**Orgonotic Pulsation**

The differentiation of orgone energy from electromagnetism
Presented in talks with an electrophysicist

**INTRODUCTION**

The present article deals with orgonotic pulsation as a *physical* characteristic of cosmic orgone energy. The relevant experiments demonstrate orgonotic manifestations in the realm of nonliving nature. With that, orgone biophysics takes root in orgone *physics*. The past five years (1939-1944) have shown that the differentiation of the cosmic orgone energy from electromagnetism, as it is usually understood, was indispensable and fruitful. In the process of this differentiation, a wealth of connections between orgonotic pulsation and problems of biology, geology, and astronomy were discovered. They are as yet incalculable, and only a small fraction of them could be organized. I was confronted with the choice of either postponing the publication of the basic facts of orgone physics until such time as all these connections are essentially clear, or of delimiting certain problems and presenting them separately.

In the first case, the presentation of a total picture of the orgone functions would inevitably have been burdened with hypotheses. In the second case, that of piecemeal presentation, the view of the whole is unsatisfactory and often even confusing. There is, however, the advantage that the details of a special realm of functioning can be more sharply drawn. I chose the second way, which also enables me to collect more differing and critical points of view before attempting to correlate the various aspects of the orgone function into a whole.

I can understand the impatience of my friends who would like to learn as much as possible as soon as possible. However,

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and electrophysics. The erroneous concepts of my electrophysicist are quite common in the world of physics. It goes without saying that they are not mine.

I would like to ask the reader's indulgence toward minor errors which may be found here and there. If one cuts through a jungle, one is apt to trip over a root and make a blunder. The pioneer in the jungle does not necessarily have to know the exact chemical composition of the leaves. Theoretical physics contains so many fundamental errors that it can ill afford to appear in the role of an intolerant critic of a young and pioneeringly fruitful science such as orgone physics.

April, 1944.

WILHELM REICH.

THE POSITION OF THE BIOLOGICAL ENERGY IN NATURAL SCIENCE

Electrophysicist (E): A biologist friend of mine told me very peculiar things about your orgone research. He thinks that your bion experiments may prove of great significance for biology. On the other hand, he doubts whether the world of classical biology will ever accept the bion theory.

Orgone biophysicist (O): I share his doubts. Orgone biophysics will not first gain social recognition in the realm of biology, but in the realms of biopsychiatry and physics.

E. I don't understand. After all, with psychiatric problems concerning the nature of the "emotions" as your point of departure, you found a way into the biological foundation of psychic processes. One would think, then, that the realm of biology would be the first to acknowledge your findings. Do you understand this resistance on the part of classical biology?

O. This question can be answered in a few sentences: Biology, apart from vitalism, has an essentially mechanistic orientation. Orgone biophysics operates functionally—in the experiment, its interpretation, and in the formulation of theories. Classical biology finds itself in a tragic dilemma. On the one hand, it deals with living processes which it considers sharply delineated from nonliving nature. On the other hand, and simultaneously, it attempts to comprehend the life principle by way of methods and concepts which are taken entirely from physics and chemistry, that is, the sciences concerned with nonliving nature. Orgone biophysics finds itself at the opposite pole. First, it assumes the existence of fluid transitions from the realm of nonliving to that of living nature. Second, it dispenses, of necessity, with the mechanistic physical conception of living processes. It demonstrates a specific biological energy which governs all living processes on the basis of simple natural laws. This energy, called orgone, governs living as well as purely mechanical natural processes. The functions of this energy make comprehensible the manner in which living matter develops from nonliving matter, that is, the process of biogenesis.

E. It was precisely this aspect of your research which made me look you up. I don't come to you because of my interest in electrophysics, but rather because I am interested in biology. I have been studying it on the side, as one collects stamps or plays golf, in order to get a change from my own professional field.

O. I doubt that your interest in biology is no more than an incidental avocation. The biologists, left unsatisfied by their own science, seek respite from dry mechanism in physics and chemistry. For the same reason, many physicists and chemists find their way into the realm of living functioning, if not into mysticism. It is striking to see to what extent Newton was involved with metaphysical and religious problems. At first glance, this seems amazing in a representative of that "most exact of the natural sciences," mathematics. But that which is alive in genuine scientists always searches for the basic elements, for the common denominator in the natural laws and processes. The living is a significant part of nature. Until now, it was in the keeping of mysticism and genuine religiosity. Of course, I am not referring here to the officials of natural science who are concerned with knowledge which is already recognized. They are comparable to museum guards who watch over statues. I am referring to the genuine researcher, the one who strives to get beyond his own
limited field, the one who attempts to find the place of his special field in the unitary natural process.

E. Obviously, there has always been a tremendous need for the simplification and unification of the scientific world picture. Unfortunately, the efforts in that direction have been futile. Rather, the increasing specialization of the various branches of research and their concern with detail work has had the opposite effect, leading natural science farther and farther away from its real goal, the simplification and unification of natural processes. The natural philosophers, on whom this task developed, also soon became specialists, specialists in speculation and in the attempt to solve the riddle of the common denominator in nature by pure thinking. The cry for integration of the natural sciences means little as long as the process and function are not found which comprise all natural processes in their totality as well as in their individual functions.

The specialists of today are poorly trained in systematic thinking. They cannot coordinate the details into a whole. One does not see the woods for all the trees, or the natural process for all the words. It is as if thousands of builders were to create a magnificent structure without having a plan for the whole. Thus there are beautifully furnished rooms with no entrance; the water pipe leads into the chimney; the bedrooms are in the lobby and the reception room on the eighth floor. The result is utter confusion. When the tenants move in, there is war, for—all improvements of modern technology notwithstanding—nobody can find his way around.

O. I usually demonstrate to my pupils and friends the difference between mechanistic word-science and functional natural science by way of a very simple illustration.

E. Let’s hear it.

O. Take a primitive who enters a modern living room and sees a chair for the first time in his life. What will be his immediate question? “What do you call this?” or “What do you do with it? What is it made of?”

E. The latter, of course. To begin with, he would not ask about the name because a word, such as “chair,” would not tell him anything about the function or nature of the sitting contraption. To him, “table” or “book” could equally well mean “chair.” His biological feeling of motion will soon tell him what one has to do in order to “use” this peculiar sitting apparatus. Not until our primitive has established this practical, that is, functioning, contact, will he give the contraption a name, such as “leg rest” or “buttocks support.”

O. Our classical biologists are not that close to reality. Classical biology has divided and subdivided the realm of the living according to external statistical characteristics and clothed it with a host of difficult words. With that, the primitive sense for function and the origin of function was so thoroughly lost that the natural functional intelligence underwent complete atrophy. When a biologist sees an energy vesicle, which is spherical and takes blue Gram stain, he believes he has explained it satisfactorily when he names it “staphylococcus;” thereby completely blocking the avenue of approach to the questions, “Where does it come from? What becomes of it? How does it function?”

E. Yes. And since there is a word for every one of the infinite number of diverse manifestations, the result is a fantastic confusion.

O. Neurology actually believes to this very day that it has “explained” a motion when it designates the nerve fibers in which the excitation runs. Among the hundreds of thousands of anatomical names referring to the animal organs, and all the naming of the various reflexes, there is not one referring to the orgasmic contraction. The simple and basic biological functional movements have been overlooked. If any animal were to try to function according to the description of its body in a mechanistic anatomy textbook, it would be unable to move a limb.

E. I once saw a mental patient in a rigid attitude of defense and made a remark about it to the psychiatrist. He said, “This is the well-known opisthotonus.” He did not see the expression of the movement, that is, its function.

O. It is a pleasure to hear a physicist speak in strictly functional terms. After all, hasn’t the electron theory realized the desired unification of the scientific world picture to some extent? Isn’t the electron theory of today in harmony with the good old atomic theory of Democritus? To judge from the news-
papers and professional publications, everything seems to be pretty well settled.

E. As a professional physicist, I should agree; as a living organism, I cannot. To begin with, nobody has yet seen any electrons. Their existence was assumed as a working hypothesis in an attempt to comprehend the common denominator. Unfortunately, this common denominator soon fell apart into neutrons, protons, electrons, positrons, etc., which are unrelated. Their common denominator is unknown. Similarly, the atoms remained invisible.

