The Developmental History of Orgonomic Functionalism*

Part Two

THE FOUR BEAT RHYTHM OF THE ORGASM FORMULA - THE LIFE FORMULA

In contrast to the neurotic character structure, the genital character is distinguished by "orgastic potency," which forms the common functioning principle of all human character structures whose functioning is not interrupted by armor blocks between the deep biological level and the psychic surface and therefore flows freely. This character structure experiences contradictions and conflicts, inhibitions, and even repressions, but the capacity for orgastic convulsion is specific to it. Thus, the unarmored character structure represents the functional antithesis of the armored character structure.

The common functioning principle of genital and neurotic structures is easily found. If the biological emotions are loosened from their frozen state in the armor, so they can flow freely from the depths to the surface, we find that both armored and unarmored organisms experience the build-up of instinctual charge in the biological core. However, while the armored organism does not lack the ability to eliminate the instinctual tensions as such, it lacks the capacity for orgastic convulsion and discharge of surplus bioenergy, in short, orgastic potency.

The build-up and release of the instinctual tensions are periodic life processes that can be subsumed under the concept of PULSATION. If we trace the manifestations of build-up and release, we find in the first process, as clearly evidenced in sexual excitation, an initial heightening of turgor of the tissues, especially in the genitals, whereas the release goes together with

*Written 1946-47. Translated from the German by Derek and Inge Jordan.
a decrease in the turgor. Functionally speaking, turgor constitutes mechanical tension brought about by the filling of an organ with fluid (erection), its disappearance corresponds with a mechanical relaxation. Tension and relaxation form an antithetical pair of functions which share the common functioning principle of vasomotor activity and the movement of fluid.

We can now confirm that the functional thought technique will inevitably reveal new facts if it correctly observes and accurately describes the function to be examined.

It appears logical to regard mechanical tension of the tissues as the basis of sexual excitation and mechanical relaxation as the basis of sexual gratification. In fact, the old system of sexual physiology arrived at precisely this conclusion and in particular viewed the build-up of tension in the seminal vesicles as being responsible for sexual excitation in the male. At this point, the introduction of the concept of “orgastic impotence” was a decisively important step, not only clinically but also theoretically.

Clinical observation has shown that the processes of tension and relaxation in the mechanical sense can take place freely without any sensations of sexual excitation and gratification. Consequently, sexual sensations could not be functionally correlated in any way with the mechanical processes occurring in the organism. According to the functional work hypothesis, dating from approximately 1930-1934, there must be something else, in addition to the mechanical tension, which brings about the sensation of pleasure, the excitation, and the gratification. This missing element had to be found.

It was thus the functional and not the mechanical formulation which ultimately yielded the four-beat “orgasm formula.” The hypothetical conclusion reached was that pleasure sensation and psychic excitation come about only when mechanical tension occurs together with a biological energy charge at the periphery of the organism. I have presented these fundamental aspects of my research so often that I can keep my remarks brief at this point. The above formulation achieved two goals: First, the psychic sensation of pleasure was separated from the mechanical processes in the body. Second, our attention was drawn to a still unknown factor which had to be present and functioning if the existence of the pleasure sensation was to be comprehensible.

As a result, our investigations began to focus more and more on BIOLOGICAL ENERGY. It was obvious that there is such a thing as biological energy. But what was it, and how did it function? It probably had something to do with charge and discharge. The orgasm showed every sign of being a discharge of previously built-up charges. This gave rise to a host of highly fruitful lines of investigation:

a. The relationship between the intensity of a sensation and the extensiveness or quantity of the energetic charge. (Not the relationship with mechanical tension, because a direct correlation between sensation and tension could not exist, given the fact of orgastic impotence.)

“Intensity” and “quality” are properties of psychic sensations, and “intensity” or “quantity” are properties of physical processes. Quality and quantity are properties which do not coincide. We experience a sound or a color as intensive qualities. These sensations correspond to objective quantities, such as the number and amplitude of the wave oscillations responsible for producing the sound or the color.

