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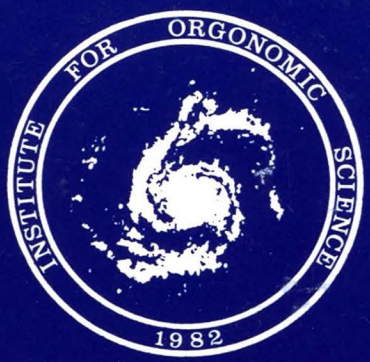

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The Reich Blood Test: 105 Cases

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Abstract

In this paper we present qualitative and quantitative features of the Reich Blood Test in health and disease from a sample population of 105 cases. The microscopic appearance of the red cell in various inflammatory diseases, lymphomas and benign and malignant tumors are described, as well as preliminary findings from tests during normal pregnancy, and testing of infants and children. The statistical results of quantitative measurements are presented, including normal limits of the 1% time, scaling of the GMA observation, and error assessment. This data allows a clearer understanding of energetic health and the rapid shifting phenomena in biopathic disease.

Introduction

Blood is the most dynamic tissue of the body—every component, cellular and solute, is constantly being replaced. Classical hematology has, until recently, concerned itself with a static approach to the study of blood. Whereas conventional studies of cellular morphology have provided valuable diagnostic information over the years, they have not contributed to an understanding of the real dynamism of the system and how this is reflected in the health or disease of the individual. Dr. Reich introduced the Reich Blood Test based on his understanding that the red blood cell (erythrocyte) is a microscopic orgonotic system and, as such, is subject to the same biological functions of tension, charge, and pulsation as is the total organism and its autonomic nervous system. Examination of living blood cells, therefore, provides information about the energetic state of the entire organism and its capacity to maintain and regulate its bioenergetic charge. In unstained erythrocytes, those qualities known to be manifestations of the orgone energy can be assessed. This information, when combined with microscopic and statistical data on bionous disintegration, offers a means of objectifying one's clinical impression of energetic vigor.

Using Reich's basic protocol (1), research was begun in August 1979 with the aim of standardizing the Reich Blood Test (RBT) in today's oranur atmosphere and improving the reliability of the test. A complete description of the changes in protocol, methodology, and findings in the first twenty-six cases was reported in *The Journal of Orgonomy* (2).

1981-1984

Rigorous evaluation and refinement of the RBT have resulted in the development of an experimental procedure that provides reliable, repeatable data that can be verified by

simultaneous counts done independently by separate observers using the same sample of blood.

Summary of Current Protocol[1]

1. Clinical history and energetic assessment of patient is recorded.
2. Patient's hands are cleansed in warm water and dried thoroughly. Soaps or residues will affect the test. Inadequate drying will alter the macroscopic quality of the blood and may give a false impression of poor cohesiveness.
3. An Autolet is used for the finger puncture. This instrument creates wounds of uniform depth and size and is virtually atraumatic to the subject. This method of puncture has greatly facilitated the study of young children and infants.

   The time of the puncture is recorded. Macroscopic observations are performed on this first droplet. The finger is wiped.
4. Blood from the second drop that appears is transferred via a sterile lancet tip to a warmed well slide containing six drops of sterile physiologic saline delivered from a syringe fitted with an 18 gauge needle.[2]

   The blood is not stirred. Instead, the slide containing the specimen is gently agitated by hand. It has been found that this method insures a good distribution of the erythrocytes without any mechanical trauma to the cells and eliminates precipitous, artifactual bionous breakdown.
5. A field of 100 cells is selected for observation throughout the test. The use of a heating tape fitted to the objective may be necessary to prevent the troublesome "fogging" that sometimes occurs due to the temperature differences of the lens and the specimen fluid.
6. Microscopic observations, pre-bionous, and bionous counts are made as previously reported. This data is recorded for use in the statistical analyses. The test may be concluded when 35% of the cells are bionous.

Characteristics of Energetically Vigorous Versus Debilitated Blood

Erythrocytes from an energetic organism exhibit the following characteristics, which are qualitative evidence of orgonotic charge:

1. Macroscopic: Deep red color of cohesive droplet which remains spherical.
2. Microscopic:
   a. Relatively little variation in either the size or shape of the cells. (Mean diameter is 7.2 microns. Shape is round to slightly oval.)
   b. Orgone energy frames of medium blue to aquamarine color; occupy one-quarter or more of total cell diameter.
   c. Orgone energy field is seen as a luminescent radiation or "halo" extending outward from the cell membrane. Approximately equal in width to frame.
   d. Center is circular in outline and clearly delineated from the frame. Its color is roughly that of the background. Occupies one-half or less of the total cell diameter. On careful observation, a distinct flickering can be seen, which is thought to be evidence of orgonotic pulsation in the cell.
   e. Pulsation is best seen in cells viewed from the side, *i.e.*, where the biconcavity of the disc is best appreciated. In this plane, the rhythmic movements of the membranes are striking.
   f. Three-dimensionality of the cells is due to the tautness or turgor of the cells. It is most marked in healthy infants.

By contrast, debilitated blood lacks sufficient energy to maintain its structural properties. Thus, the blood "runs" from the puncture wound, shows marked variations in both size and shape of the red blood cells,

[1] This includes certain significant changes from the protocol as reported in the first paper in the *Journal of Orgonomy* (2). For a complete description, that article is recommended.

[2] This pool of fluid is equivalent to the amount previously reported.

which have pallid orgone energy (OE) frames that may be diminished in width, that may also may have a field narrower than the frame, a large center, disturbed pulsation, and an overall flattened appearance (loss of 3-D quality).

Patterns of Bionous Disintegration

Any blood cell when removed from the body will quickly undergo modifications in its structure. The cell begins to lose energy and, as the charge decreases, the normal structure of the cell can not be maintained, so a reorganization of the energy takes place in the form of a more primitive unit, the bion. This process will take place in healthy as well as debilitated blood, but the manner and rate at which it occurs will be distinctly different.

In vigorous blood cells, there is sufficient energy to maintain the turgor of the cell so that, throughout the process of bionous breakdown, the cell will remain expanded and will form medium to large bions in the orgone energy frame. These bions are luminous and a darker blue than the original color concentrated in the frames. These formations look like a ring of pearls within the cell. Cells with a lower energy level at the outset, or ones that lose their energy more rapidly, cannot maintain the spherical shape and will form small bions in cells that shrink or even collapse. These forms look more like a sac of pearls; sometimes they are so contracted, even their luminosity is lost. In the most extreme situation, the cells may lose definition altogether and become tiny, contracted forms with sharp, needle-like, radial projections that Reich called the "spike" or "T" form.

The rate of bionous formation differs tremendously in healthy and sick blood. These differences will be discussed fully in the section on statistical analysis.

Patient Categories and Findings

The basic, underlying bioenergetic structure of the individual is the prime determinant of health or sickness. An energy system that is free to pulsate does not remain in parasympathetic expansion or in sympathetic contraction, so the condition for the development of a chronic biopathy is not present. Health and illness are not absolute. A basically healthy individual will develop occasional, acute illnesses but will overcome the condition when pulsation is restored. Conversely, an individual with a chronic biopathy may regain a high degree of health if the stasis can be overcome. Sequential tests in our series have shown both of these possibilities.

1. *Normals: 37 adults*

   Patients in this category are free from known disease. Clinical assessment reveals individuals who are biophysically expansive, make good contact, and function well. Blood samples from this group show a striking uniformity of characteristics. Macroscopically, the droplets were of good color and cohesion. Microscopically, the most common findings were: 1) a slight variation in size of the RBCs (26 cases); 2) a slight variation in the shape of the RBCs (16 cases). Twelve cases showed both variations. Six cases were noted to have diminished fields with respect to the frames. It is of interest to note that four of these cases had acute illnesss. Bion formation in these cases was predominantly of the peripheral type. (It should be noted that an occasional contracted cell may be seen in an otherwise healthy sample.)

   Normals: 10 children (ages 6 weeks—11 years)

   This series best illustrates orgonotically healthy blood and gives a perfect demonstration of the 3-D quality previously mentioned. Cells from these children looked like fat inner tubes or "doughnuts." With the exception of an occasional and very slight variation in the size of the cells, they appeared biologically perfect in structure and all went on to form large, luminous, peripheral bions.

Normal pregnancies:

The six cases studied were of women of approximately thirty weeks gestation. Indicative of increased charge were very bright fields that were wider than the frames and an increase in pulsation of the cells.

2. *Pathologics:*
   A. *Inflammatory conditions* (including asthma, ulcerative colitis, Crohn's disease, and mononucleosis): *18 cases*

With two exceptions, all patients in this category showed abnormalities in either the macroscopic or microscopic portions of their tests. The two exceptions did not have known pathology but were being diagnostically worked-up by their primary physician for a suspected illness of this category. It is possible that they should be reclassed among the normals.

All others in this group demonstrated a striking correlation between their clinical appearance and the Reich Blood Test, both microscopically and statistically. A good example of this was a 38-year-old female with a long history of ulcerative colitis, asthma, and bronchiectasis. When she was first seen in March of '81, she was pale, contracted, and symptomatic. Table 1 below summarizes the findings in 4 sequential tests.

This series illustrates several significant points. Acute biopathies can occur in a basically normal individual when events are such that his or her energetic equilibrium is disturbed (this was seen in a young woman with mononucleosis who was studied over the course of her illness and convalescence). During the illness, abnormalities appeared in the microscopic evaluation of the blood. Depending on the essential energetic status of the individual, these abnormalities may or may not be reflected in the parameters used to study bionous breakdown. In patients with long-standing, chronic inflammatory conditions, abnormalities appear both in the morphology of the red blood cells and in the manner and rate of bionous disintegration. As the patient's energetic status improves, symptoms abate, the clinical presentation improves, and all aspects of the Reich Blood Test reflect this improvement.

Approximately one-third of the tests in this category ended with a mixed bionous picture, *i.e.*, some were "necklace" forms but many were seen to be shrunken or collapsed to some degree. In one-half of these cases, poor charge was seen in the overall lack of three dimensionality. In all but

TABLE 1

1%	Date	Clinical	Droplet	Microscopic	Bions
−112	3/81	Contr/pale symptomatic	runs	flattening/decr pulsation & field	mixed
−39	2/82	improved	erect	mod var size and shape; better puls	peripheral
−3	8/82	wt gain; fewer symptoms	erect	slight flattening sl var size/shape	peripheral
22	10/83	good color expanded	erect	sl var size/shape	peripheral

one case in this series, there was some variation in either the size or shape of the cells; both abnormalities were seen in sixteen of the eighteen cases. In two cases, it was noted that the demarcation between center and frame was indistinct. Some variability was also noted in the field-to-frame ratio and in the degree of pulsation of the cells.

B. *Lymphomas: 9 cases*

Sequential testing was done on a thirty-three-year-old female with Hodgkins disease. She was seen prior to treatment and several times post radiotherapy and chemotherapy. Whereas there was a quantitative improvement in her tests, qualitatively, the microscopic features worsened considerably. The cells were distorted with moderate-to-marked variation of size and shape, poor 3-D quality, decreased pulsation, general pallor of the orgone energy frames, and poor demarcation between the center and the frame. Bions were mixed, with some cells remaining expanded but the majority collapsing or becoming very contracted with a "spikey" appearance. She was staged 4B, was highly symptomatic and suffered the classic side effects of both the chemo- and radio- therapies.

Another patient, a 35-year-old male with 3B Hodgkins disease, who had had a splenectomy and an incomplete course of chemotherapy, showed a similar microscopic picture.

Two cases of Hodgkins in remission were studied. The first, a 28-year-old male staged 2A Hodgkins thirteen years prior to the test was on long-term chemotherapy. He looked clinically well and showed only mild changes in the RBT with some flattening of the cells and a mixed bionous breakdown. The second man, in his early thirties, had been staged 4A in 1979, had received chemo- and radio- therapies and had an entirely normal test. He looked well, was functioning well, and had been asymptomatic.

A 67-year-old female, who had been diagnosed two months prior to the test as having lymphosarcoma and looked clinically well but anxious, had an RBT that showed a slight variation in the orgone energy fields, decreased pulsation, and poor center-to-frame demarcation. All bions were peripheral.

In five of these cases, the indistinctness of the center-to-frame was noted. The significance of this is not yet understood.

C. *Tumors* (nonlymphoid)

In classifying patients with tumors, we use the generally accepted medical model. Tumors are classified as benign or malignant, as well as by subcategories of active disease or in remission.