O. Like the genes of the heredity people.

E. Exactly. Nevertheless, the superstitions about the unchangeability of chemical elements have been dissipated by Madame Curie’s discovery of radium. But now the substances are built of electrons, positrons, etc. The question of the common denominator has only been shifted and become more complicated. In addition, there is magnetism, heat, mechanical energy, etc. Their common basis is unknown. Since Kepler and Newton, the laws of gravitation have been known, but one knows nothing about its nature. Comprehension of the common denominator of the various forms of energy seems farther removed than ever.

O. I am not knowledgeable enough about practical physics and chemistry to form an opinion here. In biopsychiatry the mechanistic splitting up of natural science is disturbing. Physics and chemistry have thus far contributed nothing fundamental to the understanding of the vital apparatus, either theoretically or practically. The total functioning of the organism has remained a riddle.

E. People say that, with your orgone physics, you transgress your competence as a psychiatrist. If, as you contend, there is a universal cosmic energy which can be measured and made visible, the physicists should have discovered it long ago. You yourself admit that you do not know much of practical physics and chemistry, and thus confirm this objection.

O. Let’s clarify the question of competence. It is a matter of the point of view from which competence is judged. I have often asked myself whether I was not exceeding my competence in trying to comprehend orgonotic manifestations in nonliving nature.

Two considerations contradicted my doubts:

First, it is a fact, one that has been stated by many eminent researchers, that mechanistic natural science has not yet contributed anything fundamental to an understanding of the simplest life manifestations, such as pulsation. Classical biology, tied as it is to the apron strings of inorganic chemistry and physics, and deriving its scientific principles from the realm of nonliving nature, has also failed. If competence is judged not from pretensions but from achievements, there can be no doubt that the mechanistic natural sciences have not proved their competence in the realm of the living. This is clearly shown in the sad state of affairs which prevails with regard to medicine and the vital apparatus. People with cancer die a living death of putrefaction. No pathologist, chemist, or physician notices this simple fact.

Second, the discovery of the specific biological energy, the orgone, did not result from a transgression of basic biopsychiatric questions but, on the contrary, from their consistent study. Quite logically, the discovery of an unconscious psychic life postulated the existence of a “psychic energy.” Equally logically, this postulated “psychic energy” had to be thought of as rooted in the biological apparatus. Sex-economy occupied itself for a decade and a half with the vast field of psychic emotions before it made an important biophysical discovery: The intensity of the sensations of pleasure, anxiety, and rage, that is, of the three basic emotions of any animal organism, was shown, at the oscillograph, to be functionally identical with the quantity of the biological excitation in the vital apparatus.* This was a deep breach into the obscure mind-body problem. The emotional sensation is not a “result” of the biological excitation, as the mechanists had assumed for thousands of years; nor is it the “cause” of the biological excitation, as the spiritualists had always believed. It is not independent of the excitation, as the dualists believe, nor the “other aspect” in the excitation as the monists contend. The bioelectrical experiment shows that excitation and sensation

are one and the same process in the biological apparatus, because
the intensity of a sensation corresponds to the quantity of the
excitation, and vice versa. At the same time, however, a sensa-
tion, e.g., a visual impression, can produce an excitation, and,
conversely, an excitation, like the touch of a hand, can produce
a sensation. Adrenalin in the blood produces anxiety, and anxie-
ity results in increased adrenalin secretion into the blood.
E. You call the relationship of sensation and excitation “func-
tionally identical and antithetical.” It is difficult to conceive of
a simultaneous identity and antithesis.
O. This is due to the armored human structure which is in-
capable of thinking functionally, that is, in keeping with reality.
E. You will arouse violent objections if you contend that peo-
ple, as a result of their biopsychic structure, perceive natural
processes incorrectly. If you were right, the two prevailing sys-
tems of thought, mechanism and metaphysics, would have to
be understood as having resulted from the character structure
of man during an epoch of some thousands of years. That is
hard to swallow.
O. Not any harder than when man had to give up the erro-
neous belief he had held for two thousand years that the earth
was the center of the universe. Then, the doctrine of a divine,
i.e., supernatural, creation of man was responsible for the false
belief that man was the center of the world and, with that, the
earth was the center of the universe. Similarly, the mistaken idea
that man’s thought, independent of his character structure, is
“in itself logical and correct” creates the erroneous beliefs of
his natural philosophy. Ever since the beginning of written his-
tory, human structure has become rigid as a result of authoritar-
ian civilization. For this reason it no longer follows purely biosocial
laws. It is not difficult to understand that a biologically rigid
organism experiences its own body and, with that, its sensations
and perceptions, in a different way than does a biologically non-
rigid organism, e.g., that of a snake.
E. What you mean is this: As natural philosophy has always
known, sensation is the only portal through which we gain ac-
tess to the environment and our own organization. If, now, the
sensations of the organism are not unitary, if they are blocked
or split apart, this state of affairs must be reflected in the per-
ception and the intellectual comprehension of the natural
processes. In that case, an organism which does not experience
its vegetative currents directly and in a unified manner but
which, nevertheless, is under their influence, would have to as-
sume mystical, supernatural forces, while an organism which ex-
periences itself as angular and mechanical could only produce
a mechanistic world picture.
O. Precisely. Functional thinking, on the other hand, cor-
responds to the natural unitary functioning of the organism.
This fact is clearly established by painstaking character-analytic
investigations. In schizophrenia, for example, the emotions are
perceived as influences coming from outside, because the percep-
tion of the vegetative currents is blocked from the excitation.
The splitting of excitation and sensation is a basic symptom of
this disease and gives it its name. The compulsive character, with
his mechanical, angular, unyielding compulsive thoughts, with
his tendency to divide everything he experiences into mechanical
subdivisions, is the prototype of mechanistic thinking. In reality,
mechanical rigidity and mystical experience usually go hand in
hand. This is so because the mechanistic splitting up of self-
perceptions leaves a void in the experiencing of life. The mystical
experience then makes up—in a pathological manner, of
course—for what the rigid, mechanistic thinking does not
provide.
E. Can you graphically depict your schema of biopsychic
functioning?
O. This is what it looks like:

FIG. 1. Schema of biopsychic functioning
As you see, the schema comprises the unity as well as the antithesis of the biopsychic apparatus. What functions antithetically at the surface is identical in the depth. This schema has proven a safe guide in the most difficult observations and formulations of natural science.

E. I would like to test it on a simple example from the realm of the nonliving. In magnetism, the north pole and the south pole of a magnet are antithetical. In the function of magnetic attraction they are identical. Now, if we try to describe magnetism by way of the methods refuted by you, we would have to say, "The quality of the north pole determines the quality of the south pole." This is obvious nonsense, as is the converse. Or, "The quality of the north pole and that of the south pole are one and the same thing." This is incorrect, for north pole and north pole repulse each other, while north pole and south pole attract each other. "North pole and south pole function in a parallel manner" would be equally wrong.

O. Try it with an example from chemistry.

E. Sodium ions and chlorine ions are functionally antithetical, but they do not "cause" or "determine" each other. Sodium goes to the cathode, chlorine to the anode; they have a positive and negative charge, respectively. But they attract each other chemically and form the neutral compound NaCl. In this, the two antithetical functions are united, forming a new and different functional unit, NaCl. Your scheme applies here as well as for any other chemical compound.

O. Test it on more general natural processes.

E. Your formula applies to the whole realm of nature: Living matter is sharply distinguished from nonliving matter and often antithetical to it. At the same time it has basic factors in common with nonliving nature, such as the basic chemical and physical processes.

O. The simultaneous identity and antithesis of living and nonliving matter is most easily demonstrated in the orgone-biophysical formula of living functioning. It is the basic formula of biological pulsation: MECHANICAL TENSION → ENERGY CHARGE → ENERGY DISCHARGE → MECHANICAL RELAXATION. It applies to the pulsation of the heart as well as to the motion of the worm or the contraction of the vorticella.

E. I see. Tension and relaxation, charge and discharge are also found in nonliving nature. To that extent, living nature and nonliving nature are functionally identical. The antithesis consists in the fact that these physical functions occur in living nature in a four-beat combination which is specific to life and does not occur in nonliving nature. That's amazing.

O. Now try to apply the mechanistic or the vitalistic method of thought to this.

E. "The nonliving determines the living." Correct. But life also turns again into the nonliving. This fact is left out of consideration in the concept of a one-sided determination of the living from the nonliving. Spiritualism postulates the dependence of the nonliving on the living. Correct, for living matter turns into nonliving matter. But here the opposite direction of the process is left out. What about the dualistic theory? "The living and the nonliving are two different, independent, parallel natural processes." This is obviously erroneous. Now, as to monism: "The living is identical with the nonliving." This, too, is obviously one-sided and therefore erroneous. Your formula, better than anything else, reflects reality: The living is identical with the nonliving and at the same time antithetical.