The intensity of sensation and the quantity of charge or excitation form a functional pair of opposites because they are fundamentally different and yet they determine each other. They must therefore have a common principle in which they are functionally identical. The task was to look for, find, and correctly formulate this principle. I knew that if I were to succeed in finding the common functioning principle of sensation and excitation, then for the first time in the history of natural scientific research a usable bridge would have been established between the subjective, psychic world and the objective, physical world. Yet, as always, this was another case in which the riddle could not be solved by philosophical speculation but solely through observation of nature and the correct connection of the observed facts.

b. If mechanical tension and relaxation and the charge and discharge of energy form two pairs of opposites which fuse the orgasm function into one unit, the next question was how these pairs of functions were to be arranged in relation to each other.
Was it to be in the way which I have described above, or in some other way? Could they be grouped as tension and charge on the one hand and as relaxation and discharge on the other? These are essential details of the thought technique. I wish to convince the reader that functionalism cannot be arbitrarily or mechanically applied if it is to yield practical results capable of further development. The manner in which we arrange the different functions is not trivial. There is only one correct arrangement, and not four or sixteen. Anyone familiar with my writings knows what this arrangement is. Nevertheless, here, we want to deduce it logically.

Let us try to arrange the four functions in different patterns and see which arrangement coincides with the objective processes. Various authors have referred to my orgasm formula, but they have stated it in the wrong order, as if the order were unimportant. In fact, it is decisive not only for the formulation of the orgasm function but also for all the consequences which can be derived from it.

First possibility:

\[ \text{Tension} \rightarrow \text{Relaxation} \rightarrow \text{Charge} \rightarrow \text{Discharge} \]

This does not illustrate the process because in the orgasm function the charge obviously occurs before the relaxation.

Second possibility:

\[ \text{Tension} \rightarrow \text{Charge} \rightarrow \text{Relaxation} \rightarrow \text{Discharge} \]

This arrangement avoids the mechanical sequence of the first one, but it again fails to coincide with the process because the relaxation of the organism does not occur between charge and discharge.

Third possibility:

\[ \text{Tension} \rightarrow \text{Discharge} \rightarrow \text{Relaxation} \rightarrow \text{Charge} \]

This is patent nonsense, as is also the sequence: relaxa-

tion → tension → discharge → charge. I include this nonsense here in order to show that, just like in other scientific operations, illogical and logical connections can also occur in functional formulations.

Certain, well-defined natural functions always obey only one logical and therefore rational connection of their intrinsic functions which objectively describes the process and can accommodate any variations. For the orgasm function there is only one logical arrangement of the four functions, and no other, which is capable of defining practically the function to be formulated. We can demonstrate this immediately in concrete terms. The logical formulation is as follows:

\[ \text{Mechanical tension} \rightarrow \text{bioenergetic charge} \rightarrow \text{bioenergetic discharge} \rightarrow \text{mechanical relaxation} \]

Let us refer to this process simply as the “orgasm formula.” It is specific for the orgasm, which, if we restrict ourselves to characterology, is the common functioning principle of all genital characters. No more than a brief moment of reflection is required to show that only the slightest deviation from this principle will prevent the natural process which it controls from taking place. If we omit mechanical tension or bioenergetic charge, then relaxation and discharge are lost. If we allow relaxation to precede discharge, then we contradict our observation of the facts. We would then permit a bioenergetic discharge to take place in a non-turgid organ, e.g., in a limp penis. We could permit the bioenergetic charge to precede the mechanical turgidity, because it is conceivable that a charge or excitation leads to a swelling of the tissue. However, this is at variance with the facts revealed by other observations. In the orgasm formula, the bioenergetic charge takes place at the periphery of the organism, but it does not occur unless there is prior swelling of the peripheral organ. The charge must somehow get to the periphery. The next step in our thought process tells us that the excitation can originate only at the center of the organism, and that it moves from the center to the periphery: centrifugal plasma flow. This consideration is supported by microscopic observations of flowing amoebae. Before the latter form a pseudopodi-
um at the periphery, bions radiate in the center of the organism and a streaming of plasma is initiated from the center to the periphery. We are justified in transferring our conclusions about the amoeba to the developed animal because plasmatic streaming is a function common to all plasmatic substance. It is a pulsatory process composed of expansion and contraction. The expansion goes together with swelling and charge, and the contraction with discharge and relaxation. We can therefore write, in functional terms:

![Diagram of plasmatic pulsation](image)

Only one deviation from the four-beat rhythm of the orgasm function is possible. Mechanical tension of the peripheral organ may occur without being followed by the other three elements. This is what actually happens in the case of "cold erection." It results in severe pathological priapism.

