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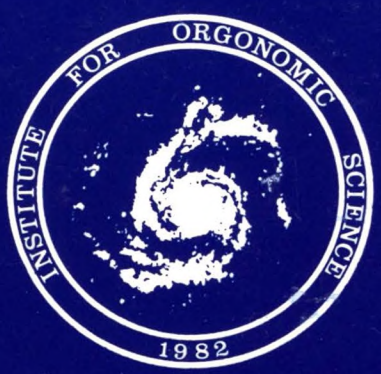

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SCIENTIFIC ARTICLES

CLINICAL REPORTS

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Reich's Experiment XX

ROBERT A. DEW, M.D.

Abstract

Portions of Reich's Experiment XX have been repeated. Our findings differ in a number of respects from Reich's. The most important of these concern the failure to demonstrate convincingly the biological nature and potential of the flakes from the earth bion water as found by Reich. However, evidence was found in distillates of water and earth bion water that strongly supports Reich's hypothesis that vesicular matter can organize from orgone energy bound to water.

Introduction

Experiment XX stands as a major landmark in Reich's biological research. From both logical and historic perspectives, it remains his ultimate step in the investigation of the bion and biogenesis. In 1944, Reich discovered bion vesicles in thawed samples of clear (filtered), sterile earth bion water which had been inadvertently frozen. Early in 1945, he began intensive work on this phenomenon. This new series of studies, called Experiment XX, not only confirmed the earlier finding but, in addition, revealed the development of protozoa-like organisms from the vesicles in the preparations. These and other astonishing results of Experiment XX bore far-reaching implications for Reich—implications which forced him to consider the very origin of matter, as well as biological structure, in an entirely different light:

Orgone energy which at room temperature is equally divided throughout the fluid, contracts under the influence of cold . . .(1:63)

. . . in the process of contraction, matter develops, apparently through condensation. (1:61)

Protoplasmic matter can develop from concentrated free orgone, that is orgone which is not bound to any particles; from the plasmatic bionous matter protozoa develop.

. . . [this] process . . . apparently is of a general nature and significance: it points to a natural process according to which matter developed from orgone energy, an energy which has to be considered the primordial cosmic orgone energy in general.

> *. . . To judge from Experiment XX, the living plasma of our planet developed before the formation of coal substance and carbohydrates. Coal is a secondary product of past life. It follows that the biochemical molecules were not, as is generally assumed, present before the development of plasmatic substance; rather, the biochemical molecule developed in the process of plasmatic organization as one of its mechanical constituents. (1:63)*

To put it another way, the significance of Experiment XX is that it demonstrates a mechanism whereby bionous structures apparently develop in the absence of highly organized organic or inorganic matter. Reich, in fact, termed this *primary bion formation* to distinguish it from the case in which bions are derived from disintegrating animal and plant tissue, earth, iron, charcoal, etc. This latter process he called *secondary bion formation.* With the advent of Experiment XX, Reich concluded that the former mechanism for bion formation may indeed be involved in primary biogenesis: he regarded Experiment XX as an expression of a specific, spontaneous life-generating function of the orgone energy. This is a bold alternative to the idea that life could only have originated in a preexisting, highly complex biochemical "soup" that accidentally came into existence billions of years ago.

The Background of the Experiment

The essential elements of the protocol for Experiment XX were arrived at serendipitously. Because of the orgone's capacity for *lumination*, Reich reasoned that fluids containing the energy might exhibit *fluorescence* and that the *intensity* of fluorescence would reflect the energetic content or *orgonotic potency* (OP) of the particular fluid. He tested a variety of organic and inorganic fluids in a fluorometer and, indeed, found a wide range of readings, the highest of which occurred in media of biological origin. These readings, though used empirically as a measurement of OP, were understood to reflect only a small fraction of the total energy present, i.e., that which induced the tiny amount of current (milliamperes) from the excitation of the photoelectric cell of the fluorometer. Reich adjusted his apparatus to give a reading of "one" (on a scale of 1 to 100) for distilled water; distilled water thus became the "standard" against which all the other fluids were to be compared. Among those tested was a filtrate of earth mixed with water which gave a reading of eight. Values obtained immediately after *boiling* and filtering the mixture averaged 45. The higher reading after heating indicated to Reich that some of the energy released from the earth in the process of bionous breakdown had been taken up by the water.*

To investigate the effects on OP in various conditions, sealed ampoules of filtered, sterile earth bion water were left in different locations, e.g., in an ORAC, outdoors buried in the soil, etc. It being winter, some of the ampoules were frozen. Reich was struck by the observation that the original yellow-orange color of the fluid now appeared to be concentrated toward the center of the ice. Upon thawing, this core of colored material settled out as a flake-like sediment which, on microscopic examination, was found to contain strongly radiating and pulsatile bions. He believed that these vesicles had organized out of free orgone energy in the water as a consequence of freezing.

*Water and orgone energy have a mutual affinity.

Early in January of 1945, Reich initiated a controlled study of the bion water. Mixtures of earth and water were heated by boiling or autoclavation, clarified by filtration, and placed in vials or test tubes which were either sealed hermetically or stoppered with cotton plugs. These vessels were divided into three groups:

"Group A" was placed in a three-fold ORAC of one cubic foot capacity.

"Group B" was left standing in the laboratory.

"Group C" was frozen.

Controls for each group, consisting of plain sterile water, were handled in corresponding ways.

The Present Work

Our studies on Experiment XX began in the summer of 1982. Since then, three separate series have been performed: in July, 1982; April, 1985; and March, 1988. The most recent of these included experiments with distillates of earth bion water. Sealed samples from all three trials have been kept unopened so that future longitudinal gross and microscopic comparisons will be possible. As yet, fluorometric studies have not been undertaken.

In the course of repeating his work, it has become apparent that Reich was not altogether specific regarding certain details of procedure for Experiment XX. For example, he does not indicate the ratio of earth to water in the mixtures used to prepare the earth bion water; inasmuch as the color and fluorometric readings (OP) of his samples were found to vary, this ratio may be of some significance. Reich also does not say how his infusions were filtered; he declares that his fresh filtrates are "particle free." However, ordinary methods of filtration can only hold back particles larger than 0.1 micron; anything under this size will pass through into the filtrate. Whether or not these and other details of procedure have a substantial influence on the overall outcome of the experiment is difficult to say. Our point is that, because of them, one cannot be sure one is repeating the experiment exactly as Reich performed it. This caveat may be relevant in the present case, since, as will be seen, our results differ from Reich's in several important respects.

A. Procedure

1. The Earth-to-Water Ratio

In all three trials, the earth samples came from the same bag of potting soil; however, the ratio of earth to water in the mixtures was varied.

a) July 30, 1982: 100.0 grams of soil in 750cc of distilled water (1:7.5) in a large screw-top Erlenmeyer flask.

b) April 15, 1985: 10.0 grams in 250cc (1:25).

c) March 5, 1988: 50.0 grams in 250cc (1:5).

2. Autoclavation

In the first and last experiments, the mixtures were autoclaved at 15 lbs. pressure and 120°C for 30 minutes. For the second trial, the autoclavation was extended to one hour in an attempt to enhance the breakdown of the earth.

3. Filtration

After autoclavation, the sealed flasks were allowed to stand from between two to four days. This delay before filtration was suggested by Reich, who found that, as a consequence of heating, the OP of earth bion water becomes transiently depressed, but that after 24 to 48 hours, it spontaneously recovers its original value (1:58).

We might mention that, at this point, gross examination shows the larger particles of earth settled on the bottom; above, the supernatant appears a turbid yellow-orange. As one might expect, in the mixtures with a higher earth-to-water ratio, the supernatant is of a much deeper shade and is also more cloudy. At the end of the delay period, the supernatant was decanted onto No. 2 Whatman filter paper. The resulting filtrate was then pumped through a 0.2 micron pore acetate membrane using an Antilia® Pneumatic filtration unit. The resulting bulk filtrate was either distributed into screw-top flasks (trial 1), or test tubes (trial 2), or transferred directly to the boiling flask of the distillation apparatus (trial 3).

4. Reautoclavation

To ensure sterility, all the filled flasks and tubes were reautoclaved for 30 minutes.

5. Freezing

Freezing was done simply by placing the racks of tubes in the freezing compartment of a refrigerator. The timing and duration of freezing varied according to the particular experimental group (see below).

6. Orgone Accumulator (ORAC) Irradiation (see below)

B. The Experimental Groups

For purposes of simplicity, we shall discuss only the allocation of samples in the second trial since it included experimental groups and controls similar to those used by Reich. A summary of these categories is provided in Table I below.

1. Groups A and A1 were designed to demonstrate possible quantitative and qualitative differences in the sediments as a result of irradiation in the orgone accumulator (ORAC) *after* freezing and thawing. Group A1 served as the nonirradiated control.

2. Group B (nonirradiated) was kept frozen for over 32 months. By comparing sediments from freshly defrosted samples to Group A1, we hoped to demonstrate the spontaneous "growth" of sediments in A1 over the same period of time.

3. Group C consisted of samples of bion water irradiated in the ORAC for over 32

TABLE I
EXPERIMENTAL GROUPS (TRIAL 2)

GROUP	NO. TUBES	CONTENTS	FROZEN	THAWED	DURATION	IN ORAC	OUT ORAC	DURATION
A	8	EBW;5cc	4-17-85	4-21-85	4 days	4-21-85	1-1-88	984 days
A1	"	"	"	"	"	—	—	0
B	"	"	"	12-31-87	983 days	—	—	0
			IN ORAC	OUT ORAC	DURATION	FROZEN	THAWED	DURATION
C	"	"	4-17-85	1-1-88	988 days	1-1-88	1-31-88	30 days
D	"	D/W;5cc	"	"	"	"	"	"
D1	"	"	—	—	0	"	"	"

months *prior* to freezing and thawing, again with the view toward demonstrating possible effects on the resulting sediments.

4. Groups D and D1, both of distilled water, were designed to show whether irradiation with the ORAC in itself would result in sediments. The D1 group, in this case, was to serve as the nonirradiated control. Both D and D1 in our study were eventually frozen in an effort to enhance the production of sediments.

All irradiated groups were stored together in the same nine-fold ORAC; the nonirradiated groups were kept in separate light-tight cardboard containers at different sites remote from the ORAC.

5. Miscellaneous

Various samples were used for different purposes including studying the effects of drying and rehydration, culturing in liquid and on solid media, and responses to biological stains and to other chemical agents.

C. Results

1. Gross Examination

Freshly filtered earth bion water (EBW) is, grossly, crystal clear and tea-colored. When frozen, the ice which forms is primarily colorless but marked by *transverse* orange-brown striations (Fig. 1); we did not obtain a

TABLE II
GROSS DESCRIPTION SUMMARY

GROUP	DIAMETER	DEPOSIT	DESCRIPTION OF SEDIMENT
A	7-11mm	avg. 9.3	Thin, powdery to flocculant, pale orange, map-like, lacy or thin sheet-like distribution.
A^1	7-10mm	" 8.1	Central white dot.
B	8-10mm	" 9.0	Dense, fibrinous; obviously more copious than any tube from A, A^1 or C. Pale orange color.
C before freezing:		<1mm	
D	" "	"	Minute, fine, white granular cystalline and fibrillar.
D^1	" "	"	
C after thawing:		avg. 1.3	Same as previously, but with superimposed, central white gelatinous dot.
D	" "	" 1.3	Same as previously, but 2 tubes from D group and 4 from
D^1	" "	" 1.6	D^1 group with superimposed central, translucent, milky gelatinous area.

central core of colored material such as that described by Reich. Upon thawing, sedimental particles fell out of the melting ice to the bottom of the tube. The amount and appearance of the deposits seem to be related not only to the amount of earth used in the preparation but, also, the method of filtration. If a filter with a pore size of 1.0 micron is used (rather than the usual 0.2), a much more copious, fluffy, and gelatinous sediment forms on thawing.* But, more significant in our study, was how the quantity and qualities of the sediments varied according to the treatment of the sample prior to its being frozen.

Our initial examination of the tubes was made using a hand-held 16x lens equipped with a reticule having 0.1mm divisions. A summary of the observations appears in Table II. It should be noted that all the unfrozen tubes were checked regularly throughout the treatment period so that no gross changes would be overlooked.

a) Groups A and A1 (Fig. 1a)

While the ORAC-treated tubes of Group A had, on average, a slightly broader area of sedimentation than did A1, the highly variable distribution of the deposits makes it impossible to be certain that the total amount in the two sets differed significantly; both produced lacy and solid patterns.

b) Group B (Fig. 1b)

The deposits in the long-frozen Group B were by far denser and more copious than in any other set. It appeared that the extended duration of freezing had overridden the expected effects of ORAC treatment and the long period for spontaneous growth afforded Groups A and A1.

c) Group C (Fig. 1c)

Most surprising were the findings in this set, which had been kept for more than 32 months in the ORAC prior to freezing. Before freezing, these tubes exhibited the same kind of sediments as the distilled water sets, D and D1, i.e., fine fibrils and crystalline granules. Upon thawing, after 30 days in the freezer, they yielded the *least* amount of deposit of all the EBW groups.

d) Groups D and D1 (Fig. 1d)

These sets exhibited identical sediments prior to freezing; no flocculant deposits ("flakes") developed in either after 988 days. They were then frozen for a month and thawed. Over the next few weeks, some of the tubes from each of these groups began to exhibit small, barely visible, translucent gelatinous deposits the color of very dilute milk. The difference in the average sizes of these sediments (1.3mm versus 1.6mm), though interesting, is too small to be reliable.

2. Microscopic Examination

Six of the eight tubes from each set were sampled two or more times in the course of the experiment. Strict sterile precautions were observed for every sampling, and sterile sealed slides were prepared in almost every case when a tube was opened for the first time.* These slides permitted sequential studies of individual specimens for several months at a time and greatly facilitated the use of the

*This, incidentally, resembles more closely the flakes illustrated in Grad's repetition of Experiment XX (2).

*The technique for making these slides is described in the Appendix.

oil immersion objectives. Bright field, dark field, and Nomarski differential interference contrast (DIC) techniques were employed at magnifications ranging from 200x to 3200x.

Certain general similarities were shared by all the earth bion water groups (A, A1, B and C). All exhibited large, golden-brown particles and smaller, blue-green vesicles of various sizes and shapes embedded in, or adherent to, a clear, colorless gelatinous "ground" substance. Free-floating vesicles in the surrounding fluid often showed lively vibratory activity, while those confined to the ground substance were devoid of the usual place-to-place or rolling movements. At high power (3200x), these stationary particles sometimes exhibited discrete pulsatory waves in their membranes. Despite these common features, however, rather distinct patterns quickly emerged. The overall cohesiveness of the sediments, the distribution and structure of the vesicles and ground substance were found to differ significantly from group to group. Figure 2 shows representative photomicrographics from each set.

a) Groups A and A1 (Fig. 2a)

These two sets resembled one another closely. When aspirated from the bottoms of the tubes, the sedimentary fragments tended to break apart in the pipette. One was, therefore, not surprised to find, on microscopic examination, many "islands" of material and lots of vesicles floating free in the fluid around them. The distribution of formed elements within the ground substance varied from sparse to dense; but, despite a considerable degree of overlap in this respect, the heavier distribution seemed more common in the nonirradiated Group A1. In both, the golden particles were prominent, and exhibited a very regular and well-defined structure. Neither set exhibited a highly structured ground substance. However, with the Nomarski DIC technique, one could discern that in Group A it consisted of a tangle of long, slender, colorless fibrils, while that of Group A1 tended to be more amorphous, granular, and vesicular.

Although the differences we have noted were often subtle, it seemed that the *broader area* of the deposit and the *less compact structure* seen in Group A indicated a somewhat lower order of cohesiveness compared to the sediments in the nonirradiated group.

b) Group B (Fig. 2b)

. The aspirates in Group B proved to be the most cohesive of all, coming off the bottom of the tube in large fragments which did not disintegrate when mounted under the coverslip. Another striking difference was seen in the ground substance which exhibited considerably more structure and often formed long, serpentine masses with distinct borders. The various particles seemed less numerous and there was a preponderance of small vesicles which appeared either in dense clusters or strung out in the coiling strips of ground substance—somewhat like seeds in a tape. This picture may correspond to what Reich saw as a more "plasmatic" type of organization; it most closely resembled the material in his photomicrographs (1:401-404).

c) Group C (Fig. 2c)

The sediments of Group C showed the least cohesiveness of all the earth bion water sets, disintegrating almost completely on aspiration. The small islets of amorphous ground substance held few, widely spaced and poorly formed golden particles and a smattering of small blue-green vesicles. This group was also distinguished from the other earth bion waters in that it was the only one containing crystals. Among these were peculiar spindle- or diamond-shaped forms which appeared singly or in chains. Each successive

unit in the chains, moreover, appeared to be rotated 90° about its long axis, i.e., with respect to its adjacent unit. These forms were present prior to freezing. Hexagonal and rod-like crystals were also quite common.

d) Groups D and D1 (Fig. 2d)

The distilled water groups produced sediments unlike anything from the earth bion waters. Bion vesicles were much rarer, smaller, and more pale in color; no golden particles were present. The bulk of the material took the form of colorless, curved, hair-like fibers, but, there were also broader, elongated structures with smooth, flowing outlines and internal vacuoles. These bodies were of optically low contrast and had a distinctly "organismic" look—resembling stretched-out amoebae or hydrae. Close examination, however, showed no intrinsic motility; and, when disturbed by currents of fluid under the coverslip, they seemed quite rigid. There were no appreciable differences between the ORAC-irradiated and nonirradiated sets.

e) Details of the "Golden" Sedimentary Particles (Fig. 3)

These large particles, components common to all our earth bion water sediments, were also found by Reich (1) and Grad (2). Reich simply calls them "deeply colored granules" and says nothing further about them. Grad describes them as "taut spore-like forms of a brownish-yellow color with a diameter varying from 6 to 20 microns." He notes that they never appeared outside the margins of the flakes and that they often lay at a point of conjunction of the fibrils within the flakes. He makes the interesting speculation that this may indicate that these bodies result from the convergence and superimposition of orgone energy streams "frozen literally" in their tracks. He adds that, after several months, some of these "spores" appear to break down into heaps of smaller vigorously pulsating bions.

Close examination of these particles in our own specimens disclosed some interesting features. Usually around the size of red blood cells, they may also have a thickened rim or frame and a central depression. At times, they exhibit concentric rings and a central hub. Occasionally, the wheel-like structure is deeply invaginated, forming a cup. Interestingly, those found in the Group C tubes were always malformed or lacking any regular structure. We were unable to show any consistent relationship between these particles and converging fibrils; however, there was no dearth of observations confirming Grad's point regarding the breakdown of these particles into smaller vesicles. There was, in fact, considerable evidence that several varieties of the vesicles encountered arose in this manner.

Quite often, the golden particles appear in configurations strongly suggestive of stages in a process of division (or fusion?)—a phenomenon also reported by Grad. We tested this possibility on two occasions with serial photographs over a four-day period. In neither case were evolutionary changes seen, thus indicating that the event must have begun earlier, during freezing or shortly after thawing, before stopping altogether.

Some notion of the physical nature of the particles was derived from observations using unsealed slides. As fluid evaporates at its edges, the coverglass is drawn down, flattening the specimen. As the golden wheels were crushed, they were seen to fracture into wedge-shaped fragments (Fig. 3e). There was no apparent escape of fluid from the fragments, and no evacuated membranous sacs were left behind. It is as if a jelly bean, rather than an aqueous balloon, was being squashed. If the slide was first sealed, these particles

were found in many cases to remain completely intact and unaltered for as long as seven months.* It seems a reasonable assumption that these gelatinous bodies form from much smaller colloidal particles which are caused to aggregate and fall out of suspension in the freezing/thawing process. They obviously account for the color of the sediments. What is interesting about them is their structure—reminiscent of red cells—which seems to have been affected adversely by prior exposure to the ORAC (Group C), and that they appear at some point to have undergone either division or fusion.

Discussion

It may be useful to pause here in our presentation to consider the findings thus far—in particular, those details which seem to differ from Reich. By way of introduction, it is of interest to recall that, prior to Experiment XX, Reich had originally intended to observe the effects of different environmental conditions on the earth bion water. Because of his absorption with the developments in the frozen samples, he appears to have been diverted from this objective. Similarly, after carrying out the actual protocol for Experiment XX, he says remarkably little about the other *unfrozen* samples and plain water controls. He notes, for example, that *all* the bion water samples eventually developed flakes; yet, he does not speculate on the finding of bions in those groups which were not frozen. We are left to conclude that organization may occur from the water-borne orgone without the necessity of freezing, and might further surmise that freezing may simply enhance or speed up a process which is inherently *self-initiating*. His samples of plain water kept in the threefold ORAC also yielded bions—again, without freezing. This, it seems to us, is highly significant, since it might be viewed as the clearest and most convincing evidence of organization deriving from "free" (atmospheric) orgone. Oddly, Reich only mentions this finding in passing, and never discusses it further. He bases his conclusions, rather, on the results from the frozen and thawed bion water. With these points in mind, let us summarize certain comparisons between our experiences and his.

1. We obtained no sediments such as those described by Reich in any of our tubes unless they were first frozen and thawed. This was also true in Grad's work.

2. Our ORAC apparently exerted an *inhibitory* effect on sediment formation in the earth bion water—one which was most obvious in those samples irradiated for a long period *prior to freezing*. Reich found an *enhancement of sediment formation* in plain water kept in the ORAC.

3. The ORAC treatment, at least with the EBW samples, seems to have had an adverse effect on the *cohesiveness* of the sediments obtained and on the *structure* of the large golden particles found in the sediments. These phenomena were not mentioned by Reich.

4. ORAC irradiation evidently had some connection to the development of crystals in our Group C. Reich does not report finding crystals in his samples.

5. Unlike Reich, we found identical bion vesicles and other structures in samples of distilled water with, and without, prior irradiation in the ORAC. In fact, we found

*One 7-year-old tube also showed perfectly intact golden particles. Obviously, a breakdown into small vesicles is not inevitable.

nothing by which we could distinguish these two groups. Moreover, except in the broadest sense, these deposits did not resemble anything like those in the EBW groups.

Clearly, our findings highlight a previously unrecognized function of the ORAC which evidently influenced physico-chemical events in the bion water (but not, so far as we could discern, in the distilled water). For reasons which as yet remain unclear, these results do not, in every detail, confirm Reich's; but, at the same time, they also do not contradict the theoretical issues he raises.

3. Growth

The mechanisms of growth in the sediments have some bearing on certain general conclusions that Reich draws from Experiment XX. Clearly, he makes a case for a *biological* quality in the way the flakes grow. He reports that, between a few days to a few weeks after defrosting, the quantity of sedimentary material had visibly increased. According to him, this occurs by an *addition of substance*, by *division*, and also by a process of smaller flakes *sprouting* from larger ones. Reich adds that the "bion heaps become larger through organization of further bions from the fluid." (1:60)

We are able to confirm that a gradual and slight increase in the amount of sediment continues to be grossly evident for as long as a month after thawing. The mechanisms by which this occurs, however, are rather more difficult to ascertain than one might imagine. Since the growth is apparent no sooner than several days after thawing, it seems unlikely that Reich could have viewed a *complete* process in any one sitting at the microscope. Indeed, with single, day-long observations of individual fragments, we have been unable to detect any of the mechanisms he describes. We also encountered problems in attempting to make any of these observations by means of serial samplings from the same tube; all of the specimens were usually found to contain fragments of almost every conceivable size and configuration. Thus, apart from a suggestive shape here and there, it was impossible to say with any assurance what was happening. It appears to us that long-term time-lapse photomicrographic studies of individual flakes would be indispensable to demonstrate these phenomena in an unequivocal way. Reich, however, does not indicate whether this technique was employed; he only provides a sketch of the elongation process of a flake in *Cosmic Superimposition* (3:32). We have, as mentioned earlier, found *circumstantial* evidence of division in the golden-colored particles *within* the flakes, but no evidence of reproduction of the flakes as a whole as suggested by Reich.

It seems quite certain that an increase in the sediments does occur by a continual aggregation and settling out of colloidal particles from the supernatant EBW itself. We tested this hypothesis by freezing and thawing a 1:1 mixture of 0.1N KCl and nutrient broth ("K + B") and also a filtered suspension of cornstarch in water. With both of these colloids, i.e., protein and starch, sediments resulted containing motile vesicles and/or "plasmatic" formations. While growth of the kind described by Reich was not observed, repeated freezings and thawings were found to cause additional material to accumulate at the bottom of the tubes. We might mention in this connection that Reich also obtained flakes from frozen filtrates of boiled grass and sea water—both of which contain colloidal material. He also found sediments in unfrozen sterile EBW which was simply left standing. Lastly, we observed bionous flakes to form in the concentrated EBW remaining in the boil-

ing flask after the distillation experiment (see below). Thus, not only freezing, but also boiling or merely standing for long periods seems to affect the *charge* on colloidal particles, allowing them to aggregate and fall out of suspension. The point is, that the "growth" of sediments in these instances is not necessarily due to biological mechanisms, but possibly represents a mechanical process of *accretion*.

We did not repeat Reich's demonstration of an enhancement of growth by putting flakes in fresh, filtered bion water. However, we attempted culturing by placing sediments in sterile K+B and also by streaking hard media (agar slants). In the latter case, there has been no sign of growth in over four years. With the K+B cultures, over several weeks, a considerable additional accumulation of cottony, filamentous material resulted; in about one month, this process apparently stopped. Microscopically, the filamentous material did not at all resemble the structure of the underlying flakes. We cannot say for certain, therefore, that the flakes themselves "grew." It does appear, however, that the EBW sediments did induce a significant change in the nutrient solution. This phenomenon remains to be clarified.

4. The Interaction with Bacteria: "Putrefaction" of the Sediments

Reich describes an orgonotic attraction and a sterilizing or paralyzing effect upon bacteria by the flakes; he also reports that the sediments undergo putrefaction into T-bacilli and rot bacteria (1:61). In the course of investigating these observations, we came across certain phenomena which also shed some light on the composition of the EBW flakes.

If an *unflamed* pipette is dipped into a tube of clear, sterile EBW (with flakes), the fluid becomes cloudy within 36 hours; microscopic examination reveals it to be full of bacteria. This is identical to what happens if nutrient broth or K+B are similarly contaminated. In other words, the EBW apparently supports the growth of bacteria. The flakes at the bottom of the tube, in addition, begin to disappear, i.e., they seem to be digested or dissolved by bacterial action. We next prepare a sealed but *nonsterile* slide with more flake material. In a few days, bacteria become quite numerous; the fluid remote from the flakes teems with free-floating, vibrating cocci and actively swimming bacilli. About 10 micra from the flakes, the bacterial activity is significantly altered; here the bacilli spin in circles, gradually slow down, and finally cease moving altogether. Many become clumped and adherent to the edges of the flakes. A couple of days later, the golden particles and other vesicles adjacent to the bacteria appear to *fade*, as if they were melting or dissolving (Fig. 4a). Some 20 micra further "inland," and deep in the interior of the flake, the vesicles remain completely intact. Elsewhere on the slide, where flake material is not yet surrounded by bacteria, its structure also seems unaffected. It seems, at first, that the bacteria and the sedimentary material are having a mutually destructive effect; but, overnight it becomes obvious that the bacteria gathered at the edges of the flake have, in fact, been *dividing*. A number of such slides have been observed for several weeks, during which time the bacteria penetrate the sediments completely. Eventually, no recognizable flakes remain; all that can be seen are barren islands of amorphous ground substance, pockmarked with the impressions left by dissolved vesicles and golden particles (Fig. 4b). Occasionally, little clusters of small, motionless, but otherwise intact, bions are encountered. In some locations, groups of bacteria appear to be undergoing endosporulation and disintegration (Fig. 4c).

These observations are partially consistent with what Reich says, e.g., that the flakes exert an attractive (orgonotic) force on the bacteria, and affect their motility at a distance. It is not at all clear, however, that the organisms are killed in the process.* While endosporulation and disintegration do indicate bacteria cell morbidity, their occurrence after so many weeks may simply reflect a buildup of metabolic waste products rather than a direct action of the flakes. It occurred to us that the dissolution of the sediments might also have been the result of diffusing acid metabolites from the bacteria. An unsealed slide with a bit of flake material was prepared and a drop of strong hydrochloric acid solution was placed at the edge of the coverslip. As the acid diffused through the field of view, the flakes were seen to dissolve exactly as they had with the bacteria, except that the process took minutes rather than days and the ground substance was also affected to a greater degree. This procedure was then tried with sediments from all the groups. Those derived from EBW were, in every case, almost completely dissolved,** while those from the distilled water groups did not dissolve at all. To compare the effects of the acid on living protoplasm and colloids known to be of biological origin, we subjected bacterial suspensions, algae, molds, and sediments from frozen and thawed grass bion water, K+B, cornstarch, and egg albumin to the same treatment. In none of these were the organisms or sediments dissolved.

*The question of a sterilizing or bacteriocidal action by the flakes might be more definitively addressed with culturing and colony-counting techniques.

**Again, a small minority of the vesicles and, in varying degrees, the ground substance, were resistant to the acid.

These results raise questions about putrefaction in the sediments as well as their chemical composition.