O. Our formula of living functioning solves the age-old feud between the mechanists and the vitalists. Living matter follows, indeed, the same natural laws as nonliving matter, as assumed by the mechanists and materialists. But at the same time there is a fundamental difference between living and nonliving matter, as the vitalists contend. The functional identity between the living and nonliving consists in the fact that it is one and the same energy which governs both realms. Living matter is different in that it functions according to the four-beat of TENSION→CHARGE→DISCHARGE→RELAXATION. This four-beat does not exist in nonliving nature.

E. You are supposed to have said somewhere that any concept, including the metaphysical one, has some basis in reality. Does that mean that the diverse theories regarding nature are concerned, in each case, with different aspects or functions of the same natural process?
O. I once set out to combine the diverse and contradictory methods of thought in our basic schema of functioning.

E. But that is impossible. For if the diverse methods of thinking deal only with individual functions, they cannot possibly be united in a schema of thought which proves these diverse methods to be one-sided or incorrect.

O. Yet, it is possible. One must even assume that the organisms which observed and described the natural processes, despite onesidedness and incorrectness, nevertheless hit upon parts of the actuality depicted in our functional schema.

E. But the spiritualistic concept that the spirit creates the body can hardly be compatible with a functional concept of nature.

O. Let us divide our schema into segments which we number:

![Diagram of energetic functionalism](image)

FIG. 2. Diagram of energetic functionalism comprising mechanistic, vitalistic, parallelistic, mystical-theological and monistic natural philosophies.

1-2 Mechanistic materialism
2-1 Idealism, vitalism
3-4 Psychophysical parallelism, dualism
5-6 Theism, mysticism
7-8 Monism, psychophysical identity
9 The "common denominator of nature," the cosmic energy, orgone (mystically: "God"; physically: "ether")

Now, if we consider the constituent parts of the schema separately, we find the following:

At the surface, at 1 and 2, there is an absolute antithesis of psyche and soma. This is the realm of the mechanists who derive psychic functioning one-sidedly from chemistry and physics. It is also the realm of the vitalists who, conversely, believe that the vital energy creates and determines the soma. "The soma determines the sensation," say the mechanists; "the sensations (the entelechy) determine matter," say the vitalists. It all depends on whether your point of departure is 1 or 2.

3 and 4 run parallel and, considered apart from the rest of the diagram, without any connection between each other. These lines correspond to the parallelistic mind-body theory, according to which somatic and psychic processes are independent of each other and run parallel.

5 and 6 run in opposite directions. They correspond to that concept which contends that matter and spirit, soma and psyche, instinct and morals, nature and culture, sexuality and work, earthly and divine things are incompatible; more than that, they are antithetical. They represent the thinking of every kind of mysticism.

At 7 and 8 there is only one line of direction, which can be viewed either from the left or the right side. It corresponds to the concept of monism, of psycho-physical identity, according to which psychic and somatic are merely different aspects of the same thing. We must admit that in their thinking the monists came closer to the truth than the mechanists, vitalists, dualists, and others. They have come very close to the common origin of all other functions. But they overlooked the antitheses which result from the splitting up of the unitary as, for instance, that of nature into living and nonliving matter, animals, and plants, or the organism into autonomous organs. In overlooking the antithesis, they also overlook the mutual interdependence of the somatic and the psychic.

Our schema, on the other hand, takes into consideration the many autonomous functions of a functional unit. According to this concept, the various functions derive from a common source (9); in a certain realm, different functions are identical.
and unified. Then the contact between organ movement and organ perception, the reaction of the organs to perceptions and the reaction of perception to organ movements, follows step by step. With the coordination of individual, as yet purposeless movements, into purposeful total body movement, with the coordination of individual sensations into the perception of the total body, and with the coordination of total body impulse with body perception, what we call consciousness gradually develops. The innumerable individual functions continue to operate independently, but at the same time they form a unitary whole and influence each other synergistically and antagonistically (1, 2). With the function, say, of walking, the "goal" of locomotion develops, e.g., that of reaching a table. The function determines the goal, not—as the vitalists believe—the goal the function. But the function also determines the chemico-physical processes, and not vice versa, as the mechanists believe. Such is the functionalism in biological reality which guides our thinking. The more exact our observations, the more fluid and differentiating but at the same time more comprehensive and unitary are our deductions.

The functional nature of our thinking is shown in the fact that it recognizes antitheses and identities alongside with other functions. It is not rigid; it recognizes transitions. Nevertheless, it follows definite laws. The mechanistic splitting of the all-embracing, unitary, natural function into separate functions, on the other hand, results inevitably in rigidity since it does not allow for the fact that the same process may have different functions at one and the same time.

E. What you have shown here is indeed far from being just a play with lines. Since it leaves room for differentiation, the common denominator and antithesis at one and the same time, it really is a true reflection of reality. Man and woman have a common origin and common interests. They have a sexually antithetical anatomy, their interests may be different and yet run parallel, and in spite of any antithesis they can attract each other and melt into each other. How did you come upon this methodological schema of thought?
O. Biophysical thinking, comparing, and differentiating is guided by the functions of the organism. The organism presents a marvelous picture of unity and differentiation. It forms a functional unity and totality. All its organs derive from one tiny undifferentiated germ cell. What is unitary and undifferentiated splits up into diverse organs with a different function and construction. The action of the heart has in itself nothing to do with the function of hearing, the contraction of the biceps nothing with gastric secretion. Nevertheless, in spite of all the autonomy of the various organs, the organism presents the perfect picture of harmonious unity, order, and cooperation, in short, that of biological self-regulation. If, now, you arrange the various functions of the organism in a schema, beginning from the common denominator and the simple functions, progressing to the complicated and antithetical, you arrive at our schema of functional thinking.

E. I begin to see why you should have such difficulties in coming to an understanding with other sciences. This methodology of thought is new. It is many-sided. The usual methods of thinking are one-sided. In your methodology, the functions show fluid transitions and yet follow definite laws. The customary thinking establishes more or less rigid limits, allowing no such transitions.

O. You are right. Our functional method had to be developed in the study of the psychic and somatic functions before the orgone could be discovered. To come back to the question of competence: Does it not seem logical now that the discovery of the biological energy took place not in the realm of chemistry or physics, but in the realm of biopsychiatry? The guiding principle was not the functioning of the Diesel engine, but the pulsation of the heart, of a vacuole, or a protozoon. It was not the chemical compound, but sexual attraction, not the X-ray, but emotional excitation, not the flight of an airplane, but the flight of a bird or the movements of a fish, not the motion of an engine piston, but orgastic contraction, or the contraction of growth in the embryo. In brief, it was the functional manifestations of living matter, and not the mechanical ones of nonliving matter, which brought sex-economy on the track leading to the orgone energy. Manifestations of life revealed the energy which governs them, for the simple reason that sex-economic research did not borrow anything from the realm of the nonliving. Instead, it learned to deduce the nature of living movement and, with that, the nature of the biological energy, from direct observation. In the course of the past decade, many physicists tried to follow. Many of them failed because they were incapable of giving themselves over to the process of their perceptions and sensations and incapable of simply relinquishing an orientation in nonliving processes.

E. It would be peculiar if a New Yorker visiting Stockholm were to try to orient himself by a map of New York.

O. I wonder whether you will be as easily convinced if we enter, in a practical way, the field of perception and its interpretation. I am afraid that there we will find ourselves taken not from one city to another, but to a dense jungle which has no resemblance to a place of habitation, where streets and houses still have to be built.

E. It is easier to follow a theoretical principle than the hard process of practical work. The joy in hearing of a military victory over the radio has little in common with the emotions experienced in the actual winning of the victory. Things are easier for the spectator than the actor.

O. As a hardworking natural scientist, idle praise is almost as painfully experienced as the carping criticism of the uninitiated passer-by. The functional method of research requires a many-sided knowledge of basic facts and the ability to relate isolated facts with each other. This is why it is so difficult to come to an understanding with the specialists who think and work mechanistically. In addition, functional research presupposes a knowledge and mastery of one's own character structure and that of others. This is so because every perception and sensation is tinged by the character structure. Orgasm research required this self-control to a particularly high degree, since it has connections with all fundamental branches of research in natural science. This research grew out of psychiatric work, took roots in sexual biology, pushed on to the emotions, and, with that, to the biophysics of excitation. There, even though initially
I had no inkling of it, it entered the realm of the cosmic energy.

