a process of experience that emerges somehow parallel to the capabilities of intrinsic biological child interaction (Aitken & Trevarthen, 1997).

This article focuses on the issue of autoconscious mind and cortical modules to explain the link between mental contents, intellect, intentional thought (ie, mental states) with the structural anatomic level (ie, physical brain): this approach is also known as the mind-body problem or the psychophysic problem. Consensus on this issue is still to be reached and this lack of agreement depends on the fundamental nature and show the discrepancies between monism and dualism (Aitken & Trevarthen, 1997).
Interestingly, a version of dualism, called interactionistic dualism deals with the mind-body problem, between consciousness and the person. This theory proposes the model of a construal-oriented paradigm, which proposes that the biological mechanisms and physiological processes can be studied as part of a hierarchical structure. Interactionistic dualism can also be seen as a "strong" dualistic hypothesis, because it encompasses previous dualistic assumptions (Eccles, 1985) and aims for a solution to the mind-body problem (Popper, 1985).

Based on a theory of Karl Raimund Popper (1985), Eccles (1985) deemed the hypothesis of the three worlds (http://www.tannerlectures.utah.edu/lectures/documents/popper80.pdf) and propose that autoconscious mind interacts with cortical modules to explain how the interaction between body and mind occurs in nervous system in the brain and how the neuronal electrical activity is coordinated in a way that allows complex spatial-temporal model that conceptually integrates the concepts of matter and energy, subjective experiences, states of consciousness and culture as a product of human knowledge.
Eccles's hypothesis on the autoconscious mind is based on the following premises:

1. The unitary character on the experiences of autoconscious mind, where every moment is able to focus on different aspects of subjective experiences, a phenomenon that is attention.

2. The fact that the experiences of autoconscious mind are related to neuronal activity in so-called association areas in the brain, with a certain degree of correspondence.

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3. The fact that there is usually a time lag between neuronal activity and experiences of autoconscious mind. This can occur for example in a slower perception of time during emergencies.

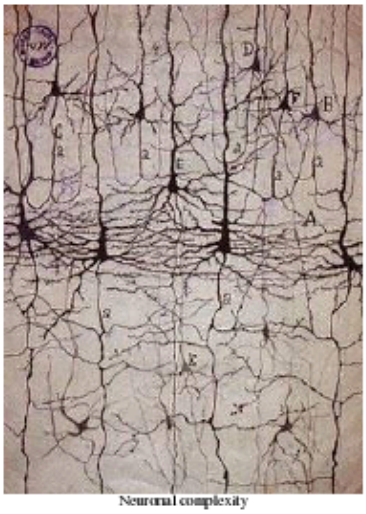
4. The fact that autoconscious mind participate effectively in neural activity. This can be evidenced by voluntary action, autoconscious mind interprets the active neural centers related to the activity, i.e. the association areas of the cerebral cortex in the dominant hemisphere.

The autoconscious mind is based on the unity of conscious experience.

Is paramount to the hypothesis of autoconscious mind that the unity of conscious experience grounds on autoconscious mind and not in the complexity of neural connections in the association areas of the cerebral cortex. The experience of unity is the result of the integration of mind and autoconscious neurophysiological synthesis.

Another way of expressing it, is that conscious experience results of two substances (dualism) interacting each other (interactionism), avoiding the experience conceptually attributed to neurophysiological substrate (only a substance, monism). It should clarify the term substance as something that need no else thing to exist.

According to Eccles (1985 a) when considering autoconscious mind as a source of unity in conscious experience, it also gives the global character and the gestaltic character to the wholeness of experiences and actions.



Neuronal complexity
Work of Santiago Ramón y Cajal

The Three Worlds

The three worlds hypothesis was proposed by Popper (1985) and are the World I, World II and World III. The utility of this hypothesis is to enable an understanding of reality and autoconscious mind and try to solve the mind-body problem. The hypothesis of the three worlds define the real as the set of things capable of causing changes in the ordinary material world.