1. Does the dissolving of the flakes in the presence of bacteria represent true putrefaction, i.e., enzyme mediated digestion and metabolism, or is it simply the result of a rise in the acidity of the medium, i.e., a purely *chemical* reaction? Why do not molds alone growing in the EBW also destroy the flakes?*

2. Might we infer from the acid experiments that the bulk of the EBW sediments consist principally of acid-soluble precipitates and aggregated colloids of mineral compounds? Are there complex organic compounds in the residues left after acid treatment?

3. What is the nature of the acid-resistant material in the distilled water, which one would expect to be entirely free of solid residues?

5. Long-Term Observations of the Sediments

Over a period of months, Reich observed the development of two to three micron bions which gradually elongated and assumed the shape of a *bean*. These, if degeneration into T-bacilli does not intervene, were found to evolve into rapidly moving contractile protozoa which Reich termed *orgonomia* (1:60). The orgonomia could, in turn, be cultured in fresh EBW. As mentioned above, he also described putrefaction and T-degen-

*Sealed slides in which molds, rather than bacteria, grow reveal the flakes to be completely unaffected, even after several months.

eration in the flakes, a property which he regards as further evidence of their organic nature. Grad (2), however, in his repetition of Experiment XX, did not report finding T-bacilli, rot bacteria, or protozoa in any of his preparations. We have found that, as long as strict sterile procedure was observed in opening and sampling the tubes, bacteria were never encountered; this has held true for some 80 samplings to date. At the time of this writing, after seven years of observations in three trials of Experiment XX, we have been unable to confirm the development of bean forms, protozoa, T-degeneration, or putrefaction in any of the samples or in culture media inoculated with flakes. We have, in fact, been impressed by the paucity of changes in the microscopic appearance of this material as each tube has been sampled and resampled. What few changes we have found, such as the breakdown of the large golden particles in some of the samples, seem to have occurred early and have not proceeded further. We are at a loss to explain these discrepancies. We can only cite the experience that ordinary grass infusions and other bion preparations have, from time to time, simply not "worked." Or, they may be related to details in procedure which are not presented in Reich's published account.

6. Staining Experiments

Reich does not indicate that he stained flakes from Experiment XX. In an effort to substantiate the biological nature of these sediments, we made preparations with Methylene blue and Gram's stains. Methylene blue was chosen because it reacts with DNA and RNA. Gram's stain was used because of a precedent established by Reich in his earlier work on bions (1:16). He had noted that while the parent substances of the vesicles, e.g., charcoal and iron, were Gram *negative*, the vesicles derived from them were Gram *positive*. He regarded this as an indication of the vesicles' having acquired a lifelike property. We found that while the Methylene blue was taken up avidly by both the vesicles and ground substance, the dye was not retained upon differentiation with alcohol. The sediments were also found to be entirely Gram negative.

Discussion

The initial gross and microscopic findings in the various groups, though in some respects differing from Reich's, did not contradict his general concepts regarding Experiment XX. Our subsequent observations, however, have failed to confirm a number of key points, particularly those relating to the biological attributes of the EBW sediments. A form of growth was found, but there was little evidence to substantiate biological mechanisms for its occurrence. The initial behavior of the bacteria in proximity to the flakes was as Reich describes; yet, extended observations did not show a clear-cut sterilizing effect. Rather, the bacteria appeared to multiply freely at the edges of the flakes and, in doing so, caused most of the vesicular structure to dissolve. It seemed, furthermore, that this action might have been the result of a purely chemical effect. Whether or not a true biological process of digestion or rotting is involved remains a matter for speculation. The apparently *spontaneous* putrefaction, T-degeneration, and protozoal development observed by Reich has not yet occurred in any of our tubes. The existence of complex biochemical structure in our samples remains moot at this point in our research. It does not seem unreasonable that soil should contain amino acids, simple sugars, and small amounts of fats and oils,

inasmuch as it has been the residence of so many living forms. Nor does it seem unlikely that these substances might, therefore, appear in a filtrate of boiled earth. We believe, however, that the ready solubility of the flakes in acid weighs against the presence of protein and complex carbohydrates. Our preliminary and, admittedly, crude analytic tests suggest that the EBW and sediments contain a colloid, as Reich says, but one which is essentially mineral in constitution. Considerations of biological potential aside, it seemed, until March of 1988, that only the sediments in the distilled water samples stood as solid evidence that matter of *any* kind could organize from the orgone bound in water.*

7. The Distillation Experiment

To prove his point regarding the flakes, Reich conceived an elegant demonstration: he distilled the filtered bion water. Numerous flakes were found as the distillate cooled, and still more formed after it was frozen and thawed. These findings meant to Reich that the organization of plasmatic matter in the distillate could only be ascribed to the high energy content of the fluid from which it was derived. The presence of bionous formations in the distillate thus also implies that much of the orgonotic charge in the original bion water remains bound to the water vapor which is condensed in the process—still another proof of the strong affinity between orgone and water.

Procedure

The boiling flask, condensor and collection system used in our recreation of this experiment are illustrated in Figure 6. All glassware, including the distillation apparatus itself, was first cleaned with multiple rinses of concentrated sulphuric acid—chromate solution, distilled water, and acetone—and then was autoclaved. The collection system was designed so that the distillate could be collected and distributed into several tubes while minimizing possible breaks in sterile technique. As a control, 200cc of distilled water was first introduced into the boiling flask and redistilled through the apparatus. This distillate, as expected, was perfectly clear and free of sediments. It was divided into several tubes and frozen. A similar amount of two-day-old filtered earth bion water of high concentration (50 grams of earth in 250cc of water) was then distilled. At first clear, the distillate became slightly cloudy on cooling. Several tubes were filled from the bulk distillate, capped, and frozen. After six days, samples of the redistilled water and EBW distillates were removed from the freezer. These were observed closely and photographed as they thawed (Fig.5).

Results

As the ice melted, we were surprised to observe a 1mm button of fine, white, powdery sediment form in the tube of the distilled water control (Fig. 5a). Under the microscope, this was found to be composed of trembling, blue-green shimmering vesicles ranging in size from one to five microns. These occurred singly or in small clusters. In the distilled EBW tube, a much larger (2mm) button with an orange center formed at the bottom of the tube (Fig. 5c). Microscopically, this too consisted of bions, but here they were much more numerous, deeply colored, and occurred in larger clusters than those seen in the distilled water. Many had a brownish-orange caste. In both cases, the vesicles were free-floating; they were not part of any flake-like masses,

*As yet, no signs of life have appeared in these sediments.

and no ground substance was seen. *They most closely resembled ordinary earth bions*, and, unlike the flakes from undistilled EBW, they did not dissolve in acid. This treatment, however, did bring their vibrations to a halt.* One noteworthy oddity was encountered when the remaining tubes of both sets were thawed. Despite the fact that each tube was filled *with the same amount of fluid from a common batch of distillate, using the same syringe, the amount of sediment which formed varied greatly*. Though the reasons for this are obscure, it certainly indicates that something different was occurring in each of the tubes. Similar variations also occurred in Reich's experiences with his samples of undistilled EBW.

Although no obvious signs of further growth in the sediments occurred, over the next nine months the EBW distillates underwent some remarkable changes. *From a freshly opened tube, free of gross signs of contamination*, we obtained spherules, five to eight microns in diameter, consisting of aggregates of small bions enveloped by a membrane. They seemed to have formed from loose vesicular heaps which condensed into tight balls. The membrane, in different examples, varied from thin, irregular, and ill-defined, to thick and taut. In the latter case, the structure resembles a fungal sporangium. Figure 5j shows one of these apparently "sprouting." We were also intrigued to find forms of vesicles which had been encountered earlier in samples of undistilled EBW. To this point, no bacteria, T-bacilli, or protozoa have developed; however, the changes in these preparations look so similar to those observed in grass and rice infusions (6) that they certainly bear further study. Interestingly, the bions in the redistilled water control have remained unchanged since the initial examination. Culture, electrophoretic, and staining tests have not yet been done on the distillation material.

*See below, "A Note on Brownian Movement."

Discussion

Again, for reasons which we do not understand, our results with the distillation experiment also differ from Reich's. However, in this case, the "discrepancies" would appear only to validate his conclusions; we believe that, in principle, our findings have the same significance as his. The appearance in the distillates of discrete vesicular structures of a size far in excess of the pore size through which the EBW was first filtered, would seem to sweep aside mechanical objections to Reich's explanation of their origin. In our opinion, the distillation experiment is, in this respect, much less ambiguous than the flakes occurring in ordinary bion water. EBW already contains a host of dissolved substances and colloidal material. But, we may also infer from the distillation demonstration that a similar mechanism must also operate in the origin of at least some of the material found in frozen and thawed EBW. Perhaps this may account for some portion of those sediments which failed to dissolve in acid.

With respect to the EBW sediment, our studies suffer from a lack of convincing evidence of its biological nature or potential. It is odd that the distillates seem so much more promising in this area; one would expect that the orgonotic potential of this fluid and, hence, its developmental capacity, would be much less than plain EBW. Yet, this is obviously not necessarily the case. Reich, for example, was surprised to obtain flakes and protozoa from sea water with an OP of only 8-10 (1:63). Our findings with the EBW do indicate that ORAC treatment has an effect on the formation of the sediments. While in itself this does not consti-

tute direct evidence of the mechanism of their origin, it does suggest that orgonotic conditions influence the process. We do not know why a similar influence was not evident in the distilled water groups. It may be that there *were* differences between the irradiated tubes and their controls, but ones so subtle as to be overlooked with our methods of examination. For the present, we *can* say that our work supports the idea that matter may develop from orgone energy bound to water. It remains to be shown whether the resistance to acid exhibited by certain of the sediments betokens a complex biochemical structure and if they have, in addition, the sort of biological potential demonstrated by Reich. Obviously, the experiments with the EBW and the products of its distillation warrant repetition with supporting chemical analyses and, if possible, fluorometric studies.

Summary

1. Experiment XX has been partially replicated. In several respects, the results obtained did not match Reich's or support his conclusions.

   a) A spontaneous formation of flakes (sediments) of the kind described by Reich did not occur in any of our samples unless they were first frozen and thawed. Prolonged freezing seemed to have a marked effect on the amount and type of structure produced (Group B).

   b) Our distilled water samples yielded structure, but not of the kind found by Reich. Moreover, identical sediments developed in both the ORAC-irradiated and nonirradiated groups (D versus D1).

   c) ORAC irradiation of EBW samples *before* freezing had a profound effect on the amount and type of structure which formed (Group C). The effect of irradiation after freezing and thawing (A versus A1) was much less apparent. ORAC irradiation in our studies seemed to *inhibit* rather than foster sediment formation and had adverse effects on the cohesiveness and structural integrity of the sediments. Clearly, orgonotic conditions affect the process of sediment formation.

   d) Our sediments exerted an apparent attractive and paralyzing effect on motile bacteria; however, the "sterilizing" phenomenon described by Reich was not documented. Bacteria seemed capable of dissolving the sediments; acid-treatment experiments suggest that this may have occurred by a simple chemical reaction rather than by organic "putrefaction" (digestion).

   e) The manifestations of biological growth in the EBW, i.e., flake reproduction, described by Reich, could not be demonstrated. A number of purely physical mechanisms, whereby additional material may be brought down out of suspension, were illustrated.

   f) Culture, acid-treatment, and staining experiments with EBW sediments did not substantiate any biological or biochemical qualities in them; however, these preliminary tests cannot be considered conclusive.

   g) Thus far, none of the biological developmental changes in the EBW sediments described by Reich have been encoun-

tered. No rot bacteria, T-bacilli, or protozoa (orgonomia) have been seen in our samples.

2. Some of our results support Reich's belief that material organization may occur in water-bound orgone energy.

   a) The above-mentioned finding of structure in frozen and thawed distilled water samples.

   b) The finding of vesicular elements in distillates of EBW and redistilled, distilled water.

3. The biological potential of the material obtained in our replication of Experiment XX has not yet been demonstrated conclusively; however, our results clearly warrant further investigation. A detailed comparative analysis of the EBW, its sediments, and those from the distillates, is suggested.

A Note on the Mechanism of Brownian Movement

A most striking microscopic observation in the acid treatment experiments was the cessation of vibratory motion in the vesicles within moments of the acid sweeping across the field of view. *This occurred with every vesicular substance tested.* Along with this, one noticed a distinct loss of sparkle in the vesicles; their glimmer disappeared, and their orgone energy fields diminished. To determine if these effects were specific for acid, all the tests were repeated with a strong solution of sodium hydroxide (NaOH). Although in this case *none* of the sediments dissolved, the cessation of vibration and dulling of the vesicles was identical to those with HCl. With either treatment, there was a partial recovery of the vibrations after several hours.

The conventional term for the jiggling place-to-place vibration of particles suspended in fluid that we see under the microscope is "Brownian" movement. It has been explained by physicists and microbiologists as being the result of random impacts on the particles by molecules of the suspending medium moving at high velocity. While Reich acknowledged that such a mechanism may be operative for certain movements of small particles, he expressed doubts about the *general* validity of this explanation. In the specific case of the bion vesicles, he presents a cogent argument for their vibrations as a function of *orgonotic charge* (1:24-26). He points out that the *intermittent* nature of the external movements and the rhythmic *intrinsic pulsation* of the vesicles, observable at high magnification, cannot be accounted for by *random* external impacts. We would add to this, that if the classical theory was correct, then the vigor of the place-to-place vibrations should also vary directly with the *temperature* of the medium. Yet, experience with bion preparations shows that the vibration of the vesicles, fresh from the autoclave, is not necessarily as pronounced as it is a few days later, long after the preparation has cooled to room temperature.* And now, we see also that freshly prepared, concentrated acid and base solutions, *despite their warmth*, have a rapidly *suppressive* effect on "Brownian" movement. It is as if the vesicles had been "shocked" by a toxic insult from which they only slowly, and partially "recovered."

We also tested an India ink preparation, the classic model of Brownian movement. With

*Recent observations show that increasing or decreasing the intensity of the light illuminating the specimen slide alters the vigor of the vibrations. Turning up the rheostat on the microscope lamp, for example, noticeably enhances the magnitude and speed of the movements.

the introduction of HCl or NaOH beneath the coverslip, the swarming vibration of the ink particles stops within moments. Most aggregate into large clumps, but even the many isolated particles remain utterly motionless.*

These findings would appear to reinforce Reich's reservations as to the comprehensiveness of the mechanical theory of Brownian motion. The additional concept of an inherent orgonotic charge, carried by the vesicles themselves, seems more consistent with what is observed, e.g., the inconsistent effect of temperature. Orgone energy is spontaneously pulsatile and may excite itself without the intervention of externally applied heat. The effect of acid or base on the India ink seemed to indicate that the ink particles also carried a charge, suggesting that their movement, like that of the bion vesicles, was an orgonotic phenomenon.

Reich also regarded the migration of bion vesicles in an electric current as a manifestation of their orgonotic charge (5). With this in mind, we subjected both an India ink suspension and EBW sediments to electrophoresis, using an apparatus described elsewhere (4). The ink particles failed to migrate at any voltage, but with the flake material, brisk migration and reversal (with a change in polarity) were observed. After the addition of a small drop of NaOH solution, these same bions would no longer migrate, regardless of the voltage applied. The results with the vesicles were consistent: the strong base stopped vibration and migration and caused the glimmer and fields of the vesicles to disappear, i.e., it seemed to have "killed" their charge. But, the result with the ink is puzzling. The electrophoretic test seems to indicate that these particles are electrically "neutral" and yet, treatment with the NaOH also stopped their vibration. One wonders if this contradictory result implies a difference in the mechanisms of vibration between the bion vesicles and the ink particles. In any case, the point is made that the array of movements seen under the microscope cannot be simply a passive response to molecular collisions.

*To rule out a *gelation* effect, we added a drop of acid to a few cc's of ink in a test tube; there was no apparent change in viscosity.

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Appendix I

A Review of the Literature on Experiment XX

The first published account of Experiment XX appeared in the *International Journal of Sex Economy and Orgone Research*, Vol. 4, 1945 and was subsequently reprinted, essentially unaltered, in *The Cancer Biopathy* in 1948. Nothing further was published until the *Orgone Energy Bulletin* of January, 1951, in

which Reich wrote a brief but momentous report: "'Cancer Cells' in Experiment XX." He describes the organization of cancer-like amoeboid cells in aggregates of bions from one of the original Experiment XX preparations (10c) which had been preserved in sterile condition since 1945. He indicates that the process was recorded on motion-picture film. Interestingly, of the two dozen preparations made in the same way and in the same year, which were kept together in the same place, 10c was the only one in which amoebae had developed. Reich emphasizes the identity of this process to that in decaying grass and its pointing to a similar process in devitalized animal tissue. He postulates that bion vesicles might form in stagnant fluid in humans, e.g., ascites or edema, by the same mechanism as in Experiment XX and form heaps ("germ vesicles") from which cancerous cells evolve.

The only other paper published on Experiment XX in Reich's time was that of Bernard Grad, Ph.D. (biology): "Wilhelm Reich's Experiment XX," *CORE (Cosmic Orgone Engineering)*, 7:33, December, 1955. Grad's protocol describes the use of local (Montreal) soil which was boiled in tap water for "3/4 hour and then filtered free from soil as judged by microscopic examination." The earth-to-water ratio, method of filtration, and technique for verifying the filtrate microscopically are not given. Eleven bottles were filled from this single batch of earth bion water; they were stoppered with cotton plugs and nine of them were then "autoclaved for half an hour at 15 lbs. pressure." Of the nine, seven were frozen. Sediments ("flakes") formed immediately upon thawing these seven vessels. Microscopic examination revealed the material to consist of "a fibrous network in which were interspersed round, taut, spore-like forms of a brownish-yellow color with a diameter varying from 6 to 20 microns." Some of the "spores" appeared to have divided even in freshly thawed preparations. Grad makes a special point of the fact that "*Not a single one of the four bottles which were not frozen showed these flakes with their 'spores'.*" This differs from Reich's observation that unfrozen tubes of filtered water kept in either an ORAC or out in the laboratory develop flakes over a period of three to eight weeks (1:59). Grad's paper includes ten photomicrographs with magnifications of up to 3200x. He does not mention anything about fluorometric measurements or of cells, protozoa, rot bacteria, and T-bacilli appearing in the 11 bottles.

We have no information on any recent work on Experiment XX, although an announcement for the *Zentrum Fur Orgonomie e.v.* (The Center for Orgonomy) (near Heidelberg, West Germany) appearing in *Offshoots of Orgonomy* (No. 15: 1987) mentions a repetition of Experiment XX "with chemical proof."

Appendix II

Method for Sterile Sealed Slide Mounts

The sealed slide mount consists of an ordinary flat microscope slide, a drop of fluid with the specimen, and a coverglass whose free edges are bonded to the slide with an uninterrupted border of a 1:1 paraffin-petroleum jelly mixture. The technique of preparation is simple, but the steps must be carried out in a definite order and as quickly as possible.

1. Place pea-sized amounts of paraffin and petroleum jelly on a two-inch watchglass. Mount the watchglass on a ring-stand over a candle or gas flame at a height that will cause the mixture to melt without boiling or burning. Mix thoroughly.

2. Uncap the specimen tube, flame the mouth for about 15 seconds, and replace the cap

loosely. Mount the tube with a clamp to the ringstand.

3. Flame a Pasteur pipette in the gas flame for a half a minute; then support it upright by the bulb end, using a test tube holder or clothespin.

4. Holding a glass slide with tongs, flame it thoroughly for half a minute and place it on a wire mesh screen. Using forceps, flame a coverglass and place it on the *middle* of the slide with a corner projecting over the edge.

5. *Briefly* reflame the pipette, enter the specimen tube, and aspirate the specimen with as little fluid as possible, e.g., the fluid column should not exceed 3/4 of an inch.

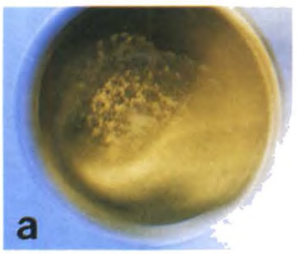
6. Pick up the coverglass with forceps by the projecting corner, reflame *briefly*; apply the specimen *to the middle of the slide with a minimum of fluid* and place the coverglass over it. Ideally, the fluid should just spread to the edges of the coverglass and stop without "floating" the glass; most of the air bubbles will be squeezed out.

7. With a small (No. 2) thoroughly soaked paintbrush, apply a thin but continuous border of the molten wax mixture around the edges of the coverslip, being sure that the wax contacts both coverglass and slide.

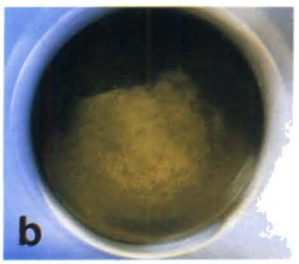
8. Flame a dissecting needle for half a minute. Hold the slide with one hand and, with the other, apply the heated end of the needle to the *underside* of the slide, beneath the entire wax border, until it remelts and flows. It may be necessary to reheat the needle a few times to accomplish this. This step is essential to ensure an unbroken seal and will also have an additional sterilizing effect at the edge of the coverglass.

When first prepared, the slide should be examined every couple of days for a period of a week. If no bacteria or molds appear within this time, the mount may be assumed to be sterile, and will generally remain so for weeks or months. These slides should be stored flat under a petri dish or paper towelling to avoid dust. Immersion oil can be washed off with "Q-Tips," warm water, and soap; if done carefully, the seal will not be broken.

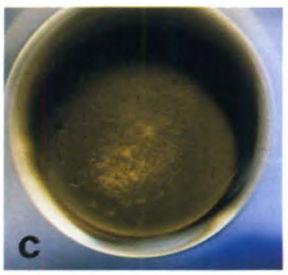
1. An earth bion water specimen thawing. Note the transverse color band in the ice (arrow). Slightly larger than actual size.



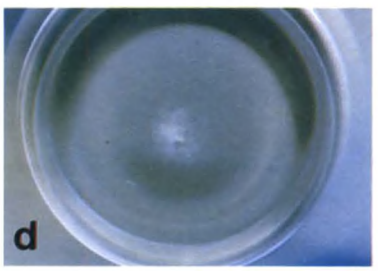
a) Sediment in a tube from Group A, bottom view. Note the broad, lacy pattern of distribution. The tubes from Group A' have a similar appearance although the areas of the deposits are, on average, slightly smaller. 2.5x.



b) Group B, showing a smaller but more dense pattern of distribution. When viewed from the side, the larger amount of sediment found in these tubes can be better appreciated. 2.5x.



c) Group C. The loose pattern and sparse amount of the sediment is readily apparent. 2.5x.



d) Representative of both Groups D and D1, this photograph shows the typical central fibrinous deposit surrounded by a milky white "halo." 3x.

Fig. 1. Gross Findings (see Table II)

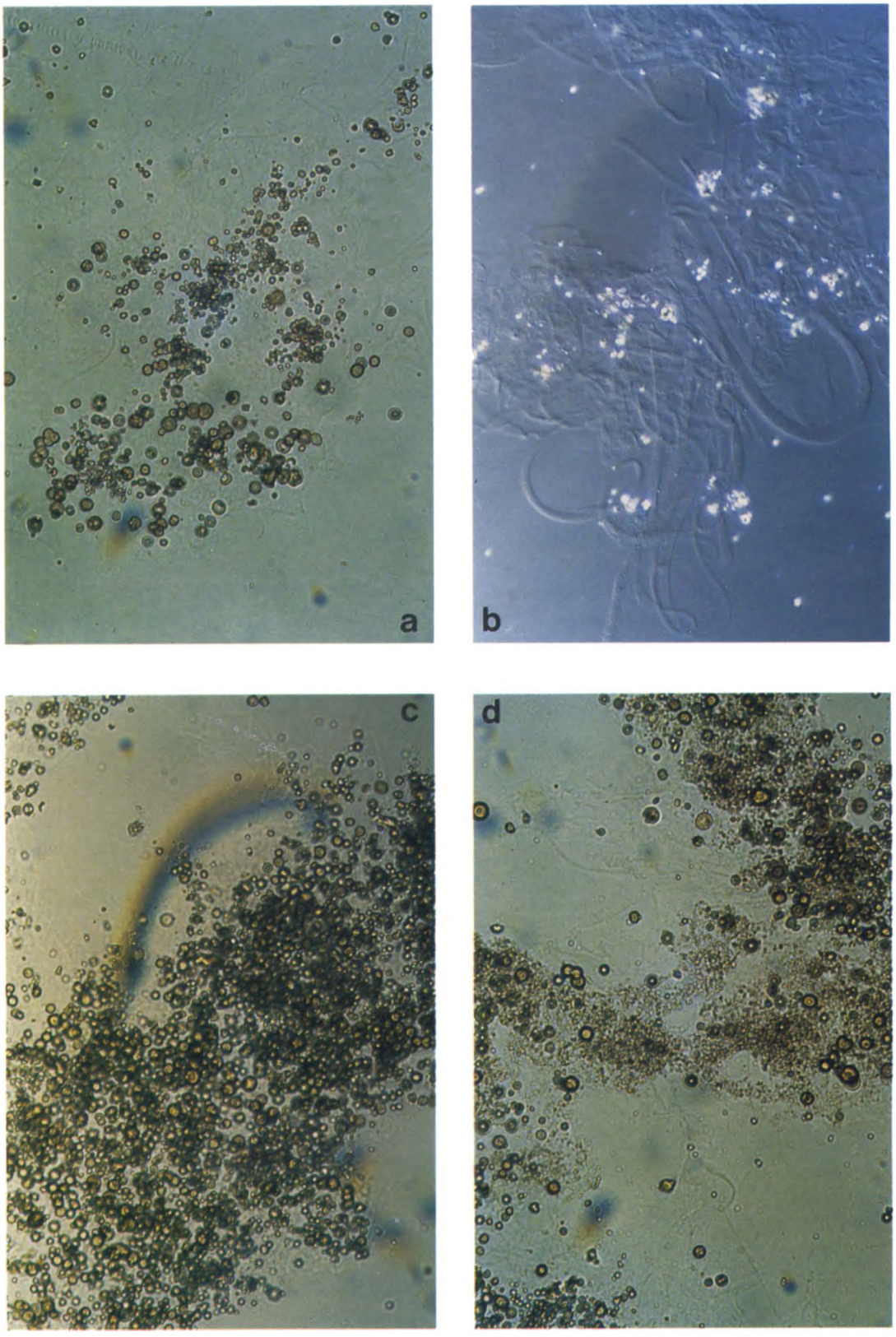

a
b
c
d

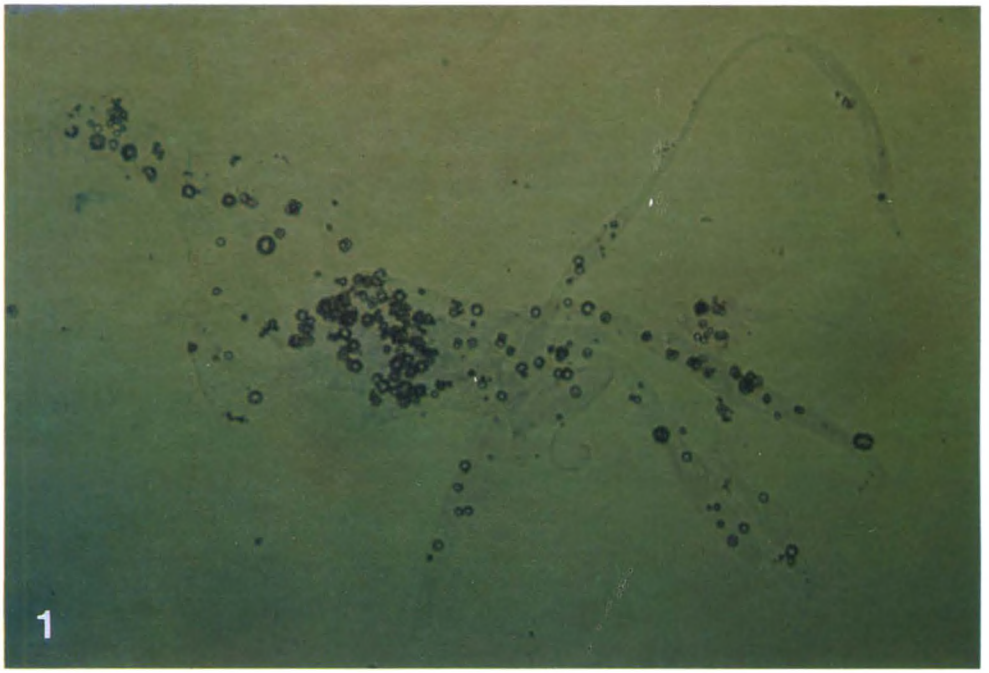
Fig. 2a. Microscopic appearance of Group A (irradiated after thawing) and the Group A^1 control

a. Typical microscopic picture found in Group A, which was kept in the orgone accumulator for 33 months. Note the smaller and less dense aggregation of particles as compared to the sediment in the nonirradiated control seen in photomicrograph c immediately below. The ground substance, though barely visible, appears to be fibrillar. 300x.

b. The fibrillar structure of the ground substance in Group A is more evident here with Nomarski differential interference contrast. The various vesicles and particles appear white. 600x.

c. The very dense particle distribution more common to Group A^1 is seen here. The ground substance is just visible at the edges of the formation. 300x.

d. This illustration shows the vesicular change in the ground substance, a phenomenon which was noted by Reich and one which was more often encountered in Group A^1. One sees, in this particular specimen, that the surrounding ground substance is more fibrillar, like that in Group A (photomicrograph a). Such overlapping characteristics were not uncommon in the two groups. 300x.