The four-beat of the orgasm function constitutes simultaneously a functional and a temporal sequence of processes which, except under pathological circumstances, forms an inseparable unit. In it, four individual functions are linked in a characteristic way and are dependent on each other. Swelling and charge occur gradually, while discharge and detumescence constitute a rapid, rhythmically convulsive process. Is pulsatory convulsion characteristic merely of orgasm? That is the next question. The rhythmically convulsive sequence of the second part of the overall function is in fact found only in the orgasm. The repeated convulsion of the organism distinguishes the orgasm from other biologically autonomous functions. However, the four-beat rhythm of tension (swelling) → charge → discharge → relaxation is a function of all autonomous organs, i.e., it is not specific merely to the orgasm. The movement of muscles, the motion of jellyfish, the beating of the heart, intestinal peristalsis, the movement of worms and snakes, all provide obvious proof of the general validity of the orgasm formula in the sphere of living matter. Thus, the orgasm formula describes a principle which extends far beyond the realm of the sexual function. It is just that it is very clearly pronounced in the sexual sphere, because here the biological emotions with their concomitant energy processes are particularly vigorous. But the four-beat rhythm can even be traced back to the division of the egg, and it is also visible in the convulsions that accompany the sudden transitions in embryonic development. This gives rise logically to the next question, namely, how far does the functioning realm of the orgasmic four-beat extend?

Since all living organs are involved, the orgasm formula seems to be the "life formula" per se. This is a far-reaching and radical conclusion because it brings us to the boundary of the living realm and, whether we like it or not (not out of vain curiosity but out of the necessity to understand and demarcate our frame of reference), we must look at the neighboring area, the realm of nonliving nature.

How is the boundary between living and nonliving nature constituted? Is the demarcation distinct? Are there transitions? Do certain functions from the neighboring area extend into the living realm? Do specific life functions extend into and act in some form or another in the realm of nonliving nature? Are the mechanists right in insisting there are no fundamental distinctions between the living and nonliving? Are they right in expecting that a more complete chemical and physical analysis of the functions of nonliving matter will throw light on the problem of life? Or are the metaphysicians and mystics correct in also assigning the properties of the living to nonliving nature, and even in assuming that there is a general spirit or divine force which is independent of nature?

Such questions are not philosophical speculations but a necessary review of the subject under study, providing orientation in a strange and foreign environment. In a familiar residential neighborhood one knows exactly where one's own street begins, where one's property ends, and where the neighboring street and
the neighbor's property begins. One even knows the neighbor and his family. Nothing is foreign and strange. In contrast, a scientist whose research is breaking ground into new territory feels something like a 15th-century mariner must have felt; or he proceeds with the same degree of circumspection as an American pioneer opening up the Wild West. It is not always necessary for him to know the environment in every detail, but he does need to know the kind of territory in which he finds himself. This is a part of the mechanism of survival and security, not only in seafaring but also in genuine natural research.

Fruitful scientific research alternates between periods of uncertainty, on the one hand, and total clarity on the other. The scientist is like a hiker in the mountains who suddenly emerges from a dense tangle of trees and finds himself on a plateau from where he has a clear view into the distance and over the surrounding countryside.

Expanding the functioning realm of the orgasm formula from the sexual sphere to that of the living in general was the equivalent of acquiring such an overview and looking far into the distance. This position had not been sought but had been reached as a logical consequence of functional thinking. There was nothing new in the fact that we now had an overview of the entire sphere of life, but it was new that this sphere was now seen to be governed by one broad functioning principle, one functional law of nature. Most details were still obscure, but the general validity of the "life formula," as I now called the orgasm formula, seemed to be confirmed. Before it was possible to proceed, several precautions had to be taken to guard against drawing wrong conclusions which could be catastrophic. A mistake in small areas of work is easily corrected, but to err in fundamental, far-reaching matters can cost one his life's work. My hypothesis was now as follows:

For a mechanist, the living is merely an electrical and chemical machine which he expects to understand completely after further knowledge has been accumulated on electrical and chemical processes. On the other hand, a vitalist regards the living as fundamentally different from the nonliving. He assumes a "vis vivis," which is metaphysical in nature. The arguments of the vitalists are no weaker than those of the mechanists. Both sides can cite many weighty facts in their favor. But the contradiction between the two viewpoints remains distinct and unresolvable. The problem can only be overcome by seeking out the common functioning principle between the living and nonliving realms of nature.

Both these realms are governed by the processes of tension and relaxation, and of charge and discharge. But the manner in which they are combined distinguishes the living from the nonliving. In living nature these processes function in a specific rhythmic four-beat cycle: TENSION — CHARGE — DISCHARGE — RELAXATION.* (Instead of tension we can also speak of swelling.) What we see here, therefore, is commonality and variation expressed in the same functions. The deviation of the living from the rest of nature is defined only by a rhythmic arrangement of the part-functions. Let us reiterate that the number of part-functions which makes up one basic function is four.