1. *Benign: 4 cases*

A biopsy was performed in each of these cases. An RBT was done on a 49-year-old female with a breast mass prior to biopsy. The patient was pale, waxy looking, and contracted. She reported long-standing anxiety. The test showed significant variation in the size and shape of the cells, a flattened appearance, and diminished fields and frames. Most of her bions were of the peripheral variety. Her test results fell in the abnormal range in both mathematical categories. Repeat testing after biopsy, which confirmed a benign fibroma, yielded the same microscopic results with the additional finding of poor center-to-frame demarcation. Her numerical values now fall within the normal range.

In the other two cases of benign tumors, variations in the size and shape of cells were seen, in addition to flattening and poor center-to-frame demarcation. Bions were

peripheral.

2. *Malignant: 16 cases*

Six cases revealed poor cohesion in the macroscopic portion of the test. Of these, one patient had been diagnosed as having a malignancy of the thyroid with metastases but was in remission for ten years and was not anemic. Microscopically, the blood had changes indicative of poor charge, and bionous breakdown was mixed. Clinically, although free of active disease, she appeared debilitated and contracted, and her blood test mirrored this.

Another patient with uterine carcinoma was studied preoperatively. Her macroscopic findings were of poor cohesion; microscopically, she showed marked variation in size and shape of the cells, poor three dimensionality, and an increase in pulsation that was most remarkable. Bions were peripheral. A repeat test two years post operatively revealed an essentially normal test by all parameters. The tumor had been found to be well localized; she had done well post-op and looked clinically well except for a marked increase in weight. It is tempting to speculate that, in this case, tumor formation occurred in response to the patient's inability to regulate her overcharge and that the weight gain served a similar function.

Four cases of recurrent basal cell epithelioma were studied and all showed a moderate variation in cellular morphology and diminished fields with normal frames. Two of these cases revealed poor cohesion on macroscopic examination.

In two patients with nonlymphoid malignancies, tests were performed before and after radiation therapy. As with the study on the lymphoid tumors, radiation improved the RBT from a quantitative standpoint, while significantly worsening the qualitative aspects.

In one case of a highly malignant tumor, six tests were done over an eight month period and showed a progressive deterioration in the microscopic aspects of the test. The clinical appearance of the patient and the RBT were indicative of decreasing charge. At the height of the illness, the patient was severely symptomatic, macroscopic cohesion was poor, cellular morphology reflected poor charge, and there was minimal-to-absent pulsation apparent in the cells. Bion formation proceeded in a way not previously seen, with a few necklace forms and the small, contracted cells having a stippled, salt-and-pepper look and no clear demarcation between center and frame. This may have represented the beginning of what Reich described as the T-cells.

In one-half of the cases with malignancies, pulsation was noted to be markedly diminished.

D. *Miscellaneous:*

Three cases remain unclassified, and in all three, the diagnoses are uncertain. All of these blood tests show marked abnormalities in bionous breakdown and in microscopic features. These cases will be followed up.

Quantitative Assessment

The Reich Blood Test allows a quantitative determination of the approximate energy level of the individual. This fact entails several important considerations. First, since at the present time it is the *only* test that makes this determination, there is no independent means of verifying its accuracy, *i.e.*, no other measurement to compare it with. Thus,

it is not surprising that the 1% time often does not correlate well with scaled values for the subject's disease or clinical condition, since the clinical condition is only *indirectly related* to the energetic level. Second, this means that we must clearly differentiate between the clinical condition and energetic level as separate (although related) entities in our evaluation of the test results. This distinction actually amounts to a new, *energetic* definition of health, as opposed to the traditional clinical definition.

In our initial report of the Reich Blood Test (2), we made an attempt to classify individuals as normal, borderline, or pathological on the basis of their clinical condition. It is now apparent that we need to define normal, borderline, and pathological ranges for the 1% separately and then compare the test values with the clinical condition, whatever it is. This is the approach we are now using, and we have found it most instructive in enhancing our understanding of the development of biopathic disease. Indeed, we have seen individuals with well-documented biopathies but normal 1% times; recovering patients whose 1% times improved prior to clinical improvement; and a normal "control" who showed an abnormally low 1% time several days before the onset of a severe viral illness. These observations demonstrate a certain degree of independence between changes in the energy level and changes in symptomatic illness. Our initial report regarding the extremes of health and disease remains valid, however: patients with a documented biopathy who look severely contracted have negative 1% times, and disease-free normals have positive 1% times.

The Reich Blood Test, then, can be used to *define* the energetic health of the subject. A healthy test means normal values for the 1% time and delta-49, as well as for the normal gross, microscopic, and autoclave (GMA) portions of the examination. Obviously, a normal test does not mean that the individual is energetically healthy in every sense, as we have seen a few normal tests in individuals with documented biopathies including early, localized malignant tumors. Nevertheless, the test results in these cases suggest useful prognostic information, inasmuch as a normal energy level is being maintained despite the biopathy. In other cases of patients recovering from severe illness, the tests have improved prior to, or concurrent with, the clinical improvement. Obviously, the Reich Blood Test gives exceedingly valuable information about the underlying energetic health of the individual which is not always apparent on clinical or other laboratory examination.

The numerical evaluation of the test is based on the 1% time, the delta-49, and the scoring of the GMA. The 1% time is the mathematically determined point at which one percent of the cells observed has formed bions; it is derived from the curve of percent bionous breakdown graphed against time. The best curve fitting the data (either linear or exponential) is then extrapolated backwards to the point of 1% breakdown. The delta-49 is the time, in minutes, from 1% breakdown to 50% breakdown, and is also derived from the best curve for the data. The GMA is scored by starting with a value of 10 and subtracting either 1 or 2 points for each specific abnormality observed in the gross examination of the blood, the microscopic appearance of the cells, and the appearance of the autoclaved blood sample. The delta-49 and GMA scoring will be described in more detail below.

The normal and abnormal ranges of values for the 1% time were determined by examining the mean and standard deviation for two groups of subjects: the normal, asymptomatic controls, and the severely contracted patients with documented biopathies. This produced two distribution curves; their limits were defined as ± 2 standard deviations from the mean. This left a small region of values inbetween these two ranges, which was defined as the borderline region.

The ranges for the three categories for the 1% time are given as follows:

Normal: 8.5 to 84

Borderline: —2.5 to 8.5
Pathological: less than —2.5

Note that in the range for normal 1% times, values greater than 84 are more than two standard deviations from the mean and may be tentatively considered abnormal, as an indication of overcharge. One individual with a benign tumor and clinically of high energy fell into this group (1% time of 114). Once the test has been categorized on the basis of the 1% value, we may examine the delta-49 and GMA values for further insights about the blood sample. The mean values for all three parameters are given in Table 2 below:

TABLE 2: MEAN VALUES

Category	1% Time	Delta-49	GMA
Normal	35.5	42.0	9.4
Borderline	4.0	67.8	8.2
Pathological	−40.7	108.0	6.0

A delta-49 greater than 112 or a GMA score less than 8.0 are considered abnormal even if the 1% time falls within the normal range; these two parameters are sensitive indicators which may show abnormal values before the 1% time does.

The frequency distribution for all tests with a positive 1% time (from normals and symptomatic cases) are shown in Figure 1. This is an asymmetrical distribution and approximates a *lognormal* distribution. This can be appreciated by taking the natural logarithm of the 1% values, and forming a new distribution, as shown in Figure 2. The latter distribution is roughly symmetrical and now approaches a normal distribution. The lognormal distribution is often found to characterize the threshold, or just-effective doses of drugs in medical studies. Evidently, it appears here because the 1% time represents the threshold for bionous breakdown.

We can now analyze the breakdown process in more detail. One may well ask why all the cells don't break down at the same time, *i.e.*, why the bions don't appear simultaneously in all cells after a certain interval of time. Something approaching this does occasionally happen with normals. Bions appear after the cell has lost sufficient energy to require reorganization at a lower level. Since bion formation does *not* usually appear simultaneously in all cells, we can only conclude that the cells have a *range of energy levels* at the start, and hence take varying lengths of time for reorganization to occur (since they had varying amounts of energy to lose).

The curve generated by graphing the percent of bionous breakdown against time therefore actually represents the distribution function of the energetic levels of the 100 cells being counted. This curve can be used to mathematically define this distribution function, and, in fact, it can be shown that the standard deviation is directly proportional to the delta-49. The standard deviation, of course, characterizes the range of variation of the population, *i.e.*, how "spread" the values are. A large delta-49, therefore, means that the cells have a large range of energy values; a small delta-49 means that the cells are fairly similar in energy level.

It is now clear why large delta-49 values are often associated with abnormal tests: A large variation in cell energy level is characteristic of pathology. This situation is frequently found in classical medical tests. For example, normal individuals maintain their blood glucose levels within a relatively narrow range, whereas diabetics show glucose levels considerably *above or below* the normal range, *i.e.*, a large variation in level. The same can be said for blood pH, blood pressure, heart rate, and a number of other biological parameters. A healthy system maintains itself within a definable range or level; pathology results in excursions outside the normal range. Thus, a large delta-49 is a sign that the organism is failing to maintain a consistent or orderly energy metabolism.

The qualitative appearance of the blood sample can also be evaluated quantitatively via the GMA scoring of the gross appearance of the droplet, the microscopic characteristics of the cells, and the gross appearance of an autoclaved sample. A normal sample has a GMA value of 10, with points subtracted

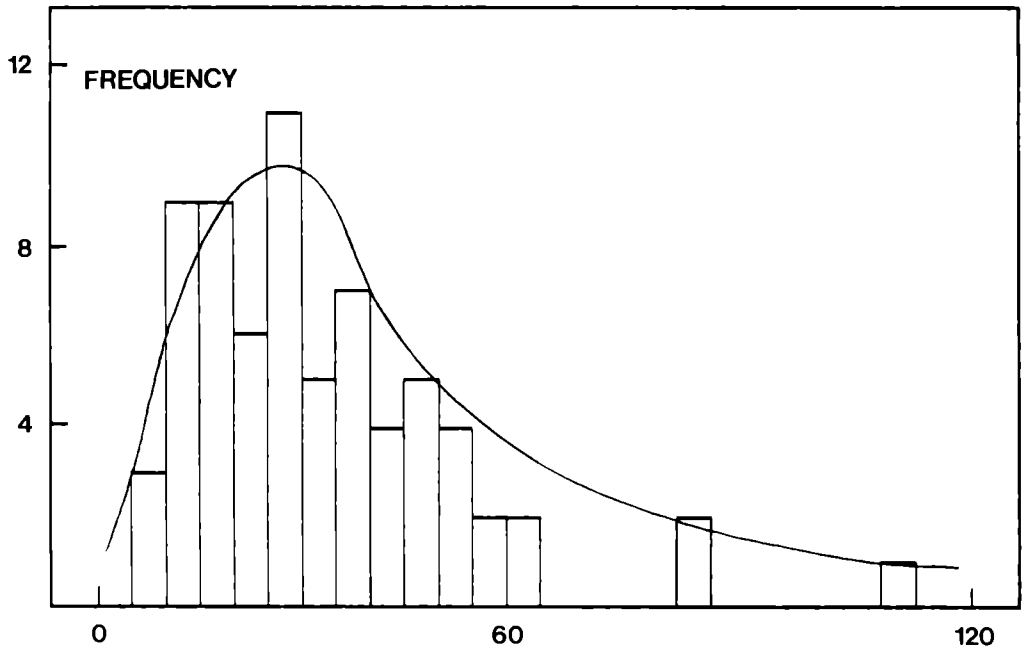

Fig. 1: Frequency distribution of 1% times for normal and borderline cases, showing that the distribution approximates a lognormal function.