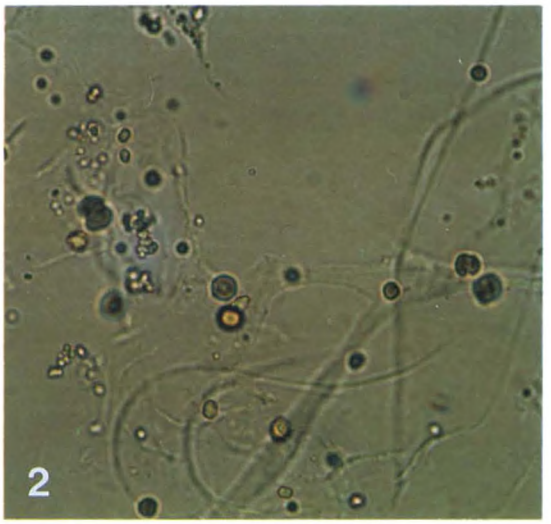


Fig. 2b. Group B: frozen 33 months

1. Shown here, stained with methylene blue, is an example of the highly structured and cohesive sediment typical of Group B. Note the rarity of particles outside the perimeter of the ground substance. 300x.

2. This higher power view (unstained) shows the sparse vesicular pattern and the preponderance of smaller vesicles in Group B. The structure of the ground substance shows up quite well with ordinary illumination. 600x.

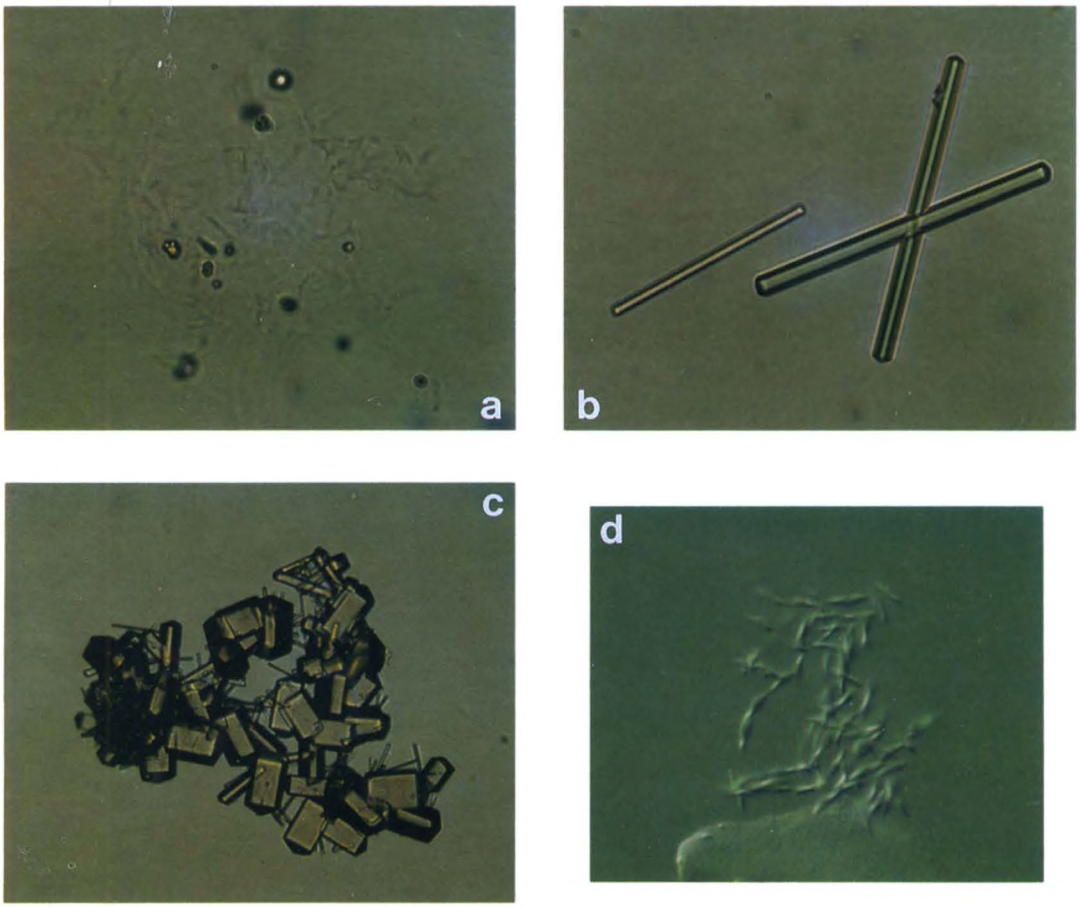


Fig. 2c. EBW irradiated 33 months before freezing

a. The very sparse distribution of particles and the amorphous character of the ground substance are clearly evident. 300x.

b. Rod-like crystals. 600x.

c. A large cluster of hexagonal crystals. 150x.

d. These spiral chains, shown here at 1500x with Nomarski DIC, are, like the crystals in b and c, exclusive to Group C. They were also present before freezing, but seemed more numerous after thawing the tubes.

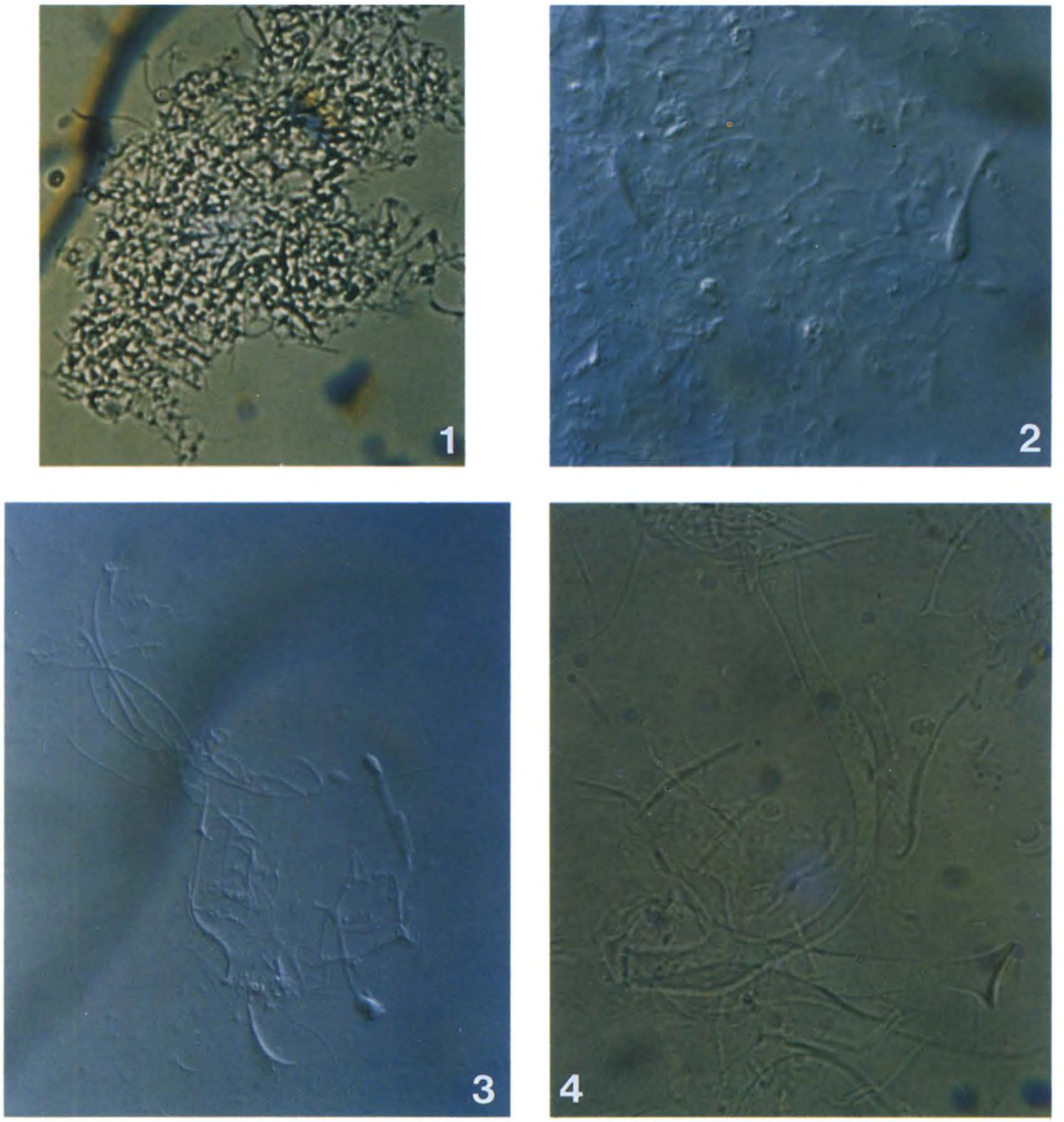


Fig. 2d. Groups D and D[1]: irradiated and nonirradiated distilled water

1. *This photograph shows sedimentary material representative of both groups, which were indistinguishable. One sees a fine fibrillar structure in which blue vesicles are enmeshed. The curved shadow at the upper left is an artifact. 600x.*

2. *Nomarski DIC at higher power brings out additional detail. At the far right is a type of tadpole-like structure seen frequently in these groups. 1500x.*

3. *Illustrated here are the long slender fibrils and hydra-like organismic forms found exclusively in the distilled water groups. Nomarski DIC. 600x.*

4. *Similar structures to those seen in (3), but with bright field illumination, showing their transparency and low contrast. 1500x.*

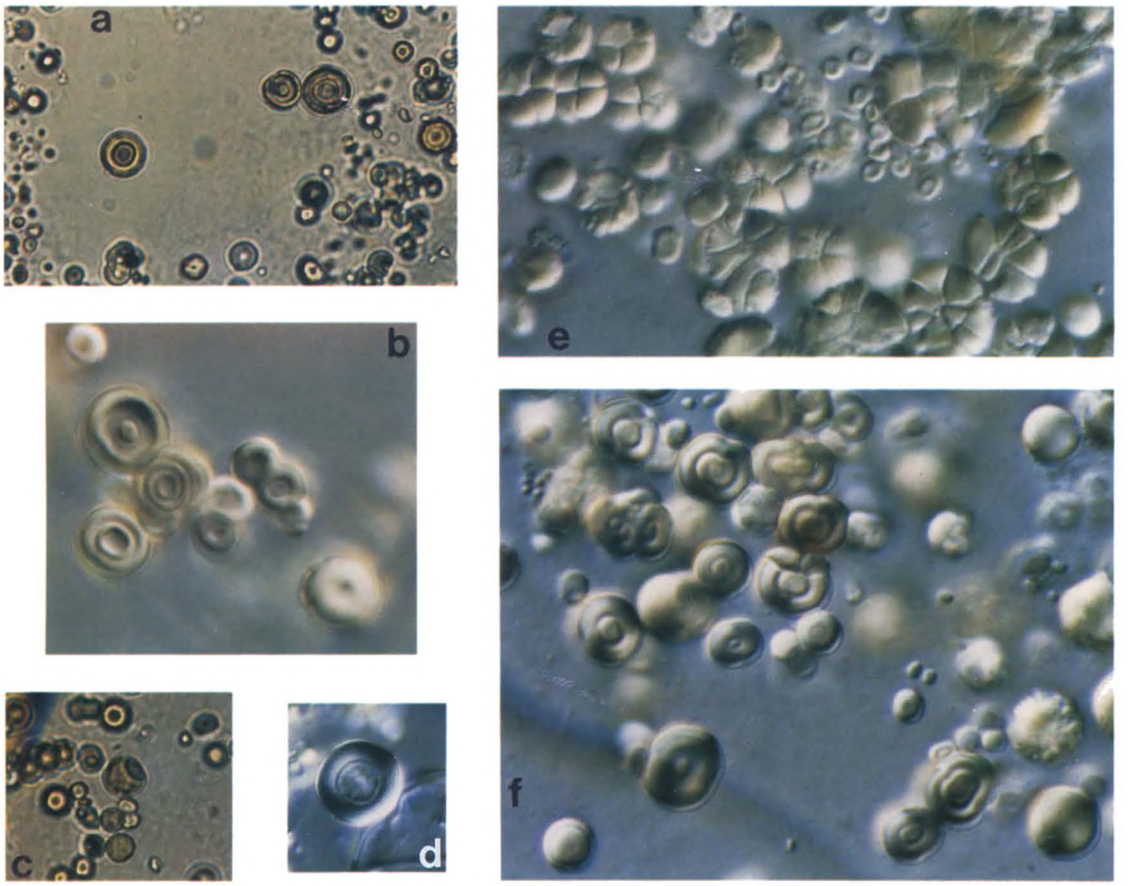


Fig. 3. Details of the golden particles

a) The appearance of well developed golden particles illustrating their wheel-like structure. One notices here that most of these exhibit little or no "field." 600x.

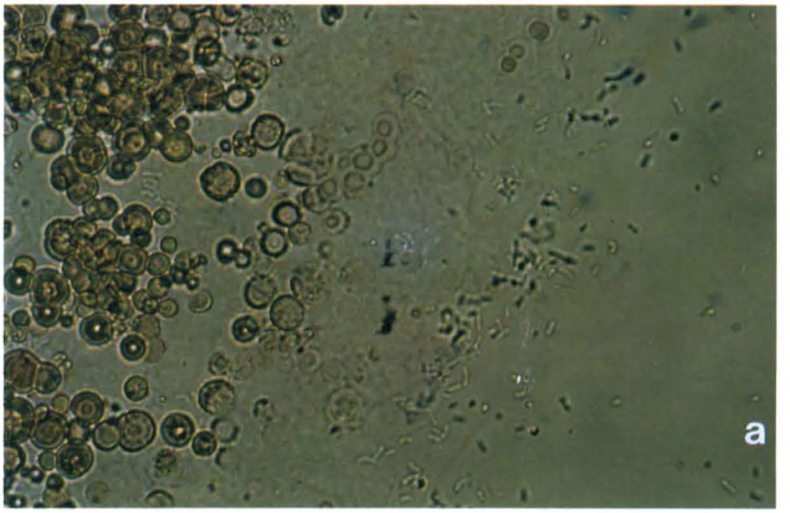
b) Golden particles seen with Nomarski DIC at 1500x. The variety of forms is striking; this may reflect either the presence of different "species" or different degrees of development.

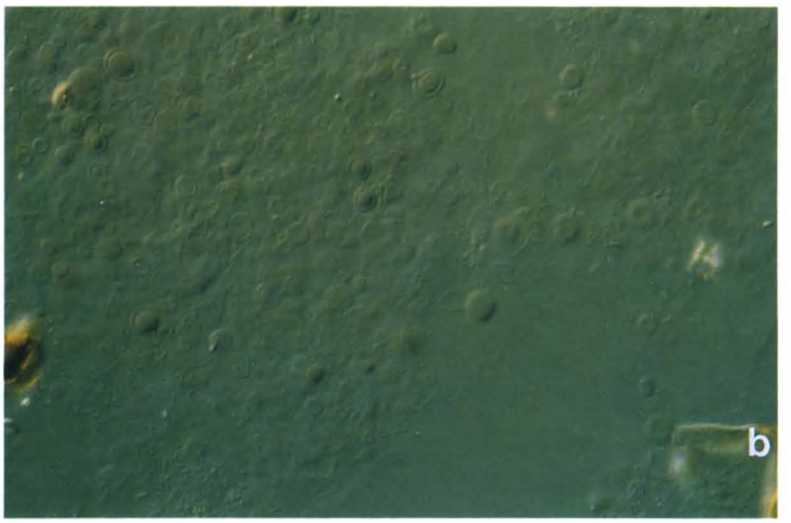
c) A cup-shaped golden particle. Again, one sees particles with and without a field. 600x.

d) An unusually large golden particle; its silvery appearance is an artifact of the illumination. Nomarski DIC. 600x.

e) Shown here is the typical appearance of golden particles fracturing under pressure from the coverslip. A cluster of donut-shaped vesicles, a type which derives from the golden particles, is seen above and to the right of center. Though not evident here with Nomarski DIC, these vesicles, unlike the golden particles, always exhibit a prominent field. 1500x.

f) Golden particles in various stages of division or fusion. Nomarski DIC. 1500x.


a


b


c

Fig. 4. Interaction with bacteria

a) Shown here are the effects of bacteria on the various components of the sediment. What is striking is that the action appears to occur at a distance from the bacteria (spreading toward the left). The golden particles and other vesicles also seem to be fading or dissolving rather than disintegrating into smaller elements. 600x.

b) The appearance of the sediment after weeks of bacterial action. In this case, the ground substance remains relatively intact, bearing the imprints of dissolved and partially dissolved particles. The effect of mineral acid is very similar to what we see here and in the previous photograph, except that the process occurs more quickly and is more complete. Nomarski DIC. 600x.

c) This high power view of a "live" specimen shows endosporulation within the bacteria. The disintegration of the bacilli is evident, particularly at the lower right. 1500x.

a
b
c
d
e
1
2
3
f
g
h
i

Fig. 5. The distillation experiment

a) Gross view of the sediment from the distilled water control after thawing. 4x.

b) Microscopic appearance of the sediment from distilled water. 600x.

c) Gross appearance of the sediment from the thawed distillate of earth bion water. 4x.

d) Bion vesicles from the sediment in (c). 600x.

e) Sediment from distilled earth bion water 9 months after thawing. Spherical masses in various stages of organization are seen. At the lo right (arrow 1) is a rounded heap as yet lacking a membrane. Arrow 2 indicates a mass with a partially formed membrane. Arrow 3 sh a heap in which the membrane is essentially complete. 1500x.

f-i) This panel of photomicrographs, though not of the same individual structure, suggests an evolutionary process in the spherical masses of b vesicles. (f) shows a large aggregate at an early stage of membrane formation. In (g), the ball of vesicles is more compact and the membr fully developed. In (h), the membrane appears to have thickened into a capsule and the entire structure closely resembles a fungal sporangi The final picture (i), shows a similar structure sprouting a mycelium. 1500x.

All the photographs (e-i) were of a specimen taken from a single, freshly opened tube of earth bion water distillate which, grossly, showed no si of bacterial or fungal contamination. A thorough microscopic "square" search of the sealed slide showed no evidence of bacteria or f developed fungi. Under these circumstances, the findings point to a spontaneous organization of bion heaps into fungus-like structures.

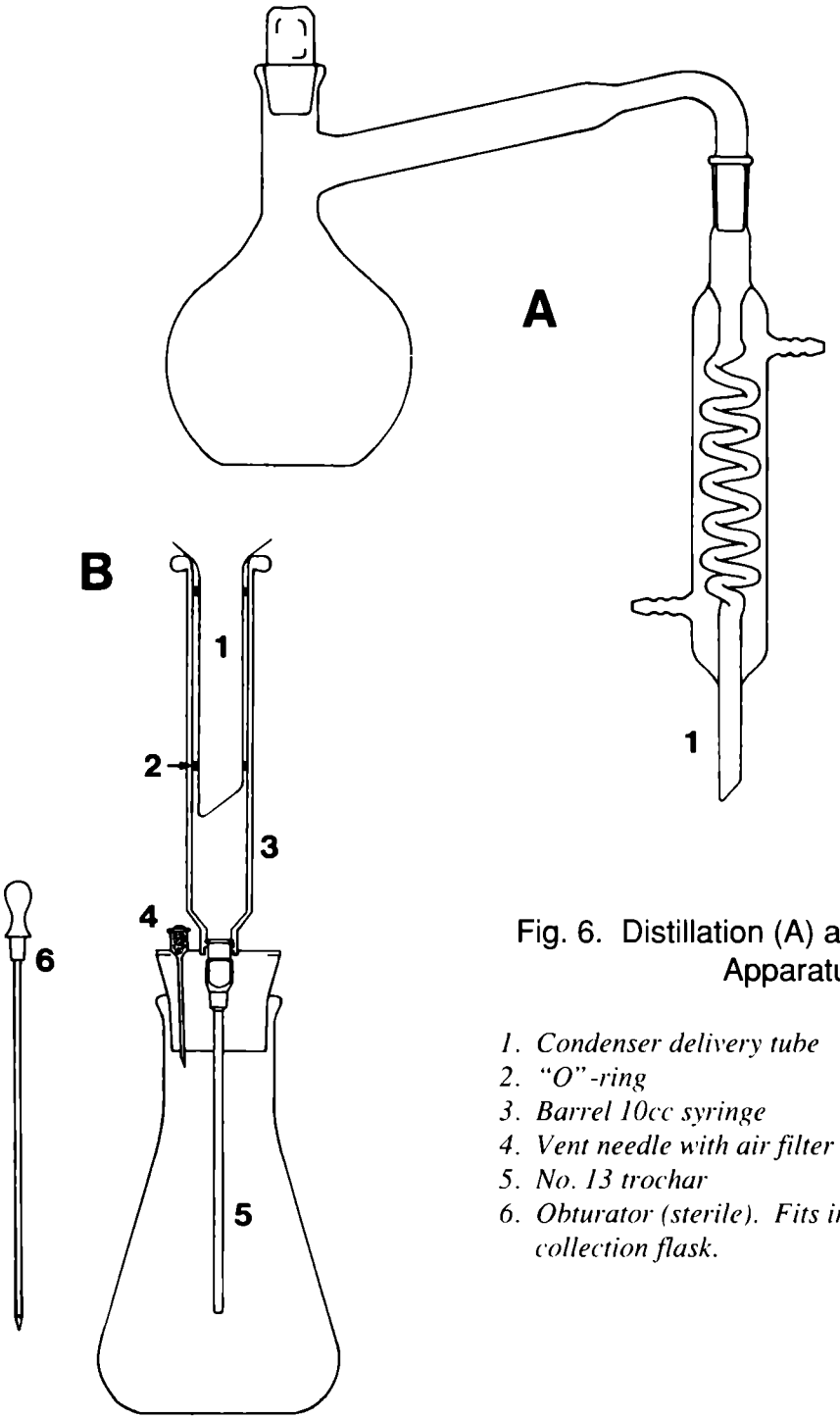


Fig. 6. Distillation (A) and Collection (B) Apparatus

1. *Condenser delivery tube*
2. *"O"-ring*
3. *Barrel 10cc syringe*
4. *Vent needle with air filter*
5. *No. 13 trochar*
6. *Obturator (sterile). Fits into trochar to seal collection flask.*

Reports on Treatments with Orgone Energy

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Editor's Note: This article is being presented purely for its scientific value, and is not meant in any way to suggest, condone, or advocate the use of orgone energy devices in the treatment of human pathology.

Abstract

Ten experimental treatments with the orgone accumulator (ORAC) are described. The cases were chosen at random to show an approximate spectrum of possibilities where the ORAC may be used. The maladies ranged from simple trauma (burns) to serious biopathies (carcinoma). Observation times varied with the type of malady treated. The Reich blood test was applied in six of the cases over the course of observation. The treatment results in all ten cases confirmed the effectiveness of the physical orgone treatment according to the criteria Reich summarized under the "B-reaction."

The present article also deals with certain general problems of orgone treatment, such as a possible oranur reaction in the hospital, the therapeutic limitations in treating cancer, and the necessity of statistically evaluable investigations.

I. Introduction

After his discovery of the concentrating effect of the orgone energy accumulator, Reich found that this device also had a beneficial effect on living organisms. He theorized that this effect was due to a superimposition of the energy fields of the organism and the accumulator. He treated cancer mice and later human patients with cancer and other diseases and observed at least some improvement due to the charging up of the organism and a vagotonic stimulation. Details of this work are available in Reich's books *The Cancer Biopathy* (1), *The Orgone Energy Accumulator, Its Scientific and Medical Use* (2), and *Orgonomic Diagnosis of the Cancer Biopathy* (3), the latter compiled by Raphael/MacDonald.

In 1978, we introduced the orgone accumulator into a general hospital in West Germany. In view of the extremely difficult external conditions and the problems inherent in research with orgone energy in the public sector, we have not yet been able to carry out a systematic clinical study. These difficulties stem from the fact that orgonomy is largely unknown, often misunderstood, and it arouses irrational reactions in both physicians and lay people, who then become opposed to it. In part, this opposition also arises because orgone therapy is not a mechanistic method and is therefore difficult for a mechanistic thinker to understand. The use and scientific investigation of physical orgone therapy has there-

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**Thanks to James Strick, M.S., for his help in translating this article from German into English.

fore been restricted to a relatively small group of patients with a few diseases. In addition to the hospital studies, patients were followed up after release from the hospital. Others were seen on an entirely outpatient basis.

II. Indications and Contraindications

Treatment encompassed a consideration of the indications and contraindications in the application of the orgone accumulator, as described by Reich (2:41-44) and summarized below:

We can generally divide the biopathies into two groups. One is generally characterized by a chronically too-low level of energy: Undercharged Biopathies. The second is generally characterized by a chronic surplus of bio-energy charge: Overcharged Biopathies. It is obvious that the first will require different rules of orgone application than the second group.

A. Undercharged Biopathies

Here the sensation of "having had enough" bio-energy will most likely be totally absent. The tolerance of charge will be high. Undercharged patients are capable of sitting in even a 10-fold accumulator for hours without any sensations at all. Only after many weeks of continuous daily irradiation does some degree of subjective sensitivity return, strong enough to tell the patient that he has had enough. There are definite diseases and symptomatic syndromes which correspond to the first group:

a) Chronic depressives and melancholics;
b) Chronically fatigued people;
c) Undernourished patients;
d) Cancer, shrinking biopathies, especially the fully shrinking type (see Bibliography, Nos. 5h and 5j);
e) And all cases where the peripheral energy field is low and weak. In these cases, the danger of over-irradiation is absent or not acute until after the normal energy level has been reached.

B. Overcharged Biopathies

The second group, of overcharged patients, consists of:

a) All kinds of vascular hypertensives;
b) High blood pressure;
c) Hysterical characters;
d) Cases with severe acute sexual stasis.

In these cases, the energy level in the organism is very high and the tolerance of orgone intake low. After a few minutes, severe discomfort may set in. Particular caution and attention should be applied in orgone irradiation of the following diseases:

a) Decompensated heart diseases;
b) Blood pressure over 150 systolic pressure;
c) Brain tumors;
d) Arteriosclerosis;
e) Cases with a history of apoplectic attacks;
f) Skin inflammation, conjunctivitis.

In these cases, the first irradiations should be given in short sittings, with the pulse action under constant control. We emphasize again that one should not use an orgone accumulator with more than 3 layers without specialized medical supervision, particularly in cases of overcharge . . . subsumed under Group B; whenever orgone energy is applied to diseases hitherto not studied with respect to orgone energy effects, in all cases where overcharge through inappropriate use of the accumulator has occurred . . . Orgone

irradiation can be applied with great benefit and without any danger, even with over-irradiation, in the following diseases: Fatigue, anemia, cancer biopathy, with the exception of tumors of the brain and liver, acute and chronic colds, hay fever, rheumatism, arthritis, chronic ulcers, any kind of lesion, abrasion, wounds, burns, sinusitis, and some types of migraine. Neuroses cannot be cured with physical Orgone Energy.

III. Procedure

Orgone therapy with the orgone accumulator and other orgone devices, such as the blanket, shooter, and funnel, was carried out according to the principles applied by Reich in (2). Our procedure followed his recommendations on the use of the devices, e.g., on the length of treatment and the absence of X-ray machines and other secondary energy devices. It was felt that the accumulator could function beneficially only in a building separate from the building where X-rays were used, because of the danger of the oranur phenomenon which Reich had described (4).

All of our patients were given a very thorough classical medical examination and were also diagnosed orgonomically with respect to character structure, which included a complete history of sexual development, and a description of present sexual functioning. Before and during treatment with orgone energy, the Reich blood test served the particular function of an ongoing control of an orgone-energetic effect on the human organism. The test was found to be highly sensitive for this purpose. Changes in the general well-being and energy level made a visible difference in the size, structure, tautness, color, and pulsation of the RBCs as well as their disintegration rate. The test was usually performed on each patient every four weeks, but in some cases, every two weeks, and in others, every eight weeks. We documented our findings using a questionnaire as well as microphotographs. The questionnaire was developed by us and included some sixty items drawn from Raphael/MacDonald (3) (see Appendix).

Some patients were given orgone energy devices (e.g., accumulator, blanket, and funnel) to use at home and continued coming to the hospital for checkups. In some cases, however, this was impossible, due to external circumstances or because of the character structure of the patient or his family. To perform and document the Reich blood tests we used an Olympus BHA microscope with a magnification up to 3750x (using a 100x objective, 25x oculars, and 1.5 factor in the tube). The usual magnification of 400x was obtained using a 40x objective and 10x ocular. Microphotographs were taken with a Pentax MX-camera mounted on the microscope by means of a phototube. Videofilms were made with a Saba-videofilm camera and recorder and viewed on a Sony color monitor. All photos were taken using the same magnifications and type of film (Kodachrome 64 ASA). The objectives used in the blood test include 10x, 20x, 40x, and 100x plan-achromates, and a 100x fluorit planachromat used for dark field observations at high magnification. Further refinements in the phototechnique are still needed, since we did not find a way to photograph the T-bacilli, which are an important phenomenon in cancer and other diseases. They can be photographed when they are extremely crowded, as in living cancer tissue. But when they are less dense, they become out of focus quickly, because of their very small size (0.25micron) and rapid movement. They can be shown better on video.

A complete description of the methodology used in performing the Reich blood test is given in the Appendix.