To start with, it was necessary to establish a functional connection between the life formula and already well-known and well-defined part-functions. To use an analogy: when an expedition arrives at an advanced outpost, it secures its lines of communication with the civilization it has left behind. In the course of firmly establishing this new scientific position, further light had to be shed on the relationship between living and nonliving nature; there were details which had been overlooked or wrongly assessed. Seemingly trivial details often gain major importance when they are placed in a broader framework of functioning. We must therefore return to some earlier points of departure.

THE BIOENERGETIC PLASMA CURRENT

Around 1926, my sex-economic studies had revealed an important antithesis which proved to be generally valid in the realm of biopsychic emotions—the antithesis of pleasure and anxiety. To recapitulate: the common functioning principle of these sen-

*In this four-beat, we recognize the phenomenon of "organotic pulsation."
sations is *the streaming of biological excitation in the organism*, even though it is still unclear what we mean in practical terms when we say "biological excitation." The differentiation of the common function principle of biological excitation or current into pleasure or anxiety is determined by the direction of the current or excitation. Pleasure is generated when the excitation flows toward the periphery, and anxiety when it flows toward the center, thereby inhibiting expansion impulses. This fact was confirmed by clinical observation of the corresponding phenomena. But it was unclear what streams or flows, what moves in the body independently of the nerves and tissues.

The embryonic science of orgonomy was familiar with the elements of the antithetical function of pleasure and anxiety, and it recognized their common function principle, the "bioenergetic" current. But it is a long way from pleasure or anxiety to an understanding of their biological origins. The antithesis of the pleasure sensation and the anxiety sensation and their functional identity in biological excitation was described, but biological excitation, which formed the common function principle of pleasure and anxiety, must itself be a derivative of a deeper natural principle. Neither the essence of this biological excitation, nor its functional antithesis, or the deeper-lying common function principle of biological excitation and its unknown counterpart were understood or even surmised.

Let us start our journey into the unknown by searching for the counterpart of pleasure and anxiety. We will find that when conducting a functional investigation of natural processes, we can seek and arrange only one pair of functions at a time. We get nowhere if we try to include more than one pair in the functional schema.

Pleasure and anxiety are sensations. While they are certainly opposites, they both belong to the functioning realm of the psyche. At the same time, they give expression to biological, i.e., extra-psychic processes. Unless we wish to commit the mistake of obliterating the functioning stages in nature and spiritualizing all of nature, we must distinguish between the concepts "psychic" and "biological" and keep them permanently apart. The thought technique used in many depth-psychological studies frequently makes the fundamental error of confusing biological and psychic processes or arbitrarily replacing one for the other. It is necessary to restrict the concept "psychic" to the realm of the sensations and thus use it to describe only the subjective experiencing of objective life processes. The biological realm of objective life processes is broader than that of the psychic. To be sure, all psychic, subjective experience is contained in the functioning realm of the living, but not all life processes are also psychically perceived. There is a broad area of biological functioning, such as the life activity during sleep, cell division, metabolism, etc. which we do not perceive or experience subjectively. They are not represented or expressed in the unconscious mind. This is not to say that we wish to restrict sensation to conscious experiencing or even to "consciousness." There are sensations, in particular organ sensations, which seldom reach the threshold of consciousness. These considerations are decisive when formulating so-called psychosomatic diseases, the "biopathies" of orgone biophysics. Incorrect ideas about the functional correlation between the narrow psychic and the broad biological realm lead to incorrect clinical conclusions.

Certain considerations of thought technique force us to make a distinction between functional antitheses which operate within a particular realm and pairs of functions whose separate elements are located in realms of varying depth or width. This proposition, which sounds incredibly theoretical, becomes easy to understand if we bring together the sensations of pleasure and anxiety as functional opposites, but then search for their
correlate in the deeper realm of the biological. In the first case, both functioning elements are psychic in nature. They function "horizontally" in opposition to each other. In the second case, one element is situated in the psychic realm and the other in the biological, which is not perceived. They still form a pair of opposites, but one is at a higher and the other at a deeper level. This dissimilarity could be reflected by writing our functional symbol differently, but that is unnecessary. It would only complicate the relationships. In each case where we establish functioning antitheses, it is sufficient that we be clear whether the two elements of the function are at the same or at different levels, with the deeper level always being the broader of the two.