E. To one not intimately acquainted with these problems it would seem peculiar that a new branch of physics should have developed from sexological research. I think you should no longer speak of sex-economy and orgasm theory, but of orgone physics and orgone biophysics. This would make your theory much more readily acceptable.

O. And would soon obliterate a new field of knowledge. I am very familiar with people's reactions to the terms sex-economy and orgasm. They evoke pornographic ideas. However, it is the character structure of the people who react in this manner that is to be blamed, not sex-economy. These reactions are painful and create ridiculous as well as dangerous situations. But should one give in to such manifestations of the emotional plague, this universal disease which finds itself confronted for the first time by a deliberate medical opponent, namely, sex-economy? No, we must continue to adhere to the terms and concepts of sex-economy for more than historical reasons. Without sex-economy and orgasm research, the orgone would not have been discovered. However, orgasm research has more than historical significance for the study of the basic cosmic energy. People and concepts come and go. They are like indifferent passengers on an express train; they stay on for a short distance and disappear again. The express train, however, continues across the continent. Compare the function of a human prejudice with the function of the living! The human prejudice which impedes orgasm research is at most 4000 years old. The orgasm function, however, is timeless. Together with respiration, it is the basic function of the living, as expressed in the orgasmic longing, whether conscious or unconscious, of man and animals. It is not due to this natural process that the animal, man, deteriorated pornographically. Besides, the pornographic prejudice is not being cultivated by the human species but by some relatively few disturbed individuals. Unfortunately, they do it with great and devastating success, for there is as yet no penal law against the defamation of nature by individuals suffering from the emotional plague. The most immediate practical function of orgasm research is precisely the elimination of pornography. Beyond that,

it will always remain the core of orgone research. I did not make it that way; it is so whether we want it or not.

E. You are right. There is no researcher or artist of any account whose work did not in one way or another grow out of the sexual process.

In your presentation of the function of the orgasm you speak of bio-electricity. The orgasm makes the living being part of the general process of nature. Are you still of the opinion that the animal organism is part of the general electrical process of nature?

O. Before orgone energy was discovered and made an object of study, it was necessary to assume that electrical energy processes were at the basis of the orgasm function. But with this assumption, the interpretation of the processes ran, again and again, into unsolvable contradictions. For example, emotional excitation was expressed in potential differences of millivolts. This extremely small magnitude of electrical reaction did not fit the gigantic forces at work in an organism. It is impossible to define an organism, with its unitary function, in terms of bipolarity; that is, in terms of positive and negative electricity. Nor is it possible to equate the polarity of the sexes with electrical polarity, to assume, for example, the man to be positively charged and the woman negatively. Besides, the slow, wave-like forms of motion of living tissues are at variance with the rapid, angular motions of electricity. In other words, even before the discovery of the orgone, there were many difficulties in applying electrical concepts in the realm of the living. The gradual exploration of the orgone settled this question by demonstrating conclusively its nonelectrical nature. True, electrical stimuli result in sensations, but these sensations are alien to the organism. They have a disturbing effect and are at variance with organic sensations. Incidentally, physiology has not yet succeeded in reducing the specific biological reactions to electrical processes. It did not get any farther than the application of electrical stimuli and the study of the action currents. But between stimulus and action current there is a third link, the specific biological reaction. This, however, is independent of both the stimulus and the action current. It also functions with-
out stimulus. In addition, the kind of reaction is specific and has nothing to do with the electrical stimulus. The same electrical stimulus produces a different reaction in a skeletal muscle, a heart muscle, or a smooth muscle. True, the electrical stimulus can bring about a biological reaction, a contraction, but the energy of the contraction is something different from the energy of the stimulus.

E. Do you take the basis of the biological reaction to be a "spirit," an "entelechy"? It seems to me that this basic question should be dealt with first of all. Not only the theists and mystics, but prominent natural scientists assumed a general "animism" of nature, including nonliving nature. This concept of nature, beginning with the "soul atoms" of Democritus, persisted over more than 2000 years in the diverse forms of natural-scientific idealism. We find it in the "crystal soul" of Haeckel, the "categorical imperative" of Kant, etc. Materialists who thought correctly always postulated a "matter that perceives." This seems to be the greatest riddle of all research in natural science, if one excludes the metaphysical, absolute universal spirit. Very likely, the perceiving plasma of the animal, man, has misinterpreted the cosmic energy in terms of an absolute universal spirit. Unfortunately, man represented this universal spirit as unknowable and invested it with banal human characteristics, such as a beard.

Where do you put the boundary line between the living and nonliving?

O. It is not long since a "soul" and "perception" was ascribed only to man, as distinguished from the other animals. The biophysical point of view can find no line of demarcation in the realm of the living to which perception is added to pulsation. If we draw the consequences from our bio-electrical experiments, according to which the quantity of a biological excitation is identical with the intensity of the perception of pleasure or unpleasure, then biological excitation and psychic perception are functionally identical. That is, perception is present with the very first plasmatic expansion and contraction. On the other hand, there is no sufficient reason for the assumption that noncontractile, nonliving, matter perceives. It is important to exclude a general spiritualizing of nature, including nonliving nature. At the present state of our knowledge of perception and biophysics, we do better to separate the living from the nonliving; the living being that which is characterized by pulsation (alternating expansion and contraction) and perception, the nonliving that which is rigid and without perception. Where there is no pulsation, there is also no perception.

E. If orgone energy functions in both realms of nature, and if the orgone is connected with the characteristics of life, I see no way of excluding perception from the realm of the nonliving.

O. There are some experiments which show that pulsation, that is, alternating expansion and contraction, is an immanent basic function of orgone energy. The orgone shows a pulsatory function in rigid substances also. This finding supports your argument. But mysticism would immediately make capital of such a gap in natural science and contend that natural science had confirmed the existence of the universal spirit. Living matter differs from nonliving matter in that it is capable of participating in the orgonotic pulsation. Nonliving matter, due to its rigidity, is incapable of participating in the orgonotic pulsation.

E. In other words, we can speak of the living only if cosmic orgone energy functions in matter that is capable of contraction, if the orgonotic pulsation produces an actual pulsation in it.

O. Precisely. It is a matter of the pulsatory changes in form which occur in matter. It is these changes of form which determine the fundamental biological functions, such as growth, division, procreation, metabolism, pleasure, and anxiety. This is not really comprehended until one has first observed the pulsation in rigid matter, that is, matter incapable of change of form. Thus one convinces oneself that there are two kinds of pulsation, energy pulsation and material pulsation. They must coincide, must be synchronous, in order to produce life processes.

E. Did you succeed in observing the transition of matter from a rigid state to a pulsatory state directly?

O. The study of this transition is the most important aspect of microscopic bion research. The process by which previously nonplasmatic matter becomes plasmatic, in other words, the appearance of the capacity of pulsation in previously rigid matter,
can be observed directly.

E. You mean to say you observed movements of contraction and expansion in previously rigid substances?

O. Yes. But such observation is not possible at a magnification of less than 3000x. This direct observation shows beyond any doubt that what causes the movement is inner impulses and not external mechanical impulses which the mechanist ascribes to molecules and calls “Brownian movement.”

E. One should think it’s obvious that Brownian movement can result only in a movement from place to place and that it cannot explain inner motility.

O. This has already been admitted by some biologists.

E. Movement without energy is inconceivable. Since we must exclude the presence of external impulses, the inner motility can be ascribed only to an energy which develops in and from the matter itself.

O. It cannot possibly be otherwise.

E. How do you bring about the transition from rigidity to inner motility?

O. By making matter swell. This can be done simply by putting it in water. Depending on the hardness and density, it will take more or less time until the first manifestations of inner motility appear. In order to shorten the process, we add substances which promote the process of swelling, such as potassium chloride, and heat the solutions in the autoclave to 120 °C. In doing so, we reproduce a process which continually goes on in nature. After a long spring rain, for example, one finds vividly pulsating bions in the soil. Very hard or rigid substances, such as rock or coal, have to be “smashed” by heating them to incandescence before being exposed to the process of swelling.

E. How does the bion differ from its substance of origin?

O. First of all, structurally. For example, a coal or rock particle, or a particle of iron filing shows a smooth or striated structure. After having been made to swell, however, the same substances show, particularly in the darkfield, a vesicular structure. The vesicles detach themselves. If viewed with apochromatic lenses, at a magnification of 3-5000x, their content appears blue or blue-green. The substances of origin, however, show their own color: coal appears black, iron blackish brown, etc. Every substance which has been made to swell and every living substance shows these two characteristics: bionous, vesicular structure and blue or blue-green content.