The World I contains the material particles, forces, fields, for their ability to interact.

Flower. Picture by author

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The World I contains the material particles, forces, fields, for their ability to interact.

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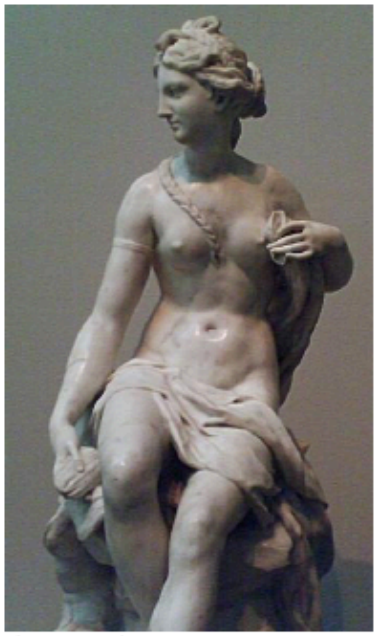
Example of World I

The World I is the universe of physical entities, which merges altogether the concepts of materialism, physicalism, and reductionism. World II includes subjective experiences, changing mental states, the different states of consciousness, the psyche and the unconscious states. The World III is the world of products of the human mind, covers the creations of the human mind in the fields of religion, philosophy, science, art and all the displays of human creativity. The emergence and evolution of the human species reflects the creativity of the universe itself. It is the world where the dust of stars that we are became aware of itself and asked about their origins and destiny.

Table with cuneiform text, from exposition in Smithsonian Museum in Washington DC. Picture by the author. Example of World III



Galathea: sculpture by Robert Le Lorrain Samuel H Kress collection - National Gallery Of Arts. Picture by the author. Example of World III

Historical perspective on autoconscious mind

In the work of Descartes, there are two substances, one Descartes called the *res cogitans* and the other in opposition, called the *res extensa*.

In Cartesian philosophy the term refers to beef everything mental cogitans par excellence and is what gave rise to the phrase Cogito ergo sum - I think therefore I am. The essential feature or attribute of the res cogitans is thought, understood as "being aware." Historically relevant background in relation to the conceptual link between autoconscious mind in association with the neurological substrate began to

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Table with cuneiform text, from exposition in Smithsonian Museum in Washington DC. Picture by the author. Example of World III

Galathea: sculpture by Robert Le Lorrain Samuel H Kress collection - National Gallery Of Arts. Picture by the author. Example of World III

Historical perspective on autoconscious mind In the work of Descartes, there are two substances, one Descartes called the res cogitans and the other in opposition, called the res extensa. In Cartesian philosophy the term refers to beef everything mental cogitans par excellence and is what gave rise to the phrase Cogito ergo sum - I think therefore I am. The essential feature or attribute of the res cogitans is thought, understood as "being aware." Historically relevant background in relation to the conceptual link between autoconscious mind in association with the neurological substrate began to

take shape with the work of Hughlins Jackson in the nineteenth century.

His studies showed for the first time that the cerebral cortex was the cause of motion and excluded the misconception of the cerebral cortex as a "think tank."
Jackson's classical studies have shown that voluntary movements were not opposed to the reflection type movements but on the contrary, the reflex actions were necessary for the movements to occur (Evarts, 1983).

His findings paved the way for the subsequent discovery of relationships between the cortex and the projections from the basal ganglia and cerebellum interacting structurally in the thalamus. Subsequently, other points of interest arose with the concept of association areas in the brain, which are functionally involved in movement strategies, motor planning, bonding between emotion, memory and language production (Kandell, Schwarz & Jessell, 1995).

One of the significant developments is given by the lifetime work of the Nobel Prize in Medicine John C. Eccles, who proposed that the brain per se is not a structure complex enough to perceive the phenomena associated with consciousness, so you have to admit the independent existence of an entity other than the brain, a body which he calls autoconscious mind and which reality is not material or organic, but more functional because it performs a higher role of interpretation and control of neuronal processes at the level of cortical modules that are active.

