変化する状況下で創造的な活動を組織する分子の組織の仕組み

Mechanism of molecular tissue that organizes creative activities under ever changing circumstances

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［はじめに］ 分子間結合の分子の組織的な活動が生命の誕生にどのように関与したかを検討しました。分子間結合の分子の組織は分子間の協力現象で組織されており、その組織の活動も同じ作用により組織的な活動がなされます。その分子の組織から生物の誕生する段階で存在したと考えられる組織を制御する方法は以下に述べる断続的に実世界を取り込む開ループ制御です。

[分子の集まりが組織的な動作をする起源] 水面に浮遊する疎水性結合で形成された膜のような分子の組織が外部から局所的にストレスを受けて、神経伝達物質の放出のような反応が起こると仮定するとその反応には後遺症(after effects)があるのでインパルス的に反応し、その活動は分子間結合により影響を近傍に及ぼします。その後、反応前の状態に復帰した時に周囲の状況が変化して相違すれば同じ反応は起きません。分子の組織の中で多量に発生するインパルス群の中で頻繁に同時に発生するパターンのインパルス群だけに反応する解読機能を持つ分子間結合の組織を作ることが可能です。

[開ループ制御による活動の制御] 解読器を生成した元の活動群と付け加えられた近傍の活動群は共存できます。活動の流れに沿って膜の疎水側にアミノ酸が作られて、時を同じくして膜の親水側に炭水化物の分子が合成されると膜の両側に 2 種の糸状の高分子が同時に合成できます。その際に付け加えられた分子の活動で膜の活動を制御することができます。そこで、暗号要素の組み合わせた表象を連ねた高分子によって連鎖した制御活動を記憶し、その記憶により活動を再演することができます。

［インパルスの流れに沿った分子の器官の形成］ 外部から膨張収縮の圧力を受けて分子の組織が膨張と収縮を繰り返すことで、管状のルートは拡大して網目構造となり、そのルートに弁が形成されれば一方向に循環するルートができます。循環する組織が形成されると物質移動が迅速になります。分子の組織の分業化が進行すると、付け加えられたインパルス群の流れにより制御する活動が複雑になります。複数の瞬間的な制御ルート群が同時に稼働した点ではそれを解読することで一つの代表の活動にできます。接点においてどの出力を選択するかは瞬間ごとの状況によって決まります。制御情報はインパルス群によって断続的に伝達されるので、途中でルートを変えることにより新たな活動を創造することができます。出力部に到達したインパルス群だけが実際の動作に移されます。

[まとめ] 分子間結合の分子の組織の分子が組織的な活動を断続的に行うことにより生命の活動が始まり、その生命の活動を通して組織的な活動が進化して、進化した分子の組織になりました。核酸の塩基配列を暗号とした遺伝の仕組みを備える進化の過程では既に分子間結合の分子の組織が活動を組織しており、その近傍では水の分子が旋回型の組織的な分子運動をしていました。

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[Introduction] The tissue of a molecule of intermolecular bonds is organized by a cooperative phenomenon of molecules, and the activity of the tissue of that molecule also forms a network by the cooperative phenomenon. This article describes that the systematic activity of molecules of intermolecular bonds existed in the birth of life. The announcer talks about what he sees during the live broadcast. In his nervous system, a large amount of sampled data are transferred, and the characteristics extracted from the flow, then those are combined and express in words. The activity of vision corresponds to reality instantaneously and it is carried out in the region of the brain that is different from speech activity. The primitive activities that act reflexively had been begun at the birth of life.

[The beginning of organized behavior]

Locally chemical changes occur when the tissue sians of intermolecularly bound molecules, such as oil films formed by hydrophobic bonds floating on the surface of the water, are stressed from the outside. The chemical reaction has after effects (after effects) so that the place swells in time progression. It changes. A large number of impulse groups continue to move due to the reaction of intermolecular bonds and eventually disappear. After a while, the same reaction does not occur if the surrounding situation changes when the reaction state returns. Cells that react to the same characteristic putter in the middle of the flow of a large amount of impulses signal the return of the activity.

The membrane on the surface of the water is locally stressed, so a reaction takes place locally. Since the reaction has an after effect, it changes along the time as a bell type (Gaussian function). It affects the neighboring molecules and it causes a transference of the reaction. The progress of the reaction is trial and error, but it proceeds in one direction and disappears before long. After a while, the same reaction recurs. Another reaction occurs, if the environment changes. The effect of the reaction in the vicinity of the chained reaction remains as a trace. The memorized trace is possible to remember the chain of activities experienced. However, the induction is intermittent, it can change flexibly along the way or it triggers new activities. It is thought that such reactions in intermolecular bonds have brought about characteristics of the creatures.

[Facility of metabolism]

If the valve is applied to the path is subject to the state of expanding and contracting., the path becomes a round trip path in the tissue. These passages transport the material on a regular manner. This passage constantly transports the substance. The mass transfer facilitates metabolism.

[Open loop control of behavior]

A living creature acts on the information obtained by the sensors. For example, a group of microorganisms moves toward the direction of a smell. An organism can act to track a special combination of stimuli. Many sensors are necessary in order to collect the precise data from the environment. Even if many candidates of reactions are

derived from a wide variety of stimuli at the same time, each action candidate is an independent open loop, so only one reaction is selected from among the reactions of many induced candidates. Note that the priority of the activity depends on the situation at the time.

[Flexible control by intermittent responses]

Since every response in the body is intermittent, the transition of the response allows change of the route in the middle without being fixed. The change along the way created a pattern of a new chain of activities. In this way, the intermittent response of the living creature has enabled it to respond flexibly. The molecular organization of the intermolecular bonds has been acquired the mechanism to maintain a long life.

[Conclusions]

The principle of sustaining life has been acquired in the early stages of the creature. Humans have significantly developed the neocortex, which is involved in conscious activity. However, instinctive activities that controls activities unconsciously are involved in life support. The author believes that he can elucidate the fundamentals of activities of life by clarifying the evolutionary process of the early stages of life birth.