E. At what stage do the pulsatory movements occur?

O. When the membrane of the bion has become thin enough to yield to the internal impulse to expansion and contraction.

E. I would like to limit myself to the physical manifestations and suggest that we postpone discussion of the biophysical ones until we have understood the orgone functions in the realm of the nonliving.

O. Fine.

E. Do you find that the particles exert any influence at a distance, and are there any differences in this respect between the bions and the substances of origin?

O. The nonliving substances of origin show no inner motility, the bionous substances do. This indicates the mobilization of attractive and repulsive forces in the process of swelling. The rigid substances of origin have no influence on bacteria which are placed in their proximity. The heaps of bionous matter, however, attract and paralyze them. This effect is the more marked the more mobile and more strongly radiating the bions are.

E. You say “more strongly radiating.” How do you determine this?

O. Bionous matter refracts light more strongly than does nonbionous matter. Microscopically and photographically, it shows a strongly refracting “margin” around the membrane. This radiating margin appears with the bionous disintegration of matter and disappears when the bion dies, that is, becomes immobile or degenerates into T-bacilli. T-bacilli, or, to put it differently, particles with a weak orgone charge, show no radiating margin. Blood platelets do not show it. The radiating margin, then, is certainly not a phenomenon of refraction.

E. You assume a connection between orgone and light. What have you found out about that experimentally?

O. Nothing really up to now. The connection is still obscure. We have experimented with photographic plates for the past five
years, without reaching a satisfactory conclusion.

E. Are photographic plates influenced by the orgone?

O. We have incontrovertible proof that orgone affects the photographic emulsion. However, the results obtained in different experiments are so contradictory and so unusual from the standpoint of customary radiation photography that they are as yet inconclusive. For this reason, we are not yet publishing the results obtained thus far.

E. After all, in a research field as new as yours, nobody will ask to see everything settled at once. Does orgone influence the photographic plate like light or like another kind of electromagnetic energy? Does it blacken the plate?

O. According to observations to date, the atmospheric orgone consists of three different forms of energy. I shall not tell you about them yet, because I would like you to see them for yourself. Since the orgone penetrates everything and, for that reason, it has not been possible to delimit it, it was also not possible to separate the three different forms from each other. If photographic plates are exposed in the dark to concentrated orgone, one obtains results which correspond to an influence of light. If, however, the plates are exposed to concentrated orgone and light, simultaneously or successively, one finds that those parts of the emulsion which were influenced by the orgone no longer react to the light influence. It seems that orgone acts like light and, simultaneously, antithetically to it. On the one hand, it blackens photographic plates; on the other, it prevents or reduces the blackening by light.

E. That sounds peculiar. The prevention or reduction of the light effect by an energy is something basically new. I would like to see orgone energy.

O. That will not be difficult. We sit down in this completely dark orgone accumulator,* which consists of a double layer of organic and metallic material. From the outside inward, there is a layer of celotex, then a layer of sheet iron, then again a layer of celotex and another layer of sheet iron. We shall have to adapt our eyes to the darkness for about half an hour. Then, will you describe your observations?

E. All right. I am very curious and believe in direct observation. In physics, unfortunately, we cannot directly observe the flight of energy particles; we can only photograph it. But that is not the same thing. We are forced to form hypothetical concepts concerning the motion of the electrons, without being able to observe them. We can only deduce their motion but cannot see it. The motion of the energy particles is too rapid for our eye and is in itself not perceptible, except by way of fluorescent substances or the photographic plate.

O. In observing the orgone, we have the great advantage that the motion of the particles is very slow compared with the speed of electromagnetic energy. Keep watching a definite spot on the metal wall of the accumulator. You will have to wait until you really can see the phenomena.

E. I find that the room is not absolutely black, but appears filled with a dim diffuse light. It is of a blush-gray color. It also seems that there are small blush dots flying by. But I can't be sure, because when I close my eyes, they continue to be there.

O. Since orgone is present everywhere, you have it in your eyes just as you have it outside at the wall of the accumulator. This is one of the difficulties inherent in these observations. The orgone also irritates the optic nerve and produces after-images.

E. Now it becomes more distinct. I see small blue sparks fly toward me and past me. They seem to come out of the walls at rhythmical intervals, which have nothing to do with my pulse rate. As the dots move toward me, they seem to slowly contract and expand. When flying by sidewise, they take a trajectory similar to a parabola. This trajectory is interrupted by loop-like forms; it is as if at certain points of the trajectory, the dots would begin to fly in the opposite direction, thus forming a loop.

O. Can you tell whether the distances between the loops are uneven or about even?

E. They seem to be about even.

O. We shall draw the form of the trajectory sometime and discuss it. For the time being, just get acquainted with it. In
the corner of this large orgone accumulator is a small one consisting of three layers each of organic and metallic material and measuring 1 cubic foot. It contains a small frosted bulb, such as those used in the development of highly sensitive photographic films. In the front wall there is an opening measuring 4 square inches, containing a cellulose disc with a dull surface on the inside. In its stead, one could also use a fluorescent screen such as is used in X-ray fluoroscopy. I now turn on the green bulb.

E. I see some sort of movement at the disc, as if vapors moved over it. It is like a vivid flickering. Why, this is amazing! You have turned on a dark green electrical bulb which gives a steady dim light. But what I see, in addition to the flickering, is not green, but blue-violet light!

O. This is the specific color of the orgone. Can you distinguish details?

E. My eyes are somewhat blinded.

O. This cannot be due to the green light, for eyes rest in the dark and are not irritated by dim green light.

E. It is as if the opening became alternatingly lighter and darker. At times, the impression of light seems to disappear altogether. Other times, it looks as if luminous vapors came through the opening, as if in individual impulses.

O. Here is a magnifying glass with a magnification of 5x. Focus it on the disc.

E. I see yellowish-white rays which move very rapidly in all directions. It looks like miniature fireworks.

O. In other words, you have now seen the three different energy forms of the orgone: blue-gray vapors, blue-violet dots, which float slowly and form loops at regular intervals, and, finally, rapid, straight, yellowish rays.

E. There can be no doubt about it. It is remarkable that you should not yet have succeeded in photographing this intensive energy in an unmistakable manner. Doubtless, it has some connection with light, for the light dots were far less distinct in the dark than they are now against the background of the steady, dim green light. It is as if the dim light produced a stronger radiation in the particles. A most peculiar thing!

O. Instead of the green light, I shall now turn on a dim red bulb such as is used in dark rooms.

E. There are definitely violet patches against the dim red light at the disc. You did not turn on a violet bulb, did you?

O. No, but red plus blue gives violet. This only demonstrates again that there is a blue energy in the atmosphere.

E. The longer I look, the more distinct the trajectories become. There can be no doubt: the trajectory continues to turn back on itself in a rhythmical manner, and the little dots become alternatingly larger and smaller. What do you think about it? What does it have to do with the nature of light?

O. Let's discuss this question another time.

E. The facts can no longer be doubted, though they are very difficult to comprehend. Radiating energy points which move very slowly and seem to float! My eyes hurt.

O. We shall get some fresh air. The air in the orgone accumulator is heavy, and we have been sitting in it for an hour and a half.

E. I should like to think over this experience. Could we continue our discussion in a couple of days?

O. I shall look forward to it.

THE ORGONOTIC EXCITATION OF INSULATORS

Questionable points in the concept of static electricity

O. You have convinced yourself of the existence of visible energy particles in the atmosphere. I termed this energy "orgone," at first, for purposes of investigation, in order to distinguish it from all other known phenomena of radiation. We have good reasons for the assumption that the functions of this energy cannot be subsumed under the concept of "electricity." My observations force me to assume that what is commonly called electricity is only a special function of orgone energy.

E. That is a very radical conclusion. One cannot simply introduce a new concept of energy and thus reduce to insignificance an old concept worked out by thousands of research-
ers. But I shall listen to your arguments.

O. Before giving them, let us find out whether there is any kind of consensus of opinion in the world of physics concerning the basic principles of electricity. Is there an awareness of fundamental gaps in the understanding of electromagnetism?

E. Indeed there is. There are plenty of contradictions. Quite a number of prominent physicists doubt the correctness of the prevalent concepts of so-called “static electricity.”