IV. Case Reports

Case 1: Post-traumatic osteomyelitis of the tibia

A 10-year-old boy was admitted to the surgical service with cellulitis of one leg, high fever, and in a poor general condition. An injury with bruises and scratch wounds had occurred, although no damage of any kind to the bones was visible on the initial X-rays. Culture and sensitivity tests were done on the wound exudate. The cellulitis was cured in eight weeks with high doses of antibiotics, alcohol compresses, wound drainage and cleansing, and confinement to bed. Meanwhile, two weeks after admission, early signs of an osteomyelitis of the tibia became visible by X-ray. Fourteen days later, a destructive growth the size of a cherry pit had developed. The antibiotics, which had been changed four times, were finally stopped after an additional month, because no improvement at all was seen; in fact, the osteomyelitis lesion grew in size. The drainage was discontinued, and an operation was planned.

At this time, applications of an orgone funnel were begun; the funnel was held 2-3 cm over the leg for one hour three times a day. During these sessions, the boy subjectively felt a warm, comfortable sensation. After four weeks of the orgone treatments, the follow-up X-ray showed a shrinking of the destructive growth, and by the fifth week, its outline was no longer sharply defined. Surgery was cancelled. After the eighth week of orgone treatment, the signs of osteomyelitis had become even more indistinct, and by the eleventh week, the X-ray picture was normal. Total treatment time was five months, the last three of which were with the orgone funnel. The patient has been followed for more than two years. The course of red blood sedimentation rates clearly showed a continuing improvement toward the normal from the beginning of orgone treatment. See Figure 1 on the following page.

Case 2: Polyarteritis nodosa

Polyarteritis nodosa produces inflammation of the middle layer of the arteries of medium and small caliber. It can develop in almost every part of the body and usually leads to death within a few years because the internal organs are affected.

The disease in this 50-year-old woman was diagnosed by symptoms, clinical findings, and biopsy. The vessels of the skeletal muscles, kidneys, and possibly those of the heart were affected. The orgone accumulator was used for 30 minutes once or twice daily for several years. At the same time, the patient received a daily dose of cortisone because we were not certain that the accumulator alone would suffice to slow the progress of the disease.* Occasionally, these patients will experience "spontaneous remissions." This woman, however, showed no remission at any time during treatment; the signs of the ongoing inflammation, e.g., fever, high sedimentation rate, leucocytosis, and pain, were always present. Her body temperature rose daily, mostly in the late evening or at night. The elevations ranged between 38°C and 40°C. The course of the temperature over a 24-hour period was documented carefully for several months. From these graphs, one could see the following phenomena: Higher than normal temperatures came down during the orgone treatment by 0.1 to 1.1°C. The higher the temperature was before the treatment, the greater the amount of the decrease, e.g., 39.4 to 38.3, versus 37.5 to 37.0. On some days, the patient had rising temperatures during orgone

*Even with high doses of cortisone, survival of these patients is usually not prolonged.

DATE	RBC SED. RATE	
August 8th	76/82	Admission into hospital
August 23rd	62/108	Beginning signs of osteomyelitis
August 31st	56/103	
September 6th	56/94	
September 13th	55/96	
September 20th	60/96	
September 25th	69/95	
October 1st		Conventional treatment stopped and operation planned
October 3rd	56/91	
October 5th		Beginning of orgone treatment
October 18th	42/75	
October 25th	39/66	
November 2nd	34/66	
November 8th	25/51	Surgery cancelled
November 23rd	14/40	
December 7th	17/38	
December 14th	12/37	
January 4th	10/24	
January 11th	8/26	
January 19th	6/20	
January 26th	7/25	

Figure 1: Changes in the red blood sedimentation rate during course of treatment for osteomyelitis. The normal sedimentation rate of children is 5/12.*

*In Germany, the Red Blood Cell sedimentation rate is usually taken at two intervals: at one and two hours. The first number is the one-hour rate, the second, the two-hour rate.

treatment, e.g., 36.0 up to 36.5.* The patient felt generally better and warmer after every single session, but the disease neither improved nor worsened during four years of treatment and observation. It is certainly striking that the inflammatory process did not worsen, as is usually the case. The patient is currently free of serious symptoms and lives a normal life. The only problems she has are side effects from the daily cortisone.

Case 3: Chronic migraine with functional disorders of the stomach, gallbladder, and bowels.

This 55-year-old woman had had regular, sustained attacks of headaches and hypotonic disorders of stomach, gallbladder, and bowels for over 30 years. Her blood pressure was always abnormally low. She had tried many different treatments and had taken analgesics and other medications regularly for decades. Her headaches were diagnosed as migraines. Endoscopy and X-rays revealed non-acidic gastroduodenitis, a functional gallbladder disorder, recurring cholecystitis, and gastro- and entero-optosis.

The patient began using the orgone accumulator for 30 minutes daily. Her complaints at first improved only while she was actually in the accumulator, during which time she also noted unusually loud intestinal rumbling sounds. Later, the improvement lasted for several hours afterwards. After four weeks of regular treatment with the accumulator, her symptoms became much less frequent and severe. The stomach, bowel, gallbladder problems, and the chronic constipation completely disappeared. She was able to eat a variety of foods which had formerly caused her difficulty. Digestion and excretion became normal. The headaches occurred only once or twice a month as compared to twice a week or daily in former times. Analgesics were no longer necessary. Her blood pressure also became and remained normal.

After the initial improvement, she began to use the accumulator only intermittently. Nevertheless, over a period of six years, she continued to show considerable further improvement in most of her symptoms. A chronic recurring sinusitis was the only condition which did not respond to the accumulator; this disorder occurred two to four times a year, but the patient was able to handle it with herbal remedies. The very positive reaction of the patient to orgone treatment suggests that this was a case of a sympatheticotonic functional disorder of several organs, and clearly demonstrates the vagotonic effect of the orgone accumulator on the organism (1).

Case 4: Second-degree burn of the forearm

A 32-year-old man was scalded with hot water over half the length of his forearm. First aid consisted of putting the arm into cold water. An intensive program of treatment with an orgone accumulator-shooter combination was begun (10 times daily for five minutes). He had refused to take any analgesics despite severe pain. After a marked increase in pain during the initial shooter treatment ("as if a flash of fire goes through my arm"), the pains decreased until, eight hours later, the patient became pain-free. Several physicians predicted that in view of the extensive blister formation, large scars would result; but in one week, total scar-free healing had occurred. And, despite the fact that the patient wore no bandage, the infection which usually occurs in these situations did not develop.

*Change of body temperature during treatment with the orgone energy accumulator was discovered and described by Reich (1). A recent double-blind study on "The (Psycho-) Physiological Effects of the Reich Orgone Accumulator" by Muschenich and Gebauer confirmed a statistically significant change of the human body (skin- and core-) temperature (6).

Similar experiences with the powerful healing effect of orgone energy on burns and other kinds of wounds have been confirmed by several researchers, including Reich (1), Hoppe (7), Bremer (8), Silvert (9), Wevrick (10), Ritter (11), Baker, C.F., et al (22).

Case 5: Fibrocystic breast disease

A 32-year-old woman was found by mammography to have fibrocystic breast disease of one breast which was suspected of being precancerous. Surgery was recommended, but she refused. Instead, she chose mistletoe extract injections (a common alternative treatment for cancer in Germany). When her condition did not improve after two years, she was prepared to try orgone treatment. According to the patient, the knotty growths in her breast had become even larger after the breakup of her relationship with a man. On her initial examination, the right breast was clearly larger than the left, and many hard lumps could be palpated. There were also enlarged painful lymph nodes in the right axilla and groin. The patient had lost weight and was in poor general condition. Her skin and mucous membranes were pale grey, yet there was no measurable anemia in the blood. The Reich blood test was abnormal. There was obvious anisocytosis and poikilocytosis. The centers of the RBCs were enlarged compared to the frames, and the orgone energy fields seemed too narrow. The disintegration was rapid, forming large and small bions (as well as T-spikes) with an irregular distribution in the frames. The disintegration rate was about 60% after 20 minutes. Many T-bacilli were seen.

After two months of orgone treatment of up to 60 minutes per day, we performed a follow-up examination. Although subjectively she felt more pain in her breast, the objective findings had clearly improved. The right breast had decreased in size so it was the same as the other. In the lower outer quadrant, a single, circumscribed lump was still palpable; the lymph nodes in the armpit were normal; one node in the groin, although still enlarged, was smaller and softer than before, and no longer painful. There was a definite improvement in the Reich blood test. The RBCs showed more normal variation in size and form, and the centers were a bit smaller than in the original test. The differentiation between centers and frames was more clearly delineated. Disintegration was much slower: 10% maximum after 20 minutes. Fewer T-bacilli were seen. After the first month of treatment, a mammography showed slightly edematous fibrocystic breast disease without signs of malignancy. Additional orgone treatment, though less regular than before, has not resulted in further change. Meanwhile, her first pregnancy and delivery occurred without any major problems. Although the patient feels subjectively well, follow-up examinations are clearly indicated. The total period of observation was three years. Orgone treatment of breast cancer has also been described by Tropp (12).

Case 6: Varicose ulcer of the leg

An 80-year-old woman came into the hospital with a chronic varicose ulcer of one leg. The ulcer was very large and had broad gangrenous borders. The only treatment used was an orgone blanket, twice daily, for an hour. After about four weeks, the ulcer had decreased only slightly (one cm shorter in length), but the gangrenous borders had changed into well vascularized, healthy tissue. Because the patient insisted on going home at this time, no further observations or treatment could be performed. Reports on orgone treatment of varicose ulcers have been described by Reich (1), Hoppe (13), and Ritter (11).

Case 7: Malignant melanoma of the scalp

When cancer was diagnosed in a woman patient at age 24, the tumor was already several centimeters long and one cm thick. Histological examination at the time of surgery indicated that removal of the tumor had been complete. It was a Level V, nonpigmented, primary knotty melanoma. The prognosis was poor, with a high probability of metastases. The patient and her family refused further studies to determine the presence of metastases, and also refused all of the available conventional treatments. The prognostic index was a 100% probability of death in two and a half years. The patient began using an accumulator at home two to three times daily for 30 minutes. After eight weeks of treatment, her general condition showed dramatic improvement, as did the Reich blood test, which had been grossly abnormal. During the following three and one half years of orgone treatment, she felt better than she had for many years; she "blossomed." Only in the fourth year of treatment did the biopathy again begin to progress; metastases developed, her general condition worsened, and she began to feel pains. However, even in her last months, her pains, lack of appetite, and weakness could be alleviated again and again by treatment with the orgone accumulator. She needed few analgesics, could eat normally until her last day, and was allowed to die at home. The underlying problem of this young woman was that she had been mentally ill since childhood and was unable to live a gratifying sexual life. Total observation time: four years. The microscopic appearance of the red cells changed markedly during the course of therapy, as can be seen in Figures 2 and 3.

Hoppe reported a case of a woman with melanoma treated with orgone energy 40 years ago. This patient, whose diagnosis was confirmed histologically, was still living in 1985 (14).

Case 8: Cancer of the stomach

A partial removal of the stomach (Billroth II) was performed on a 61-year-old patient with adenocarcinoma. The tumor could not be removed completely, and metastases were present in the local lymph nodes.

After about six weeks of orgone treatment (three times daily for 30 minutes each), the patient's general condition showed clear improvement. Both his appetite and mood were better. Whereas previously he was not inclined to travel, he now went on frequent trips. He tried, unsuccessfully, to break out of his very compulsive and hated marriage. He was now free of leg pains which had bothered him for many years. The Reich blood test results improved correspondingly. Before treatment, the test showed the following abnormalities: marked aniso- and poikilocytosis, club-shaped cells, enlarged cell centers, narrow frames with poor demarcation, and narrow orgone energy fields. There was almost no pulsation. Disintegration proceeded rapidly into bions and T-spikes at a rate of about 50% after 20 minutes. The dark field revealed numerous T-bacilli. There was no anemia. After orgone treatment, the disintegration rate was 20% in 20 minutes, and T-bacilli could no longer be found in dark field. There was still pathologic variation in the form and size of the RBCs, but the centers were smaller, and the frames were larger and more sharply delineated. Pulsation was stronger than before.

When the patient's leg pains returned a year and a half later, we decided to combine homeopathic treatment with the accumulator. This was successful, and his overall condition remained good until after the third year of treatment. Then, the malignant process reappeared, perhaps due to the continued unhappy marriage and his now irregular use of the accumulator. The stomach tumor recurred and surgery was again necessary. The sur-

geons did not remove the tumor, however, because the peritoneum was full of metastases. In spite of this seriously advanced stage of cancer, the patient, overall, felt much better after two weeks of intensive and regular orgone, homeopathic, and extract of mistletoe treatments. Several of our physician colleagues were astonished by the patient's overall good appearance, in view of the very negative objective findings. After a further year of a relatively normal and pain-free life, he suddenly got worse and died. Total period of treatment: five years.

Case 9: Bronchial carcinoma

After removal of the lower lobe of the left lung of a 59-year-old male patient, a highly malignant, poorly differentiated adenocarcinoma was diagnosed. No metastases were found, but the prognosis was poor. The course of treatment was nearly identical to Case 8. Although at first he was successful in starting a relationship with a new woman, after more than three years he was unable to end his marriage, and the resignation which he had felt previously once more set in. The orgone accumulator was the only treatment used, and it brought astonishing improvement which lasted for four and one half years. During this time, he had a very good appetite, good sleep, increased capacity to enjoy his work, a hopeful outlook, and, especially, he enjoyed the sexual relationship with his new woman. The positive course of his disease was most astonishing in view of the seriousness of his other disorders, some of which also improved. These included: aortic-insufficiency and aortic-stenosis of moderate severity, high blood pressure, pulmonary hypertension, chronic obstructive emphysema, a "weak heart," angina pectoris, and paroxysmal supraventricular tachycardia. Total period of observation: five years.

Case 10: Gluteal muscle sarcoma (leiomyosarcoma)

A tumor the size of an egg was totally removed from the left buttock of a 57-year-old woman. She refused radiation and chemotherapy. Orgone treatment with the accumulator was begun once daily for 30 minutes. After one week, bowel function became normal. During the next six weeks, her general condition improved and has remained good for the last five years. She has a good appetite, sleeps well and, after retiring from a career as a teacher, has ambitiously undertaken many projects such as sports, restoring old furniture, travelling, and reading. She had always lived alone, however, and refused to discuss sexual matters. During the first one or two years after surgery, she used the accumulator regularly. Later, she began to use it irregularly but, despite this, there has been no sign of a recurrence of her cancer. The Reich blood test improved as in the other cancer cases we have described. Before orgone treatment, there was marked aniso- and poikilocytosis. The centers appeared enlarged, the orgone fields and frames too narrow. Disintegration was rapid—up to 40% after 20 minutes. A few T-bacilli were seen in dark field. There was no anemia. With treatment, the T-bacilli disappeared. The centers were still too large compared to the frames, but disintegration was now slower, with a maximum of 10% after 20 minutes. Pulsation was markedly stronger than before. Total time of observation: five years.

V. Discussion

There are quite a number of diseases whose treatment with orgone therapy has been reported in the literature (23): depression, fatigue, anorexia, constipation, common colds, various types of anemia, different rheumatic diseases, tuberculosis of the lung, high and

low blood pressure, and angina pectoris. In addition, there are reports on the whole range of wound-healing, including abscess, scratch, bruise, luxation, ulcera, gangrene, as well as wound pain and many other pain syndromes. Also reported are the treatment of dysmenorrhea, migraines, trigeminal neuralgia, the pain of osteoporosis and cancer, different kinds of inflammations such as cellulitis, thrombophlebitis, paradontosis, and some inflammatory diseases of the skin.

It is apparent that some diseases should be treated with the orgone accumulator with utmost caution because critical states may develop with intermittent or ongoing worsening of the symptoms. Reich and others describe some specific disorders in which a relative or absolute contraindication for accumulator treatment was found. For instance, high blood pressure, arterial occlusive disease, heart failure, bronchial asthma, hay fever, ulcera of the duodenum, metastases of brain and liver, and hysteria are such contraindications. The catalogue of indications and contraindications for accumulator treatment can be found in reference (2) and must be known by the treating physician.

Cancer, as a disease of the whole organism, cannot be cured by accumulator treatment, as Reich clearly stated. In all of our cancer patients, the so-called shrinking biopathy was obvious. A shrinking biopathy means that the energetic charge in a cancer patient is steadily decreasing, together with a sometimes well-hidden characterological resignation. The tumor is only the beginning of the end phase of this malignant process, which also can be described as a dying and decay during a lifetime. In all of our cancer patients, an emotional indifference or blocked expression was detectable. Just recently, a few investigations on the connection between psyche and soma in cancer have been published (24). But Reich discovered and described this connection on the cellular level by microscopical observation (1).

In our cancer patients, we could diagnose not only emotional deadness, but also their sexual starvation and lack of orgastic potency. Orgastic potency is, according to Reich, the capacity for complete surrender to the involuntary convulsion of the organism and complete discharge of the excitation at the acme of intercourse. In conventional medicine, it is usually not distinguished from erective and ejaculative potency, both of which are only prerequisites for orgastic potency. The lack of this capacity is the most important characteristic of the average human of today and the damming up of biological (orgone) energy in the organism provides the source of energy for all kinds of biopathic symptoms and social irrationalism. In the cancer biopathy, this damming up of the energy leads to chronic contraction not only in the musculature of the periphery (muscular armor), but also in the core of the organism, with a progressive loss of life energy, a severely disturbed energy metabolism, and intoxification.

There are many studies and findings on the toxic metabolic disturbances in cancer on the biochemical level, beginning from O. Warburg up to today (25), as well as methods for detoxifying the organism in the cancer disease (26). But, Reich was the first to understand the cancer organism as a psychosomatic whole with a disturbed energy system. He discovered also that various types of cancer can be stopped in their malignant progress for a while by regular application of concentrated orgone energy. Even the tumors themselves could be dissolved as the patients' charge was increased. This has been confirmed by other investigators (12, 14, 23). However, the underlying disturbance of orgone energy pulsation, the characterological and physical armor, cannot be cured by the accumulator.

The most striking result of our orgone treatments of cancer patients was not so much an increase in life span beyond the prognosis, but rather, the improved quality of life compared to the years before orgone treatment.

The general condition of all patients, both physical and emotional, improved. There was an increased desire to move, to undertake new projects, and an increased sexual drive. These were seen readily by friends, neighbors, colleagues, and family members. A common effect of orgone treatment was also a resurgence of aggressive behavior which the patients had previously given up. This, and the increased sexual activity, were not dealt with very well by the spouses. Our results of orgone therapy on cancer patients confirm Reich's findings that regular irradiation in the orgone accumulator, if begun early enough, is able to stop and even reverse to some degree the progress of the malignant process, at least for some years.

Much more useful than a case-by-case study would be a large-scale experiment on the prophylactic value of regular accumulator use. This was suggested by Reich 40 years ago. According to his observations, he suspected a prophylactic effect of regular orgone treatment against colds and some other diseases, including cancer. A large number of people have been using the accumulator regularly over a period of years, and today we are beginning to see possible indications of a prophylactic effect. For example, we know of at least 12 recent cases of regular orgone treatment given during pregnancy. The mothers experienced an extraordinary feeling of well-being, and a lack of complications before and during birth. They produced a particularly lively and strong group of newborns; in particular, the heart action of these babies appeared quite vigorous on physical examination.

It is clear, however, that the accumulator alone cannot be considered a cure for cancer. Better results could probably be expected with a combination of accumulator treatment and other methods, especially psychiatric orgone therapy and certain kinds of detoxification processes. The accumulator itself could be improved by increasing the number of layers from the seven-fold type used in this experiment up to 20 layers, as was the one used by Dr. Hoppe (14). In addition, psychiatric orgone therapy enables the biophysical mobilization of emotions from muscular and character blocking. In the long run, however, solving the cancer problem will also involve prophylactic measures including educational, social, and medical approaches, and a general increase in the understanding of its dynamics. Reich himself came to the conclusion that such an overall approach was necessary.

VI. Summary

Although a statistically significant study has not been done, we have confirmed some positive effects of the application of concentrated orgone energy. In particular, the orgone accumulator has shown such effects on various symptoms and diseases. The healing effect appears to result from an enhancement of the B-reaction due to a charging of the organism to a higher energy level and a vagotonic stimulation. In the Reich blood test, the B-reaction was seen as a stronger pulsation of the red blood cells, more tautness, wider cell frames and fields of lumination, smaller centers, slower and more regular bionous disintegration in physiological saline, absence of T-bodies in the dark field and in culture, and more cohesion of larger bions and flakes in the autoclavation test. Physical and psychic phenomena associated with the B-reaction consisted of warmer and more rosy skin with better circulation, warm sweat, and better turgor as seen in improved general body tonus. In addition, there was, to a certain degree, a feeling of more strength and better capacity for pleasure in work, sexuality, and other realms of functioning. The B-reaction can be confirmed again in future treatments, but it has to be proved in detail in a statistically rigorous manner.*

*The recent double-blind study on "The Psycho-Physiological Effects of the Reich Orgone Accumulator" is an example of the type of rigorous research needed.

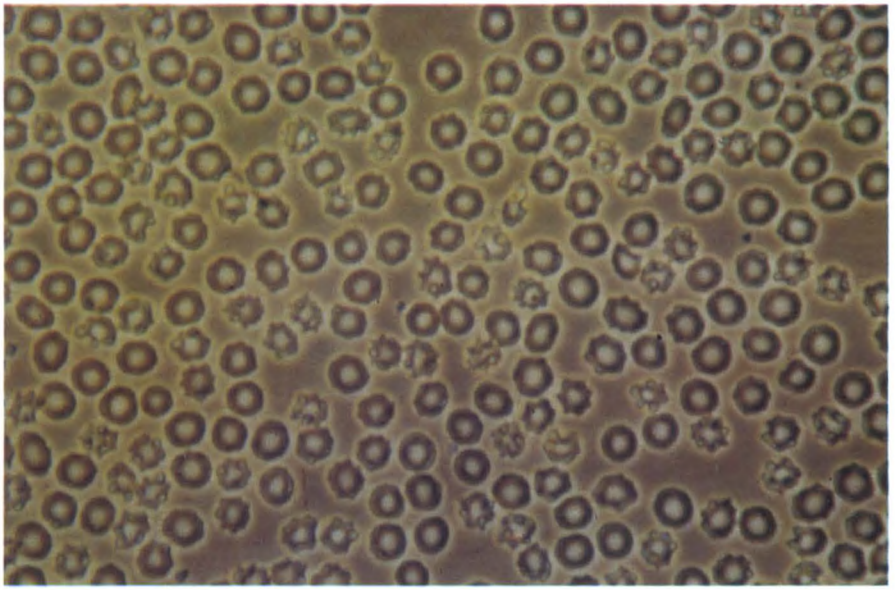

Figure 2: Photomicrograph of the blood of the melanoma patient taken April, 1987, showing severely abnormal cells.

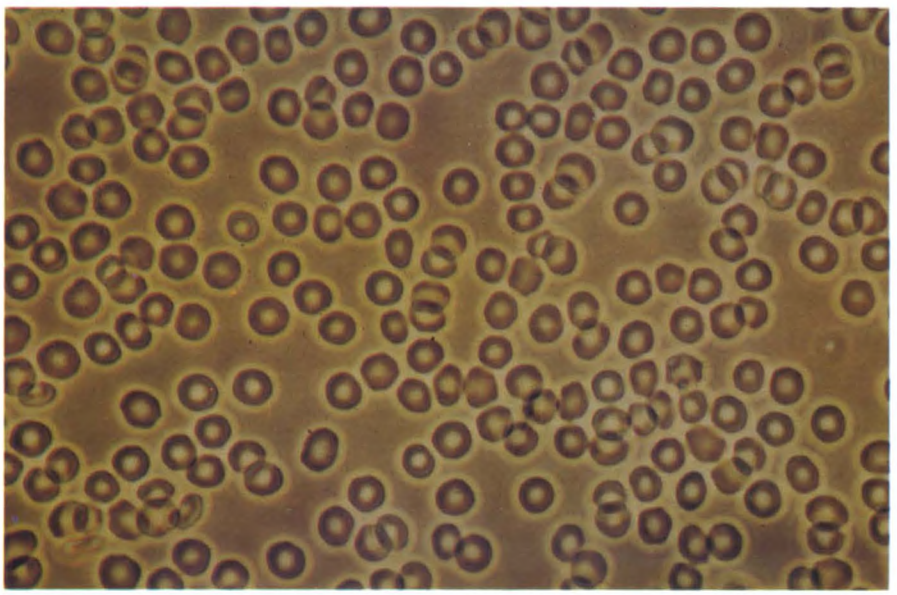

Figure 3: The same patient's blood as it appeared in June, 1987, showing a marked improvement in the red cells.

Literature and Comments

This literature survey is by no means complete concerning the discovery of the orgone energy, Reich's experimental work, and orgone therapy. Some essential books and articles are left out. There exist some bibliographies on orgonomy, the science of the orgone energy. The most complete are:

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Appendix

The following is a description of the disintegration part of the Reich Blood Test from Raphael/MacDonald (1:78-90), with our modifications included (indicated by *).

Preparations for the Test

1. Sterile physiological saline . . . warmed to body temperature.

   *We keep the saline as well as all slides and coverslips in an incubator at 37°C. Saline is obtained in sterile 10ml ampoules, and the contents of one ampoule are transferred to a sterile syringe with a 0.8x 35mm needle which is also then kept in the incubator. This avoids the problem of loss of sterility sometimes seen with long-term storage of saline in bottles with a rubber stopper.

2. A slide with one or two concavities is washed, then dipped in alcohol to remove any oily substance, and thoroughly dried. Quick flaming removes any excess alcohol.

   *We now use only flat microscope slides. For a time, we used a Zeiss microscope which allowed the use of well slides. Because the working distance of the 20x and 40x objectives on the Olympus is only 0.17mm, it cannot be used with ordinary well slides. Constructing a "well" by sticking two glass coverslips to the top of the slide with saliva allowed us to obtain the same results. Only clean, unused slides are used, so we dispense with the alcohol washing. We wipe the slides clean with a dry sterile cotton pad. Washing with various solutions, including alcohol with flaming, produced no differences except an occasional artifact of rapid RBC breakdown if the alcohol was not completely removed.

Procedure

1. The finger of the patient is cleansed with water and dried with a bit of sterile absorb-

ent cotton. (Alcohol is not used, since if it is not completely removed, the red cells will disintegrate too rapidly and give an erroneous result.)

*We have the patient first wash his hands with soap and water, dry with a clean paper towel, then wash the finger with saline or distilled water, and finally, dry with an absorbent cotton pad.

2. A drop of warm physiological saline is placed on the warm slide and spread to the concave area.

*We take the syringe of saline out of the incubator, allow the first few drops to drip from the needle, then drop one drop on the slide, between the two coverslips but not touching either of them.

3. The tip of the finger is now punctured with the stylette. At this point, note the macroscopic appearance of the blood, its color and its cohesive properties.

4. The second drop of blood is aspirated with the micropipette and a very small quantity of it transferred to the slide, and spread gently but evenly in the saline. (The tip of the unbroken pipette may serve to transfer a sufficient amount of blood.)

5. Note the time at which the blood was drawn from the finger, and begin observation at once. The test period lasts for 20 to 30 minutes.

*We wipe off the first drop of blood with a clean absorbent cotton pad, then allow the second drop to adhere to the side of the micropipette. We then gently touch the blood to the drop of saline on the slide and mix it very gently with the pipette to distribute the cells evenly. As an alternative, we sometimes mix the blood and saline by gently rotating the slide. The time of the puncture is noted. We then place a clean glass coverslip very carefully onto the drop, spanning the gap between the other two coverslips. We have done the test with and without coverslips, and have found no difference in the disintegration time. Use of the coverslip, however, has the advantage of preventing the drop from drying out.

From this point on, our procedure is identical with that in (3), except that we usually observe disintegration at 400x.

The Reich Blood Test Questionnaire

I. DISINTEGRATION TEST Date:

Last Name: First Name: Birthdate:

Address:

Symptoms (since when):

Classical Diagnosis:

Results of Lab Tests (X-ray, etc.):

Any Previous Treatment(s):

Current Medication and Treatment:

Orgone Therapy (physical, psychiatric) since when:

Remarks:

A. Taking the Blood Sample

1) Time of puncture:
2) Macroscopic appearance: color red/bright red - pale red - blackish purple
3) Viscosity: forming a drop - dripping freely

B. Beginning of Microscopic Observation (mag = 400x)

4) Time until RBC settle (normally about 30 seconds):
5) Uniformity of RBC in size: very - less - little (Anisocytosis)
6) Uniformity of RBC in shape: very - less - little (Poikilocytosis)
7) Evenness of the frame of RBC within one cell: very - less - little
8) Width of the frame: normal - large - small
9) Color* of the frame: bluish (normal) - pale pink - reddish-purple
10) Width of the orgone energy field: normal - small - wide

*The color depends on the type of the microscope, objectives, oculars, etc., as well as on the individual patient.