The psychic sensation of anxiety at the deeper functioning level is most clearly represented in the biochemical substance adrenalin. Here, a psychic and a biochemical function form a functional pair. The physiological counterpart of the pleasure sensation at the deeper level is represented by the biochemical substance lecithin and the inorganic substance potassium.

Like all other paired functions, these must also have a common functioning principle which makes them functionally identical. The common functioning principle of the pleasure sensation and potassium or lecithin is the biological expansion of the vasovegetative apparatus. The common functioning principle of the anxiety sensation and adrenalin (also calcium) is the biological contraction of the life apparatus. The unity and antithetical nature of psychic and biochemical functions can be classified in this way.

![Diagram](image)

We had previously discovered a functional identity and antithesis of pleasure and the parasympathetic function, and of anxiety and the sympathetic function. In the first case, the common functioning principle is the biological expansion and, in the second case, the biological contraction of the life apparatus. We had thus managed to discover and formulate the principle not only in one and the same, but also in different functioning layers. The attentive reader will already have noted what this means: Connecting natural processes within one specific functioning area contributes nothing toward "integration," i.e. toward unifying the various special sciences of natural research. On the other hand, the linkage of processes from different functioning realms, which are strictly separated in the mechanistic view, in principle, breaks down the boundaries between the various sciences.

If a specific special function in a scientific field, such as psychology, has a specific special and opposite function in another scientific field, such as physiology or electrical phenomena, and if it shares with that other function a common functioning principle in a third scientific field, such as biology, then the boundaries between psychology, physiology, electrical phenomena, and biology fundamentally break down. In practical terms this means, at least with regard to the already concretely formulated natural functions, that in nature, there are no boundaries in the common functioning principle of the first (or last) order. The boundaries were introduced by the specialization of mechanistic disciplines. Energetic functionalism removes these boundaries. In this way scientific research is brought closer to nature, not only as regards the content of the research, but also in the thought technique used. And, in principle, there are no fundamental but only technical or methodological barriers left to cross in order to arrive at the uniform functioning principle of all nature, the functional law of nature, even though in concrete terms we are still far from attaining this goal. The framework of thought can encompass all of nature, even though observation and experiment lag behind.

The results of this thought technique are of decisive importance, as can easily be proved if they are tested. However, before
we contrast the dualistic, monistic, and mechanistic principle of thought to the functional one, using practical examples, we still have to take a few more steps toward the common functional principle of the living.

So far, we have formulated two series of antithetical functions which, among each other and in their links with each other, describe objective natural functions. Let us now arrange them synoptically.

<table>
<thead>
<tr>
<th>Paired Functions</th>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasure sensation</td>
<td>Anxiety sensation</td>
</tr>
<tr>
<td>Parasympathetic</td>
<td>Sympathetic</td>
</tr>
<tr>
<td>Lecithin, Cholin</td>
<td>Adrenalin</td>
</tr>
<tr>
<td>Potassium</td>
<td>Calcium</td>
</tr>
<tr>
<td>EXPANSION</td>
<td>CONTRACTION</td>
</tr>
<tr>
<td>PULSATION</td>
<td></td>
</tr>
</tbody>
</table>

Each individual function forms a specific relationship with every other function. Each of these individual relationships has its own special common functioning principle. And, as groups, the two rows form antithetical pairs of functions, of different rank, with regard to the general biological principle of pulsation.

The pair of functions closest to pulsation is formed by expansion and contraction. These are mechanical functions in the living realm which are best represented by the processes of swelling (hydration) and shrinking (dehydration).

The reader will have asked himself what has happened to the antithetical grouping of charge and discharge. Anyone who thinks carefully about the functions of energetic charge and discharge will find that they do not fit into our functional schema. If charge were functionally identical with one group, and discharge with the other, as, for example, pleasure and parasympathetic activity are functionally identical with expansion, and anxiety and sympathetic activity with contraction, then there would be no difficulty in arranging the charge and discharge of tissues in the functional schema. However, functionalism does not permit any mechanical classifications. Theories must correspond to functions, otherwise one falls prey to error.

The difficulty of incorporating charge and discharge, which are obvious biological functions and the main elements of the extremely important orgasm formula, into the schema which had been arrived at, forced me, around 1934, to verify the entire theory experimentally. The only way to decide whether and how the antithesis of charge and discharge coincides with the functionalism of the living organism was to conduct controllable experiments. It was clear that charge cannot automatically be paired with pleasure, or discharge with anxiety, because both the charge and discharge of biological energy in the sexual act are pleasurable processes. And an anxiety attack certainly does not look like a discharge. It is inevitable that such tangled facts will be encountered in the course of research. In fact, an experienced natural scientist becomes suspicious if his work proceeds without impediments, and he actually welcomes such complications, for experience has taught that each tangle of facts carries within it a very important secret of nature. The difficulty described here was resolved satisfactorily in the course of further research and its enormous secret was revealed. The ultimate result was the discovery of cosmic orgone energy.