O. How would you briefly formulate these doubts?

E. Modern physics has progressed to functional formulations of energy. The concepts of “matter” and “energy” are no longer rigid. They no longer denote sharply delineated fields but, rather, a functional condition, which allows for transition. “Energy” is no longer thought of as attached to “matter”; rather, matter is considered extremely slowed down energy which has become solidified, while energy is matter which is dissolved and extremely speeded up. Compared with such functional concepts in modern physics, the concept of the two “electrical fluids” which supposedly explains the phenomena of the static electroscope is unsatisfactory.

O. The findings of orgone biophysics absolutely fit the functional concept of the relationship between matter and energy. On the other hand, they are at variance with the concept of two separate electrical fluids, positive and negative electricity. This old theory is a reflection of mechanistic thinking which splits things up. This thinking not only made an absolute distinction between “matter” and “energy”; it even split up the electrical energy into two independent “fluids.”

E. The old scientific pioneers should not be blamed for that. After all, this concept was in accord with a number of phenomena of friction electricity. A rubber rod, when rubbed, shows an energy which indeed has the opposite electroscope effect from the energy shown at a rubbed glass rod. If one deflects the electroscope leaf with a rubbed rubber rod, a second rubbed rubber rod will increase the deflection, while a rubbed glass rod will decrease it. This confirms the concept of the two separate electrical fluids.

O. I have carried out the old experiments with this kind of electricity many times and can confirm them. But in doing so I have made two observations which are at variance with the theory.

E. New observations may still be understood in terms of the old theory. Only if this is absolutely impossible, only when a new concept brings more facts into a simple unit than the old theory and does it in a better way, only then has it a right to replace the old theory. Experimental physics is rightly strict in judging new theories, if for no other reason than to avoid chaos. What are the observations which are at variance with the theory?

O. I continued the experiments with electricity induced from rubber and glass in the following manner: Instead of rubbing the glass rod on dead felt, I rubbed it on the hair of my head. The electroscope was excited with an electrified rubber rod. According to your mechanistic theory of friction, there should be no difference between the dead felt and my hair. Friction is friction. Consequently, the glass rod which was excited with my hair should decrease the opposite charge of the electroscope. In reality, it increases the charge, that is, it has the same sign as the rubber rod. This contradicts the assumption of a specific glass electricity. It would be senseless to assume that the glass rod becomes energized like the rubber rod if rubbed with the hair and like a glass rod if rubbed with felt. It is conceivable, however, that the process taking place between glass rod and hair is different from that taking place between glass rod and dead felt. This phenomenon is incompatible with the mechanistic concept of electrical excitation by friction. My observations of the orgone manifestations explain the contradiction. The hypothesis of the two specific electrical fluids fails us here.

E. Not yet. There is the possibility that the glass rod draws off negative electricity from the hair, while it may itself become excited, that is, react positively, with the felt, which is much rougher than the hair.

O. I raised this objection myself. Another experiment answers your argument. If you were right, then the friction induced by the felt—indepen dent of the sign of the excitation of the glass rod—would have to result in the same deflection of the electro-
scope as the identical friction caused with the hair.

E. Yes, if one considers the identical amount of mechanical friction to be the cause of the phenomenon. What does the experiment show?

O. I stroke the glass rod lightly over the hair of my head, just once. The electroscope leaf deflects to an angle of about 45 degrees. Now we discharge the glass rod with water. We stroke it lightly over the much rougher felt. The leaf deflects only minimally or not at all. That is, the phenomenon is not mechanically determined. The hair not only excites the glass rod much more easily than does the felt, it also charges it with a different energy, the same as that of the rubber rod.

E. There must be a mistake here. That's completely incomprehensible.

O. There is no mistake. I have made this experiment hundreds of times, always with the same result. It is in accord with other observations of the orgone. The phenomenon is incomprehensible only from the point of view of the mechanistic concept of the two separate electrical fluids attached to glass and rubber, respectively.

E. What does the same experiment show when done with the rubber rod?

O. A confirmation. 1. The excitation with the hair is in the same direction as that with the dead felt. 2. The excitation with the hair—the manipulation being the same—is incomparably stronger than that with the felt.

E. What is your conclusion from these findings?

O. Only a preliminary one. It is: So-called "friction electricity" has nothing to do with friction. Further facts will confirm this assumption.

E. How does your theory explain the fact that, after all, rubber or glass have to be rubbed in order to get a deflection of the electroscope? Apparently, friction is indispensable. You draw off from the hair, that is, use friction.

O. "Drawing off" and "rubbing, using friction" is not the same thing. There are ergonomic phenomena which appear only if one draws off gently but not if one rubs hard. Friction eliminates many reactions which are easily obtained by gentle stroking. More about this another time. The orgone theory answers the question of friction in the following manner: Orgone energy is present everywhere. The felt is permeated by it as is the soil or the atmosphere. The felt, however, as a nonliving substance, does not of itself radiate energy. It only gives off what it has taken up from the environment or what is released by strong friction. The living hair, on the other hand, radiates orgone by virtue of its living functioning. It is spontaneously charged. For this reason, it is very easy to draw off orgone from the hair with a rubber or glass rod. The felt does not live, that is, it does not spontaneously give off orgone. The orgone can only be "rubbed out" of it.

E. From this it would follow that the concept of "friction electricity" could be replaced by that of orgonotic excitation. "Friction electricity," then, would be no more than an uninteresting special case of orgonotic excitation which may be based on passively absorbed orgone or orgone radiated as part of living functioning.

O. That is precisely the conclusion to be drawn from these observations. It does not become fully convincing, however, until one demonstrates the same electroscope reactions without friction and without drawing off of energy.

E. This would indeed be incontrovertible proof. But I doubt that it can be done.

O. Yes, it can: Rubber or cellulose, if rubbed on metal, shows no electrosopic reaction, regardless of how we interpret this fact. We take a cellulose disc and make certain that it shows no reaction at the electroscope. We then leave it lying for a few days on the metal wall of an orgone accumulator. Depending on the orgone tension in the accumulator, the cellulose disc will absorb orgone more or less quickly and the electroscope will show a more or less strong deflection. In making this experiment, one must have patience and not expect the reaction too soon.

E. You should not expect the physicists to trouble themselves too much with new experiments. Is there not another method of demonstrating the orgonotic excitation without friction or stroking?
O. Yes, there is. The sun constantly radiates orgone into the atmosphere. Let us put a cellulose plate, which is electroscopically indifferent, into bright sunlight, possibly in the absence of wind. After about 15 to 30 minutes of exposure to the sunlight the cellulose will cause a deflection of the electroscope. The magnitude of the reaction will depend on the intensity of the sun radiation and the relative humidity of the air. It is important to remember that most orgone reactions disappear and cannot be reproduced when the relative humidity is more than about 50%.

E. Thus far you have only shown that so-called "friction electricity" is a special function of orgone energy. But you have not yet proven your original contention that orgone is not electricity at all. What physics calls "electricity" might be a special function of the orgone; it also might be something basically different. My belief is that orgone is nothing but negative electricity, pure and simple.

O. This is exactly what was said by a Dutch physicist at the time of the discovery of the orgone in 1939. The orgone in the rubber or the glass rod, taken from the hair, does indeed act like negative static electricity. Since all energy must be reduced to one common denominator, it goes without saying that what we call "orgone" and what you call "electricity" must have some connection with each other. But, unfortunately, there are important differences. It would be much more convenient for me if I could express the characteristics of the orgone in well-known terms of electricity, if I could describe them, in terms of the electron theory. Unfortunately, that is not possible without doing violence to the facts. The functions of orgone energy cannot be understood in terms of known functions of electricity and magnetism. This forces the researcher to carry out difficult and time-consuming experiments to find what orgonomic functions there are which do not exist in electromagnetism, which, in other words, are specifically orgonomic; to discover what the undoubtedly existing connections between orgone and electromagnetism are; and, finally, to prove that orgone and electricity are not identical. It would be so much simpler if the orgone could be subsumed under electricity. So you see that my conten-

tions do not spring from a desire to be original.

E. I think your undertaking is hopeless. You cannot simply throw over hundreds of years of research in electricity, or provide all the proofs that would be needed to support your contention.

O. It may look that way. But there are gaps in the theory of electricity which are filled by orgone physics. There are a number of observations which are fundamental enough to encourage the undertaking. If one must ascend Mont Blanc, one cannot let oneself be intimidated by its height and the difficulties of the climb. Patient climbing will carry you a considerable distance. Nobody can predict, however, whether or not you will succeed in reaching the summit.