By joining the development work on the investigation into the cerebral cortex with the concept of consciousness, develops the hypothesis of the evolutionary origin of consciousness has four major attractions: (I) which is neuroanatomical, (ii) agreed with biological evolution, (iii) uses the most advanced structures in the cerebral cortex and the ultrastructural features in its operation and finally, (iv) is based upon quantum physics. (Eccles, 1992; full text reference in http://www.ncbi.nlm.nih.gov/pmc/articles/PMC49701/pdf/pnas01090-0042.pdf).

Relationship between cortical modules and autoconscious mind.

In the higher evolutive levels of the nervous system, neuronal activity depends on the association of large numbers of neurons, arranged in colonies or modules. These groups comprise myriad of functional associated spatio-temporal patterns of neuronal electrical discharges (Eccles, 1985).

The signals for voluntary movement in general lead to increased electrical activity in a large area of cerebral cortex, this signal is known as reactive potential and is followed by a period of about 800 milliseconds in which it occurs sequential electrical activity in hundreds of interneurons before the depolarization of motor neurons. Neurophysiologist John C. Eccles postulated that during this period of latency, the autoconscious mind read the cumulative spatiotemporal patterns of electrical activity in neurons. The elapse of approximately 800 milliseconds are supposed to correspond to the activation of the autoconscious mind. The work of Libet (1996) showed that stimulating directly the cerebral cortex and measuring the electrical activity in the area, -any activity from sensory or voluntary intentional states- is preceded by neuronal electrical activity. This phenomenon is called by Libet the preconscious to conscious transition interval and is temporally distinct from the initiation of voluntary

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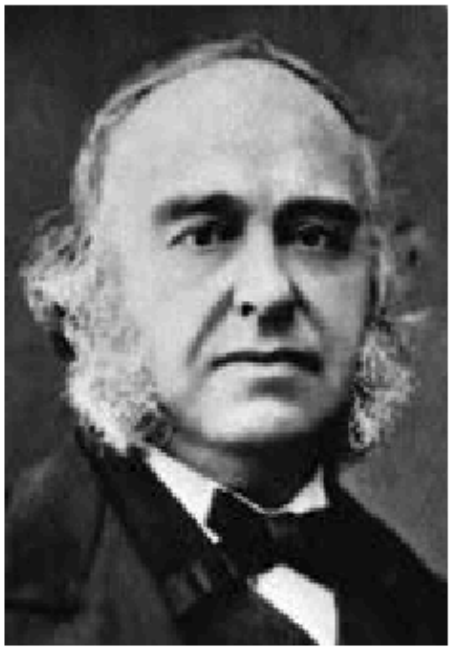
motor control. It also confirms from a neurophysiological point of view the hypothesis of autoconscious mind.

Disciplinary approaches in the study of consciousness

Consciousness sciences raise difficulties because the character of "qualia", difficult to express it numerically as they are "functional" when describing its formal object of study-consciousness, in terms of its role in the organism (Wartofsky, 1983). It is recalled that qualia is a term to describe the intrinsic nature of immediate experience. Research in this field is multidisciplinary and encompasses different approaches such as neuroimaging, studies of individual neurons, neurobiology, cognitive neural science, computer science (Kandell et al, 1995) and other disciplines seemingly without close ties as fractal geometry, general theory systems, complexity theory, thermodynamics, holonomic brain theory, among others (Vanderbert, 1996). Necessarily, research in this field must have the multidisciplinary approach to enable a broad array of conceptual approach to avoid the emergence of any localizationism.



Pierre Paul Broca
1824 - 1880

As a precursor of phrenology, Franz Joseph Gall was the first proponent of localizationism, which received strong support when the surgeon and anthropologist Pierre Paul Broca demonstrated the correlation between brain injury in an area determined with a specific cognitive impairment. Localizationism grew significantly with precursors like Rolando, Wernicke, Fritsch and Hitzig.