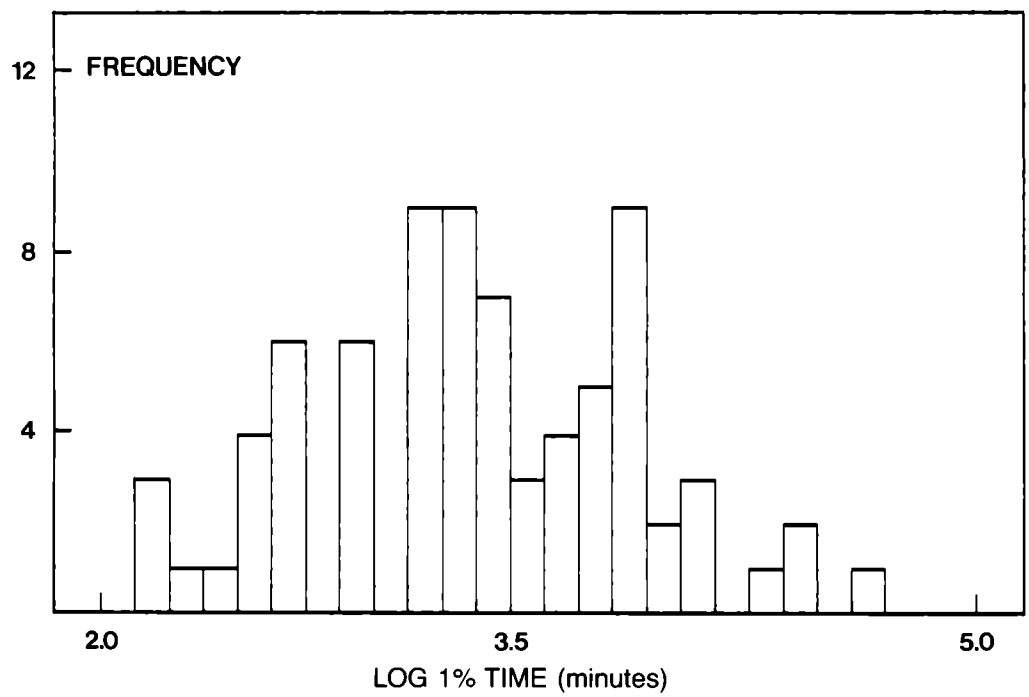

Fig. 2: Frequency distribution of log (1% time) for normal and borderline cases, showing that the distribution approaches a normal function.

according to various pathological factors as shown in Table 3 below.

TABLE 3: GMA SCORING

Gross Appearance:	
Slight tendency of droplet to spread:	−1
Droplet quickly spreads over finger:	−2
Microscopic Appearance:	
Moderate variation in size or shape:	−1
Marked variation in size or shape:	−2
Flat appearance or loss of 3-D quality:	−1
Reduced internal pulsation:	−2
Occasional collapsed cell:	−1
Many collapsed cells with central bions:	−2
Autoclave Appearance:	
Poor clot cohesion:	−1
Turbid or cloudy fluid:	−2

These values were derived from observation of a large number of samples, with scoring based on relative frequency. That is, observations scored as −2 are very infrequent and always indicative of pathology. In our experience, the GMA evaluation is a very sensitive indicator, perhaps the most sensitive feature of the blood test, in that it often shows abnormalities even when the 1% time and delta-49 produce values in the normal range. Thus, our classification of the test results is a conservative one, since it is based on the 1% time; we have never seen a negative 1% time without marked abnormalities in the GMA, while we often see normal 1% values with abnormal GMA features. This suggests that the GMA is an early indicator of pathology, and the 1% time a late indicator reflecting a more advanced state of shrinking.

Our data indicates possibly an even more fundamental difference between the GMA and 1% time. This finding is illustrated in Figure 3, which is a frequency distribution of all symptomatic individuals (with values above 70 and below −70 excluded); it shows a *bimodal* curve. Since the data contains all symptomatic individuals, from mild to very severe pathology, one might have expected a gradual variation in the curve from healthy to pathological values. Instead, the two-peaked distribution suggests that early in a biopathy a normal energy level is maintained, followed by a more or less *rapid* shifting to a lower level at some (perhaps critical) stage of the disease. We have also seen this phenomena in individual cases, *i.e.*, rather large jumps in the 1% time following various types of treatment (e.g. after surgical removal of breast mass or after radiation therapy), as well as large spontaneous drops in the 1% time as the disease progresses. From a purely theoretical viewpoint, this finding suggests that there are (like the bionous breakdown phenomenon itself) different *levels* of energy functioning in the organism, rather than a continuum. This tentative conclusion, of course, requires much further research.

Finally, our work has included an attempt to assess the *reproducibility* of the test results using different observers and conditions. For this purpose, 11 tests were done on a "side-by-side" basis. Samples were taken from the same droplet of blood, placed on two different microscopic slides, and followed independently by two different (although similarly trained) observers. The tests included a range of conditions from normal to pathological. The results were encouraging: For the 1% time, the first observer gave an average of 19.8, while the second gave 16.5, with an average difference of 9.0 and a combined standard deviation of 3.1. For the delta-49, corresponding values were 29.3 for the first observer and 35.5 for the second, with an average difference of 20.3 and a combined standard deviation of 8.1. The qualitative evaluation showed a similar degree of correspondence. These values indicate a high degree of reproducibility in doing the test *providing* the observers are similarly trained and the blood samples are handled in the same way.

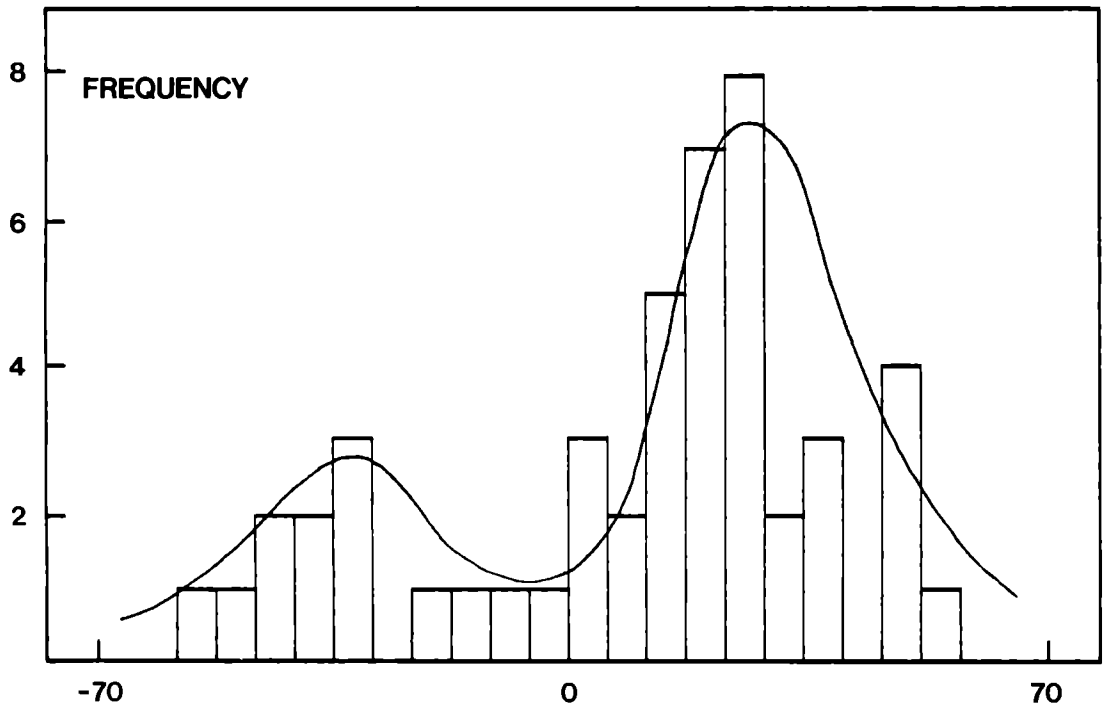

Fig. 3: Frequency distribution of 1% times for all symptomatic individuals, showing bimodal distribution (solid curve).

Summary

The transition from energetically normal blood to energetically abnormal blood is readily apparent using the Reich Blood Test. There is an excellent correlation between the patients' clinical appearance and their microscopic findings, although not necessarily with their 1% time, which is a more conservative indicator. The 1% time is used to formally classify the test as normal, borderline, or pathological, while the delta-49 and GMA evaluation are useful in determining earlier, or more suble, changes in the energetic state.

At the present time, the Reich Blood Test is performed for research purposes only with the consent of the patient and his or her physician. It is not used to establish diagnosis or prognosis; however, the information obtained can be very useful to the clinician in his or her energetic assessment of the patient.

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Wound-Healing In Mice: Part I

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Abstract

This paper is the first of a two-part series that summarizes seven years of experiments on the effects of orgonotic devices on wound-healing in mice. In this part, we review basic features of wound-healing as found in the medical literature and report our findings on the normal (untreated) wound-healing process in mice. This includes a detailed description of our methodology and technique, and our findings regarding the phases of wound-healing, pulsation of wound size, relationship of wound size to healing rate, and seasonal variation. In Part II, we will describe the effect of various orgonotic devices on the wound-healing rate.

Introduction

This report is the result of seven years of experience in the study of normal wound-healing and the effects of orgonotic devices on wound-healing in mice. Our original interest was in studying the biological activity of orgonotic devices, but the research unavoidably and necessarily became concerned with an appreciation of the normal process of wound-healing. An understanding of the behavior of the *control* animals is indispensable in evaluating their response to treatment; hence, a detailed description of our methodology and findings is presented here, as well as findings from the classical medical literature that put the process into a sharper perspective. In the second installment, we will report the effects of treatment with the orgone accumulator and medical dor-buster, and variations in their construction and operation.

Since Reich's ground-breaking work in the early 1940s on the treatment of cancer mice with the orgone accumulator (orac) (1), there have been many reports on the effects of the orac and related devices on various illnesses in humans (2-12), as well as several animal studies (13-15).[1] While the experiences with human patients have been most encouraging, suggesting potentially fruitful avenues of investigation, the reported cases have of necessity been entirely anecdotal, lacking sufficient numbers of patients and suitable controls from which to make statistical comparisons. The animal research has, of course, been more rigorous. One study (unpublished) conducted by an independent testing laboratory showed increased tensile strength in wounds treated with the orac. Other experiments—designed to replicate or support Reich's work in cancer mice—have yielded somewhat contradictory results, which have been difficult to interpret. In retrospect, it would appear that some of the problems may have stemmed from not adhering to the same protocol for a sufficient period to recognize and clearly characterize seasonal variations in the efficacy of the devices tested (see below). The present work has been an effort to overcome these difficulties.

The idea for this project grew out of a single wound-healing pilot study informally reported in 1976. Subsequently, it was decided to form a research group to pursue this investigation in a more rigorous and

comprehensive way, with the following objectives in mind:[2]

1. To demonstrate that various orgonotic devices have a definite and demonstrable biological effect;
2. To demonstrate that the biological effects are life-positive, or at least to determine when and under what conditions the effects are positive;
3. To determine the mechanism of action of the devices.

Thus, unlike Reich's cancer work, our primary emphasis here has not been either to study the treatment of a disease process or even normal healing but, rather, to demonstrate and understand the biological activity of orgonotic devices such as the orac and medical dor-buster. The wound-healing process in mice represents a useful biological *indicator* of the energetic activity of the devices. Other indicators, such as artificially induced infections, were also considered.

Our goals, then, are first to demonstrate in a rigorous and *repeatable* way that the orac and medical dor-buster are biologically active devices. Second, we hope to develop a suitably reliable protocol so that the findings can eventually be reproduced by an independent testing laboratory. Third, the process of studying the devices involves their modification in order to elucidate the mechanism of action and differences in their behavior. This basic knowledge can then be applied to research into the treatment of disease processes.

The actual development of a protocol has been longer and more complicated than we originally anticipated and has provided many discoveries along the way. However, in the past two years, our experimental method has been essentially unchanged, and it is primarily data from this period that we will be presenting in this report, particularly in Part II. However, in the five years prior to that, in the midst of struggles with technical problems, a good deal of information was gleaned about the wound-healing process itself quite apart from the effects of the several device modifications which came and went. This fundamental information about normal wound-healing forms the subject of the present paper.

Experimental Techniques

The experimental results reported here (unless stated otherwise) were obtained using a standard strain of laboratory mice maintained under normal laboratory conditions. All were disease-free males of the strain CAF 1/J obtained from the Jackson Laboratory in Bar Harbor, Maine at 8-10 weeks of age. Approximately one week of further growth was necessary for them to reach the weight range of 20-30 grams used in the experiments. They were housed in standard laboratory cages, received unlimited food pellets (LabChow) and water, and the environmental temperature was maintained at 65-72°F. They were handled only during experimental manipulation.

In the early phases of the experiment, only a small number of mice (approximately 10) were used for each run; for the past two years, we have used 42 animals in each run, with five mice in each of the treated groups and seven in the control group. Runs are made 5-6 times a year, and a total of more than 1,600 mice have been used in the study. to date.