E. Let's hear. We don't expect it to be easy.

O. There is some consolation in the following: In studying physics and talking with physicists one meets so many erroneous contentions, which are advanced with uncritical conviction, that I have resigned myself to the possibility of adding another incorrect assertion to the many already present. But the prospects of a rich harvest if I succeed are too enticing to allow the attempt to be discontinued. In addition, the numerous contradic-
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E. Well, there can be no harm in formulating a new hypothesis.

O. Electricity—to stick to the term for the time being—was discovered and produced by the ancient Greeks and later by Gilbert, Cabeo, Guerike, Franklin, and others, in nonmetallic substances. Those substances which produce but do not conduct "electricity" they termed "electrica"; the metallic substances, which conduct but do not produce electricity, they termed "non-electrica." The good old electrical machine was based on the principle of friction between leather and glass. The electric energy was accumulated by way of points and "Leyden jars." Franklin's famous experiments with the lightning conductor were based on this. Have you ever been struck by the fact that this original method of producing electricity has been given up and relegated to the museum of history?

E. Frankly, I never gave it any thought. But it is true that,
since the days of Volta and Faraday, the principle of producing electricity has become entirely different. In industry, electrical energy is produced only by chemical elements or the motion of metal wires in magnetic fields. The generator and the battery have replaced the old electrical machine. That's all. It doesn't strike me as remarkable.

O. But it is. This has not happened by accident. The theory of friction electricity did not lead any further because it became bogged down in the concept of the two separate fluids. Technically, it was a miscarriage. Practically, the principle of two electrical fluids was replaced by the more fruitful principle of moving electromagnetic energy fields.

E. What about it? You are getting complicated.

O. No, I am not. I have merely to recall from oblivion an extremely important fact, precisely in connection with the question of whether or not orgone is electricity. My contention is that the energy with which the ancient Greeks and our forefathers since Gilbert were dealing was a basically different energy from that with which the physicists have been dealing since Volta and Faraday, different not only with regard to the principle of its production, but fundamentally different. In reality, with the principle of friction, the ancient Greeks had discovered the orgone. The electric current was discovered first by Volta, Faraday, Coulomb, Ampère, etc., and they broke completely with the line of energy research followed by the ancient Greeks, and by the moderns to the times of Gilbert and Franklin.

E. Why, that sounds fantastic. I would not even listen any more if I did not know you to be conscientious.

O. It is no more fantastic than the overlooking of the atmospheric orgone on the part of physicists and astronomers.

E. How do you explain the fact that the atmospheric energy was so thoroughly overlooked?

O. There is a psychological or, rather, biological explanation which I shall present elsewhere. But there is also a purely technical explanation. The men who study "cosmic rays" have been on the track of the orgone for a long time. The fact that they missed it is due to an erroneous interpretation of electroscopic reactions.

E. You don't say! Can you explain this in a simple manner?

O. Basic facts can always be presented simply. What is complicated is the working out of new methods, and, above all, the refutation of prejudiced and erroneous concepts which shroud the simple facts. The phenomenon of overlooking the atmospheric orgone shows this particularly clearly.

E. If you had not given me an incontrovertible visual demonstration of the orgone, I would have refused to follow any further.

O. It is just the point at which so many physicists deny me credence. One is loath to give up old, well-established concepts. That has always been so. I wonder if man will ever reach the stage where he is willing to relinquish the illusion of emotional security provided by well-established concepts for the feeling of triumph experienced in finding something new.

E. You overlook the factors of envy and the narrowness of everyday thinking.

O. I have learned to understand this narrowness. It is necessary for a well-ordered functioning of the social machinery and as a protection against human irrationalism. Unfortunately, it blocks many decisive insights and, with that, the real mastery of the difficulties of life.

E. What are your facts? We want to postpone the interpretation of the facts until later.

O. I am glad to hear you make a clear-cut distinction between the two. All too often, facts are explained away by concepts without any content. When I demonstrated the bions to a biologist he brushed them off with the remark that "The Brownian movement was a well-known fact." When I asked him whether the physical Brownian movement, based on "the push of the molecules," could explain the movements of expansion and contraction in the bions, he became angry. Let us start by looking at the new facts and try to bring them into harmony with the concepts of electricity. Will you, as an exponent of these theories, formulate the accepted view of electrical conduction and insulation?

E. This is simple and generally recognized: The good conductor of electricity differs from the insulator or poorly conducting
material by the fact that, in it, the units of electricity, the electrons, are freely mobile. They are immobile in the good insulator.

O. This is in accord with the fact that the electrical energy in a wire which is insulated with rubber does not act beyond the surface of the wire. The rubber does not conduct the electricity to the surface of the wire, that is, it “insulates” it. Now I should like to show you an experiment: We insulate with thin polystyrene between the metal knob of this electroscope and the

metal rod to which the leaf is attached. That is, we have inserted an “insulation” between the knob and the leaf. According to your theory, no electricity should flow from the knob to the leaf. The experiment contradicts this contention. If we hold a polystyrene rod, which has been charged from the hair, at a distance of about 1 cm. from the knob, we get the same deflection of the electroscope as with direct metallic conduction. The only difference is that with the insulator in between the deflection occurs somewhat more slowly. At any rate, the insulator did conduct “electricity.”

E. You must have chosen a poor insulator.

O. The better the insulator, the more marked the reaction. Polystyrene is known as an excellent insulator. It always gives the reaction.

FIG. 3. Demonstration that organic substances conduct orgone. P = polystyrene rod; M₁ = metal knob; O = organic insulation (polystyrene); M₂ = metal rod.

E. This is amazing. I have never heard about this experiment. O. It is amazing only from the standpoint of the concept that in the insulator the electrical units are immobile. From the standpoint of the orgone theory the phenomenon is not amazing at all. The energy which I draw off from my hair is not electricity but orgone energy which is capable of penetrating everything. The theory of the insulators applies to electricity but not to the orgone. Orgone is something different from electricity.

E. This one experiment would hardly suffice to prove your contention. A well-trained physicist could explain it in the framework of the concepts of electricity. For example: Have you calibrated your electroscope? Do you know the magnitude of the charge you use?

O. Yes, my electroscope is calibrated. A deflection of 90 degrees corresponds to the deflection obtained with about 1000 volts.

E. I am sorry you fell into the trap. I hope you will prove to be right, for our concept of static electricity is indeed unsatisfactory and contradictory. Our usual electrical wires have an insulation sufficient for 110 to 220 volts. If you put 1000 volts through such a wire it will go through the insulation; that is, the same thing will happen as happened in your insulator here. This fact can be understood in the framework of electricity.

O. You don’t really think that I would make my claims without considering such facts and adducing the proper proofs.

E. There can’t be any such proofs.

O. They are as simple as the fact of the existence of a visible energy in the atmosphere which hitherto has been overlooked. Please charge the electroscope with your static energy so that the deflection represents a tension of about 1000 volts.

E. Here is the charge. What now?

O. Put a disc of cellulose, a good insulator, the size of about 6x12 inches, on the metal plate of the electroscope. Now touch the insulating disc with your finger.

E. The electroscope discharges gradually!

O. A fact which is incomprehensible from the point of view of your electrical fluids, since, according to that view, the insulator has no mobile electrical units and, therefore, cannot conduct.
electricity. From the standpoint of orgone physics, the phenomenon is easily understandable:

The electroscope is charged not with electricity, but with orgone. The orgone penetrates everything, conductor and non-conductor, only at different speeds. The insulator does not conduct electricity. But it conducts orgone. This is why you can charge an electroscope with an organonically charged insulator, just as you can discharge the electroscope through an insulator.

E. You have given the electroscope a tension corresponding to about 1000 volts. If you are right that the energy in the electroscope is not electricity, then a control of this contention is possible. Let us connect a voltmeter to the electroscope. According to our theory, the deflection is due to a tension between the negative electricity at the leaf and the positive electricity at the casing. This must show at the voltmeter.

O. Connect the voltmeter with the electroscope in any way you wish. If the energy in the electroscope is electrical, your voltmeter must react.

E. No matter how I do it, I cannot obtain any reaction at the voltmeter.

O. I know. I have checked this many times and always obtained a negative result. The voltmeter does not react at all, in spite of the fact that the electroscope contains energy in the amount of about 1000 volts. From the point of view of electricity, this is incomprehensible. From the point of view of the org-

gone theory, it is simple enough: orgone is not electricity. The electroscope contains not an electrical but an orgonotic charge. Orgone does not influence electromagnetic measuring apparatus precisely because it is not electricity. This is a fact which I have observed in amazement for years.