**THE "BIOELECTRICAL" FUNCTION OF PLEASURE AND ANXIETY**

In 1934, the functions of charge and discharge of the tissues could only be studied in terms of electrical energy. Earlier research by Veraguth and Tarchanoff had revealed the so-called psycho-galvanic phenomenon. They had found that the affects of anxiety, sadness, rage, etc. are associated with electrical processes, with changes in the skin potentials. The term "associated with" means in this case that psychic processes are accompanied by or caused by physiological, chemical, or physical processes, depending on whether the scientist espouses the thought technique of psychophysical parallelism or mechanistic materialism. To my knowledge, the pleasure sensation had not been studied experimentally until 1934, but it was precisely this omission which held the key to solving the riddle.
Technically, the experiments could be conducted only on the surface of the skin. I will pass over the technical details, which are not essential at this point and have been described elsewhere in detail.* We must remain with the theme of the functional thought technique. When I started the experiments, I had no preconceived ideas. Since it had proved impossible to incorporate charge and pleasure, discharge and anxiety as pairs of functions into the theoretical structure, there was absolutely no sense in forming any hypotheses or anticipating certain results. It was only clear that, far from being excluded, the pleasure sensation had to be central to the experiments.

Let us reexamine the contradiction under consideration: Both the pleasure and the anxiety function exhibit the phenomena of high bioenergetic charge in the organism. The discharge in the organism is in fact the climax of the pleasure sensation. Where, then, was the discharge of biological energy compatible with anxiety and thus with the basic antithesis of pleasure and anxiety? It was not until much later, after the experiments had yielded their results, that I discovered that the hypothesis which I had formulated about nine years earlier, based solely on clinical observation (Die Funktion des Orgasmus, 1927),** turned out to be approximately correct. However, I must stress that at the time of the experiments I was working without any preconceived notions and indeed, because of the many contradictions, I was, if anything, confused.

After about a year of trying different approaches, most of which turned out to be failures, the first clear result emerged. Of all the known affects or emotions, only the pleasure sensation is capable of increasing the bioenergetic charge of the skin surface. All other affects, such as anxiety, rage, depression, etc., are associated with a lowering of the skin potentials.

Another year of intense experimentation confirmed this initial result, which seemed to be unknown in the physiological literature. It was surprising, and to a certain extent confusing, that this conclusion angered several of my co-workers and friends and they left me. What is nowadays a banality was 15 years ago sufficient reason for scientific enmity and personal discord. My finding could not be reconciled with any mechanistic theory, and at a single stroke it brought crashing down a large number of firm opinions held in psychological, physiological, and biological circles. I wish now to present the most important results of these experiments. Their implications struck me like an earthquake.

Mechanistic physiology assumes that when muscles respond to stimuli, electric currents move in rigid nerves. Our experiments showed that energy itself moves when sensations are experienced, without the slightest muscular movement occurring. The bioenergy moves in a way which has nothing to do with the classical neural pathways. In the course of the pleasure sensation, the energy flows toward the periphery, and when anxiety is experienced, the energy flows from the periphery to the center of the organism, thereby retarding the peripherally directed impulses.

Thus the counterpart to the antithesis of pleasure and anxiety is the antithesis of the periphery and center of the organism. The bioenergetic center has nothing to do with the "center" of mechanistic neurology. It is not situated in the cerebrum but in the middle of the body. It coincides with the position of the largest and most important ganglion center, the solar plexus ("ganglion coeliacum"). The movement of the biological energy from the center to the periphery is functionally identical with the sensation of pleasure. It is expressed in increased skin potential. The movement of bioenergy from the periphery toward the center is functionally identical with the sensation of anxiety. Since the genitals are the most excitable area of the periphery, the genital apparatus and the diaphragmatic region form an antithetical pair. This was confirmed many years ago by clinical observations: Bioenergy oscillates between cardiac excitation and genital excitation in certain anxiety neuroses.

This is easy to detect clinically. For example, women tend to exhibit "nervous anxiety" only when they are face to face with a man who excites them sexually, i.e., toward whom their life

---


apparatus reaches out in a state of excitation. They do not experience anxiety if the man does not have an exciting effect on them, or if the sexual attraction is not reciprocated. In other words, anxiety is the expression of a biological expansion which is curbed. Uncurbed expansive excitation does not produce anxiety.