11) Evenness of the field: normal - uneven
12) Brightness of the field: strongly radiating - medium - weakly
13) Brightness of the RBC: strongly radiating - medium - weakly
14) Width of the center: normal - too wide - too narrow
15) Color* of the center: bluish (normal) - pale pink - reddish-purple
16) Shape of the center: round - eccentric
17) Delineation of the frame margins:
    a) outer: sharply delineated - blurring
    b) inner: sharply delineated - blurring

C. Disintegration

18) Time at which disintegration begins (normally after 3-4 minutes or later):
19) Size of the bions: large - medium - small
20) Number of bions in the frame: few - many
21) Distribution of bions in the frame: evenly - clustered
22) Evenness of the frame through time: remains - does not remain
23) RBC shrunken: yes - no
24) Presence or development of T-spikes: yes - no
25) Sulfa forms: yes - no
26) Other unusual forms: yes - no - description
27) Rapidity of the disintegration: slow - fast
28) Rapidity of changes of color in the frame: slow - fast
29) Percentage of disintegrated RBC (cells with at least 1 bion, 1 T-spike, or unusual form) after 20 minutes:

Total *B-dis.:* *T-dis.:* *Unusual:*

(Normal = up to 10% total; healthy = up to 5% total)

Remarks:

30) Presence of Leucocytes (normally about 3-5 per field at 400x):
31) Types:
32) Behavior (Phagocytosis, etc.):
33) Presence of Platelets: unusual observations:
34) Clotting process: unusual observations:

D. After 20 minutes High Magnification and Dark Field Observations (up to 3750x)

35) Presence of free T-bacilli: crowded - many- few - rare - none
36) Pulsation of the RBC: strong - medium - weak - dead
37) Development of bions: Description
38) Development of T-spikes: Description
39) Separation of bions and T-bacilli from the cell (normally only after hours): Description

Remarks:

II. AUTOCLAVATION TEST

A. Macroscopic Examination

Before shaking the tube:

40) Solution: clear or turbid
41) Color of the solution:
42) Size of the flakes: small - medium - large
43) Color of the flakes: reddish - brown - greenish

After shaking the tube:

44) Size of the flakes: small - medium - large
45) Color of the flakes: reddish brown - dark brown - yellowish - with green tinge
46) Speed with which the agitated flakes settle: rapid - moderate - slow

B. Microscopic Examination (400x)

47) Size of the flakes: small - medium - large
48) Density of the flakes:
49) Color (see page 2) of the flakes:
50) Are most of the bions contained in the flakes, or are many of them free?
51) Is the fluid between the flakes relatively clear or filled with bions, T, or other particles uniformly distributed?
52) Presence of leucocytes:
53) Presence of intact RBC:
54) Presence of RBC fragments as strep-like chains, diplococci, etc.:
55) Percentage estimate between B- and T-reaction:
56) Presence of free T-bacilli (dark field and higher magnification):

III. BLOOD CULTURE TEST

A. After 24 to 48 hours of incubation at 37°C

57) Appearance of the broth: clear - turbid
58) Color of the broth: yellowish/brownish - greenish
59) Smell of the broth: putrid odor or not

B. Dark field and higher magnification (from 600x up to 2000x)

60) Presence of free T-bacilli: few - many (culture=pos.) - crowded (culture=pos.)

C. If the results of A and B are uncertain, incubate for several days more

61) Repeat 57-60

D. Also after 48 hours

Transfer one drop of the culture to an agar plate. Observe after another 24 to 48 hours.

Culture: pos. - neg.

Human Armoring
An Introduction to Psychiatric Orgone Therapy*

MORTON HERSKOWITZ, D.O.

Chapter 6
Theory - Orgone Energy

Orgone Energy

A middle-aged man has recently developed a fear of going over bridges which greatly interferes with his work function. History reveals that for several months preceding the onset of the phobia he had been thinking that he might harm his wife, whom he protested gave him absolutely no cause for such hostility, and he had been uneasy in the presence of the sharp kitchen knives. He had been raised in a strict, patriarchal household and admitted that there might be room for hostility toward his father.

How will we view this phenomenon of development of a phobia? The analytically oriented psychiatrist, having elicited this history, would recognize the classic lines of development. Hostility was repressed in infancy and childhood. An equilibrium was established between the repressing forces and the repressed affect that held pretty well until several months preceding the emergence of the bridge phobia. (The psychiatrist is aware that a more complete history will reveal many other signs of disequilibrium along the way, but none of sufficient intensity to cause the patient to seek help.) Then, for a reason yet to be determined, the repression toward hurting his wife. After several months, this new equilibrium failed, the anxiety level was rising, and there was a new displacement onto some innocuous object in the environment, the bridge.

The analyst's plan is clear. The patient must learn to face the anxiety that his repressed childhood rage incurs. His insight into the problem will hopefully help him in this task and, to the extent that he learns to give expression to his anger in his therapeutic sessions and in his social relationships, the level of anxiety will gradually decrease. This is the bare bones of the therapeutic effort. In a long-term analysis other material will be uncovered, and the relationship of patient to therapist will be explored, but all of this is not pertinent to the present discussion. The essence of the matter is that the analyst will explore and reveal unconscious psychological processes to the patient. In this pursuit he is a master, and often helpful. If the psychiatrist is competent and the patient cooperative, the intensity of the phobic reaction will decrease and, perhaps, disappear.

The behaviorist takes a totally different view of the situation the patient finds himself in. To him, the symptom is learned response, the product of faulty conditioning. His therapeutic endeavor will be directed toward behavior modification. He will institute procedures to desensitize the patient, conditioning his patient to be able to cross bridges either

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with techniques of aversion training (suffering for doing the wrong thing) or of rewards for right performance. If the therapist is competent and the program sound, the patient may be enabled to cross bridges.

The theoretical bases of the psychoanalyst and behaviorist are almost completely disparate. What is common to them is that they both function within the framework of psychology, and in this they differ from the orgonomic view.

The orgonomist assesses the patient with a phobic reaction and he sees—a disturbance of biological pulsation. The behaviorist focuses on the symptom, the psychoanalyst on the unconscious and its manifestations, the orgonomist on the energy economy of the patient's organism.

Whatever the disorder, be it somatic or psychological (with only few exceptions, such as parasitic infestation, true accidents, congenital defects, etc.), the orgonomist seeks for the root of the disease process in an aberration of energy metabolism. In the case of a phobic disorder, the therapist might treat the symptom to the extent that he encourages his patient to face his fear, but he would not expect any radical symptomatic improvement until some alteration in the source, the disturbed energy flow, had been effected. This is true for all symptoms from ulcers to impotence to psychosis. This is not to say that he delays the surgical excision of an acutely inflamed appendix while attempting to remove the blockage of abdominal armoring. We are talking of sources and origins. Some disease processes that arise because of disturbances of energy flow progress to a point where they can no longer be dealt with by altering source mechanisms. They must then be treated by conventional medical means.

As a physician, the orgonomist is philosophically opposed to the tendency of twentieth century medicine to become more particularized and more specialized. Though he admires the technical achievements of modern medicine, the cardiac surgery, replacement therapy, etc., he decries the search for thousands of new varieties of drugs with which to treat hundreds of symptoms. He decries the blindness which never sees the crucial disordered biological functioning which generates symptoms in profusion. With his conventional colleagues he welcomes the discovery of effective antibiotics with which to combat infections, but unlike them the orgonomist is aware that an energetically blocked organism is prone to succumb to infections. Like them, he is aware of the potential carcinogenic effects of cigarettes, air pollutants, food additives, nuclear radiation, etc.; but unlike them, he sees that characterologic resignation provides a more fertile soil in which these irritants can work their damage. The orgonomist is the spiritual brother to the engineer who is obsessed with the preparing measures to keep the river flowing in its bed at flood tide, not to the engineer who engages in heroics as the river floods its banks.

Working as we do in orgone therapy, we are in a unique position to observe the pulses of orgone energy in the human organism. As students and physicians, we observed the pulses of the organ systems–the determined throb of the heart, the workmanlike beat of the respiratory apparatus, the slow, selective rhythm of the peristaltic wave, the wormy beat in the exposed brain, and the occasionally observed crawling pulse of the scrotum. From Reich we learned of the wandering-forth beat of the peripheral nerves and the end receptors.

As we watch our patients when they have broken through an armoring block, they are seized with a wave of rage or crying or tenderness; then it subsides and they are at ease. Slowly the emotion builds to another peak, and subsides again. It may build to a climax after its original release, or the first release

may be the deepest and it declines gradually from that point. But always there is the pulse, the beat, the tides. When the patient is alive and free of encumbrance, the therapist is observer to the heart of Nature.

The patients at these moments are aware that they are the vessels of the emotions they express. At no time is the validity of Reich's insight, that we are veins of energy in a cosmic energy ocean, so clear as when we are seized by our deepest emotions.

Graphically, we represent the movement of orgone energy as

or in another graphic scheme as

The spinning wave form (Kreiselwelle) represents the movement of orgone energy through time. Once we are alive to the curve of the energy through which we live our lives, we see its manifestations in every aspect of life.* We recognize its flow in the twisting architecture of the long bones in our body, in the spiral path a flower pursues as it grows through the earth, in the energetic bloom and wane as we move from birth to death, in the path our planet winds as it moves through space and time, in the rise and fall of empires, in the vacillations of attitudes toward behavioral issues through time, in light and dark, in life and death. The form of movement of orgone energy is at the bottom of everything that exists.

*Photographic illustration: *Abstraction in Art and Nature*, N.C. Hale, Watson-Guptill Publications, NY, 1972.

The elucidation of the properties of, and experimental work with, the physical orgone energy is beyond the scope of this book. There are small laboratory groups that are dedicated to this very arduous task. The difficulties that present in this endeavor range from those in the observer (the problem of escaping from the way of looking at events engendered by training in conventional, mechanized science, while maintaining the healthy skepticism and objectivity of good scientific method) to the nature of the observed (the fact that orgone energy is omnipresent, therefore there are problems of isolation for observation). The scientific study of orgone energy is in its preliminary stage. From the meager experimental data at hand there are indications that orgone energy functions provide the "noise" that disturbs the results of conventional scientific experiments and activate the "gremlins" that disrupt many laboratory procedures. Readers with scientific interest in the physical orgone energy are referred to Reich's works and occasional published scientific reports.

The psychiatric orgone therapist must keep the following physical properties of orgone energy in mind in performance of his work with patients. Oxygen and water are the basic carriers of orgone energy, so far as living organisms are concerned. Orgone energy is metabolized from the air we breathe, our food and water, and from our exposure to the atmosphere. Metabolized orgone energy is expelled from the body in the carbon dioxide that is exhaled, in the nitrogenous wastes in the urine, in feces, sweat, and expelled gas. In sickness, the dead, metabolized orgone energy tends to increase in the body tissues.

Because of his energetic bias in viewing organismic activities, the orgonomist uses a vocabulary that is unique in medicine or psychiatry. He views his patients in terms of expansion and contraction, high or low charge. He is aware that when his patient

achieves a state of unusual expansiveness in therapy, a contraction will surely follow. He recognizes that each individual makes his way through life with an energy range that is constant, possibly a genetic endowment, and that whatever improvement occurs in therapy will take place within the framework of the energy quantum. This does not, of course, imply that a patient in the throes of depression, where available energies are bound and stilled, is destined to pursue the rest of his life in *that* low energy state, nor that a densely armored patient will not have more vitality when his armoring is dissolved.

The orgonomist regards expansion and contraction in his patients not as a metaphorical description of "feeling good" or "feeling bad," but as concrete physical phenomena. He believes that there is a natural, biological antithesis between pleasure and anxiety. In the former state energy flows from the core of the organism to the skin surface; this flow toward the periphery institutes the ebullience, the flushing, and the warmth that are experienced as pleasure. In anxiety, on the other hand, there is an energetic drain toward the interior of the body which leaves the body surface cold and pallid. The energy withdrawn from the muscles renders the individual motorically paralyzed; that withdrawal from the cortex freezes him ideationally to his fear. This is perceived as an absence of substantiality and a fearsome incapability to cope. In these processes, the energy impulse is regarded as primary; the physiological and psychological manifestations are derivative. In this process, the impulse is mediated by the vegetative (autonomic) nervous system and the chemical nerve-ending reactions. Physiological incidents are largely the effects of blood flow and chemical changes. The psychological aspects are the way that the self-perceiving organism experiences these events.

All other emotions are viewed as varieties within this schema. The essence of rage is the energetic flow to, and activation of, the voluntary musculature. There are concomitant processes, such as the deactivation of the involuntary musculature of the gastrointestinal system, but in the summation this only adds thrust to the voluntary musculature. In longing, the flow is outward, as in pleasure. Sexual longing is an energetic effluence to the lips, skin, and genitals (in anticipation of sexual contact with a loved one), and to the chest and upper extremities (the chest, a general locus of the solar plexus, and the upper extremities, creating the desire to embrace). Insofar as the longing for contact with the loved one is unattainable, the continued flow toward the surface is inhibited and the emotion, a combination of outward flow and frustration, attains its bittersweet quality. Longing that is non-sexual and is directed toward the completion of one's union with nature, is comprised only of the flow toward the chest and arms. It must always remain unsatisfied (with the possible exception of the moment of scientific discovery or artistic creation, when it is converted to the "Eureka!" experience. For a moment, the Universe is grasped.)

True sadness, which is the experience of frustration or loss, consists of an initial impulse of reaching out, as in longing, followed by a strong contraction back into oneself. Because of its basic contractive quality, one who desires to indulge the experience tends to remove himself from outside stimuli. Contrariwise, in the attempt to escape from sadness, we endeavor to enlist the aid of a comforting figure toward whom our energies can slowly move, and so free ourselves from our sad thralldom. The response to pain inflicted from the environment against which we are powerless to fight is sometimes called sadness, but it is not. The common denominator of these two emotional expressions is crying,

which in both instances informs those about us that we hurt. The crying of the response to pain has less of the contractive quality than the experience of sadness and incorporates, to a greater or lesser degree, the expression of vocal anger. Depression must be distinguished from sadness; it is not truly an emotion if we define emotion as an outward movement of energy or feeling (e-mote). Depression is a feeling state in which energies are contained, rather than in motion. It comes about when hostility cannot be expressed because of characterological inhibitions and is instead swallowed and turned inward against oneself.

As emotions are viewed as specific energetic configurations so are two particular organismic relationships—that of the infant and the maternal breast, and that of the interpenetration of the genitals in the sexual embrace. Reich described these phenomena as manifestations of superimposition, which he defined as the approach through attraction and full bioenergetic contact of two orgonotic streams, resulting in fusion in a manner specific to the basic natural function. Thus, the orgonomist does not view breast-feeding simply as a way of meeting the child's needs for nutrition, nor even as the means of satisfying the infant's oral need (though it certainly does both of these things). On the deepest level there is a fusion of the energy flow of infant and mother. The nipple rises toward the tiny mouth as the lips stretch toward the nipple. In this process there is a transformation in each. The mother is suffused with the pleasure in her bosom and the unique delight in the baby, the child with the flow from its embracing mother. The occasional "oral orgasm," the involuntary twitchy muscular discharge of the sucking infant's mouth, reveals that the same basic energetic function is served on this infantile level, as will later occur in the genital embrace.

Regarding the sexual embrace, the functions ordinarily associated with it—procreation, pleasure-seeking—are assumed to be secondary to the basic function of the fusion of two energy streams and the discharge of accumulated energy.

The discharge function of the orgasm is the keystone upon which the theoretical framework of psychiatric orgone therapy rests. In the course of therapy, as the individual armor rings are successively dealt with and dissolved from the head end downward, a wave appears when the armoring has been freed through the diaphragmatic segment. The wave can be observed by the therapist and perceived by the subject. Often, at this time, there is an initial appearance of a reflex flexion of the trunk at the end of expiration. Since this reflex flexion of the trunk only makes its appearance when there is no significant armoring above the diaphragm, it is obvious that there is a reciprocal relationship between appearance of the flexion reflex and absence of armoring, or, stated positively, the free flow of energy above the diaphragm gives rise, under certain circumstances, to reflex flexion of the trunk.

As one proceeds with the de-armoring process in therapy through the abdominal and pelvic segments, one discovers that a countermovement develops in the pelvic segment, the pelvis flexing toward the trunk at the bottom of expiration. This reflex approximation of the upper and lower ends of the body is the orgasm reflex. Its full appearance depends upon the absence of armoring throughout the body and a state of pleasurable excitement.

This brief, convulsive spasm is a key to unlock a vast chamber of understanding. The function of a segment of armoring is ascertained when the armoring is attacked and repressed emotion is released. The armoring, we comprehend, binds emotions that cannot be expressed. The appearance of an energetic

wave through the abdomen, after the upper segments have been cleared, shows us further that in binding emotion, free-flowing energy is bound, as well. The appearance of the orgasm reflex, when all armoring has been eliminated, taken together with the tenacity with which armoring of the lower segments resists the release of the reflex, reveals that, beneath the simple function of fettering emotion, all armoring binds the energy that would become the orgasm reflex.

Arrived at this point, we are faced with the question, "What in the orgasm reflex is regarded as so perilous that our bodies defend against it with all their force?" To answer this question, we must pose an even more fundamental one: "Why does the orgasm exist, and what is its basic function?"

Obviously, the orgasm is an involuntary contraction. In this respect it resembles the pulsation of the jellyfish and the beating heart. If now we focus our attention on the regularly contracting heart, we learn that the contraction occurs at a point following auricular filling. The mechanical tension of the dilated auricles builds to a point at which the blood is discharged into the ventricles and an action current is transmitted to the apex. The process can be delineated: swelling - charge - discharge - relaxation. The same function pervades all of the hollow organs (Reich called them living bladders) of the metazoa. The filling of the bladder with urine leads to bladder contraction and urinary discharge; the filling of the intestine with food bulk leads to the propulsion of the bolus and the peristaltic wave. This manner of functioning is regarded in orgonomy as a *quality* of the living organ. The organ does not contract *in order to* propel the blood, or push the food, or empty the bladder; it contracts because "living bladders" function according to a basic life formula: tension - charge - discharge - relaxation; that is, the energetic function underlies whatever utilitarian purpose comes to be served. This pulsatory quality is inherent in all living things. Perhaps, if the theory of the constantly expanding and contracting universe is substantiated, finally, we may discover that the principles of pulsation extend even beyond biological life.*

At any rate, the comprehension of the pulsating function of living bladders provides us with a model for understanding the orgasm reflex.

The orgasm reflex is the condition in which the body, functioning as a whole, acts specifically to discharge pent-up energy; therefore, the free orgasm is the most complete avenue of energetic discharge. There are other generalized means of releasing energy—physical work and productive thought—and there are mechanisms for localized discharge from specific organs, e.g., micturition to relieve the tension in the bladder, defecation for rectal discharge, menstruation and parturition to relieve the swollen, tense uterus. The genuine expression of emotion is an energetic discharge. All of these activities, if there are no inhibitions to their discharge, are experienced as pleasurable (the occurrence of dysmenorrhea and painful childbirth are not exceptions to this statement if one considers first that inhibitions are responsible for much of the pain and, secondly, that the ultimate evacuation of the uterus is experienced with relief). However, it must be emphasized, the pleasure derives from the relief of physical tension and energetic discharge, not the other way around.

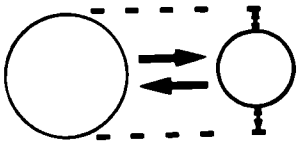
If total energetic discharge *is* the function of the orgasm, and if discharge is generally experienced as pleasure, why is there such a mighty opposition and inhibition to its occurrence? We must first make clear that orgasm,

*It must be noted that, in the case of the theory of a pulsating universe, the energetic source is assumed to be an explosion at the point of maximum contraction.

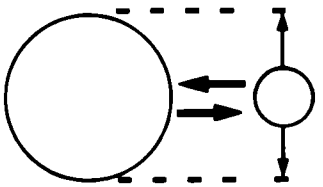
in the orgonomic sense, does not consist merely in the ability to reach sexual climax; it involves body-wide sensations of energetic streaming and the appearance of the orgasm reflex in the genital embrace.

To understand the intensity of the forces arrayed against full, free orgastic discharge, we must keep in mind the reciprocity between charge and discharge. It is possible for an organism, diagrammatically represented in the spherical shape, to alternate in pulsation as in

(a)



or, as in (b)



In the first case, the organism is pulsating minimally; in the second, the pulsation is wider.

The amount of charge depends on the amplitude of discharge, and vice versa. To discharge fully would imply that the organism would subsequently charge fully. In real terms, full charge portends complete emotional ability, openness, sensitivity, and vivacity. There is nothing more frightening to constrained organisms. So we fight with all our characterologic canniness and somatic armoring to keep the pulse of our lives within bounds that are tolerable to our condition. In this culture (I do not know about others), the spontaneously occurring orgasm reflex is very rarely met, and its elicitation in therapy is usually an extensive and toilsome task.

Reich evolved the theory of the function of the orgasm and the orgasm formula (tension - charge - discharge - relaxation) out of his clinical experience. To substantiate its validity and determine whether there were, indeed, measurable energies involved in the experience of pleasure, anxiety, and emotional expression, he set upon a series of bioelectrical experiments* (today we would say, experiments on the movement of orgone energy, measured electrically). The work was conducted over a period of several years.

The "porous membrane" of skin carries an electrical potential relative to an area of the body in which the epidermis has been scraped. In all areas of the body, except the erogenous zones (and, interestingly, the forehead), there is a basal potential which is represented by a horizontal line. In the erogenous zones, on the other hand, there is a constant variation of potential; it may be lower, higher, or the same as the basal potential, but it is characterized by variation, "wandering," waviness. The more emotionally free the subject, the more the tendency to wandering. With emotionally rigid subjects, the basal and erogenous potentials tend not to deviate much. Pleasurable stimulation of an erogenous area, say, a nipple, results in engorgement in the area and an increase in potential. However, engorgement sans the experience of pleasure, say, by stimulating a nipple with a cotton pledget in an irritating manner, results in decrease of potential and the experience of displeasure. The experiment illustrates that mechanical congestion alone cannot lead to energetic charge; in addition, only when congestion is accompanied by a rising orgonotic charge is pleasure experienced. Pressure, anxiety, and displeasure regularly lead to lowered charge (below the basal level).

*For a detailed description, see W. Reich: *The Function of the Orgasm*, Orgone Institute Press, NY, 1943, pp 289-311.

The experiments confirm the assumption of continuous energetic movement between center and periphery. On inspiration, when the diaphragm compresses the solar plexus, the potential at the skin surface declines, and on expiration, when the diaphragm is released, the potential rises.

The fact that only with pleasure is there a rise in energy potential, and that these reactions occur only at erogenous zones is a statement that sexual energy is the stuff of life's productive energy. This is not to be mistaken as a call to a life of untrammeled hedonism. What it says is that only when one is sexually free can the full potential to experience, produce, react, be exercised. To be sexually free is to be alive in the widest sense, and this implies that one also feels sorrow and pain most keenly.

There is something typical in the "bioelectric" experiments that is worth noting. The living quality of the function that is being investigated is included in the experimental process. The sensate human reaction is a part of the data; Reich made a point always "to see and feel what we intend to measure." To remove the material of an experiment outside of its phenomenological context may invalidate the conclusions as they apply to living life. Valuable conclusions may be drawn from such experiments, new information gleaned, but only in a mechanistic sense. In some areas the mechanistic answer is sufficient for our purpose, e.g., in pure physics, chemistry, in testing stimulus-response reactions, etc. The danger lies when the fruits of such experiments are applied in a context wider than that of their laboratory exclusivity. For example, the study that demonstrated that DDT was a potent insecticide was valid. The introduction of DDT into an ecosystem that was not included in the laboratory experiment was folly. From the sexual studies of Masters and Johnson* concerning the female orgasm, we have learned a great deal about the contraction of individual organs, the state of tissues, the respiratory and pulse rates, the sequence of activities, etc.; but because the living quality of the experience was excluded from the experimental procedure, we are left now with an invalid conclusion that democratizes all orgasms and dogmatizes what, in a felicitous phrase, has been described as, "The Emperor's New Clothes of the clitoris."** The extrapolation from the Skinner box to a program for the conduct of human society is an act of prodigious presumption; the assumption that now that we have unravelled the DNA molecule and explored subdivisions of the gene and we are on the way to discovering the secret of life, reveals lack of contact with life. Aside from the lack of validity of these large prescriptions from particularized mechanistic studies, there is the greater fault that it promises answers where it is incompetent to answer, distracting us from pressing the search.

The Nature of Human Nature

Two little Chassidic boys walk in the street in the Lower East Side. Their exsanguine, denatured faces, their proper gait, tell how they have been tamed. Only the life of their intellect and a message of animal madness speaks in their eyes.

Spiritual cousins to the boys, three young girls in parochial school uniform: lively eyes imprisoned in masks that promise obeisance, their movements a few steps beyond animation into rebound hyperactivity.

A fattish black boy in a schoolyard pushes all the smaller boys he can reach off their feet.

*Breslin, Catherine: *Waking Up, From the Dream of Women's Lib, Reflections*, Vol. IX, No. 1, 1974.

**Skinner, B.F.: *Beyond Freedom and Dignity*.

Some of them cry, but he doesn't pay attention. In a corner, another little black boy sits pensive, alone. He sucks the thumb of one hand, while he twirls his hair with the other.

A coffee shop full of early adolescent Eskimos: the girls all wear pink curlers in their hair, the boys in white leather jackets are droop-lidded on some kind of dope. They are town dwellers. In an isolated village much farther north, the children have happy, active faces. The boys wrestle with their dogs and it is difficult to tell which enjoys the play more. The games are contests among hunters-to-be, throwing elongated sticks for distance, using their slingshots to fell any bird who flies over the village at peril of his life.

Lassitudinous children in Haiti, the flies play around their infected eyes. They will soon be frozen into the begging posture with outstretched hand. For the hope of a penny they will sit waiting in the sun for hours, waiting for the emergence of the tourist in the library. Their faces are pinched, hopeless.

Two small sisters in a clinic: their dresses must have been ironed immediately before they left their house. They are little dolls whose most important function is to be polite and stay freshly pressed.

A young Masai, earrings dangling from the hollowed extension of his earlobes, three or four years away from circumcision and warrior status, walks with grace and quiet, spear in hand, tending his herd. His bearing bespeaks the competence to deal with a meddling lion. He talks softly, smiles easily, and moves like the others of his tribe, with dignity. Of all the gadgets we display, the only ones which interest him are the binoculars, which enable him to make out details on distant hills that his sharp eyes cannot reach. In the songs at night his people always leave space for the fully deep expiration.

A bright, ten-year-old sits serenely and with unassuming command as his mother, near to losing control of her voice, tells the psychiatrist how he has refused to eat anything but pretzels and crisp bacon for the past two weeks.

The too-goody little girl on my couch whom I have painstakingly tortured for weeks, who has responded only with silent tears and forbearance, suddenly spins around and hisses, "drop dead, you rat."

What conclusions can one draw about the nature of the species with such a variety of style, circumstance, and performance? One fact is evident, whatever the basic nature of the human animal is, the societal pressures are a large force in determining what it becomes. And though many have been drawn to the facile exercise of conscience which excoriates the industrialized societies for having plundered the world and the inhabitants thereof, a simple inspection of a primitive, superstitious, warring, sex-negating New Guinea society makes it abundantly clear that we are not the only villains. The dream that retreat to the uncomplicated world of the "noble savage" will restore us, pristine, to the bosom of nature, is for the simpleminded.

An antithetical view has been espoused by those who bore the Judeo-Christian tradition. Rather than to seek for a state of natural grace by relaxing the structures of the civilization one is born into, they proclaimed that man is born in sin and must, from the moment of his birth, be hewn and shaped into a vessel more consistent with God's image. In the performance of this task, both for himself and for his benighted brethren in distant corners, he was ready to assume "the white man's burden."

Freud, with keener insight, armed with the data gleaned in his work, viewed the problem of man's nature and the relationship of the individual and his society as a two-edged sword. On the one hand, as he penetrated the social veneer, he engaged the unconscious with its polymorphous perverse sexuality, its

content of destructive, homicidal pulses. This bestial, brutal inner side of man had clearly to be contained if the society were to function productively and peaceably. On the other hand, the conflict between the repressing forces and the repressed was the source of man's neurosis. One was faced with the choice between a ceaseless internal civil war or a brutish humanity. The choice was clear; one opted for the civilized society and bore the consequences.

More recently, the view of man the brute has been promulgated by Konrad Lorenz and orchestrated by Robert Ardrey (*The Territorial Imperative, African Genesis*), Tiger and Fox (*The Imperial Animal*), Desmond Morris (*The Naked Ape*), and others. Their thesis, that violence is biologically innate to the human species, is based largely on analogous traits observed in humans and other species. Stephen Jay Gould,* referring to this genre as "pop ethology," has given us a brief, but stunning, scientific refutation.

But what of that vicious, uncivilized unconscious; is it not a fact? Yes, it is a fact, but a fact whose significance can be misinterpreted unless it is examined functionally, i.e., within the context of all the conditions of existence in which it occurs.

To perform this functional examination, we can start in two places, with the infant as he grows and develops, or with the patient as he proceeds in therapy.

When we proceed with our examination of the infant, we are moving in the direction of development and accretion. When we engage in the therapeutic procedure, we unpeel layers, and in some sense move backward in time.