The wounding, treatment, and measurement process has become quite standardized in the past two years, helping to ensure that data from each run is obtained under highly comparable conditions. The experimental run is carried out by a 4-5 man team; wounding is begun at 1-2 PM and finishes two hours

[1] Includes unpublished reports.

[2] The early phases of this work were carried out with funding from the Oranur Research Foundation; subsequently, all work has been funded by and carried out in the laboratory of the Institute for Orgonomic Science. Dr. Richard Blasband was a member of the research group during the early studies; Dr. Lance joined later. Other participants were Dr. Byron Braid and P.S. Burlingame.

later. This consistency in timing helps minimize the variation due to the diurnal pulsation in orgone energy functions (monitored by To-T and the electroscope). The weather, however, varies considerably from run to run. The experiment ends 96 hours later when the final photographs are taken.

The mice are first shaved and tail-marked, and are then taken cage by cage for wounding, ear-marking, photography, and treatment. Both wounding and initial wound measurement are done under anesthesia; anesthesia mortality in over 1,600 animals has been negligible. However, we did have some concern about the possible effects of anesthesia on the wound-healing rate. In run A-9, we switched from ether to halothane anesthesia, which allowed briefer anesthesias but also proved to be more toxic. We returned to ether with run A-13. In addition, we deliberately tested the anesthesia effect during run A-21 by adding a special control group that received an extra dose of anesthesia, but no significant difference was found. Consequently, our protocol to date entails anesthesia followed immediately by wounding, a 5-10 minute break, and then anesthesia followed immediately by photography.

Wounding is accomplished by means of a specially ground tongue forceps (shown in Figure 1) that grips and elevates contiguous folds of skin from the shaved back of the mouse (Figure 2). The wound is actually made by running a scapel around the outer edge of the forcep's clamped blades. When properly done, this removes a full thickness, circular section of skin about the size of a ten-cent piece. We hoped this would enable us to create wounds of uniform size, but considerable variation still resulted. Starting with run A-29, we attached a fence to the clamp to help standardize the radius of the fold of skin held in the blades. This added little to precision in controlling wound size, but did speed up the wounding operation. The area of the wound consequently varies over approximately a 2:1 range (600-1000 units).

At the onset of the study (A-1 in December 1976), we had little idea what to expect regarding the course of wound-healing or just how or when the effects of treatment would be most apparent. We therefore decided to monitor the process closely for at least two weeks. Initially, this was done by obtaining a tracing (on Saran Wrap) of the actual wound area from the back of each anesthetized animal at regular intervals. These were retraced onto sheets of drafting mylar and photographically enlarged ten times. The perimeter of the wound-tracing was measured with an opisometer, and the wound area measured with the Martin-Kuykendall (MK) area calculator. The two measurements were studied, and analysis demonstrated that area was at least as sensitive a parameter of change in the wound as perimeter, but far more convenient to measure accurately, and it was used thereafter. In addition, after a second study, it was evident that no useful information would be obtained from tracings later than 12 days after wounding.

Even with these refinements, however, serious technical problems remained. The reason for tracing the wound is to obtain a precise graphical and mathematical study of wound area change with time, and this requires an initial tracing taken as early as possible. With the direct tracing technique, a serious source of potential inaccuracy arises from the fact, that, in the fresh wound the skin slides very freely over the underlying fascia. Even with the anesthetized animal, it is very difficult to get the wound edges to "hold still" for a tracing. We had to resort to making the initial tracing the day after wounding, by which time, the skin had become fixed to the fascia, making it stable enough for a reliable tracing. However, this meant that the "initial wound size" actually derived from a wound which had already healed for 24 hours.

Second, as the wounds healed, they became so small that wound-tracing became imprecise. Fortunately, by the eighth study, we had worked out a technique for *photo-*

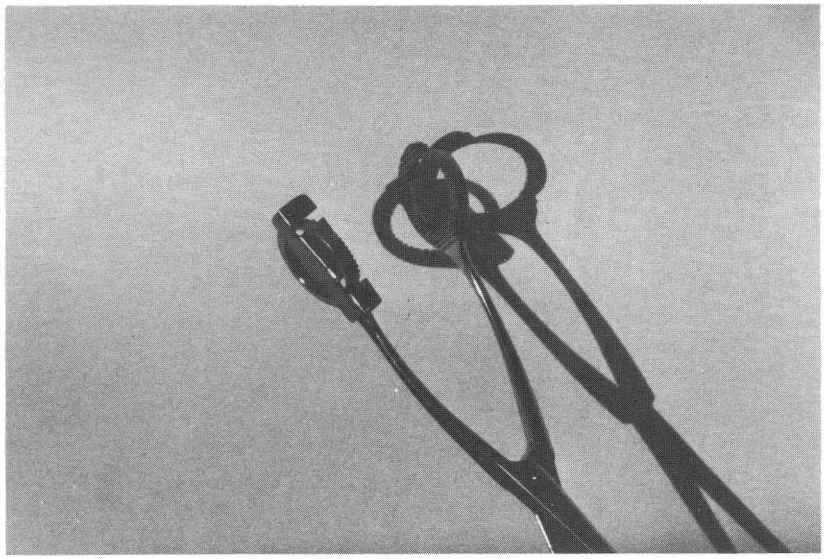


Fig. 1: The tongue forceps as modified for producing the wounds.

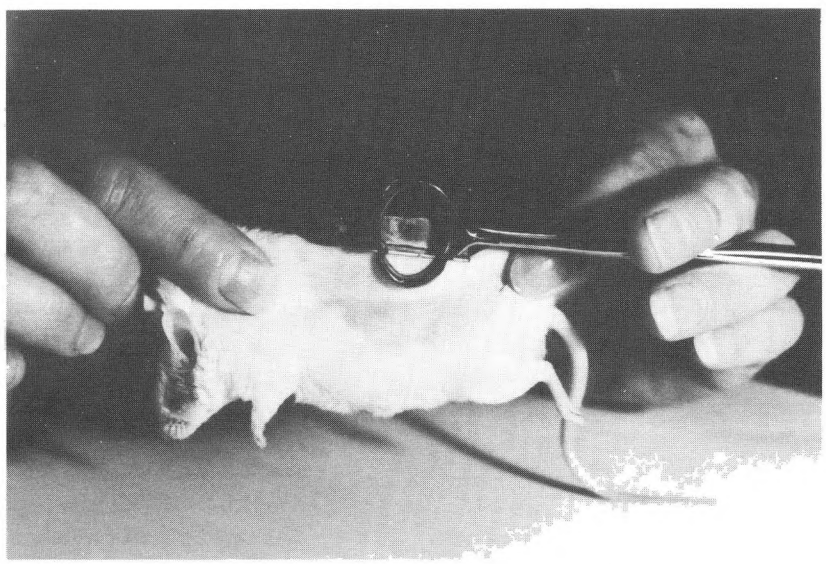
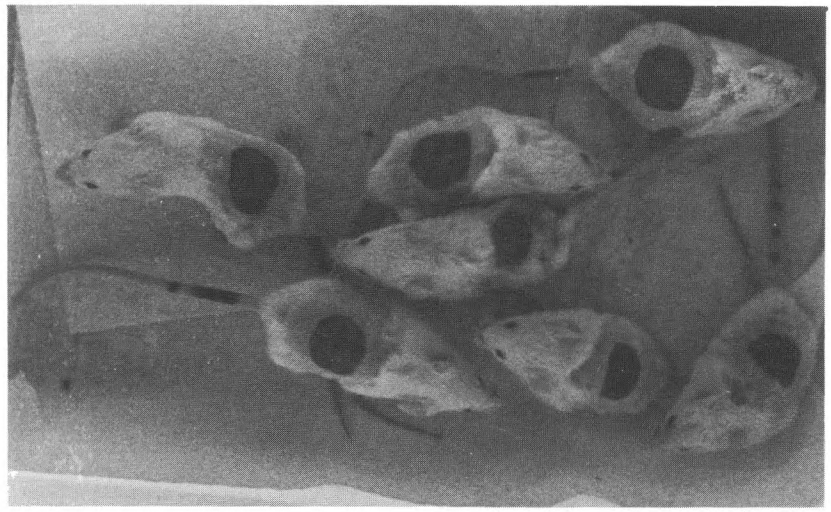


Fig. 2: The tongue forceps as applied for wounding.



A group of freshly wounded mice as they appear within minutes of recovery from anesthesia.

graphing the wounds and direct hand-tracing was abandoned. Photography is carried out by placing the anesthetized mouse on a movable stage under the camera lens and moving the table vertically until calipers show the wound-lens distance to be exactly 10 cm. Then the wound is photographed, using flash-unit lighting, while a label identifying the mouse and its group is held in the field of view. In this way, the progress of wound size for each individual mouse can be followed. At 96 hours, the final photograph can easily be taken with the mouse unanesthetized by allowing him to cling to a small terricloth pad at one end of the stage.

Immediately following photography, the entire group of seven control animals are placed in a glass enclosure for seven minutes and then replaced in their cage. During the seven minutes, a wooden "dummy" medical dor-buster head is placed over the glass container. In this way, the control group animals receive exactly the same amount of handling and are carried through exactly the same operations as if they were being treated. At 96 hours, the animals of all groups are simply removed one-by-one from their cages to the camera stage, photographed, and returned.

One-half actual size color photographs have proven advantageous as a basis for wound measurement for the following reasons:

1. The good depth of field obtained produces a high resolution picture of the entire wound perimeter. The color rendition eliminates certain ambiguities of contour at the border between the freshly healing skin and the central eschar seen at 96 hours.
2. The photographs may be readily enlarged—with a high degree of accuracy and precision—to sufficient size for reliable measurement.
3. A permanent, easily storable record is obtained for reference.

The procedure for handling the photographs has undergone modification since their earliest use in August of 1977. Some of these changes have been so recent as to occur in the course of the current C-series of studies. But, apart from eliminating certain tedious and expensive steps, the final image that is measured has remained virtually the same—from the point of view of scale—since the beginning. We will, therefore,

describe only the method we presently use, as this seems the most convenient and economical.

The wounds are photographed with color film in a 35mm slide format. The developed slides are then projected onto plain white paper through a photoenlarger whose lens is racked up high enough to produce a projected image *exactly 10 times the size of the film image* (*i.e.*, 5x the actual wound size). This calibration can be obtained by means of a machinist's or draughtman's caliper or an accurate steel ruler with 1/100th-inch divisions. One takes the largest diameter of the wound *directly from the slide*. The slide is then placed in the holder of the enlarger, which is adjusted and focused until the distance between corresponding points on the projected image is 10x that taken from the slide (to the nearest 1/100th inch). If one clamps the enlarger head at this height, this calibration need only be done once,[3] since all the photographs in every study are taken in exactly the same way. There is, therefore, no change in scale from experiment to experiment or within an experiment.

The periphery of the projected wound image is outlined with a very fine black felt-tip pen; the caption identifying the particular animal and group is written within the perimeter. Actual measurement is now done with an electronic polar planimeter (Lietz-Planix model 3651-50) which is fast and convenient to use. We remeasured some of the earlier studies to be certain that the readings are numerically consistent with those obtained with the Martin-Kuykendall area calculator. The planimeter gives the area to a precision of 1/100th square inch. This is essentially the same technique of measurement employed by Cuthbertson (16) and Foar, *et al.* (17).

The measurement of wound areas completes the process of converting the healing process into a sequence of numerical values. These values are then used to obtain an overall quantitative assessment of the healing rate, and this process has undergone several revisions during the study. The area measurements allow calculation of the % healed at regular intervals, using the "zero-hour" measurement as the starting point (by definition, the first measurement is the zero-hour point):

$$\%\ \text{healed at T} = \frac{(\text{zero-hour}) - (\text{photo at T})}{\text{zero-hour}} \times 100$$

The time of the starting point steadily declined from 24 hours, to 8 hours, then 4 hours, and finally to its present value of 0 hours. This resulted in a systematic change in the healing curves over the past seven years because the "zero-hour" value is critical to the calculation of the % healed. This has not been a serious problem in evaluating the experimental devices, since their wound area measurements were done the same way (at each stage) and compared to the controls. However, it does result in a systematic change in the *absolute* values for the healing rate. This variation was handled by normalizing the values, to be discussed later.

Initially, the wound-healing was evaluated numerically by graphing the % healed with time and obtaining the 50% healed point by graphical means. That is, the "end-point" was the *time* it took for 50% healing to occur, approximately 3-5 days after wounding. This technique has two drawbacks: First, a number of photographs are necessary to allow an accurate curve to be drawn, and second, the determination of the 50% point is somewhat subjective in that it derives from a hand-drawn curve through the points.