Respiration has an unmistakable influence on these processes. The skin potential over the diaphragm decreases with deep inhalation and increases with deep exhalation. During the breathing-in stage, the diaphragm exerts pressure on the solar plexus, and this is released again upon breathing out. The lowering of the diaphragm which takes place upon inhalation thus impedes the pleasurable expansion of the life apparatus and acts in the direction of anxiety. This opened the door to understanding the physiology of psychical disorders, the central function of which is anxiety. From that time on, my attention was drawn to the breathing in neurotic and psychotic patients: The blocking of the ability to exhale fully, and the chronic inspiratory attitude of the chest proved to be a universal phenomenon in psychical disorders. I had discovered the fundamental mechanism of the so-called biopathies. I will not discuss here the clinical details of biopathic mechanisms because they have been fully described elsewhere.* What is important is not so much the individual clinical mechanisms but the breakdown of so many boundaries between scientific areas if we wish to understand the fundamental principles of functionalism in nature.

Upon superficial examination, the appearance of light streaks on the oscillograph seemed to have an "emotional character."** Depending on the emotion, the wandering of the light streak was "animated," "hesitant," "mistrustful" or "cautious." A "disappointment reaction" occurred when, for example, instead of the promised sugar, some salt was placed on the subject's tongue. When sugar was actually given, the charge at the skin's surface did not increase but receded as if salt had been administered. A long period of adjustment was required before the normal positive sugar reaction was reestablished. There were signs of habituation or "dulling"; the bioenergetic reactions were quantitatively diminished when the same stimulus was applied several times in succession. The deviations of the light streak from its zero position were smaller, and they occurred more slowly. For example, whereas the potential of the tongue had fallen rapidly and completely when the subject was first exposed to the unexpected striking of a gong, nothing happened when the gong was struck repeatedly.

It is now clear that the movements on the oscillograph were not caused by psychic sensations but by physical charges. The character of the movements corresponded precisely with the sensations and reactions of a living organism in an emotional situation. The physiological parallel to psychic sensation was thus not a chemical reaction, nor a "central neural impulse," but instead a hitherto totally unknown process. Depending on the circumstances, the bioenergy moves at different speeds, in different directions, and in different ways in the organism. It moves in a biologically comprehensible manner independent of the nerve pathways and areas. Even the amoeba exhibits the corresponding plasma currents from the center to the periphery in pleasurable situations, and from the periphery to the center in anxiety situations. Thus, man and amoeba are functionally identical as far as the fundamental biological excitations and directions of current are concerned. The amoeba does not possess a nervous system, but the emotional basic antithesis of the living functions even in such a creature. The autonomic nerves are thus not a precondition for the cardinal life reactions. Instead, they appear as organized forms of functions belonging to a biologically deeper functioning realm. The functions of pleasure and anxiety are much older phylogenetically than parasympathetic and sympathetic.

I stressed earlier that the biological plasma currents are "emotional" in character. Now a new common functioning principle emerged: The type of emotion was identical with the type of movement of the bioenergy. The character of the movement can best be described as a kind of slow undulation of wave-like motion. Several years later, this fact played a major role in the

---

The Developmental History of Orgonomic Functionalism

---


** Cf. Reich, The Bioelectrical Investigation of Sexuality and Anxiety, [Eds.]
orgone-physical study of the aurora borealis. But the path to understanding these connections is a long one. The fact that catatonic patients did not produce any wave-like motions on the oscillograph was fully in accord with their emotional block.

Probably the most important result of the experimental verification of my clinical theory was a new functional understanding of the energetic structure of the bio-apparatus. It was composed of a "bioenergetic center" or core and a "bioenergetic periphery." The center was formed by the autonomic ganglion apparatus and the periphery by the surface membrane. The typical ganglion cell apparently reflected this schema in its own particular realm of functioning. This schema has nothing to do with the depth-psychological one of the superego, ego, and id.