The first procedure: the newborn lies before us. She does not appear particularly vicious, kind, selfish, generous, secretive, nosey, or much else that pertains to morally desirable or undesirable traits. We can say that she is either an active or a quiet child, that she cries a lot or little, that she responds acutely or diffidently, that she sleeps most of the day or in short naps, etc. At this point, we can make no judgments on her behavior. She simply is an alive animal. She is not, however, a blank tablet. When we put her to a reactive breast, she snuggles in, breathes fully, and is at ease. If we remove her from the breast while she is busily engaged in feeding, her face contorts, she yowls, her legs kick, her arms move about and her fingers contract. She is clearly displeased and she expresses her displeasure. She reacts to what suits her and what does not suit her. She has *her own direction*, her unique spirit. When she is frustrated she is angry, but at this point we would be no more inclined to call her vicious or bestial than we would the puppy who tooths on our finger.

She grows—one year, two years. She crawls underfoot, grabs for whatever she can reach, asserts herself in every possible circumstance. She has arrived at an age in which she has become a conscious entity and she affirms her individuality by constant opposition to direction from outside. She is aggressive, celebrating the year of "no." To keep her from interfering with accustomed adult procedure, she is consigned to a playpen, and when, by some unimagined effort she manages to escape, she is whacked and placed roughly back in quarters. She screams and engages in tantrums, but her efforts only bring stiffened adult resistance and more antipathy. At length, she bends and learns to play quietly in her playpen. But now she is more restless at bedtime, talks of monsters who appear at the dark of night, demands that her room be lit for sleeping. Years later, when an investigating psychologist asks her to draw a person, she delineates a stick figure with stumps for arms

*Gould, Stephen Jay: *The Nonscience of Human Nature.* National History, No. 4. April 1974.

and legs, indicating that she is no longer overtly aggressive, with stiletto fingers indicating that her unconscious is now murderous. As time goes by, her overt fears may be quieted. Her inner rage is no longer projected in the monster image; it is now diffused in covert craftiness, distrust, tight-bellied withholding, stiff-necked obstinacy, masked faces, and the superficial observance of compliance. She is complete.

Theory

Proceeding from the other direction, we examine our patients on the couch. Most of them are good citizens, "nice" people who make their way through life more injured than injuring—on the conscious level. Occasionally one meets an exception, a political revolutionary, say, with a thinly veiled hatred and destructive bent for all mankind except those few colleagues he calls comrade. (This is not to imply that every revolutionary is hateful.) But he and the whiney girl with a vinegar face and bitter humor and several other "hostile" types are not that exceptional. They, like the "nice" patients, respond with anxiety when intense rage is elicited from their armored muscles. All patients on the couch, with the exception of some psychotics and psychopaths, defend themselves against their murderous rage.

The difference in the "nice" and "hostile" patients, then, is largely one of surface. One irritates the surface differently to pierce the armor; for example, one might attack the superficial facade of the "nice" people from the psychological side, imitating their nice voice or their nice smile until they are provoked to anger, or one might attack the muscular armoring painfully, to the point where angry resistance is elicited. With the overtly hostile patients, the path to the deep anger might even be longer. One might discover that the surface irritability is a defense against the pain or rejection by a cold father. Further on, we might come to longing to be loved by that father, fear of him, and then, beneath all these, the vicious destructive hatred toward him.

The layer of savage hate is usually there. Consistent work on the superficial armoring confirms the psychoanalytic finding that there is a beast in man, or, in fairness to our animal cousins, there is "evil" man in civilized man. However, having uncovered the brute, that is neither the end of therapy nor the end of the story.

As one proceeds in the reiteration of the expression of deepest rage, as the patient becomes able to express his rage more completely and with less anxiety, the armoring softens and tends to disappear. For example, using facial armoring for purpose of illustration, we would have started with a patient whose face was a pleasant mask. In working past the defensive function of that mask we would have discovered the savage face with hard lines, tight jaw, hateful eyes, etc. But as therapy proceeds, the face softens. This is particularly true if lower segments have been loosened and the patient is in a position to tolerate his genital sensations, and has a partner with whom he can express his sexual love. Later in therapy, as an exercise, he is free to express his rage, but the abiding affect is no longer there. His anger is mobile; it is expressed and gone. Now he is the vehicle of angry emotion when it is appropriate; he is no longer an angry person. His face is soft, mobile. It expresses what he feels at any particular moment—anger, sadness, fear, joy, brightness—it is not a mask of anything.

If we have succeeded with our patient, you will search hard to find the beast in his unconscious. Conflagrations and explosions will no longer be his nightly store of dreams, as in the

days when the vicious layer was exposed. Though we never succeed in completely ridding ourselves or our patients of armoring, we at least approximate the state of simple aliveness of young children and puppies who have received considerate treatment. The unarmored individual may not be "nice," but he is decent.

This brief excursion, forward and backward, delineated the layers of armoring which characterize most of us. The actual stratification of armoring is far more complicated than we have described. Each aspect may serve a simultaneous expressive and defensive function. One meets an affective expression at one level associated with one set of relationships, then confronts it again at a deeper level with another set of associative references. If one were to diagram the laminations of armoring, the picture would resemble the confused geological strata following volcanic eruption. Nonetheless, three functionally distinct layers can always be distinguished.

The most superficial level of armoring is that of the social facade. The level is the most varying in its manifestations. It includes demeanors of pleasantness, pertness, sweetness, curtness, churlishness, feigned stupidity and dismay, postures of thoughtfulness, aloofness, Weltschmerz, and a thousand others. It must be emphasized that we are not speaking here of genuine, natural sweetness or innate thoughtfulness or sincere expression of pain, but of the affected, counterfeit display of these attitudes.

This superficial layer of character has wandered farthest from the biological core and bounds the area where the individual merges with the social scene. Yet, even here, the biological signals are utilized—the quiet voice that renounces aggression, the slack jaw that promises not to bite, or the squared jaw set on square shoulders to emphasize toughness.

The superficial layer is the one designed to represent us in the world. The amazing fact is not that the deceit works successfully so often on other armored personages (not with very young children or unneurotic animals), but it is the way we come to view ourselves for much of the time. Except for occasional lonely lapses into honest self-assessment, the vibrato-voiced cleric, the purse-lipped physician, the vocal philanthropist, the high-school sweetheart are themselves convinced by the act.

This is in direct contradiction to our feelings about the part of our character represented in the next layer, the secondary layer. Here resides those traits and impulses represented in the psychoanalytic unconscious. The adjectives we use to describe these characteristics–bestial, savage, animal, brutish–put distance between us and them; they are not of me, they are of another kind of creature. But really they are a deeper, truer part of us than the qualities that defend us against them, the false qualities of the superficial character layer. All patients will fight mightily to keep the secondary layer from being unmasked. Even those who come to therapy proclaiming, "I am a bitch," will fight furiously to keep from making affective contact with the secondary layer. Their self-negating proclamations are a contactless veil to defend themselves against touching their devil.

There is an obvious dilemma concerning the origin of the evil in men. We speak of original sin, yet we are aware of the "innocence of babes." Experience teaches us that "we are all sinners," yet we were "born in God's image." What transpired in the interlude between innocence and sin? Is there, as the story says, a villainous act in this piece–the voice of the serpent (sexuality), eating of the fruit of the tree of knowledge (self-perception)?

To answer these questions we must return to observations of the growing infant, paying particular attention to points of behavioral change.

We have indicated that the very young child is amoral, the vessel of drives, impulses, and reactions. Some of the drives are present from birth, e.g., sucking; and some increase to a critical point with the passage of time, e.g., genital primacy. There is probably a genetic endowment that determines the energy level and very broad outlines of personality structure (feisty, serene, etc.) with which the newborn enters the world, but the intrauterine environment may play a larger role in this than we now know. The growing infant clearly displays preferences and is aggressive in expressing his preferences, and his displeasure when they are ignored. Unless the infant is consistently denied, the aggression increases with size and time.

Aggression is not an emotion, per se. It is a vehicle, a muscular readiness to perform emotional needs. In the newborn, the aggression is displayed by voice, facial expression, and uncoordinated movement of extremities and trunk. Later, the facial expression becomes more focused, and as the limbs become more finely tuned in purposive motion, they assume a larger burden of aggressive expression. Those unfamiliar with infant behavior need only watch the young child learning to take his first steps. He steps out, falls, rises and steps, falls, picks himself up, steps and falls again, and repeats this process thirty times past the time that an adult would have become discouraged and remained sitting.

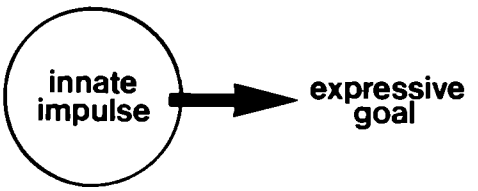
Other parental attitudes towards the child's natural display lead to a different place. The parental inhibition of the child's aggression induces armoring. Not to permit the child to cry or scream or voice opposition creates armoring in the throat or oral segment. To limit the child's freedom of movement leads to armoring of the shoulders and extremities. To fail to reciprocate with gaze induces armoring in the eye segment. To ignore the child's questions or to give silly or lying answers establishes armoring in the brain (eye segment). Failing to satisfy the oral needs, we create armored mouths, and failing to permit the development of self-regulated toilet patterns, we armor the rectum and anus. The inability to tolerate the child's natural sexuality destroys the innate sexual aggression and leaves an armored pelvis in its place.

At the point at which armoring is established, we note a radical alteration in behavior. The baby denied the returned gaze of recognition, acceptance and warmth gradually looks less and less intently. The eyes lose intensity and sparkle, interest decreases; the general energetic level is throttled. It may become cranky or irritable. It is another person than the born child. The child deprived of free exploration gradually learns to live quietly in the crib or playpen, but there are new outbursts of tantrum or breath-holding, and the eyelids contract ever so slightly into what will become the plotter's look. The child denied the pleasure of sweet-touching his genitals will suddenly move his hands above covers when his mother appears. He will sneak the feel henceforth and he will sneak feels with his girls. With armoring, innocence is gone and, in its place, the human we all know, the man Reich called *homo normalis*.

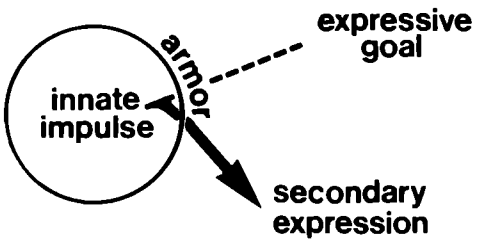
Homo normalis is divided, accent, *divided* into his conscious being and his typical Freudian unconscious. From an orgonomic perspective, he is divided into superficial, secondary, and core levels of character functioning.

What is the mechanism of the abrupt swing from simple, straightforward, unarmored functioning into the perverse functioning of the armored individual? It can be illustrated

graphically by means of the following diagrams. The unarmored individual functions in a straight line from innate impulse to expressive goal, as in Fig. A.



The armored individual can no longer function in a straight line because the initial goal is not tolerated in his environment and he has been forced to armor against it. The path that he is forced to follow is illustrated in Fig. B.



When his free, aggressive motoric explorations meet the armoring block, they are refracted from the original direction and become hateful, aggressive display (or the unconscious desire to hurt). The impulse to love tenderly and passionately is bent away from its goal by armoring and becomes sadistic sex, athletic sex, pornographic sex. The secondary layer contains the characterologic product of armored functioning. It is not innate. It is a "normal" artifact in a sick society.

Without armoring, mind would have its unconscious aspect, which would operate on the principle of primary process, as it does now. But it would not be filled with the rage and the longing for unfulfilled needs and sexual sickness, as it is with us. It would still be the vehicle of solving problems and would connect us with our primitive, creative core.

The ultimate, elemental inside of our character is the core layer. It is our source of feeling and action. When one is functioning from the core one is emotionally vibrant, inventive, straightforward, considerate in relationships, and in touch with oneself and the world. Core contact (at least part-time) is the source of artistic production. It was preserved in inordinate measure in the child Mozart, Mendelsohn, Macauley, and Gauss. The point of orgonomic therapy and the disarmoring process is to attempt to get closer to core functioning.

The essential difference between functioning from the core layer and functioning from the secondary and superficial layers is that, in the former, the functioning is unitary and, in the latter, divided. In the one, the meaning and the goal are true to the impulse of the source, and are what the individual says they are. In the other, there is a split between impulse and effect, and dissimulation may be consciously or unconsciously involved. We are in the realm of the "kindnesses" that destroy, or "I do this for *your* good," of the caress that bruises, or rationalizations for deeds not performed.

This schism in character is the *fons et origo* of the artificial dualities with which our minds and behavior are seized. We set up a line of division between mind and body. We distinguish between what is spiritual and what is animal in us, we set up an opposition between religion and sexuality. We array nature on one side of a fence and culture or civilization on the other. Work, devoid of invention and satisfaction, becomes the antithesis of pleasure.

When we contemplate our world we, by virtue of the split in ourselves, behold it from

two opposed aspects. The mechanistic side declares that the cosmos, the world, our life, functions according to the principles of mechanical law. Our planet and we are viewed as machines. Discover the laws and tighten the bolts and we shall proceed hummingly. No mysteries–the answer will surely be discovered in the future. No emotional outbursts–there's no need to get excited. Only efficiency! The complete mechanist achieves his view by successfully eradicating any significant contact with his core. Emotions are successfully "handled" and he is free to follow his personal blueprint and to project his self-image upon the world.

On the other hand, the mystic eschews the solid things of this world on principle and is preoccupied with the subtleties and mysteries of the forces behind the known phenomena. To him, only the ethereal is significant; solidity is a distraction. The mysteries are never approached as problems to be solved, but only grazed from a wide tangent, taking care to keep them unknown. One must never get closer than a metaphor.

There is a purpose in this mystique. Examination of patients with this bent reveals that, unlike the mechanists, they do maintain a limited contact with their inner emotional core. However, they cannot abide full and direct perception of their sexual feelings. To endure the contact they must change its direction, project it into the heavens outside or to the "third eye" in the middle of their forehead –as far from the genitals as possible. With the true source disguised, they are free to thrill, safely.

We have described the poles of mechanistic and mystical behavior. The pure cultures of behavior are as rare as pure races. The mechanist reserves Sunday for "things of the spirit" and the mystic enjoys the Mercedes he is privileged to ride in. The coexistence of the two is assumed to comprise the full range of existence, dealing with matters both physical and spiritual. In truth, they are nothing but two aspects of the distortion which armoring imposes.

Mechanism has its proper place in the world. It is the precise modality for dealing with what pertains to mechanistic physics. One would hesitate to enplane on a jet aircraft constructed on other principles. Regarding our bodies, mechanistic law relates to such matters as hydrostatic pressure in closed cylindrical systems (blood pressure), the functions of valves (some types of cardiac disorder), gaseous exchange along membranes (respiration), etc. Except, insofar as the mechanical functions must be adequately maintained, mechanistic law has no relevance to living quality of life. That is the province of orgone energy, which obeys its own laws.

Mystical thought recognizes the inadequacy of the mechanistic explanation of life and poses an alternative which is equally inadequate, for lack of substance. Mechanism and mysticism are like two argumentative old men, each of whom clearly sees the emptiness of his opponent's argument, but fails to recognize the hollowness of his own.

The truth in the mystical view is that there is an extra-mechanical force at work in the universe. It has nothing to do with good and evil, "sin" and "grace," as the mystics would have it. The mystic's own concept of sin is rooted in sexual guilt, but the natural world does not hang from this peg. In a consonant world, one would redefine "sin" and "grace" (since these words have such popular appeal, we would retain them for friendship's sake). Sin is that which defies the order of nature. Consequently, to predicate sexual union on the issuance of a certificate by the marriage bureau rather than on the natural affection of lovers is a sin; to keep a baby from screaming when it is outraged is a sin; to stay married when all warmth has departed from the rela-

tionship is sinful; to fail to exercise one's mind or one's body sufficiently is a sin. In nature, it is not necessary to wait for the afterlife for the punishment for sin; the penalty is almost immediate—in the loss of fullness of life and diminished satisfaction in one's days. We can carry the mystical and real definition of sin one step further and speak of original sin. As the mystics speak of it, original sin is the cloud we are all born under in remembrance of the sexual transgressions of our ultimate ancestors, Adam and Eve. In reality, original sin has no moral overtones. It is the armoring which is imposed on us early in life by our armored parents—all of us, we and they, innocent victims.

We would define "grace" as harmony with nature. To be totally alive with one's senses, fully perceptive, emotionally unrestricted, to have a mind free to explore and make new connections and a strong, agile body, is to live in a state of grace.

The mystics would shrink from this definition. "There is only talk of self," they would say. "What of charity, sacrifice, and kindness; are they unmentioned?" The answer is that in an armored world precepts must be established to dissuade us from the "evil" of the secondary layer. Where there is no secondary layer, there is no virtue (with moral overtones), but neither is there selfishness. Recent evidence from ethology supports the view that we do not eat to live, we live to eat. In some far day we may have learned not that we must live in harmony to survive, but that we survive, living in harmony.

Clinical Symposia

The Clinical Symposia will appear as a regular feature of the *Annals of the Institute for Orgonomic Science.* The edited material from the training seminars of the Institute presented in the Clinical Symposia is intended to provide the readership with information regarding the theory and practice of orgone therapy.

Held at the home of Morton Herskowitz, D.O., on March 9, 1989, this seminar was intended as an introduction to the discussion of marital counselling, family therapy, couples counselling, and similar issues as they relate to our practices. Because of the nature of the material presented, therapists are identified only by alphabetic letters in order of their participation.

Therapist A: I have seen several individuals who, as their therapy progresses, find that the relationship they are in begins to deteriorate. In one particular case, the man found that when he began to assert himself, in healthy ways, the neurotic power equilibrium that had been established with his wife began to rupture. Although his wife encourages him to continue with therapy, she will not consider it for herself, and cannot deal with the changes in their interactions except by fleeing from the situation. As a case of individual therapy, this man has made significant strides. But, as good as it has been for him, it has been that terrible for the stability of the relationship. In the long run, it will probably work out better for each of them. I mention this particular case just to illustrate what seems to be a fairly common situation. One person is in therapy for years and, as they grow, they begin to "leave the other person behind," so to speak. This presents them with other problems.

Therapist B: I think that it always has to be kept in mind, and discussed with patients as they begin individual therapy, that as they change, their relationship may suffer. One of the senior orgonomists used to stress the importance of asking patients, right from the beginning, how they would feel about that possibility, and if they felt they would be able to give up the relationship if that turned out to be necessary.

Therapist C: Seeing only one of a couple also has disadvantages to us as therapists since it is too easy to side with their interpretation of events and, therefore, to potentially miss or neglect their contribution to the problems in the relationship. This can happen in very subtle ways.

Therapist B: That point is well taken. We do get a skewed picture from seeing just one of the partners, even if it is only slightly skewed. I have had the experience, many times, of having the opportunity to see the other partner, either alone or in a joint session, and it has always been extremely informative and helpful to me. A patient may be able to communicate quite well with you, as the therapist, but often this is not the case with their partner because the relationship triggers their emotional, neurotic responses in a different, and often dramatic manner.

Therapist A: Several years ago when I saw couples for joint sessions, I had the tendency to lean a little harder on the individual who was in therapy since I was aware of the potential to take their side. And also, since I knew their structure better, I was not as concerned about the stresses they could handle. However, recently I saw a couple and was impressed by how accurately the husband had portrayed his wife's rigidity and provocativeness. I saw them together for four or five

sessions and I think it gave me a fairly clear picture of how they relate as a couple. So, it isn't always true that what the individual patient presents is one-sided.

Therapist D: Obviously, with enough couples, one sees a wide range of possibilities; either one or the other is primarily at fault or usually, both contribute in some proportion to the problems. A few years ago, I was seeing both members of a couple in individual therapy. They would drive up together and I would see them for successive sessions. They would fight all the way up in the car, on the way home, when they got up in the morning, etc., etc., so there was always lots of material to deal with. The problem was that each person would say exactly the same thing about the other. He would tell me she said x, y, or z, and she would come in and report that he had said x, y, or z. It became disorienting to me after awhile because it was impossible to sort out the truth of it. I tended to believe the man more. I think the reason was that he tended to listen more, could get upset over things, and had emotional responses. His wife, on the other hand, would listen in a very reasonable way and even acknowledge what was true, but there was no emotional impact; I got the feeling that everything just sort of bounced off her like a sheet of glass. So, all of this gave me a slight bias toward believing him. It took me a long time to really appreciate what she was talking about with this man, but one day she said to me, "You know, I know that you side with him more and I know why. It is easier to relate to him. But, you are blind to certain things about him and this bothers me." What she had had the guts to confront me about was true, and I acknowledged it. It helped me to see him more clearly. It also pointed out to me why, at least historically, therapists have not seen both individuals of a couple for therapy. It can be a very rocky situation. I felt very torn by what I was listening to during those first years, and did not know who to believe.

Therapist A: Seeing a couple like this together can be extremely instructive because it often exposes the dynamics of the situation in a way that makes the "truth" quite apparent.

Therapist D: Yes, I actually got smart and figured that out. When I did see them jointly, it became perfectly clear.

Therapist E: In my experience, people who have been together for a long time in a relationship are generally functioning at a similar level of pathology. I haven't seen people who have been together for a long time where one is significantly more healthy than the other.

Therapist D: Well, it isn't only a matter of health. There are conscious accommodations that people make. For example, I think we would have to admit that most marriages are neurotic, and often it is this neurotic element that keeps the relationship going. But, not all marriages that are neurotic are tumultuous and miserable. However, I do find, quite often, that one of the party is doing more than his or her fair share to make the situation difficult.

Therapist E: My experience is that together they are doing something that is making things awful.

Therapist A: In cases where one person simply won't negotiate, you can identify the guilty party. In the case I originally mentioned, he was accessible to therapy and had the potential to respond to therapy. She didn't and was absolutely rigid. Now, I would have to say that he is healthier than she is.

Therapist E: But, that isn't, and shouldn't be, our criteria of health. Whether they are accessible to us as therapists is not a definition of health.

Therapist D: I can't quarrel with that. Still, anybody who has insight into himself to see himself as ill has more health in him than someone who doesn't have that insight.

Therapist F: To some extent, it has always

seemed to me that working on the relationship can be at cross-purposes to working with the individual. Working on the individual implies getting to the depth of him or her, whereas working on the relationship is more of a social activity which may have little or nothing to do with the primary goals of working on that individual. In the hospital clinic, I see a lot of battered women who are married to alcoholics. These men beat the women up, and yet the women will say, "I can't leave him. I love him." The woman who comes to the clinic is actually sicker than her alcoholic husband, who is plenty sick. But, he's got some aggression; he lives a little bit, he works, and all she does is take beatings. True, she comes to therapy, but she is actually the sicker of the two. The man, in this case, doesn't think of coming to therapy because, in a way, things go all right for him. He can drink and he can beat her up. Working on this sort of relationship would have nothing to do with her discovery of herself through individual therapy.

Therapist C: Let me just say that I can't see how it is possible to separate the two things. If you accept the premise that one of a person's fundamental problems is a fear of being close, of intimacy, and their fear of giving in to the closeness, then that's what therapy is about. Working with an individual, then, is also working on that person's ability to function within a relationship. So, I get uncomfortable when you try to make what's going on in individual therapy separate from what is going on in the relationship. My experience has been that the two are closely linked and working on the relationship as well as the individual problems can be towards the same end.

Therapist F: They can work to the same purpose, but often they do not.

Therapist B: I agree with Dr. F. The intent of therapy is to get each person better. The relationship may change and get better, or it may get worse. In some therapeutic modalities, the relationship is treated as if it were the patient. Except in unusual circumstances, it is not good for the individual to remain in a relationship that is basically not satisfying.

Therapist A: Issues that come up in a relationship are a reflection of the individual's character.

Therapist D: Yes, and seeing a particular defense in an individual often has general repercussions on the relationship.

Therapist E: A woman was referred to me by her husband because she was always angry with him. In individual work, it turned out that she was displacing a lot of anger onto her husband that rightly belonged to her parents, who actually abuse her in many ways. The husband put up with all this anger for 17 years of marriage, obviously for his own neurotic reasons. As long as the patient was feeling anger towards her husband, she was able to work very well on the couch. She vented a lot of emotion and much of her armor was broken down. I saw them as a couple in conjunction with her individual work and, as she stopped displacing so much anger onto him, the relationship began to improve. However, it then became more difficult for her to work on the couch and, in some ways, she became less accessible to therapy. So, here is a situation where an improvement in the marital situation was accompanied by a kind of decline in her growth in her individual work.

Therapist F: There is another issue I'm sure we are all familiar with but hasn't been mentioned yet. That is, how does seeing two people in a relationship interfere with the transference between you and the patient in individual therapy, or between both patients and you if you are treating them both individually? I think that it does. I certainly believe in seeing both partners together in joint sessions to see how they interact. That's very profitable. But, I have the feeling that when both are

in therapy with you individually, there can be subtle interferences with the transference for each of them. I think that neither of them can fully develop a transference as they would if the partner were not your patient. In some ways, they have to view you as an arbitrator which means that they have to objectify you on some level. This has got to interfere with the pure emotional aspect of the transference and the treatment.

Therapist A: I am not sure I agree with that. I don't think it is a problem for the patient to see you more objectively.

Therapist F: I think that then you really don't see the full extent of their irrationality.

Therapist D: You mean they hold back from you because of this situation?

Therapist F: I think that's a part of it.

Therapist A: Why would that be? Is it because you haven't been on their side unequivocally?

Therapist F: No. It is as if they put you in the position of judge, rather than mommy or daddy. You become a different character to some extent.

Therapist D: If they do that, isn't that part of their character structure? Why shouldn't that just be dealt with as such? It doesn't seem that this would be something invented for the situation, but something that that individual is capable of doing when another person doesn't see things exactly their way.

Therapist F: In individual therapy, I enjoy when a patient says, "You don't love me enough." Of course, what they are really saying is that "My father didn't love me, and you, like my father, don't love me enough." I think if you are also treating her partner, for example, it is much more difficult for her to say that to you.

Therapist B: That reminds me of something else that I have found to be important in individual therapy. In patients with siblings, where there has been competition for the mother and/or the father, I have often seen sibling rivalry develop, not only if I am also treating their partner, but also if a friend of theirs is in therapy with me. It doesn't seem to present a problem with only children, and often not with the oldest or youngest child, because in some ways those positions are more secure even though they have their own unique difficulties.

Therapist A: Thinking about what you just said reminded me of a woman I had been seeing for quite some time who had never verbalized much criticism of me. However, when she got married and I saw the two of them, off and on, she began to have some complaints about me which I saw as a good sign. I hadn't thought about it in terms of sibling rivalry.

Therapist B: It also makes a difference if you have been seeing one person individually for some time, and then you begin to treat the partner individually. It is often easier if they both begin at relatively the same time. I think it eliminates many problems for the therapist and the patients in terms of bias and confidentiality. I had the opportunity to interview the spouse of a new patient who had come to therapy with very specific concerns about the relationship which had never been discussed with the mate. This patient was absolutely certain that the spouse had no awareness of any of these concerns and had been reluctant to approach these subjects even tentatively. The mate, who had no interest in pursuing treatment with me, agreed to be interviewed as part of my evaluation process. As it turned out, the concerns expressed by the mate were precisely those presented by the primary patient. As a result of these preliminary meetings, the partners were able to begin communicating their concerns with each other, much to their relief and improvement in the relationship. Because of the newness of the situation, neither of them had any concerns about my

loyalty or bias.

Therapist F: I prefer to see one of the pair and then, years later, see the other. Then I think it is possible to work on the problems that involve the relationship as well as the individual problems without the difficulties that can be created by seeing both simultaneously.

Therapist A: Even without seeing both partners, you can still get an accurate assessment of the situation. In fact, I have been surprised, after seeing a mate or some other person that my patient has described, as to how well they have been presented.

Therapist F: That depends on the pathology, too. You can talk to the mate of a paranoid and see how invalid the paranoid's presentation of the situation was.

Therapist B: The patient can often present the other partner accurately without giving a good account of *his* contribution to what is making for a bad situation or relationship.

Therapist D: I have had a patient complain week after week about their mate. He or she will even get irritated and say that I am just not understanding what the other person's role in the situation is. And I'll say, "Well, that's possible, but the thing is that I don't have him/her as a patient so I can't do very much about what he/she does. However, I do know *you* so I understand your part in what goes on. This doesn't mean that your partner is blameless, but you are the one who is here so you are the one that has to do most of the work."

Therapist A: It is also true that at times you do take the other person's side, at least in a certain sense. For example, a patient presents a situation in which she started throwing dishes around one night. The husband is sitting watching TV and suddenly dishes start flying around. What he doesn't know is that she has been upset about something and has stewed about it all day. So, one question is, why she hadn't communicated this to her husband before, and what did she think he might have been feeling at that time? It can be very helpful to get the patient to consider the other person's perspective and look at the situation from their point of view.

This is the kind of intervention that is useful in seeing a couple together. The main thing I look for is how they communicate with each other. Are they hearing each other? In treating couples, I don't believe that the goal should be to resolve individual pathologies, but rather to focus on their interaction. The individual pathologies can be confronted as they interfere with the way they relate to each other.

Therapist C: So what you are saying is that you do use your knowledge of psychodynamics to facilitate their understanding of the situation and their communication with each other.

Therapist A: Sometimes it doesn't even get to that level. I had a couple with a terrible communication problem. Neither listened to the other and each partner was very talented at derailing the communication when he or she heard something that they didn't like. For an hour, I acted as sort of a referee, getting them to listen, getting them back on the subject, and making them focus on the immediate interactions and feelings. There was no attempt to treat them at any deeper level.

Therapist E: What you are describing is very different from making the relationship the patient. Your approach involves more education and techniques of communication.