After a number of studies, inspection showed that the average 50% healing occurred about the fourth day, or 96 hours. Thereafter, a new end-point was defined and used: the % healing which had occurred at the time of the 96 hour photo. In this case, a higher percentage means that faster healing has occurred. The advantage of this method is two-fold: First, only two photographs are required, and second, it is completely objective, since the end-point is obtained by

[3] To be certain of this, we periodically did "spot" checks.

calculation rather than graphically. The 96 hour end-point was used from study A-10 onward.

Results and Discussion

The project to date has entailed a total of 42 separate experimental runs, which we have labeled A1-A27, B1, and C1-C18. However, whenever possible, only the most recent data has been used to illustrate a finding since the reliability of the data has steadily improved with time. This is particularly true for the control groups, since earlier, only three or four mice were used as controls, while we now routinely use seven mice; obviously, the larger the group the less the effect on the group average from a single aberrant value. The control animals perform the dual function of illustrating normal wound-healing as well as constituting a standard of comparison for the treated groups.

The variation in wound size was an early concern, since we did not know what effect wound *size* might have on healing *rate*. An early analysis suggested that wound size had no discernible effect on the rate, which is in agreement with the findings of Kennedy and Cliff (18), Billingham and Russell (19), and Carrell and Hartmann (20). A more recent calculation using data which we obtained in 1983 confirms this. The relationship is shown in Figure 3, which plots the initial wound size in 41 animals from studies C11-C16 (which used the zero hour pictures) against the 96 hour percent healed. It is obvious that the initial wound size to 96 hour value correlation is entirely random ($r = 0.265$) over a wound area range of 600 to 1000 units.

At this point, we must clarify what we mean by "wound-healing." The classical literature mainly deals with this phenomenon in histologic and histochemical terms, by which it attempts to understand its mechanisms. Thus the process has been divided into three histologically discrete but overlapping stages, *e.g. inflammation,* tissue cell *proliferation,* and tisue *reorganization* or remodelling. It is nevertheless the gross phenomenon of wound *contraction* that appears to have prompted the bulk of this histologic investigation. Wound contraction *per se* has, therefore, received considerable attention in the literature. Kennedy and Cliff (18), from their own studies and the work of Cuthbertson (16), have concluded that contraction itself is divided into three stages: 1) an initial or early rapid phase, 2) a stationary phase, and 3) a lengthy, more gradual logarithmic phase. They further point out that early rapid closure is the least understood and the phase which has received the least attention, although it is obviously an important component in the overall healing process. This early contraction can, for example, account for as much as 20 percent reduction of the initial wound area in the rat and 40 percent in the rabbit. In our own work with mice, reductions in excess of 50 percent have been frequently observed. The mechanisms for early rapid closure are unclear, although they must certainly be different from that for the logarithmic stage, which results primarily from the action of contractile *myofibroblasts* which multiply at the wound site in the proliferative (histologic) stage of healing (21). This takes place several days after the injury has occurred. The initial rapid contraction commences within 24 hours from the time of the trauma—long before these cellular elements are in place. Muscular contraction, drying, and scab formation have been suggested as possible mechanisms (19, 16); however, none of these seem wholly consistent with our observations. It would appear more likely, for example, that severed fibers of the skin musculature when contracted should cause *retraction* of the wound edges and hence an *increase* in wound area. Indeed, this might be inferred from certain measurements in our controls, which showed a series of pulse-like enlargements of their wounds (see below). Whether or not this phenomenon is due to muscular contraction we cannot say, but it is evidently not *prevented* by drying and eschar formation. Clearly, the wound

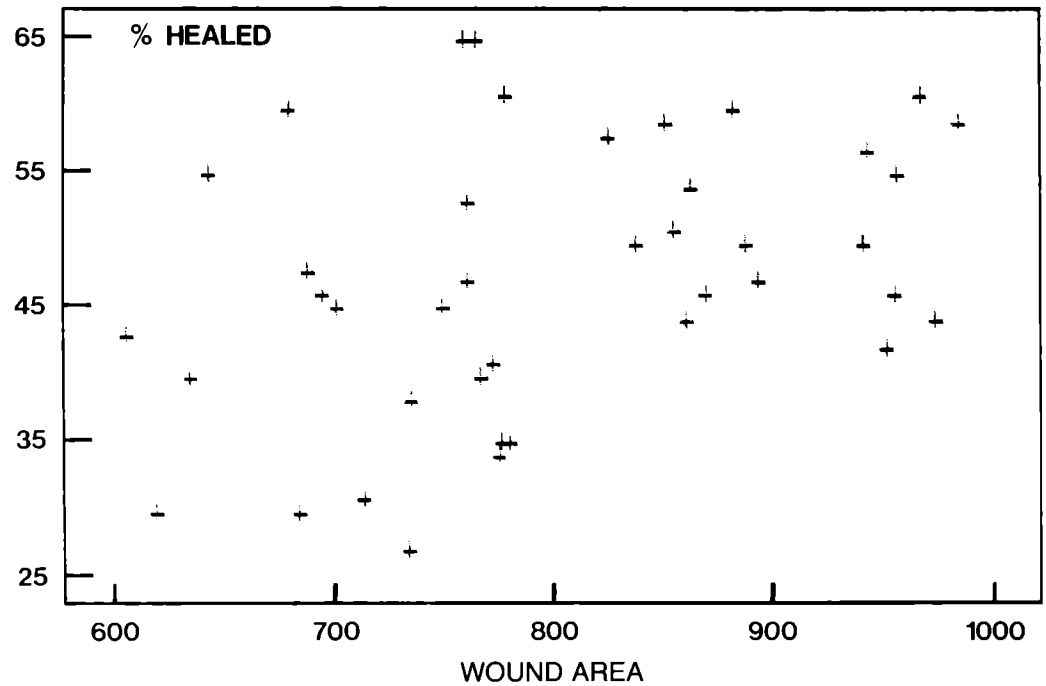


Fig. 3: Scatter diagram of absolute wound area vs. % healed at 96 hours, showing random relationship (n = 41; r = 0.265).

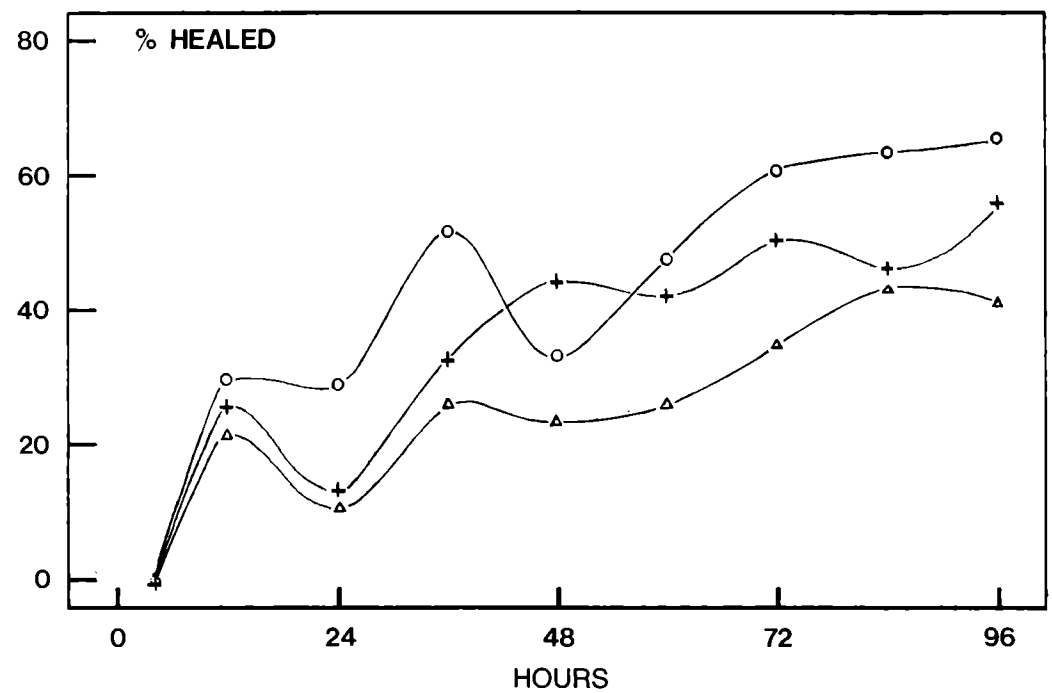


Fig. 4: Controls at 12-hour intervals, showing pulsation of wound size.

bed and perimeter retain sufficient mobility to respond to various and opposing forces at work during this period.

During the early studies, when the wounds were followed for 12-14 days, wound-healing showed the following sequence: a rapid, non-linear decrease in wound area followed by a slower, linear reduction in area. As the experiment progressed, it became apparent that the major effects that the experimental devices had on the healing process took place largely within the first few days, and our treatments and observation period consequently became reduced to the first 96 hours after wounding. Therefore, it is important to recognize that this study is limited to the behavior of the *early phase of wound contraction,* the first 96 hours, in which changes in wound size are mostly a matter of wound expansion and contraction and not the formation of new tissue. This feature is critically important in Part II in understanding the effect of the orac and medical dor-buster on wound size.

The importance of this wound-healing definition can now be appreciated more fully. In run A-21 (August 1979), a puzzling phenomenon appeared: The areas of the 72-hour wounds were larger than those at 48 hours, *i.e.,* the wounds were enlarging rather than shrinking. This behavior had occurred very sporadically as early as A-1, but had been variously dismissed as errors in technique, *e.g.,* errors in tracing, failure to photograph with the animal flat, mislabelling or mismounting, etc. But in A-21 seven out of eight control animals exhibited this phenomena, and in A-22, similar "dips" in healing rate were observed. Consequently, at this point, we decided to study the wound closure sequence more closely, and in A-23, added a special control group of six animals which were photographed at 12-hour intervals after wounding for four days. Three representative healing curves from this group of six are shown graphically in Figure 4.

Some confirmation of this finding has emerged from our examination of the literature. Similar pulsations in the rates of contraction are suggested in the graphed data of Foar, *et al.,* who studied rats (17), Kennedy and Cliff (rats and rabbits) (18), and Snowden, *et al.* (rats and rabbits) (22). However, they make no mention of them in their articles. Grillo, *et al.* merely state that, although contraction begins on the first day, it does not become "uniform" until after the third to fifth day from the time of wounding (23). It is of interest that Kennedy identifies the segments of his curves in which these increases in area appear as the "stationary" phase of contraction—evidently because there is no overall decrease in area during this period. Yet our data indicates that the wounds are anything but stationary at this time. The curves in Figure 4 dramatically demonstrate a normal *pulsatory* function in wound size during the early healing period, with at least two clear pulsations in each animal. They have the following significance:

1. They demonstrate, again, the ubiquitous pulsatory nature of the living organism, as emphasized by Reich;
2. They justify the designation of the first 96 hours of healing as a contraction/expansion period;
3. The pulsatory function is important in understanding the mechanism of action of orgonomic devices;
4. The curves illustrate the care that must be taken in defining the end-point of the contraction process.

In this study, the end-point was initially defined as the time for 50% healing to occur, and later, as the % healed at 96 hours. The latter definition was well chosen, since the end-point is taken after the pulsation has largely subsided and the linear phase has begun; this ensures that the parameter measures the *net effect* of the early phase rather than catching the healing process in the middle of a large pulsatory excursion.