The localizationism is the assignment of attributes such as happiness, morality or conscience to certain structures in the brain. Then a big deal of multidisciplinary targets provides the conceptual framework for progress in the interpretation of data describing relationships between cognitive phenomena and anatomical structures (Sarter, Berntson & Cacciopo, 1996).

On the other hand, the interconnections between consciousness, mind, thought and its possible links to mathematics and physics contain elements to describe how emerging energy models underlies to mental activity.

Hypothesis of autoconscious mind and spectrum of consciousness

It is necessary for acceptance as a theoretical model, that the hypothesis of autoconscious mind would apply to the states of mental life as in the perspective of the spectrum proposed by the perennial psychology, psychoanalysis, humanistic psychology and interpersonal psychology. The levels of

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consciousness that we know are only a fraction of the continuum of consciousness and each one is associated with a different expression of individuality and apply only to unique processes of development in which each one of them is involved (Wilber, 1992)

With this Hypothesis of the three worlds in mind, it facilitates somehow the autoconscious mind, corresponding in such a way with to the Popper and Eccles World II; the complexity of autoconscious mind allows reception and transmission of information. The three worlds are dynamic and constantly interact each other, just as the interactions with the physical and mental states take place in the brain.

Interaction of autoconscious mind with organic brain

Cortical modules

The fact that the three worlds interact with one another is the cornerstone of interactionist dualism also called interactionism, which explains the interaction of mental states and physical states at the level of the gray matter in brain.
Our cerebral cortex envelopes and surrounds white matter and it measures only 2 millimeters. There are about 148,000 neurons in a square millimeter of the cortex. From the standpoint of structural and functional neurons with similar functions tend to be positioned vertically as cylinders, known as cortical columns or modules. Some of the modules form what is called as minicolumns, while others are known as macrocolumns, the former are between about 30 micrometers in diameter, the second measures between 0.4 to 1mm in diameter.
These minicolumns are approximately 30 micrometers in diameter and 400 micrometers to 1 millimeter deep (Calvin, 1995) and had already been described in the work of Lorente de Nó. The module can be defined as a grouping of approximately 10,000 neurons with interconnecting circuits iteratively repeated, and most importantly, keeping homogeneity in internal design and operation. Telodendron term refers to all the axons of cortical neurons in a module. Cortical modules function is linking the electrical activity resulting from the sum of the parts, assuring an organized electrical model, instead of allowing the electrical activity of individual neurons going randomly. This model can be seen for example in the electrocorticogram recording directly the electrical activity in the cerebral cortex. The cortical modules may vary in content of cells, in terms of internal and external connectivity with other modules and relationships with other modules that serve shared functions, eg sensory and motor areas of the neocortex (Mountcastle, 1997)
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Interestingly, John C. Eccles suggests that autoconscious mind continuously scrutinize the arrangement of cortical modules as if they are electrically active or inactive. The autoconscious mind interacts only with the "open modules" that is to say, electrically active modules. While activity properties of the module given by its micropotencial activity belong to the world I, the interaction of autoconscious mind with the "open module" is a part of the World II. The so called "open" cortical modules spread electrical depolarization to hundreds of neighboring modules resulting in a complex spatial-temporal model of diffusion.

Cortical modules and energy units

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Cortical modules and energy units

One interesting view of the modules is considering them as regulators of the electrical activity.
If there were not enough inhibitory repolarizating interactions in the modules, there may be even convulsions. So the nature of the modules is tightly linked with energy and its nature is to conserve the energy they have, even in detrimental activity of other modules, creating a "conflict." The functioning of the nervous system is based on the "conflict" between adjacent cortical modules for energy conservation (Eccles, 1985 b).