Therapist A: If one or both are patients in individual treatment, then there is plenty of opportunity to work on the deeper problems. Seeing the couple allows you to see firsthand what goes on between the two rather than relying on secondhand reports.

Therapist E: It makes more sense to stay on a more superficial level in couples therapy, especially if one of them is in individual

therapy with me. I agree with Dr. F that to do otherwise often interferes with that person's transference to me.

Therapist A: It is also unfair to take something that you learned because of an individual's therapy and use it in the couples session.

Therapist B: This brings up the entire issue of confidentiality. We are often in a position of knowing many things about one of the couple that the other does not know. When both members of the couple are in individual treatment with the same therapist, although a great deal of discretion is required, it can be a tremendous advantage. Without disclosing private information, the therapist can use what he knows to help both people more. For example, if one is having an extramarital affair and the other thinks everything is just fine in the relationship, it can be pointed out to the one having the affair that his partner doesn't have all the information and therefore has fewer options. Then you can get the other partner to start looking at the behavior and attitudes of his mate more clearly and without making excuses for everything.

Therapist E: Don't you think it is unfair for you to be put in that position?

Therapist B: No, I don't. Consider that the option would be for the patient not to tell you things. A person must be able to feel that he can tell you everything so that he can work on his conflicts and problems without fear of judgment, reprisal, or betrayal. When a person's problems don't impinge on the relationship, there is generally no fear of this. However, when they do, especially concerning infidelities, the patient must absolutely trust you, and you must live up to that trust while trying to help them arrive at solutions.

Therapist A: I've had it happen many times where one of a couple would come to me and say, "Well, I guess you knew this all along. And, I see why you couldn't, or wouldn't, tell me." I think that most people really understand and appreciate it and it also underlines to them that whatever they tell you is absolutely confidential.

Therapist C: I still think that there are problems in treating couples. Too often you do end up being the arbitrator.

Therapist D: I don't think that that is necessarily bad. Perhaps, there are unique hazards in seeing couples and you have to decide if you want to deal with them or not.

Therapist B: There may be hazards, but there are also enormous rewards. I personally like to see as many members of the family as possible. I have a husband and wife in individual therapy, see them as a couple, and also see their children in various combinations with them. This has been a very useful approach, not only with them, but with other families. In this particular case, the children are teenagers, so there is no in-depth work with them. Having access to all the information makes me more effective in the individual work with the parents.

Therapist E: I'm smiling at what you said because of one of my cases. One of my patients had real worries about her children and had even had one seen by a child psychologist. She thought they were all pretty messed up. I had never seen them in the office, but one day, quite by accident, I ran into the family at a local playground. I was utterly amazed at how free, unarmored and healthy these kids were. Obviously, the women's problem is in her own perception of herself as a mother. So I agree with Dr. B that there are real and practical advantages to seeing as many family members as possible, even if only once or twice as part of an evaluation.

Therapist A: So, what are you going to do? Will you say to her, "I saw your kids yesterday and they look a whole lot better than you have described"?

Therapist E: Exactly!

Therapist B: The next best thing to seeing both members of a pair, is being able to communicate with the therapist of the mate of one of my patients. I always ask permission of my patient to do this in situations where I feel it would be helpful.

Therapist D: I thought you were going to ask the question about where does a couple go together if they are seeing different therapists?

Therapist B: I suggest that they see each therapist as a couple. Another possibility is for them to see someone that neither of them sees individually.

Therapist E: Dr. F made a point earlier that I think is worth emphasizing. When an individual comes to see you, your primary responsibility is to that individual. When we make the decision to bring in the partner and to treat him, it has to be considered that we might be doing something that could disrupt the transference of the primary relationship. In other words, there could be a detrimental effect on the therapy of the first person. I'm not sure we can always predict when this could be a problem, but it should be kept in mind when we agree to see the other person. I know that in one case, I brought the wife in too soon and it did cause problems with the man's transference. It wasn't just bringing her in for an interview in order to learn how they communicate; it was to work on specific issues. Knowing what I know now, it was a mistake.

Therapist B: There are times when it would even be inappropriate, or unwise, to see a friend of a patient. Granted, certain circumstances occur when you have several patients who are friends and transference issues come up, especially about sibling rivalry. However, each patient–his neurotic makeup, strengths, and needs–has to be considered individually. I have had patients request that I not see a particular friend, and after listening to their reasons, concerns, and considering this in the patient's historical context, I have simply agreed.

Therapist A: That's very important. You have to talk with the person to understand what the liabilities of seeing a friend or mate might be and what impact it could have on his therapy. I'm not even sure that it's so important what their reason is for not wanting you to see a friend or a partner. It could be very irrational, but the fact that they feel so strongly about it might be reason enough.

The Amateur Scientist in Orgonomy

This column in intended to encourage "hands-on" experience with various aspects of Reich's biological and physical laboratory findings, particularly for interested readers with limited means or access to sophisticated equipment. Each issue will feature an experimental research project that illustrates basic orgonomic findings using only modest equipment and expertise. Readers are encouraged to submit their own projects, including a brief theoretical background, a detailed practical description, references for further reading, and relevant diagrams or charts. It must be a project actually carried out as described rather than a theoretical design.

THE REICH BLOOD TEST

COURTNEY F. BAKER, M.D.
PATRICIA S. BURLINGAME

I. *Introduction*

The Reich Blood Test is a simple method for ascertaining the overall energetic health of the organism. In this test, a small drop of blood is obtained and placed in physiological saline on a slide under a microscope, and a group of red cells is examined carefully over a period of time. The removal of the blood cells from the body begins a spontaneous process of energy loss by the cells, and as a consequence, they undergo observable morphological changes (bionous breakdown) which reveal information about the energetic charge of the individual from which they came. In essence, the red cells are a microscopic mirror of the energetic state of the organism at the time of their removal.

In this experiment, we will describe the equipment necessary to do the test, what to look for, and how to interpret the changes seen under the microscope.

II. *Equipment*

A. The most important piece of equipment is a suitable binocular microscope with a low power objective yielding a final magnification of approximately 50x and a high power objective giving you at least 300x. The high power objective is the most important lens, since this is the lens you will use to observe and count the cells. It must have a working distance of at least 1 mm. (The working distance is the distance from the lens to the object in focus.) This will enable you to observe the cells without inserting the lens into the solution, which would cause an artificially rapid breakdown.

A gradicule in one of the ocular lenses is very helpful in keeping track of the cells you have selected to count. This is a glass disc with inscribed lines that divide the field into 100 squares, and is available through microscope dealers.

B. Physiological (0.9%) saline, packaged in a glass container. This must not contain any preservatives or other extraneous materials that might interfere with the test. Plastic containers must not be used, as it has been found that saline stored in plastic results in a prolongation of the test. Saline may be obtained from a pharmacy or scientific supply company.

C. Glass well slide, with one or two 0.5 mm deep wells, available from scientific supply companies.

D. A syringe, preferably glass, fitted with an 18 gauge needle. The needle size is critical, as this determines the volume of saline dispensed, which in turn affects the duration of the test. These items are available in pharmacies (with a prescription) and from scientific supply companies.

E. Sterile lancets, or an Autolet® and well-washed plastic toothpicks. The Autolet®, a spring-loaded device used for puncturing the fingertip, is preferred, as it is almost painless; also, many people find it difficult to stab their own finger with a lancet. Remember to always sterilize the Autolet® with alcohol between uses, and to use a new lancet for each puncture, even if it is for the same person. All are available in pharmacies.

F. Sterile absorbent cotton for wiping off the first drop of blood.

G. Paper towels for drying hands and slides.

H. Distilled water for rinsing slides.

I. Disinfectant (rubbing alcohol or chlorine bleach) for sterilizing contaminated equipment.

J. Rigid plastic container for disposal of contaminated materials.

K. A stopwatch for timing the test. A clock may be used instead, but a stopwatch simplifies record keeping.

L. A notebook to record your data.

M. Graph paper and a calculator that can do linear regression.

Scientific supply houses:

Thomas Scientific
99 High Hill Road, at I-295
P.O. Box 99
Swedesboro, NJ 08085

Fisher Scientific
711 Forbes Avenue
Pittsburgh, PA 15219

Edmund Scientific
101 East Gloucester Pike
Barrington, NJ 08007

III. *Performing the Test*

A. A precautionary note: If you are performing the test on someone other than a person with whom you are already physically intimate, it is imperative to go on the assumption that this person could have a communicable blood disease, such as AIDS or hepatitis, and take necessary precautions. Wear latex gloves, and preferably a mask and glasses, when obtaining the blood sample and moving the slide to the microscope. Be very careful not to contaminate yourself or any equipment while you are observing the cells under the microscope. When the test is over, again wear gloves to handle all contaminated material. Soak the slide and Autolet® in disinfectant for at least 30 minutes before washing. Any disposable equipment, such as lancets, toothpicks, cotton, and paper towels, should be discarded in a sealed rigid plastic container. Disinfect any surfaces (table, floor) that have been contaminated with blood. Remember that even if disinfected and placed in a plastic container, contaminated equipment must be disposed of properly.*

We cannot sufficiently stress the importance of these safeguards.

*Proper disposal includes removal by an EPA certified trash removal service. Since many physicians' offices use these services, a local doctor may provide helpful information.

B. Records: Each test should be recorded in a notebook for study and future reference. Enter basic information about the subject (age, sex), general health, any medications being taken (including aspirin and over-the-counter remedies), and anything else that may have an effect on the test, such as severe anxiety or lack of sleep. Leave a space for observations under the heading "Macroscopic," then make two columns, headed "Time" and "Number of Bions."

C. Preparations: Lay out all your equipment on the table next to the microscope, including a container for disposable items. Warm the slide and the syringe containing the saline to body temperature by placing them on a heating pad or other warm surface. Set the microscope on low power, and adjust the lighting so it is uniform and at a comfortable viewing level. Next, using the syringe and 18 gauge needle, put six drops of saline in the well of the slide. (Put six drops in each well if your slide has two wells.)

D. Obtaining the blood sample: Have the subject wash his hands well with warm water (but do not use soap!), then blot completely dry with paper towels. Using a sterile lancet or the Autolet®, make a small puncture in the end of one finger. Avoid the index finger, as it is the most sensitive. Start the stopwatch, or record the actual time of puncture. A small drop of blood should soon well up. Be patient, and don't squeeze the finger, as tissue juices will interfere with the test. Note the characteristics of this drop. Is it dark red or pale, standing erect or spreading over the fingertip? Record these observations under the heading "Macroscopic."

Gently wipe away this drop of blood and wait for a second drop to appear. If necessary, the finger may be gently "milked" by stroking (but not squeezing!) well above the puncture. Using a corner of the lancet or a clean plastic toothpick, take a very small amount of blood from the drop and dip it into the saline. Do not stir! Gently swirl the contents of the well by moving the slide in small horizontal circles; this will distribute the blood uniformly throughout the saline. Put the slide under the microscope, centering the well under the low power lens. You are now ready for the microscopic examination.

E. Observing the cells: During the first few minutes, the cells will be settling down onto the bottom of the well. Now is the time to scan the field, looking for an area of good distribution. Try to find a cluster of cells that are separated by roughly one cell width from each other. When you succeed, switch to high power and count an area containing fifty cells. You will be following these same cells throughout the test. Make a note of which squares the cells are in, so you can reliably count the same cells each time.

Observe and record the appearance of the red cells. A healthy cell will look like a blue inner tube (the frame) containing a pale pink center. You may also see the field, a whitish halo surrounding the cell. A bionous cell will contain one or more intensely blue beads, usually in the frame (see Figure 1 on the following page). If more than two cells of the fifty are bionous, or if most of the cells are misshapen or collapsed, something is wrong with the test and you must start over, using a clean slide. Note the presence of any free bions you see floating in the solution. You may occasionally see a large, clear white cell; this is a normal finding. If all appears normal, proceed with counting.

F. Counting the cells: After the cells have settled to the bottom of the slide and you have made your initial observations, look at the fifty cells for signs of bionous breakdown. At

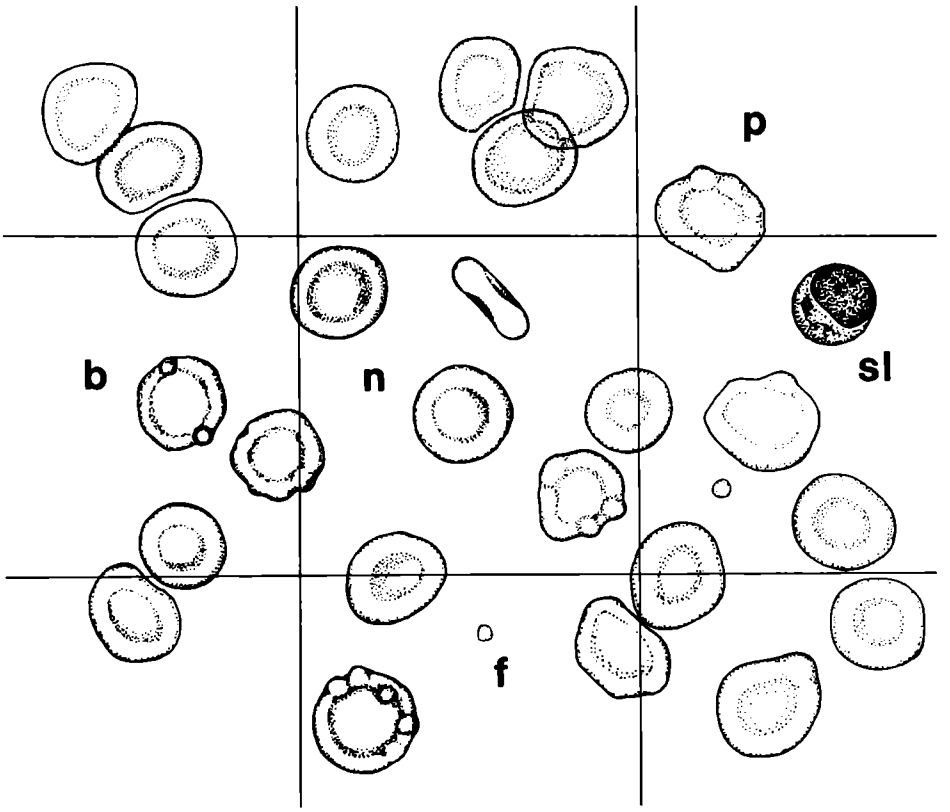


Figure 1: Microscopic view of representative cells, shown at an exaggerated magnification (1500x) for clarity.
Legend: n = normal cell; b = bionous cell; sl = small lymphocyte (a white cell); f = free bion or blood platelet; p = prebionous cell.

first you will see a few cells taking on a lumpy appearance. These cells are prebionous, and the number may be recorded, if you wish, but it will not be used to interpret the results of the test. As soon as you see a cell that contains at least one fully formed bion (a bright blue bead), count the total number of such cells in your group of fifty. Record the time of the count and the number in your notebook.

About five minutes after your first count of bionous cells, count again. The ideal is to count and record each time an additional five percent of the cells (two or three cells) have become bionous. Don't try to be exact in this; you just don't want to go from two percent to 20 percent, with nothing in between. After you've watched the cells for a while, you will have an idea of how long they are taking to break down, and may be able to extend the time between counts to ten minutes or longer. However, toward the end of the test, the cells may break down faster, so be prepared to count more often if that occurs. Continue counting until about 35 percent of the cells (17 or 18 cells) have become bionous. This is the endpoint of the test.

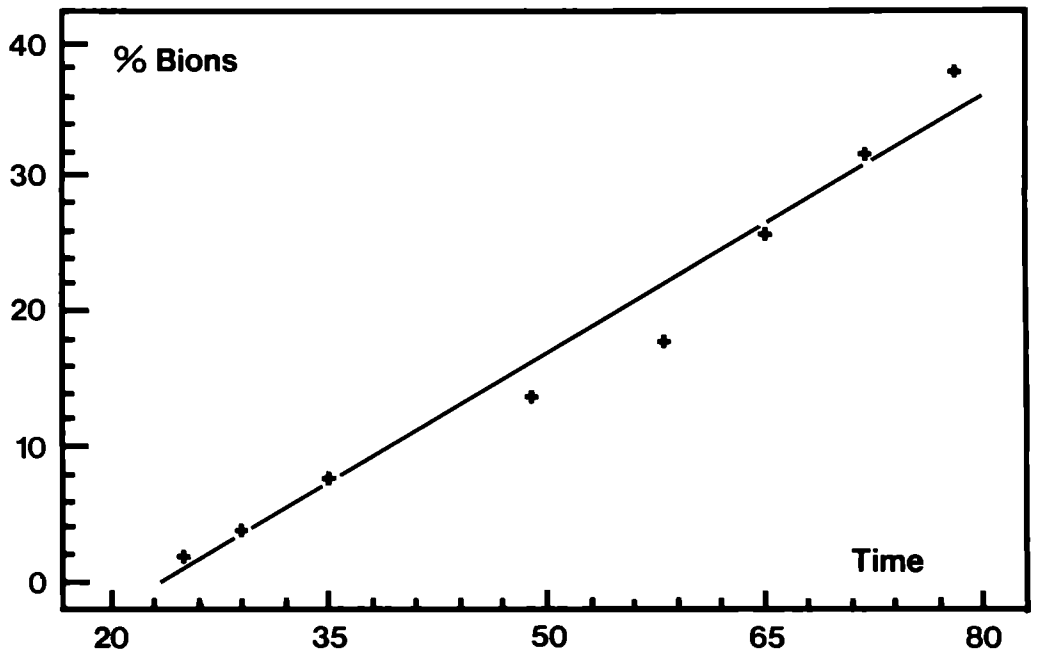


Figure 2: Graph of sample data, showing linear relationship.

G. Qualitative analysis: While you are counting the cells you will also be noting several important qualitative features which give information about their state of charge. Normal cells have a distinctly "3-D" appearance, like blue inner tubes; in pathological situations, they appear flattened. In vigorous cells, the width of the orgone energy field should at least equal the thickness of the frame. By careful observation, especially of cells suspended on their sides, you may be able to observe the normal internal pulsation of a cell, which is reduced in pathological situations. In addition, any bions which form should do so around the edge, the "frame." Any cells with bions in the center, or cells which appear grossly misshapen, or even collapsed, are abnormal. Finally, in general,

the cells should be roughly round to slightly oval, and roughly the same size. Noticeable deviations from this are abnormal.

IV. *Results*

Your first task will be to analyze the qualitative results of the macroscopic observation and microscopic findings. Note any deviations from normal; one or two abnormal findings (such as slight variation in cell size, or reduction in 3-D appearance) are still within the realm of normal. More than this, however, is probably a sign of some pathology, particularly for initial drops that "run" (make sure it was not due to the fingers being wet!) or loss of internal pulsation.

Sample data from one of our tests is shown below, and will be used to demonstrate the graphing and calculation.

Time (min.)	% Bions
25	2
29	4
35	8
49	14
58	18
65	26
72	32
78	38

You are now ready to make a precise evaluation of the breakdown process by graphing and mathematically processing the numbers derived from the test. Take a piece of graph paper and lay out a horizontal axis (labeled "Time") and a vertical axle (labeled "% Bions"). The time axis should run from zero to the time (minutes) of the last count; the vertical axis should run from zero to 40%. Now plot the points for each time and corresponding % Bions, and then draw a smooth curve through the general trend of the points. (Note: It is unlikely that all the points will lie exactly on any one curve.) The line should be either a straight line, or an upward-sloping exponential curve. Figure 2 shows, using our sample data, how the graph will look.

You are now ready to calculate the main test parameter, the "1% Time." This is most easily accomplished using a calculator that can do elementary statistical functions, in particular, linear regression. The graph of our sample data shows the curve to be a straight line, so we can go directly to a calculation. Put the calculator in the linear regression mode, and enter the numbers as pairs (with the x-value = Time, and the y-value = % Bions). Then compute the slope ("m") and intercept ("b") of the line, and put these numbers into the following equation:

$$1\%\ \text{Time} = \frac{1 - b}{m} = \frac{1-(-15.6)}{0.625} = 25$$

In a healthy individual, the 1% Time should be greater than nine; the "borderline" region is -3 to 8, and below that is the "pathological" region. Do not be concerned if your test gives pathological or extreme values; it takes a lot of experience doing the test before the results can be reliably accepted.

If the graph shows an upward curve, you will have to first take the natural logarithm ("Ln") of the % Bion values. Make a third column in your notebook, labeled "Ln % Bions," and enter the natural logarithm of each "% Bion" value in this column. When you do the regression calculation, you will enter pairs consisting of the Time (x-value) and the Ln % Bion (y-value), compute the slope "m'" and intercept "b'," and enter them in the following equation:

$$1\%\ \text{Time} = \frac{-b'}{-m'}$$

The number that you have computed, the "1% Time," represents the theoretical time at which the bionous disintegration process begins. It allows a means of comparing your test with a pool of normal and abnormal tests, and of comparing your own tests over a period of time.

V. *Going Further*

You may wish to experiment further by modifying the test or its application (such as doing the test on animals, or following your own readings over a period of time).

Some recent (though very preliminary) testing suggests that the test goes faster (i.e., a shorter time to reach the 35% end point) with less saline (such as using only two drops). If this proves true, it would be practically very useful, since more tests could be done in a shorter period of time. However, less saline and shorter breakdown times give rise to several new problems: first, excessive evaporation may occur, and this can produce a distorted breakdown. Second, a more rapid test means that the counting must be more frequent. Third, 1% Times obtained this way will not be directly comparable to the pool of data derived from the six-drop method. Nevertheless, we feel that this is a very fruitful area for further experimentation.

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Passion of Youth, Wilhelm Reich - An Autobiography 1897-1922

Edited by Mary Boyd Higgins and Chester M. Raphael, M.D.,
Translations by Philip Schmitz, Jerri Tompkins.
Farrar, Straus and Giroux, New York, 1988
178 pages, Hardcover $17.95

This book contains a preface by Mary Boyd Higgins, who continues to keep faith with the dictates of Reich's will in making this material available to the interested public. It is divided into three sections: Childhood and Puberty, 1897-1914; The Great War, 1914-1918; and Vienna, 1918-1922. It is a compilation of diaries from age twenty-two (the year 1919), recollections of childhood and youth written that same year, and writings from 1937 in which Reich set down memories of his participation in World War I and his medical school years. It is reasonable to assume that for one engaged in psychoanalysis, the review of one's earliest years was a natural process. The act of writing the record is a little more unusual. One wonders whether, at twenty-two, there was some intuition that a reading public might someday be interested in these chronicles.

For the reader, the fascination is not simply with the facts of the early influences of the life of such a rare spirit. We are curious about his emphases, his insights and interpretations, and about what can be learned from reading between the lines. What engaged him emotionally in his youth; what effect did childhood traumata impress on his maturing character; was there evidence in the young years that could foretell the unique, mature Reich?

We are told on page one that his father and grandfather were freethinking. (We are told later that on a photo of his father Reich wrote, "His ideal was the German Kaiser.") They were Jews hovering between an important tradition of "wise"-men and cosmopolitanism. Yiddish was declassé. Reich tells of an instance when he summoned his grandfather from synagogue for a meal in too loud a voice on Yom Kippur (a fast day) and was later punished. The deceits, hypocrisy, and hiding which are necessary to "keep up appearances" were the fabric of daily life. They made a strong impression on the child and were undoubtedly a source for his later interest in individual character and social behaviors.

Reich was two when his younger brother, Robert, was born. It was reported that shortly after birth, when the baby was shown to him, Reich tried to strike him and cried, "I don't need a brother." His earliest memories from about age four are notable for the uninhibited quality of the actions involved. In the first, he dislocated the arm of his younger brother while "playing," and in the second (at four and a half) he inserted his penis into the vagina of a housemaid in imitation of the coachman. In each instance he anticipated beatings, but received only frightening paternal disapproval.

The sibling rivalry continued until adulthood. It was, no doubt, accentuated by the fact that because of a "difficult" delivery his mother thereafter spent almost two years intermittently at spas. What is extraordinary is that Reich makes no more of this fact than to mention it. For a mother to have left two children, one an infant, to others' care for a "cure" at the spas for the greater part of a three-year period is some kind of statement of the quality of motherhood.

Throughout the book, Reich often speaks of his yearning for maternal love and he assumes that his pursuit of the love of women who resemble her is related to this longing. He describes his mother as beautiful which, even allowing for the distorting effect of our current

disenchantment with Rubenesque standards, is belied by her photograph. It is not unreasonable to assume that this critical hiatus in mothering was the source of lifelong yearning.

But, as if to deny that anything was amiss in these long maternal absences, Reich writes, "The postcards and letters she wrote to us during her journeys . . . will bear out the fact that she was an exceptionally loyal and self-sacrificing mother to whom her children meant everything." In the final sentence in the book, speaking of his relative indifference to receiving his medical school diploma, Reich writes, "Only my mother's good wishes could have made me happy." The unsatisfied emotional needs of childhood are sought for long times.

After age five, his mother recovered her health and returned to the household. This was a period of happy family life that Reich treasured in his memory. His father's angry, punctilious, austere manner was softened by the intervention of his kind and gentle mother. He was his mother's favorite, as his brother was his father's. He was, consequently, more subject to, and more fearful of his father's temper tantrums. Nonetheless, he describes this period up to age ten as the happiest time of his life.

His father was a strict and demanding disciplinarian as a teacher. His methods were so stern, and so disturbing to the child that at one point tutelage was transferred to his mother's care. Reich intimates that his father's demands may have been a source of his ambition.

At four and a half, he came upon the coachman in sexual embrace with the housemaid and was deeply stirred sexually. Thereafter, he had manual contact with the housemaid's genitalia when they slept together, and was aware of the responsiveness of her vagina. At seven, he lay on top of his brother's nurse while she "slept" and fantasized making love with her. At eleven, he had daily sexual intercourse with the cook, who welcomed and responded to his advances. These liaisons were always conducted secretly because he was already familiar with his father's outrage when he played "trains" with a female cousin. As is common with children raised on farms, the sexual activities of farm animals were a source of sexual stimulation. Reich reports that he regularly visited the animals' stalls to inspect their genitalia.

The event that Reich refers to as "the catastrophe" occurred when he was eleven. During a period when his father was absent from home, Reich discovered that his tutor and his mother were involved in a sexual relationship. Here, in part, is how he writes of it: "Slowly I made my way to the door of his room. It was ajar. I stood there and listened. Oh, the frightful memories that drag each recollection of my mother down into the dust, that soil my image of her with muck and filth . . . I heard them kissing, whispering, and the horrible creaking of the bed in which my mother lay. Ten feet away stood her own child, a witness to her disgrace . . . All I remember of that catastrophic night is that I wanted to rush into the room, but was held back by the thought: they might kill you! . . . And so it happened night after night, I followed her to his door and waited there until morning. Gradually I became accustomed to it. My horror gave way to erotic feelings. Once I even considered breaking in on them and demanding that she have intercourse with me too (shame!) threatening that otherwise I would tell Father. During the final few days, I visited the cook regularly."

That summer the tutor left on vacation. The following fall a new tutor was hired. When his father discovered his mother in a moment of dalliance with the new tutor, he accused her of a sexual liaison (which she denied) and he confronted the child, Wilhelm, and demanded that he tell everything that he knew about an "affair." The child denied any knowledge about a current relationship but disclosed, in detail, his discovery of her love of the former tutor.

Reich's explanation of this betrayal of his mother is fascinating. He ascribes it (in a note added in 1944) to an act of revenge for his mother having "squealed" on him when he stole some of his father's tobacco. In the 1944 note, he has repressed the memory of his strong erotic drive for his mother and the emotions that unleashed. (In a later section, he describes masturbating as a young adult with fantasies of his mother's belly.) And, there is the added possibility that an anger, unknown to him, was at work from the years of his mother's absence in early childhood.

In view of these successive flirtations, one also wonders whether there might not have been some substance to the father's accusations that there were dalliances at the spas. Reich notes that a cousin had once "rashly kidded Mother in Father's presence about some 'gentleman in black' at a spa."

There is more evidence of unconscious hostility toward the mother. Following the disclosure, his father tormented his wife mercilessly and she made repeated suicide attempts. Reich writes, "Soon Mother lost our support, for we turned away from her and no longer made any effort to protect her from Father's assaults as we had done before. Yes, one day I actually raised my voice to her for some minor reason . . . Thus, the poor woman was driven to death like a hunted animal by her husband and children!"

Following his mother's death from a successful suicide attempt, Reich abandoned himself to a life of whoring. He describes his outstanding school performance as occurring at an almost automatic level while his head was filled with thoughts of prostitutes and sex fantasies. He was clear about the division in his psyche of "ideal" women and whores, and the period until age seventeen was devoted to the latter category. He was beset during this time not only by the guilt over his mother's death, but by his uncontrollable passion for harlotry. When he was seventeen his father died and he assumed the guilt, as indirect cause, for this premature demise.

The quality of the writing in the journal entries is in the tradition of nineteenth century German Romanticism. It is phoney, swaggering, hyperbolic, too much influenced by "The Sorrows of the Young Werther": "My pen refuses to obey me. No, it is I myself refusing with all my might, yet I want to, I will, I must if I am to do justice . . .," etc., etc. With good cause, Reich commented in notations years later, "what rot!"

Yet, despite the overblown style, the information and self-criticism is astonishingly candid. The impetuosity and self-loathing of the whoring days are set down forthrightly. He does not hesitate to write of his sexual longing for his mother or the fantasies of seducing a twenty-one-year-old girl his father was considering marrying.