Nevertheless, we continued to observe large variations in the average control healing rate from run to run, despite steady improvements in technique. Eventually, we accumulated enough data to allow plotting the

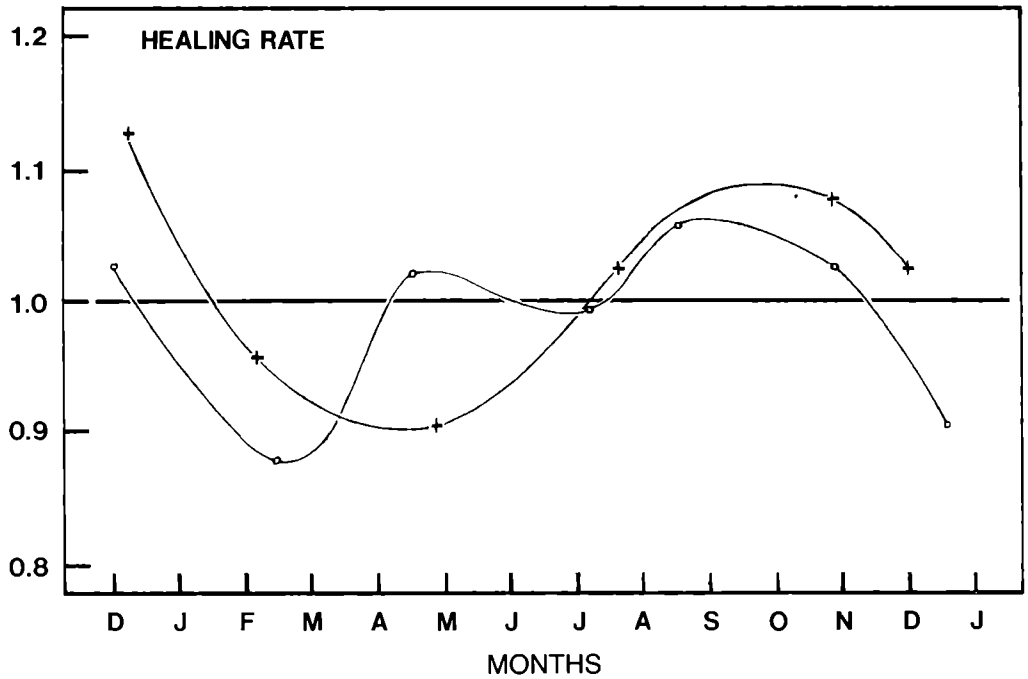


Fig. 5: Controls (normalized) for 1982-83, showing annual variation in healing rate.

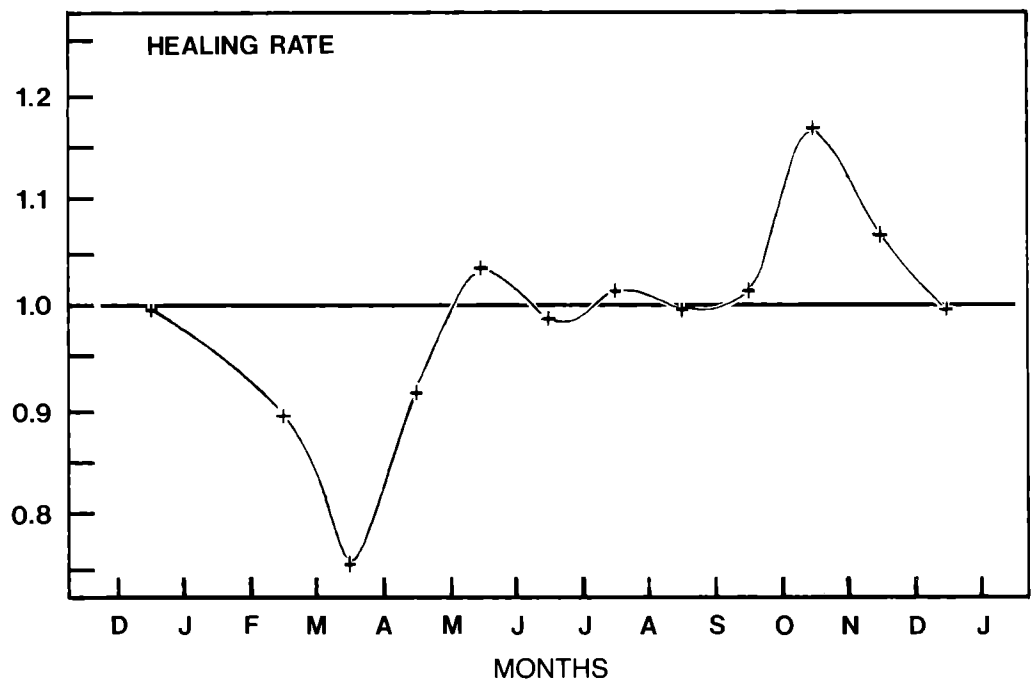


Fig. 6: Monthly averages of 40 control groups (normalized) for 1977-84, showing annual variation in healing rate.

healing rates against the time of the year; two such curves (for 1982 and 1983) are shown in Figure 5. A clear annual variation in the healing rate is present: a reduction in average group healing rate early in the year, followed by a rise in rate toward the end of the year. The curves also illustrate that the seasonal variation is only a rough trend, since considerable differences between the two curves are also apparent. Note that the actual % healed is not graphed but rather the deviations from the average, which will now be explained.

A technique for "normalizing" the data was used so that control values from different years could be compared and graphed. This was necessary because the average healing rates from different runs are not comparable, due to steady changes in the "zero-hour" photograph from 24, to 8, then 4, and finally 0 hours. However, in the interest of demonstrating seasonal variations, absolute values are not necessary; only relative changes need be used. This is accomplished by computing the average healing rate separately for each year's runs and dividing the particular runs by the average. This expresses the healing rate as a ratio to the yearly average; by this means all 42 runs can be compared, despite systematic changes in technique.

However, inspection of the data after normalization revealed several extreme values of healing rate which seriously distorted the data. It is easy to understand how this could occur: In the early groups of 3 control mice, a single mouse could distort the average.

Therefore, the standard deviation was computed and values greater than +2SD and −2SD discarded; this resulted in the exclusion of two runs, with readings 2.5SD and 3.0SD from the mean. The remaining 40 values were averaged by month and are shown graphically in Figure 6. Again, a clear seasonal variation in healing rate is present, and three distinct periods can be discerned: an early reduction, a neutral period, and a rise. The overall averages for these three four-month periods are shown below:[4]

Period	No. of Groups	Average
JFMA	12	0.86
MJJA	13	1.01
SOND	15	1.07

Conclusions

As Reich pointed out in his work on bions, the formulation and study of experimental controls may not only lead to significant discoveries, but may influence the course of the research itself. *Our* experiences with control groups has yielded two important pieces of information. First, in the early rapid stages of wound contraction, *a pulsatory (contraction-expansion) function* is expressed which cannot be entirely explained as a passive mechanical reaction to drying and scab formation. We believe it is yet another example of biological pulsation. Second, out of the necessity to repeat the same experiment over several years, it was found that there is a *recurring seasonal pattern of variation* in the rate of early rapid wound contraction. Apart from their possible bearing on the study of the function of orgonotic devices and orgonotic functions in general, we believe these findings have heretofore gone unrecognized in the investigation of wound-healing.

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[4] ANOVA demonstrated that these differences are statistically significant.

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Bion Migration

COURTNEY F. BAKER, M.D. ROBERT A. DEW, M.D.

Abstract

Reich was the first to observe that bions would migrate when a small electrical current was applied to a bion solution. In this paper, we report preliminary findings on the characteristics of bion migration under carefully controlled conditions, including descriptions of our methodology, technical apparatus, and representative bion behavior (shown graphically). The nonmechanical nature of the phenomena is demonstrated, as well as new characteristics not described by Reich. In particular, we have found migration velocity to be proportional to current; a "fatigue" of velocity with time; exponential decay of charge; and increase in charge after autoclavation.

Introduction

Reich first studied the effects of small electrical currents on bion preparations in an unheated infusion of earth in water (1). This first preparation—preparation 1a—was set up for comparative purposes with respect to the grass infusions in which he had observed the development of protozoa. With a current of 2 MA, the vibratory and pulsatile movements of the vesicles were seen to intensify. In addition, when the current was turned on, the bions moved promptly toward the *cathode*, indicating a positive charge. Autoclaved earth infusions showed this migration with currents as small as 0.5 MA.

Of significance is that only those preparations manifesting a charge by migrating to either the cathode or anode in an electrical current proved to be *culturable*. Furthermore, Reich observed that after subjecting earth bions to a current of 5 MA for one hour ("galvanization"), they assumed a different direction of movement, *i.e.*, instead of going toward the cathode, they now migrated to the anode. Similar treatment of coal bions had the same effect (2).

The present series of experiments was begun with the following aims in mind:

1. To overcome the technical problems in reproducing the cataphoretic setup.
2. To demonstrate quantitatively and qualitatively the charge on various types of bion preparations under various circumstances.
3. To secure for the future a means of determining the probable culturability of different bion preparations so that Reich's work in this area could be repeated.

Preliminary Experiences

Our first trials with an electrified microscope slide were made in March 1982, using a three-week-old earth bion preparation that had been autoclaved three times previously. Orderly migration with clear reversal (on switching polarity) was obvious at 1.0 MA but could be observed with as little as 0.4 MA (Reich used a range of 0.5 to 2.0 MA). We found that, while the majority of vesicles moved to the cathode, there was also a *simultaneous* migration of some of them toward the anode—a phenomenon Reich does not mention. Aside from indicating that not all earth bions are the same, the importance of this finding is that it confirms the nonmechanical nature of the movements, *i.e.*, that they are due to the qualitative nature of the charges on the particles, that the vesicles are not merely being carried passively along

by a mass movement of the liquid medium.

A particularly exciting discovery was the effect of a current of 1-2 MA on red blood cells (RBCs) in saline. Both bionous and intact RBCs immediately rounded up into spherocytes—a process which immediately reversed itself when the current was turned off. That is, the cells reverted to whatever form they had before the current was applied. Other observations of interest that might suggest future elaboration are:

1. Unheated iron particles do not migrate, but do so after heating.
2. Charcoal obtained from a wood stove migrated.
3. Powdered chalk does not migrate.
4. Bions derived from Experiment XX migrate with 10 times the velocity of conventionally prepared earth bions.

Methodology and Apparatus

The first technical problem concerned the construction of a suitable slide and an electrical power source that would produce convenient and reproducible electrical conditions. After considerable experimentation with various slides, a specially constructed microscope slide was evolved, as shown in Figure 1. A standard well-slide was modified by machining two opposing grooves radiating from the well area. Then, two fine platinum wires were placed in each groove and soldered to six-inch insulating wires leading from the slide to the power source. The wiring was fixed to the slide with a small amount of epoxy and allowed to dry, and then a second, water-proof, final epoxy coat was applied. The slide was easily washed and electrically insulated except for the central third of the slide; in operation, the bion solution was applied to the grooves and well area until a conducting path resulted. Platinum must be used, since other metals (such as copper) will dissolve from electrolysis.

For precise and reproducible measurements, a source of *constant current* is necessary, because the resistance of the solution may change by a factor of two or more during each observation. The resistance of the solutions varies from approximately 10K-30K for Preparation 6 solutions, up to 250K-500K for earth bions in KC1. Hence, to achieve currents of one milliamp or greater, a source of 50 or more volts must be applied to the slide, and the body of the microscope grounded to the chassis of the constant current source. A suitable apparatus is shown diagramatically in Figure 2. Circuit power is derived from low current, back-to-back transformers that serve to isolate the circuit from the 110 volt input line and provide a safety function. Then, a zener-controlled source of 88 volts DC is applied to a two-transistor bridge, which maintains a constant current through the solution despite large changes in solution resistance. The current may be varied from 20 microamps up to 3 milliamps, and both the current and voltage measured during the observation, allowing a calculation of the solution resistance.

In actual practice, the current is set at the lowest level which causes prompt and clear-cut bion motion (roughly 2-10 microns/second). This is important because, with the higher current ranges (greater than about one milliamp), significant heating of the solution occurs, with formation of bubbles and frothing. Prompt bion motion is also advisable since prolonged exposure to the current will change the electrical characteristics of the bions themselves (to be discussed below).

The distance traveled by the bion under observation is determined through the use of a Graticules Ltd. No. E35 reticule placed in one of the microscope eyepieces; it divides the viewing area into a grid of 100 numbered squares. The size of each grid unit is measured using a Bausch and Lomb microscope stage micrometer. Since morphologic details of the bions are not the major concern here, an overall magnification of 450-480x is suitable. In our apparatus, a magnification of 450x with the reticule gives a value of 34.1 microns per block. One only needs to be able to recognize and readily follow the motion of bions ranging in size from one to

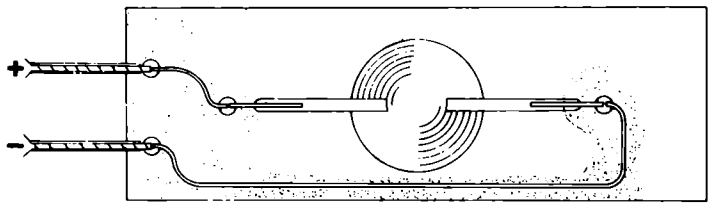

Fig. 1. Electrified microscope slide.