E. I shall assume your point of view, tentatively. According to it, there is no connection between orgone and electricity. This, I must say, sounds unlikely.

O. There is, in fact, a connection. Orgone energy disturbs electrical energy. For many months, I connected voltmeters in diverse ways with my orgone apparatuses and never saw the slightest reaction. Then, one day, a very "unscientific" method of obtaining the voltmeter reaction occurred to me. Please connect the voltmeter with this dry-cell battery.

E. Done. The voltmeter shows 4 volts.

O. Now draw orgone from your hair with the polystyrene rod and move the rod sidewise past the voltmeter pointer, at a distance of about 2-5 cm.

E. You wouldn't call this an experimental method, would you?

O. Why not? Facts are facts, whether we like them or not.

E. Agreed. Well, I get a deflection of the voltmeter pointer according to the way in which I move the rod.

O. I was just as amazed as you when I saw this for the first time. But it is really quite simple and entirely in accord with other orgone observations. Orgone deflects magnetic needles. It disturbs electromagnetic apparatuses. The so-called electromagnetic storms in the atmosphere at the time of increased sun spot activity have nothing to do with electrical or magnetic energy. They do deflect the needles of electrical measuring apparatuses, that is, they disturb them in the same manner as you did when you brought about a deflection of the voltmeter with your body orgone.

E. Why, that's fantastic!

O. Only at first glance. If one gets used to it, as I have, it becomes quite simple and clarifies many natural processes which hitherto have remained obscure.

E. Somebody told me once that control experiments had been carried out and that they had not confirmed your experiments.
But here every one of your contentions is proven to be true.

O. In the early phases of my orgone-physical work, I repeatedly made the mistake of showing *individual* findings to physicists and biologists who had not participated in the work. Their reaction was always the same incomprehensible one. They saw the finding, gave some "explanation" for it, and, with that, believed they had understood it. I had to learn that these new findings must be presented only in their logical context, and that a clear-cut distinction has to be made between *fact* and *interpretation*. For example: When I discovered the phenomenon of lumination of fluorescent electric light tubes, I showed it to a physicist. Before demonstrating it, I asked him what he would expect to happen if a charged polystyrene rod was brought close to the tube. He said that *nothing* was expected to happen. When the tube, nevertheless, luminated, he was at first highly surprised, but immediately found an "explanation." It was the gas in the tube, he said. I was surprised to see that this man, a good electrophysicist, failed to realize that his "explanation" did not in the least explain why the tube, when approached with the charged rod of insulating material, began to luminate. The specialists have too little curiosity; they are too easily satisfied with words.

E. Your lumination experiment reminds one of the electrified atmosphere connected with Northern lights. According to my knowledge, all astronomical radiation phenomena are explained by electrical ionization. Do the orgone experiments say anything about this?

O. You have quite correctly seen a connection here. The customary interpretations of such phenomena as the aurora borealis are altogether uncritical. In all these phenomena, we are dealing with orgone, and not with electricity.

E. Can you prove that?

O. Yes, to the extent of my experimental experience. If the Northern lights were of an electrical nature, then a voltmeter would have to react in an experimental reproduction of these phenomena. Connect one of the knobs of this fluorescent argon tube with the electroscope knob. Now move the orgone-charged polystyrene rod up and down past the tube.

FIG. 5. Demonstration of orgonotic lumination in fluorescent tube. P = polystyrene rod; T = fluorescent tube; OM = orgonometer (electroscope)

E. The electroscope shows deflections of several hundred volts.

O. We shall now darken the room and adapt our eyes to the darkness. Then we bring the rod close to the knob of the electroscope.

E. The tube luminesces every time the rod is *brought near* it and every time it is *removed* from it; the same happens when I bring the rod near the tube itself and remove it from it.

O. That is, the orgonotic charge makes the tube luminate. It is transferred through the wire to the knob of the electroscope where it brings about a deflection, and vice versa.

E. The phenomenon would disappear if we were to ground the tube.

O. Try it.

E. The phenomenon remains the same, whether or not the tube is grounded.

O. Precisely. This fact is incompatible with the theory of positive and negative electrical charges. You remember that we have
not applied a tension between two charged poles. Our energy system is unipolar. There are no unipolar phenomena in the realm of electricity. Wherever they are assumed, critical examination will show organotic, not electrical, reactions.

As we know, there are charges of several hundred volts at work in the gas tube. Now connect the knobs of the tube in any way you please with a voltmeter and repeat the experiment.

E. The phenomenon of lumination as well as the electroscope reaction continue to exist. But the voltmeter does not react, whether it is connected parallel or in series.

O. This confirms again the earlier experiments and the orgone theory: orgone and electricity are not the same.

E. According to these observations, then, “static electricity” in the customary sense is not electricity at all.

O. That is the inevitable conclusion. It is merely a matter of convention whether we are going to identify the “electricity” of the ancients with the orgone and retain the concept of electricity for the organotic phenomena. In this case we would have to form a new concept for that which has been known as electromagnetism since Faraday, Ampère, and Volta. Or else we drop the ancients’ concept of electricity, call the respective phenomena organotic, and restrict electricity to those phenomena which are obtained through the movement of wires in magnetic fields.

E. This is a radical and painful operation. It will inevitably influence large fields of chemistry and physics as, for instance, those of colloids and atoms.

O. I cannot help that if I am to continue to adhere to the facts, which you yourself just confirmed. It will have its advantages. One will be forced to come down out of the realm of verbiage into the realm of facts.

E. That won’t be easy.

O. I am prepared for great difficulties. Organized natural science becomes a means of making a living; that is one of its functions. Every kind of pioneer work suffers severely as long as it cannot serve this function.

E. Do you expect these facts to be recognized by organized physics and biology?

O. I was once naive enough to do so. Only after many bitter experiences did it occur to me that the discoverer of the incandescent bulb, for example, would have been more than naive to expect the manufacturers of gas lamps to recognize electrical illumination.

E. In your case, who plays the role of the gas lamp industry?

O. The pharmaceutical industry.

E. It would seem to me that the radium and X-ray industry would be even more dangerous to you.

O. I know it.

E. I would like to think over what we have spoken of today. It was a lot to take in at one time. I will be back.

To be continued.
Projeto Arte Org
Redescobrindo e reinterpretando W. Reich

Caro Leitor
Infelizmente, no que se refere a orgonomia, seguir os passos de Wilhelm Reich e de sua equipe de investigadores é uma questão bastante difícil, polêmica e contraditória, cheia de diferentes interpretações que mais confundem do que ajudam.
Por isto, nós decidimos trabalhar com o material bibliográfico presente nos microfilmes (Wilhelm Reich Collected Works Microfilms) em forma de PDF, disponibilizados por Eva Reich que já se encontra circulado pela internet, e que abarca o desenvolvimento da orgonomia de 1941 a 1957.

Dividimos este “material” de acordo com as revistas publicadas pelo instituto de orgonomia do qual o Reich era o diretor.
01- International Journal of Sex Economy and Orgone Research (1942-1945).
02- Orgone Energy Bulletin (1949-1953)
03- CORE Cosmic Orgone Engineering (1954-1956)

E logo dividimos estas revistas de acordo com seus artigos, apresentando-os de forma separada (em PDF), o que facilita a organizar-los por assunto ou temas.
Assim, cada qual pode seguir o rumo de suas leituras de acordo com os temas de seu interesse.
Todo o material estará disponível em inglês na nuvem e poderá ser acessado a partir de nossas páginas Web.

Sendo que nosso intuito aqui é simplesmente divulgar a orgonomia, e as questões que a ela se refere, de acordo com o próprio Reich e seus colaboradores diretos relativos e restritos ao tempo e momento do próprio Reich.
Quanto ao caminho e as postulações de cada um destes colaboradores depois da morte de Reich, já é uma questão que extrapola nossas possibilidades e nossos interesses. Sendo que aqui somente podemos ser responsáveis por nós mesmos e com muitas restrições.

Alguns destes artigos, de acordo com nossas possibilidades e interesse, já estamos traduzindo.
Não somos tradutores especializados e, portanto, pedimos a sua compreensão para possíveis erros que venham a encontrar.

Em nome da comunidade Arte Org.
Textos da área do funcionalismo orgonômico

Texts from the area of Orgonomic Functionalism.

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International Journal of Sex Economy and Orgone Research

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Orgonomic Functionalism

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