Micropotential fields

For a better understanding of the concept of cortical module, you must know "micropotential fields." In 1971, Karl Pribram described micropotential fields whose function was to modulate the impulses of individual neurons, because the association of several hundreds or thousands of neurons is more reliable for electrical performance than that of several individual neurons.

Associated neurons in the modules generate micropotentials along the cortex, with a defined time-space model with different functional arrangements either excitatory or inhibitory, depending on the type of neurotransmitter systems available. The concept of pooling the integrative cortical circuits in larger units and smaller modules, offers an idea as how to assess the functional organization of cortical neurons as well as a conceptual framework for the functional interpretation of organizational structures (Szentagothai, 1975 .)

Cortical modules are somehow related to the spectrum of states of consciousness to the level of specialized areas of association cortex when it have an adequate level of activity; further the autoconscious mind may explain the interactions between the cerebellum, basal ganglia , thalamus and cortex for the final production of voluntary and involuntary movements (Eccles, 1985).

Unification of cortical functions

As a processing tool for complex spatiotemporal electrical patterns, autoconscious mind features selection and unification functions on the patterns arising in cortex from depolarized modules and connecting them to remote modules to configure the field of conscious experience. John C Eccles hypothesizes that conscious experience comes from the scrutiny of the "blinking" depolarizing modules, thus autoconscious mind is continuously set from their experiences and the cortical modules that autoconscious mind select are the border between World I and World II (Eccles, 1985).

Autoconscious mind and interaction with cortical modules

The autoconscious mind continuously scrutinize the confirmation of cortical modules allowing reciprocity between modules and autoconscious mind. Once autoconscious mind slightly modifies the depolarized cortical modules for the convenience and preference of the case, these modules (probably hundreds) react as a whole, releasing information on the commissural fibers.
In contrast, when the modules are in repolarization function, autoconscious mind can not find a pattern to interpret, and consequently deals no information which is equivalent to unconscious states. In states of rapid eye movement sleep, autoconscious mind regains its ability to interact with some depolarized cortical modules, causing the states of consciousness we call dreams.

Probably autoconscious mind selects the depolarized cortical modules according to quantum laws of probability.
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(between 200-300 nanometers) and the exocytosis of synaptic vesicles, which at that time did not depend for its movement in a viscous medium, but the particle size, magnitudes are in the range of quantum mechanics (Eccles, 1992).
Thus, autoconscious mind selects the vesicles in the synaptic cleft when they are on their way to exocytosis, depending on the individual intention to act in a quantum field of probabilities. (See http://www.answers.com/topic/quantum-field-theory-1)
The consequences of this probabilistic approach are uncertainty in the prediction of individual cases and some tendency to predictability in certain ranges or odds of probability.
The interaction of autoconscious mind with the dominant hemisphere and particularly in the prefrontal area of this hemisphere, has a tendency or odds to occur. These changes reflect the unity of the brain and avoid any kind of reductionism and localizationism.
The architecture of the brain, consciousness, and behavioral processes have been shown to be similar as they may be conceived and structured as patterns from a series of elements that occur and become active in stochastic sequence, in parallel, simultaneously with different rhythms of repetition and with different qualitative manifestations in a space-time frame. This theory of the processes as patterns is derived from the isomorphic features of these models and is compatible with highly structured dynamic processes that encompass conceptually the fields of matter and mind (Díaz, 1997).

Conclusions

The hypothesis of autoconscious mind is able to explain the presence of mental processes as attention, as an integral agent in building the unity of conscious experience. In this context, attention can be applied to the selection and maintenance of conscious contents, being different from the consciousness per se (Baars, 1997). However, when autoconscious mind focuses on certain neural activities, it results in the emergence of short and long-term memory.
There is no specific location of tracking autoconscious mind throughout the nervous system, but it takes form somehow when it interacts with depolarizating cortical modules in the dominant hemisphere.
The exploration of consciousness in the conceptual framework of cortical modules confers sensitivity to the results and may become a preferred concept for a better understanding of the perennial issues.

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