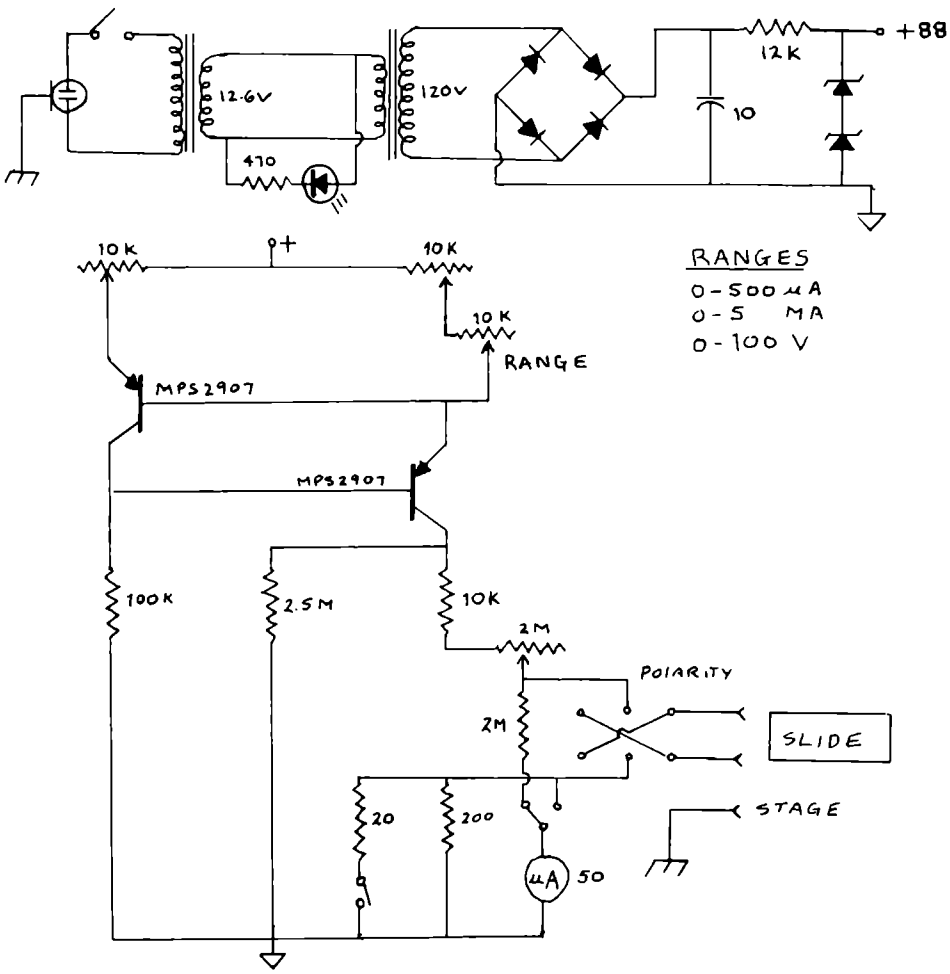

Fig. 2. Circuit diagram of constant current power supply.

three microns; this permits the use of an objective with a working distance long enough to avoid fogging of the lens.

In actual practice, two observers greatly facilitate the measurement process: one at the microscope and another to operate the stopwatch and record the data. The microscopist turns the current on, notes the direction of travel of a particular bion, and indicates the moment it crosses the first grid line (timing begins) and the last grid line (timing ends). With an electronic stopwatch, timing is done to a precision of 0.1 second and usually motion through two blocks (68.2 microns) is recorded. The current level is chosen for an observation time of approximately 5-20 seconds. The polarity of the current is reversed, and the same bion followed for two grid squares moving in the other direction; this technique averages out any motion due to convection currents in the fluid. A minimum of five vesicles are measured, and the 10 (or more) readings averaged. This produces a raw bion migration velocity for the given bion solution at a *given current level;* this value will later be scaled so that comparisons can be made between various types of solutions. Once the measurements have been made for a particular tube, that tube is discarded to avoid possible contamination of measurements made at a later date.

The most troublesome problem encountered in these studies was that of convection currents in the fluid—most typically in situations in which high amounts of electrical current were required to induce migration. Here, the heat generated engenders mass movements of the fluid medium in which the vesicles are swept along regardless of charge. These currents may occur spontaneously even in the absence of electrical current. Currents may appear initially when the bion-bearing fluid is first placed on the slide, but these subside in a minute or two, allowing one to see the nonartifactual movements of the vesicles. These may be readily distinguished from those due to convection if one observes the following criteria:

1. With the current off, the bions exhibit only fine vibratory movements *in place*. There are no gross or orderly movements.
2. When the current is turned on, the bions *at once* begin to move in one direction or another along a west-east axis but *stop abruptly* when the current is again turned off. *Reversal* of the current then induces equally abrupt movements in the *opposite* direction.

Since the pool of fluid has a certain cohesiveness due to surface tension, it will have depth—greatest toward the center and thinnest at the margins. The bion vesicles will therefore be dispersed at various levels throughout. For the sake of consistency and precision of measurements, we have found it most convenient to focus the objective on those bions on the bottom, *i.e.*, nearest the glass surface of the slide, *not* toward the surface of the fluid. The latter tend to move out of focus in the course of migration, making their observation more difficult. It is wise to replenish the preparation every few minutes as evaporation may induce spurious currents.

Filtration of the bion preparations, though not strictly necessary, is desirable because it eliminates large clumps of particles with which the vesicles might collide or in which they might become ensnared in their migration. Also, the increased uniformity in particle size helps to isolate the factor of size from other considerations in migratory characteristics. This can be appreciated from the finding that two particles of the same size and shape *from the same sample* do not necessarily migrate at the same rate. Also, by measuring the migration of several bions from a given sample and *averaging* them, one obtains a value more typical of the particular substance from which they are derived, *e.g.*, earth or iron.

Five different sources of bions were studied in this preliminary survey: a solution of earth bions several months old being maintained in an incubator, and newly

prepared solutions of bions from charcoal, earth, iron and Preparation 6. We could not, however, obtain migration from the newly prepared charcoal bions (although charcoal from a wood stove did migrate). The old earth bions were used for calibration (current vs. velocity) and successive-trial studies; the others were followed at weekly intervals to study their characteristics over a longer period of time.

Theory

The basic underlying objective of the experiment was to use migration velocity as an indirect measure of bion *charge*. Charge is a vital aspect of bion function for the following reasons:

1. The important role that charge plays in the life process itself, *i.e.*, the orgasm formula: tension-*charge*-discharge-relaxation;
2. The fact that Reich found that bion charge correlated with ease of culturability, *i.e.*, charge as a measure of bion *vitality*.

Measurement of bion charge via migration velocity is, therefore, a way of comparing the strength of different types of bions and following the course of their development over time.

There are four factors that determine the speed of migration: bion charge, the applied current, solution viscosity, and the size of the bions. In practice, however, we observed little correlation between bion size and migration velocity. In addition, for precise comparative measurements, the solution was filtered to produce a uniform population of bion size. The viscosity of a given solution will be fairly constant with time, particularly for bions in a simple KCl solution. However, some solutions (such as Preparation 6) are more viscous, and care must be taken in extrapolating velocities between bions from different types of media. Finally, since the applied current can be readily measured, the only variable remaining is bion charge, *i.e.*, variations in velocity are proportional to charge. In addition, the direction of motion gives an immediate indication of the charge *polarity*.

It is interesting to note that classical studies have demonstrated that the charge on bacteria is proportional to their pathogenicity.

Findings

One of our first objectives was to determine the relationship between the current and migration velocity by measuring average velocity at several different current levels. The results for several month-old bions in KCl solution are shown in Figure 3. A remarkable degree of linearity is apparent over a 20-fold current range (20 to 400 uAmps). This linear relationship is an important finding, since it allowed comparison of migration velocities at different current levels by scaling all velocities to that which would occur at 100 uAmps. This was necessary because the optimal velocity of 2-10 microns/sec occurred at considerably different current levels for different types of bion solutions. The scaling allows a rough comparison of the charge magnitude for different kinds of bions (presented below).

During early trials it was discovered that the behavior of bions in a given solution changed characteristics over time if a number of successive measurements were made on a bion solution without changing or replenishing the solution on the slide. In particular, after a few readings, a slight "warming-up" tendency was noted (faster migration at the same current level) and with many trials a "fatigue" set in, with reduction in migration velocity. Both effects can be seen in Figure 4. The "fatigue" behavior may very well be a mild or early manifestation of the "galvanization" effect discovered by Reich after exposing the bions to a large, prolonged current. It should be noted that even 1 MA is a very large current compared to the magnitude of current normally found in living organisms; the latter is usually measured at levels considerably less than one microamp.

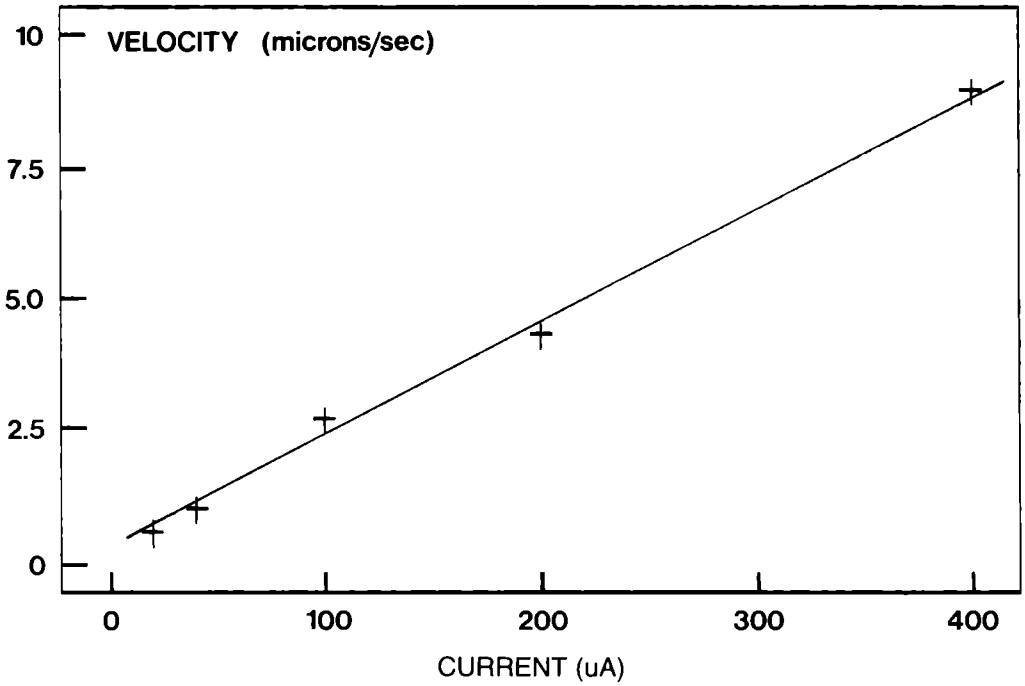

Fig. 3: Migration velocity as a function of current.

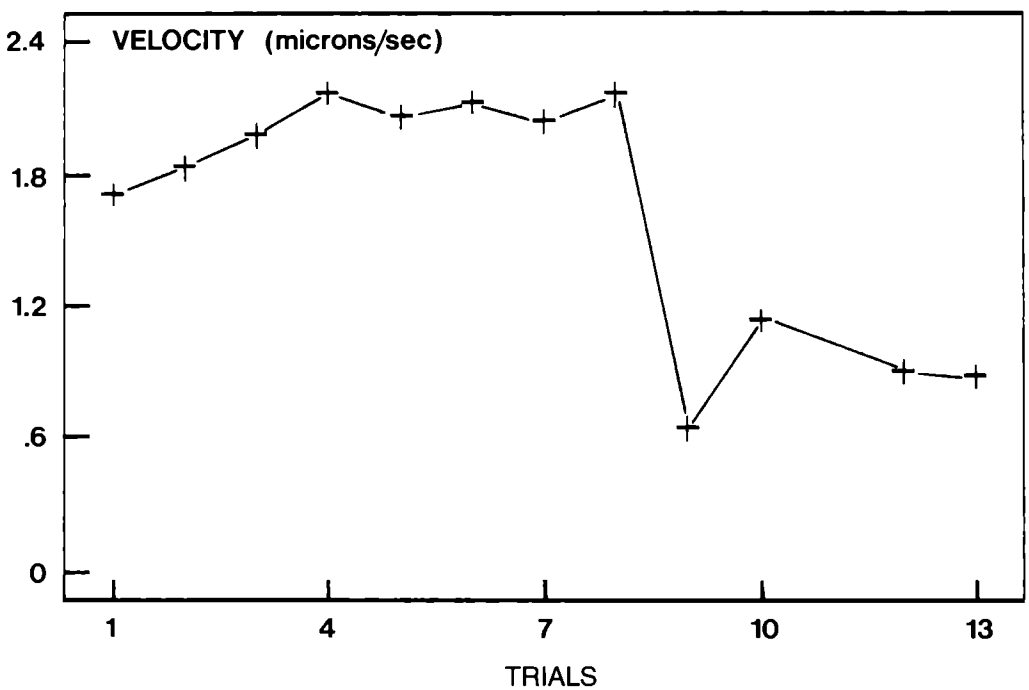

Fig. 4: Successive trials, showing "warming-up" and the "fatigue" effect.