To the objection that, after all, he was writing in a private journal so he could be as candid as he wished, there are many references to his awareness that diary writers have a secret anticipation of eventual publication. For example, in a diatribe on vanity and lies he asks, "Am I not writing with the half-conscious thought that this will someday be read —by whom?"

He writes frequently of his search for character integrity, identity. "How lonely I am, essentially! Some people hate me, others fear me; very few despise me, many esteem me— but where can I find unity, belonging; where shall I find acceptance for a soul with a consuming desire to give!?"

Again: *"I am simply not the practical person my brother is.* To my great disadvantage, I have been imbued with much more idealism that this is practicable. I strive for clearer vision and suffer the bitterest disappointments because of this."

He was unsparing, and he cut to the bone in his self-criticism. For example, ". . . Among my later character traits, emotional masochism was far from being unobtrusive. When I found myself in dire material need after

Father's death I quite enjoyed the role of martyr. This was one aspect of my attitude toward poverty, and I feel that this type of masochistic satisfaction is responsible 'for a major part of one's ability to sustain courage and not lose heart when times are bad'."

"I did not complain to others, even allowed them to believe that I was well-to-do and then was impressed with myself for 'suffering in silence.' After all, Mother had suffered a lot without complaining. Father always said I shared the traits of my mother's family, so how can it be surprising that I did actually have a womanly streak? Subsequently, this was to cause great unhappiness, though much happiness as well, and a certain lofty detachment in the realm of my emotions and my love life, in music, in my reading and theater going. But all this came about later and only after a period marked by complete emotional brutality and calculation."

In the course of his self-defamation he accuses himself of martyrdom, lack of confidence, masochism, lack of forwardness, the tendency to observe rather than participate, egocentrism and posing. It is no wonder that he was the master of character analysis having discovered these traits and their machinations within himself. We can occasionally behold the birth of character-analytic insight. He says, "I cause unhappiness. Nonsense, narcissism in its negative form!"

There probably have not been many letters of proposal of marriage such as the one he drafted to Annie Pink, in which he says, ". . . I am a person who has emerged from the blackest depths and brought many an ugly trait along."

His view of himself, however, was not focused exclusively on his negative traits. He was well aware of his softness (a quality he rarely revealed in his public display, but which one experienced in therapy with him). He speaks of his "too-goodness" which sometimes caused difficulties in relationships. And he was alive to his special feeling for children. In speaking of his obstetrical service he writes, ". . . the newborn children, with whom I played during every spare minute I had, gave me such joy."

Of course, his character analysis also dissected the behaviors of his acquaintances. Writing of a symposium arranged by Otto Fenichel on the theme: "Does man live from without or within" there is this observation reminiscent of vintage Reich, "But, Otto, this was also a way to introduce your good friends to your sister! In other words you wanted--with the help of emotions--to show your sister how much indignation lies within you and your circle of acquaintances."

There are also comments on worldly affairs that, for those of us who have taken so much longer to learn the lessons, seem remarkable in such youth: "It is the great luck of life insurance companies that they can legally pocket the premiums of good times, in order equally legally, to avoid full payment of the insured sum in bad times." And, concerning the "grief" of parents should their daughters become unchaste: "I could never understand how their daughters' fulfilled love could seriously harm the parents."

The same incisive insight permeates his reminiscences of his war experiences. He notes, "We were strict, because that was the way to become an officer. We did not know why. Three quarters of our strictness was vanity. Something had been made out of nothing which was itself a nothing when faced with a higher rank. Insubordination on the part of a soldier was considered an insult to 'honor'; honor was expressed by a star. If we did not greet a superior on the street, we were immediately 'de-starred.' The same applied to our subordinates. We believed firmly and honestly in the essential nature of dignity. The whole world appeared to depend on it."

"And it did depend on it. Without the honor of the star and without the simple man's respect--longing for it, no war would have been possible in spite of all the imperialistic mo-

tives. No one had the slightest notion of imperialist controversies." And, Reich added in an undated footnote: "And just so little notion of the structural anchoring of the state in the person."

In the spring of 1918, as the war was cycling to its end, a new mood was adrift. People began to feel that unreason was at the helm of affairs. He writes, "We experienced this senselessness very gradually through a series of events which spoke a far clearer language. Like millions of others, from being a sort of patriot I turned into a politically unaware saboteur."

Reich writes of these war experiences with a simplicity that comes only with a core-comprehension of the conduct of war. What is reported in war bulletins as heroic action is often only slogging routine, performed dumbly. As morale slackens, the stars on uniforms lose their mystique, and the common humanity of officers, men and enemy creeps into view. The obtaining of provisions exceeds in importance the attainment of the next bunker. Thoughts of lost civilian careers become conscious. One only longs for the ending of it.

With the return to civilian life, Reich pursued his medical career (after a brief fling at the study of law), his interest in psychoanalyses, and a series of love relationships which usually had unhappy endings. In contradistinction to the headlong style in which he pursued his prostitutes, his behavior with the chosen girls of his own class was marked with vacillations and hesitations. In viewing his reticent demeanor in these relationships, he characterized himself as a "schmuck" and a "schlemiel."

It is apparent from the insights into the behaviors of his associates, and the awareness of his own character defects and their ramifications in the conduct of his life and relationships, that the genius of Character Analysis is nascent in these pages. If our thesis is correct, important blind spots are also revealed in the writing, i.e., the true nature of his feelings toward his mother.

There are also glimmerings of ideas which are stated simply, and in passing, which will later be expanded into bold, revolutionary concepts. For example, speaking of his colorless "sexless" cousin whom he loved at fourteen, he writes, "Sex and vitality of the spirit bear of relationship to each other, a relationship which, as such, could be verified through facts and examples, although it is otherwise extremely obscure." That taunting relationship between sex and the vitality of the spirit gave impetus to the elucidation of the function of the orgasm, the bioelectrical experiments, and ultimately to the discovery of orgone energy.

Consider this early statement on individualism and how it germinated into "The Mass Psychology of Fascism" and other sociopolitical tracts. He writes, "I do not wish to create a new god and then have my individuality grovel before him, no matter what his name. I call for opposition to everything which is over me. I do not want to serve the community above all else . . . and then try to be myself. I reject this different mode of coercion from without, for if I render service to myself, it is done for the good of the community." Later he says, "Living *'from within' means forming the world, that which is 'not me,' the way my spirit* (and the spirit of everyone else who has the same desires) *demands.*"

This astounding credo marks the path which Reich traveled in moving from the insecure, harried, flawed, energetic, gifted, ambivalent youth to the world shaker he became. In this half-baked early work, the desire to reveal truth is already apparent. The courage and the energy to continue "living from within" enabled him to grow from troubled youth to giant in the world, and to "form [a] world" which opened our eyes.

Morton Herskowitz, D.O.

The Case of the Midwife Toad

by ARTHUR KOESTLER

Random House, N.Y. 1972, $3.50 paperback

The midwife toad experiment was the focus of a vicious campaign against its creator, Paul Kammerer, culminating in his death in 1926. In order to appreciate this campaign, it is necessary to make a brief historical survey of the theories of evolution current in his lifetime.

In 1809, Lamarck, a French naturalist, had proposed that changes in the environment could cause changes in the structure of plants and animals by inducing new or increased use of certain organs or parts (resulting in modification or greater development, and disuse and atrophy of other organs or parts). He also proposed that such acquired characteristics could be transmitted to offspring.

In 1859, Darwin, an English naturalist, published *The Origin of Species*. In it, he proposed that organisms tend to produce offspring varying slightly and randomly from their parents, and that natural selection tends to favor survival of those whose peculiarities render them best adapted to their environment. In time, the constant operation of these factors would give rise to new species. It should be noted that these two theories are not mutually exclusive.

Then, in 1867, Fleeming Jenkin, a professor of engineering, demonstrated via a review of *The Origin of Species*, that, according to the currently accepted mechanism of inheritance, no new species could ever arise by chance variation. This mechanism, known as "blending of inheritance," assumed that the newborn was a mixture or blend of the characteristics of the parents, with each parent contributing approximately half. On this basis, if an individual with a useful new variation mated with a normal partner, their offspring would have only half the useful feature, their grandchild only one quarter, great-grandchild one eighth, and so on. The useful novelty would vanish long before natural selection had a chance to allow it to spread.

This objection so shook Darwin that he inserted a new chapter in the sixth edition of *The Origin of Species*, reviving the inheritance of acquired characteristics. And for the next thirty years progress in the study of evolution was nearly at a standstill.

Then, in 1900, a 35-year-old paper by Gregory Mendel, a monk, was rediscovered. It showed that the units of heredity, later called genes, did not blend and become diluted, but were transmitted unchanged from generation to generation. Thus, if a random variation in a gene occurred, and had survival value, it did not disappear with successive blendings, but was preserved by natural selection.

Finally, William Bateson, a pioneering Mendelian, published Mendel's *Principles of Heredity: A Defense*, in 1902. He was attacked by a group of anti-Mendelians who clung to the "blending" theory, and one of their members, Karl Pearson, was able to keep Bateson's letters from being published in *Nature*. This was to have consequences for Paul Kammerer later on.

The combination of Mendel's ideas with Darwin's produced the neo-Darwinians, who

were far more absolute than their founder, as is often the case. August Weismann, the most neo-Darwinian of them all, cut the tails off twenty-two generations of mice to disprove Lamarck. No tail-less offspring appeared, of course. Lamarck had postulated that only such characteristics are inherited which an animal develops as a result of its natural adaptive needs–and losing a tail by amputation could hardly be called an adaptive need of the mouse. This kind of willful misunderstanding was not uncommon, as we shall see. Koestler notes that the Darwinian-Lamarckian controversy raged for nearly a century with highly charged passions and an astonishing disregard for fair play.

In 1902, while Bateson was publishing his defense of Mendel, Paul Kammerer was beginning his first sustained series of experiments. All of Kammerer's work was based on intricate experimental designs with various controls and the frequent combining of different techniques. Koestler points out that, to this day, none of Kammerer's experiments have been repeated with proper care. Kammerer touched on this problem in a 1914 lecture in Vienna:

> *Unfortunately, repeating my experiments is a difficult undertaking. The techniques of breeding–which often require patience for over a decade and many generations, fraught with the danger of extinction of the line before the results show – these techniques have so far found too few disciples among professional zoologists; so far that I am still almost the only one who practices them.*

In his first experiment, which took five years, Kammerer used the Alpine salamander, which gives birth to two fully formed young in a cool, dry environment, and the lowland salamander, which gives birth to ten to fifty tadpoles in a warm, wet environment. He subjected each of these to the other's environment under controlled laboratory conditions. After a period of adjustment each changed its mode of propagation: the Alpine salamander produced tadpoles, and the lowland salamander produced fully formed young. Over the next four years he was able to demonstrate that these modes were inheritable. This tour de force attracted international attention, and after it was confirmed in 1909, won him the much coveted Sommering Prize for Fundamental Discoveries in Physiology.

At the start of the experiment Kammerer was not a Lamarckian:

> *I was then,* he wrote, *under the spell of Weismannism and Mendelism, which both agree that acquired characteristics are not inherited.*

It was only when he saw what drastic changes of appearance and behavior he was able to produce by altering the animal's environment that the idea occurred to him to test whether these changes could be inherited.

In 1902 he had been invited to join the Institute for Experimental Biology by its founder, Hans Przibram. The following year he joined and remained with the Institute until near the end of his life. Przibram became his close friend and loyal supporter.

His next experiment with the lowland or spotted salamander showed that the color changes which appeared in its skin in response to the color of its environment, were inheritable. These chameleon-like changes occur very slowly. The entire experiment took eleven years!

The midwife toad experiment, which eventually proved Kammerer's downfall, was similar to the first salamander experiment: a change in environment produced a change in the mode of propagation.

Toads, in general, mate in the water, the male clasping the female from behind. In mating season the male develops dark, prickly pads on its palms and fingers, nuptial pads, which assist in holding onto its wet, slippery partner. But the midwife toad, unlike others, mates on dry land, and does not develop nuptial pads. It gets its name from the male's habit of attaching the strings of newly laid eggs to its hind legs and carrying them about until they hatch.

Kammerer kept his toads in a hot environment, with a cool basin of water available. The toads spent more and more time in the basin, and eventually copulated there. The fact that the eggs were now laid in water meant that the male could not care for them, and Kammerer had to act as "midwife." In this way he had managed to raise three generations of toads by 1909, when he noticed that the "great grandson" of his original pair had developed the grayish-black swelling, the horny callosity of the nuptial pad.

Kammerer himself attached little importance to this discovery. He went on to demonstrate that the altered mode of propagation was inheritable. In a Cambridge lecture in 1923, he said:

> *[Since] the atavism objection can always be raised, it is not very clear to me just why this experiment [with the midwife toad] is so often looked upon as an* experimentum crucis. *In my opinion it is by no means a conclusive proof of the inheritance of acquired characters.*

In other words, since the pads were to be found on all common toads, from which the midwife toad had presumably evolved, the pads were not a new feature but merely the reappearance of an old one. His opponents, however, clung to their statement that the nuptial pads, *if* proven, would be the clinching bit of evidence. In retrospect, it seems possible that this position was not entirely sincere.

The experiment that Kammerer believed established Lamarck's position beyond question dealt with the sea-squirt, a simple animal living on the sea bottom and having two tube-like extensions, or siphons. An Italian zoologist, Mingazzini, had discovered in 1891 that if its siphons were cut off, the sea-squirt replaced them by growing longer tubes. This had been confirmed by J. Loeb, and there was no disagreement about it. Kammerer cut off the siphons repeatedly until the regenerated tubes were like monstrous long elephant trunks. He then produced sea-squirt offspring demonstrating that the elongated tubes were hereditary. At that time he wrote:

> *I fully anticipated that the decisive experiment on regeneration and inheritance would encounter violent contradiction. On that account I took care to construct this critical experiment out of experiments which had already been made by other investigators . . . the only originality which I claim is the combination of* well known *experiments and their application to the solution of a problem of inheritance.*

Nevertheless, when his paper on the sea-squirt was published, it was the elongation of the regenerated tubes that was questioned! Monro Fox of the Biological Institute of Roscof wrote a letter to *Nature* to say that he had tried to produce elongation of the regenerated tubes, but had failed. Kammerer pointed out that Fox had used a wrong technique. It was of no avail. Whenever the subject was raised again, Fox was quoted in rebuttal. It seems that, hoping to achieve an irrefutable demonstration of Lamarckian inheritance, Kammerer had actually produced a sociological experiment demonstrating the fortress-like qualities of the establishment mind.

In 1923, Kammerer was invited to England by the Cambridge Natural History Society. He took with him such of his specimens as had survived the war, among them the last and only specimen of a midwife toad, preserved in alcohol and showing the nuptial pad on its right forelimb. The left pad had been excised and used to prepare microscopic slides. It was from the sixth generation of Kammerer's water-mating midwife toads; the seventh generation had developed ulcers and the breed had died out. Kammerer demonstrated his specimens and lectured in Cambridge on April 30th. He was asked to repeat the lecture in London to the Linnean Society on May 10th. *Nature* printed the full text of his lecture, May 12th.

A number of those present at the lectures were still living in 1970 and Koestler interviewed them. They were not all Lamarckians, by any means, but their evaluation of Kammerer is interesting:

The Hon. Mrs. Onslow--a convinced neo-Darwinian:

> *I did not know in the least what to expect . . . most favorably impressed by his personality . . . delightful . . . sincere . . . much in earnest.*

Dr. E. J. Bles--a philosophically neutral Darwinian:

> *. . . absolutely honest.*

Professor J. Quatel of Trinity College:

> *Great charm and integrity . . . could not believe he would deliberately deceive us.*

Dr. L. Harrison Matthews F.R.S., Scientific Director of The Zoological Society:

> *Kammerer struck me as a frank, open-hearted man, intensely interested in his experiments, and ready to have them subjected to any scrutiny or test . . . if there was deception he was one of its victims.*

In light of later events, it is worth remembering that these people and several dozen other highly qualified scientists, many of them critical of Kammerer's conclusions, had examined the midwife toad specimen, and nobody had raised any question of its authenticity.

Kammerer had many opponents, but perhaps his most eminent and most vocal was William Bateson, a pioneering advocate of Mendel, and the man who coined the term "genetics." Bateson, twenty years older than Kammerer, had started as a Lamarckian. At twenty-six he had made an expedition to the Central Asian Lakes, hoping to find evidence to support Lamarckian views. According to his son, Gregory Bateson, "The project was a complete failure. Perhaps this had something to do with his later attitude. He knew there was something very wrong with the orthodox Darwinian theory, but at the same time he regarded Lamarckianism as tabooed."

Koestler notes that it is difficult to convey the atmosphere of spite and foul play which prevailed among students of evolution at the beginning of this century. Bateson had suffered from it once, when Mendel's work was unpopular. Now it was his turn to defend the faith. He visited Vienna in 1910 and spent some time with Kammerer. Two months before he had written to ask for a specimen with the nuptial pads. Kammerer had replied that none were available. Now there were still no pads to be seen. Kammerer did not, as a rule, kill his precious breeding animals, and it was not yet mating time when the pads would appear. Bateson thought this was strange. His letters to his wife are quite revealing. He wrote: "The [nuptial pads] can not be produced. Somehow I have hit on a weak spot here." (He was to pound away on this imagined "weak spot" for the next fourteen years). He continued:

. . . There is no longer any denying the extraordinary interest in what [Kammerer] is doing . . . he has certainly done a lot of fine things, and comes uncommonly near to showing that an acquired adaptation is transmitted. I don't like it and shall not give in till no doubt remains. Kammerer is not an ordinary man . . . there is something artistic about him. I can not really entertain the idea of fraud . . . his face reminds me a little of Pearson's.

This last is particularly significant, Koestler points out. Karl Pearson was Bateson's mortal enemy during his early Mendelian days. Also, one can imagine Bateson's feelings at seeing this young man come "uncommonly near to showing" what Bateson had completely failed to show. Bateson's book, *Problems of Genetics*, was published in 1913. In Chapter IX, regarding Kammerer's work, he said, "Many of the results . . . will strike most readers as very improbable, but coming from a man of Dr. Kammerer's wide experience . . . are worthy of respectful attention." He then named the midwife toad and salamander experiments. He stated that the midwife toad experiment was the most significant and the most readily repeated and verified experiment.

Both parts of this statement are questionable. The pads are not especially significant, as Kammerer had pointed out on several occasions. As far as "readily" repeating the experiment, Bateson must have known how difficult this was. He had ordered some toads from a dealer, but never published his results. His associate, D. A. Boulenger, also tried, but was unable to get the midwife toads to reproduce at all.

World War I interrupted communication for three to four years. In 1919, Kammerer published his most detailed paper on the midwife toad, answering some of his critics, including Bateson. Bateson's reply, in a letter to *Nature*, dismissed Kammerer's fifteen years of work with salamanders with the single remark: "Salamanders such as he shows can be bought from a dealer." (So much for the "respectful attention.") He went on to doubt that the pads were in the right place, but added that even if they were, "there is still the question of interpretation." (So much for the significance of the nuptial pads.)

When Kammerer came to England in 1923, Bateson did not attend his first lecture. He explained that he thought there would "be nothing new to see." As a prominent member of the Linnean Society, he could not stay away from the second lecture, but he maintained a very low profile. He did not engage in discussion beyond congratulating Kammerer on his enthusiasm. He was reported in *Nature* to have withdrawn all his charges of bad faith on Kammerer's part and to have apologized if his attacks had been too rude. He scarcely glanced at the midwife toad specimen, and did not ask to have it taken out of the bottle. However, as soon as Kammerer had left England, he resumed his barely veiled hints of fraud. And then—surprise!—in a letter to *Nature* he said, "I have a strong curiosity to see the [midwife] specimen again," and he offered 25 pounds to pay for its transportation. Kammerer had no wish to expose the last critical specimen to the dangers of a second journey, only because Bateson hadn't examined it when he had the chance, but said if the Museum of Experimental Development (whose property it was) wished to send it, he would not oppose it. The museum did not wish to. Przibram, who still thought Bateson was his friend, extended a warm invitation to come to Vienna as his house guest and examine the toad to his heart's content. Bateson replied, "I have made my offer, not an unfair

one, and you have declined." And, for three years, that was that.

Then, in the Spring of 1926, G. K. Noble of the American Museum of Natural History visited Vienna and got permission from Przibram, with Kammerer's consent, to examine the midwife toad specimen. (Kammerer was no longer with the Institute. The disastrous postwar inflation had left him bankrupt, and he was reduced to writing popular articles and lecturing to keep going.) Noble's report was published in *Nature* that August. It said the midwife toad specimen was a fraud, in fact, such a clumsy fraud that Noble had seen it at once. The dark pads were injections of India ink, and the prickly spines were completely missing. Przibram was Kammerer's friend, but he was a scientist of integrity. He repeated Noble's examination and confirmed his findings.

Six weeks later Kammerer was dead, a suicide. Why he did it remains a mystery. He wrote four farewell letters and gave a different reason in each for ending his life. Clearly it was not an admission of guilt. But it was an admission of defeat. Under great stress for several years for reasons having nothing to do with the toad debate, he had struggled gallantly with technical and financial difficulties. This clumsy substitution for his beloved specimen must have been the last straw.

Koestler writes, "In reviewing the controversy that ranged over fifteen years, one is struck by Bateson's strategic skill and Kammerer's lack of it." But there is more than this to be said of the two men. Kammerer, by the accounts of witnesses, was a frank, openhearted, sincere person. Described as honest, genuine, with great charm and integrity, he did not understand tactics. He was also, as Bateson had noticed, artistic. He had trained as a composer before studying zoology. Przibram, writing after Kammerer's death, said:

> *His gifts as a musician and his artistic temperament were matched by his competence in observing nature in minutest detail, and a love of all living creatures without parallel in my experience. It was the core of his personality.*

According to his daughter, he was extremely attractive to women, but in no way a philanderer. It would seem that if Kammerer was not a genital character, he must have been close to one.

Bateson was indeed a skillful strategist. Except for his letter to his wife, there seem to have been few times when he said what he was actually thinking. He was polite, almost obsequious, to Kammerer's face, but murderous behind his back. Like Pasteur, who is said to have looked for the secret of biogenesis in his youth, Bateson, having failed to win his goal as a young man, seemed determined that no one else should succeed where he had failed.

A final, ironic note on Bateson: A year before his death, which occurred about the time Noble was discovering the false nuptial pad, Bateson confided to his son that he felt he had wasted his life pursuing Mendelism, that it was a blind alley, with no chance of throwing light on evolution.

Kammerer's death left many unanswered questions. Perhaps the most important one is, why has no one repeated his experiments to either confirm or refute them? His suicide was taken by some as an admission of guilt, but this is hardly enough to explain the virtual abandonment of the field by the many investigators who had been active. An observation by Eregino Rignano in his 1905 survey* of the Lamarckian scene may have bearing on the question. He says:

**Upon the Inheritance of Acquired Characters*, page 223.

> *. . . The sum total of facts and arguments [favoring Lamarck] are so weighty one is compelled to believe that the Lamarckian principle is . . . correct. But the difficulties of explaining the mechanism [of inheritance] are so great that many investigators . . . have been led to deny its existence just in order to free themselves from a veritable nightmare.*

In other words, the Lamarckians had weighty facts and arguments but no theory.

Einstein is reported to have said that theory is what lets us see the fact in the first place. This is an elegant way of describing the human reluctance to acknowledge any fact for which there is no ready-made explanation. But why should there be this reluctance? Why should weighty facts without an explanatory theory seem a nightmare? Some years ago the comic strip, "Mutt and Jeff," presented a short parable that illustrates the problem:

> *Mutt, searching on hands and knees under a street light for a lost half-dollar, is joined by his friend, Jeff. After they both search for a time without result, Jeff asks, "Are you sure you dropped it here?" "Oh, no," Mutt replies, "I dropped it across the street, but I'm looking here because the light is so much better."*

A generally accepted theory seems to give a feeling of illumination and security, and perhaps we are all a little afraid of the dark.

Koestler began his research with the assumption that Kammerer was guilty of fraud. He writes, "Nobody who reads about Kammerer in current books on biology could believe in his innocence." But, as he examined source material from the archives, and interviewed eyewitnesses who had participated in the drama, he realized that the accounts in the biology books were badly distorted. "I did not start with the intention to rehabilitate Kammerer," he writes, "but I ended up with an attempt to do so."

Koestler's summation: In his life Kammerer was the victim of a campaign of defamation by the defenders of the new orthodoxy --a situation which occurs with depressing regularity in the history of science. He lets Kammerer have the last word . . .

> *Evolution is not just a fair dream of the last century, the century of Lamarck, Goethe and Darwin; evolution is truth--sober, delightful reality. It is not merciless selection that shapes and perfects the machinery of life; it is not the desperate struggle for survival alone which governs the world, but rather, out of its own strength, everything that has been created strives upwards toward light and the joy of life, burying only that which is useless in the graveyard of selection.*

David C. Hughes

Communications and Notes

Fiora Raggi, M.D. died on October 9, 1989 after a long illness. Dr. Raggi was born in Buje d'Istria, Italy, graduated from the University of Padua with degrees in pharmacy and medicine. She immigrated to the United States in 1956 and, after working for several years in biochemical research, completed her residency training at Albert Einstein Medical Center in Philadelphia, PA.

Dr. Raggi established her psychiatric practice in 1971 and was closely associated with orgonomy for many years, attending training seminars and laboratory meetings. In recent years, one of Dr. Raggi's primary endeavors was writing a novel, *Fable of the Blue Sun*, which was published in 1988. Her colleagues and friends mourn her passing. Dr. Raggi was 65.

The Wilhelm Reich Infant Trust Fund has announced the founding of a new journal, *Orgonomic Functionalism*, designed for the purpose of making Reich's complete scientific legacy available to the public. For further information, contact Linda S. Gibson, Director of Development, c/o The Wilhelm Reich Infant Trust Fund, 382 Burns Street, Forest Hills, New York 11375.

The Institute wishes to thank Marie Rajcan for her able and generous assistance in copy editing this issue of the *Annals*.

Educational Programs

The Institute conducts ongoing educational and training programs for medical students, physicians and laymen, which include:

• *Somatic and Psychic Biopathies*:

This course is offered to third- and fourth-year medical or osteopathic students and physicians. It is designed to enhance the student's classical understanding of disease processes through an in-depth exploration of Reich's pioneering work in these areas. This course is not limited to students interested in becoming medical orgonomists. Applicants must be undergoing characterologic restructuring and be recommended by their therapist.

For further information, write: The Institute for Orgonomic Science, c/o Robert A. Dew, M.D., Box 304, Gwynedd Valley, Pa. 19437.

• *Training Program for Medical Orgonomists*:

Applicants for this program must be undergoing characterologic restructuring with an approved therapist, be interviewed by one or more training therapists, and have completed (or be in the process of completing) their first year of a psychiatric residency. Candidates for training are required to complete the biopathies course, advanced laboratory course in biogenesis and orgone physics, and the clinical didactic course. Training then continues with the monthly clinical seminar given by the Institute, and with individual case supervision.

For further information, send a resumé that includes biographical data, classical and orgonomic training, and therapy, to: The Institute for Orgonomic Science, c/o Robert A. Dew, M.D., Box 304, Gwynedd Valley, Pa. 19437.

• *Laboratory Course Offerings:*

Introduction to Scientific Orgonomy:

For the student without a strong scientific background, a two-day, weekend course in the fundamentals of biogenesis and orgone physics is offered twice a year. The course includes lectures, laboratory work, and demonstrations. Enrollment is limited to 10 students. Course fee: $200. The next course will be offered in May, 1990. If you are interested in taking the course, send a brief resumé to the Institute, including scientific background (if any) and experience in orgonomy.

Advanced Laboratory Course in Scientific Orgonomy:

This course is designed primarily for physicians and students with a strong scientific background (it is also open in selected cases to those who have completed the two-day course). It is a more comprehensive, four-day course in biogenesis and orgone physics, with lectures, laboratory work and demonstrations. Enrollment is limited to 12 students.

Course fee: $350. If you are interested in taking the course, send a brief resumé of your scientific background and experience in orgonomy to the Institute.

Manuscripts

The *Annals* invites the submission of articles on any of the several aspects of orgonomy. Manuscripts must be sent in triplicate (the original and two copies) to the *Annals of the Institute for Orgonomic Science,* Box 304, Gwynedd Valley, PA 19437. They should be typed on one side of white paper, double spaced, with margins of no less than one inch. A letter should be included indicating the category of the paper and should provide the name, address and telephone number of the author. The title page must include the following information about the author(s): first name, middle initial, and last name; academic degree(s), occupation, and institutional affiliation (if any). An abstract of 150 words or less—also double spaced—is requested, stating what was done, the results obtained, and conclusions reached. References should include only those actually cited in the paper and are to be listed and numbered in the order of citation. Within the article itself, references are indicated numerically in parentheses on the line of typing. Journal references should include the author(s), title, name of the journal, volume, page numbers, and year. In the case of books, the name(s) of the author(s) and editor(s), number of the edition, name of the publisher, city of publication, and year are required. The format indicated below should be followed:

1. Baker, C.F., Dew, R.A., Ganz, M., Lance, L.: "The Reich Blood Test," *Journal of Orgonomy,* 15: 184-218, 1981.
2. Reich, W.: *Character Analysis,* 3rd edition. New York: Orgone Institute Press, 1949.

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