Field

Periphery

Nucleus

It describes the organism not at the psychic but at the biological level. There is only one possible point of contact between the depth-psychological and the biophysical functioning schema. The "id" of psychoanalysis is one of the many functions of the bioenergetic apparatus in unconscious psychic life. However, there is no way in which one should ever confuse the psychic functions of the ego, id, or super-ego with biological concepts. Any attempt to do so would display a total ignorance of the principles of scientific thinking. Our theoretical concept covers, in each case, certain functioning realms, or different functions of one and the same realm. It is just as impossible to apply the psychological method of thought to the biological plasma function as it is to use the cast steel piston of a steam engine to make an electric dynamo. The theoretical concepts must be constantly modified, depending on the natural function to be studied. The theory is simplified only to the extent that we progress in nature from the complicated to the simple, from the variations to the common functioning principle. But, no matter how well it is able to comprehend all natural processes, even our schema of energetic (orgonomic) functionalism cannot be transferred mechanically from one function to another. The individual functioning groups must always be arranged anew. Mechanical clichés would lead us nowhere.

The theory derived from the bioelectric experiments on the energy principle of the organism first had to be examined to see whether all living organisms obeyed it. It would seem to apply to all animals and to the cells with their "nucleus" (core) and "plasmatic periphery." It was manifested visibly in the body structure of jellyfish, starfish, and related organisms. When I tried to apply this theory to plants, I ran into difficulties which are unresolved. There was a gap here, even though the form of a flower or of a fruit made the application possible.

Initially, the organized extensions of the cell body, such as the tentacles of a jellyfish or the fibrils of a ganglion cell could not be understood. What bioenergetic function are they expressing in organized form? This question was answered beautifully when one of my co-workers committed a serious technical error during the bioelectric experiments. The results had shaken him.
so deeply; they had upset his classical physiological assumptions to such an extent that he resisted the obvious facts in an irrational way. He insisted that the same reactions which had been obtained on the living body could be demonstrated on the nonliving body. His prejudice was so emotionally charged that, despite the irreproachable care he took in all other respects, he blundered in trying to prove his assertion. He pressed the electrode onto a cloth without insulating his fingers. When his fingers were in contact with the electrode, and the electrode was touching the dampened cloth, the nonliving material did seem to produce the typical biophysical reactions on the oscillograph. When the fingers were insulated, the phenomena produced by the "living cloth" disappeared. But a new puzzle arose. We were forced to ask ourselves, how is it possible for a dampened cloth to produce the same reactions to tickling as a living, healthy organism? Contact with the body of the person conducting the experiment or of the test subject was an insufficient explanation, because it was the cloth itself and not the living organism which was tickled. But when it was linked with the body by fluid the cloth behaved as if it was "alive." When such connection was lacking, the cloth was "not alive" and did not react to tickling. Therefore the thoughtless mechanistic interpretation of this phenomenon, namely, that "it was just the ions in the fluid," was meaningless. After all, the ions in the fluid were the same whether or not there was any contact with the living body.

It was not until many years later, when atmospheric orgone energy had been discovered and experiments had been conducted with the orgone energy field, that the puzzle was solved: The organism has an orgone energy field which belongs to the living functioning unit. It therefore displays all the biological reactions, just like the skin. It expands, it contracts, it can be excited and, as the "living cloth" so drastically demonstrated, it can transfer its properties to a nonliving body such as a piece of linen. There was no longer any mystery; there was a distinct bioenergetic difference between living and nonliving matter.

Tracing individual basic functions in the realm of the living yields a less distinct but nevertheless unmistakable separation of the psychic from the biological. Of course, people are at liberty to equate the psychic sphere with that of the living, just as they are free to attribute a soul to nonliving nature. It all depends on what one wants to achieve. Anyone who postulates the existence of God must endow all nature with a soul. Anyone who feels it is correct to investigate all nature psychoanalytically, i.e., to equate the "id" with the living and to believe that it is accessible to psychological research, will not accept the existence of a boundary between biological and psychic events. No matter how difficult it is to delineate such a functional boundary in living nature, there is no doubt about its existence and indeed it is essential for correctly describing living functions. This can easily be demonstrated in any process which simultaneously reveals both physical and psychic disease mechanisms if they have their common functioning principle in emotional disorders. Such practical clinical examples demonstrate the importance of pure methodological thinking, and show how easy it is to become the victim of serious errors if one fails to distinguish between psychic and physical, and physical and biological functioning, although, physiological, psychic, and biological functions form an indissoluble unity.

The reader will ask why I mention this problem when discussing the bioenergetic experiments. The question is justified because it is not yet evident what a disease symptom has to do with the experiments. It will soon become clear that there is only one correct way in which the various functions of the life apparatus can be arranged if one wishes to comprehend a disease process as fully as possible. From the wealth of clinical symptoms, I will select the stomach ulcer as the best studied and best known symptom in the field of psychosomatic medicine.

To be continued.