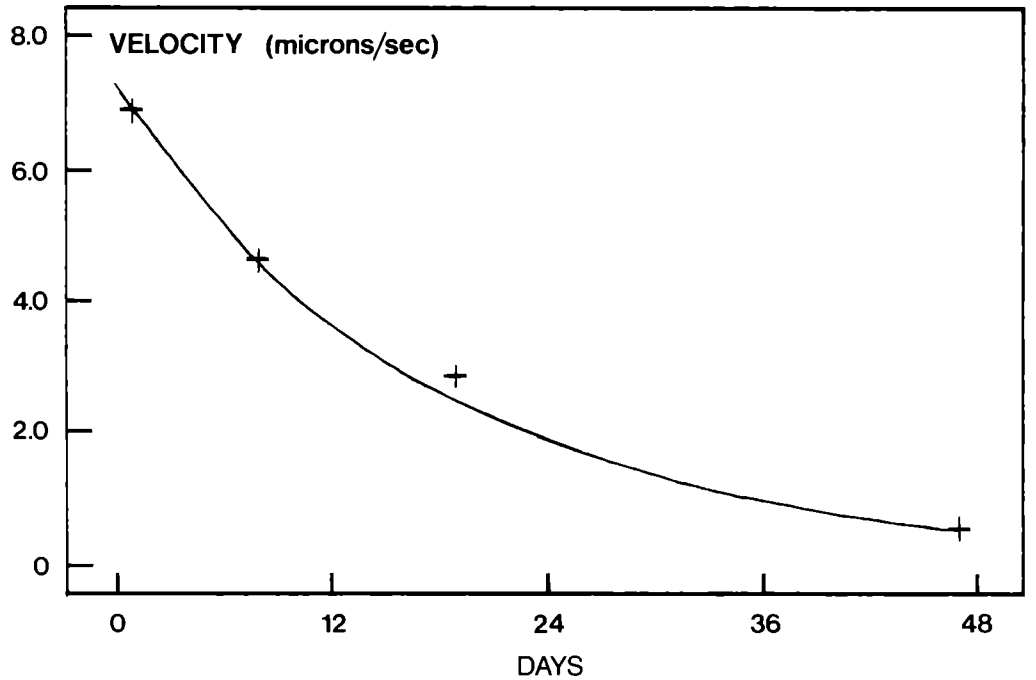

Fig. 5: Decrease in migration velocity with time for earth bions, showing exponential decay.

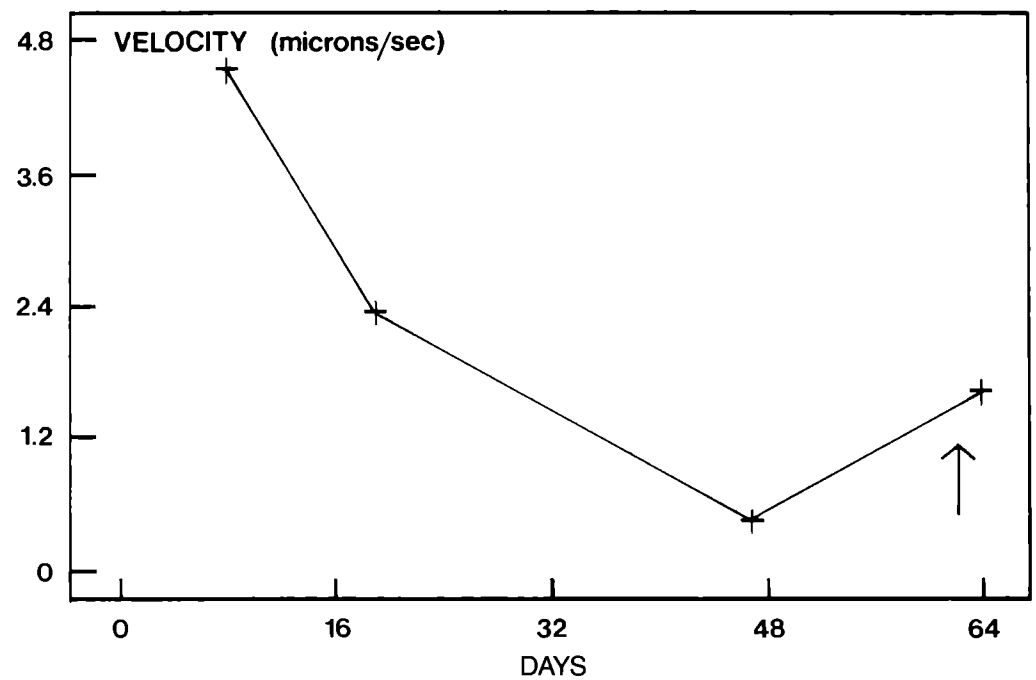

Fig. 6: Decrease in migration velocity with time, followed by increase after autoclavation (arrow).

We were also interested in the behavior of bion charge over longer periods of time—days and weeks. Average velocities were determined at weekly intervals and the results graphed. Figure 5 shows the decay of measured velocity for earth bions over a seven week period. The data is a remarkably good fit to an exponential decay curve and indicates the progressive loss of charge following the initial autoclavation on day one. It also suggests no tendency for this particular bion solution to grow or reproduce—only a gradual, progressive "electrical death."

Since each bion solution was originally activated by autoclavation, we wondered what effect autoclavation at a later date would have. The results for the earth bion preparation are shown in Figure 6. The charging effect of a renewed cycle of heating and swelling is obvious; however, it is also clear that it is only modestly effective.

An additional parameter is charge *polarity.* Initially, all solutions showed uniform polarity; however, after one week, the earth bions began to show mixed motion, *i.e.*, bions moving in both directions, indicating bions of both charge polarities. Neither iron nor Preparation 6 showed this behavior, and its significance is yet unknown.

Finally, by scaling the velocities for a current level of 100 uAmps, a rough comparison can be made of the relative strengths of the different bion types. These values are the highest initial average values obtained within a day of preparation (except for the old earth bions):

Bion Type	Polarity	Vel (u/sec)
old earth	+	2.59
new earth	+	3.67
new earth	−	1.23
iron	+	0.07
Prep. 6	+	1.30

The relative weakness of the iron bions is somewhat surprising considering the impressive visual appearance of iron bions in solution. Also, the strength of the old earth bions kept in the incubator is remarkable considering the relatively rapid decay of charge on the new earth bions left out at room temperature (see Figure 5).

Conclusions

Certain of Reich's observations concerning the bion vesicles are confirmed in this study. Principal among these, of course, is that garden soil, pulverized iron, and charcoal, when heated in liquid media or first heated to red heat before immersion in these media, give rise to microscopic vesicles that respond in a lawful manner to an electric current. Microscopic observation also confirms their manner of origin, namely, from the physical disintegration at the margins of particles of the parent substance. It has been demonstrated that the cataphoretic setup as reproduced here works as Reich described. Obviously, at least in the cases of iron and charcoal, the derived vesicles acquire their charge immediately in the process of formation, since unheated charcoal and iron exhibit no migration, while the bions seen right after heating do. It is apparent that the charge not only relates to the bion's migration, but also bears on its capacity to remain in collodial suspension, *e.g.* as bion preparations age, the vesicles not only migrate at a progressively slower rate with a given current, but also tend to precipitate out of solution.

Other cataphoretic properties of the bions have come to light in these experiments. The *rate* of migration is remarkably *linear* with respect to the amount of current passed through the fluid. Yet, as migratory rates decline with aging, they do so in *exponential* fashion. Old samples may also be "rejuvenated" by a repeat autoclavation. This is particularly striking in preparations that have all but lost their migratory capacity. The finding that storage in an incubator at 37°C, (rather than at room temperature) prolongs the capacity to migrate may be a related phenomenon.

Of perhaps greater significance are certain findings that suggest nonmechanical qualities of the bion charge. While differences in rates

and direction of migration between bions of different origins were anticipated, it was surprising to find such variations between vesicles in the same sample. We also observed a spontaneous reversal of the predominant direction of migration in the older tubes of the earth bion series. Most noteworthy was the phenomenon of "fatiguing"; with repeated successive exposures to the current, fresh "young" bions showed a progressive decrease in migration rates. After a "rest," *i.e.*, leaving the current off, they seemed to "recover" partially. This last phenomenon has a particularly biological flavor reminiscent of the behavior of isolated muscle preparations with repeated galvanic stimulations.

These combinations of mechanical and quasi-biological properties are consistent with Reich's idea that the bions are a transitional structure between the nonliving and the living.

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A Case of Dysphonia

BYRON BRAID, M.D.

Orgone therapy uses a three pronged approach in treating neurosis:

1. Character analysis
2. Breathing
3. Direct work on the muscular armor.

The character analytic approach represents a systematic attack upon the resistances arising in therapy as a result of the therapist's effort to expose the underlying emotional material that the patient is afraid to reveal. Also at issue is the patient's fear of expansion, a fear that emerges consistently with each prong of the approach. Breathing disturbs the resting equilibrium by building up the energy level, dissolving superficial blocks, and exposing deeper blocks. Direct work on the musculature can deactivate segmental armoring, effecting mobilization of emotion and memory from a region previously in stasis. It is the interaction of these three aspects of treatment that enables the therapist to mobilize energy and to overcome blocks, whether characterologic or muscular in origin.

While it is obvious that both breathing and muscular work constitute direct biophysical intervention, it is not often as clear that the character analytic work can exert as significant an energetic and emotional push, or that biophysical work can be accomplished without directly attacking spastic musculature. I became more aware of the importance of allowing the patient to do as much as possible without directly intervening, in the course of my training as a medical orgonomist. Though I was tempted to work directly on the affected musculature of the patient in the following case history, my level of training at the time required that I proceed with a "hands-off" approach, about which I grumbled; but, in the long run, it proved invaluable in terms of its enabling me to learn that one does not *have* to work always on the muscles to mobilize emotion, that energetic movement can be precipitated by the appropriate word or interpretation. The following case history represents a course of orgonomic first-aid rather than an ongoing, long-term attempt at character reconstruction. The treatment consisted of 23 sessions over a six-month period, at the end of which time the patient moved away from the area.

Case History

L.K., a 47-year-old, divorced woman was referred for treatment by a general surgeon whom she had consulted because of a severe change in ability to speak. At times, she was unable to phonate any sounds other than guttural noises. The surgeon, suspecting a tumor of the bronchus, performed a complete medical evaluation, including bronchoscopy, which demonstrated no evidence of tumor. However, he observed that her vocal chords were swollen to twice their normal size. He also discovered that the patient's son had died several months before, and in the absence of an allergic history, he suspected that the swelling represented an event of emotional origin; on that basis, a referral was made.

L.K. was born in the Ozark region of southern Missouri, and had spent most of her life in that region. She had come from a very poor family, and explained to me that she was quite used to taking care of herself, had from the time she was a small girl, and that having to live with her youngest son at this stage in her life was a source of great shame, as was her having to see me. It represented to her a defeat, and she portrayed this as greatly out of character with the values she held about life. Despite her disastrously depressed appearance and speech reduced to a guttural whisper, one got the impression

that she was used to fighting for herself. She was divorced from a second marriage and, until she had moved to the area in order to live with her son, had been employed as a cabinetmaker in a factory engaged in the manufacture of recreational vehicles. She had had three children, one out of marriage in her late teens, and the others by her two husbands.

She had been reared in a strict, fundamentalist household. Despite that, I felt that she possessed no sense of guilt with regard to her first pregnancy, which she described as something that she truly desired, planned, and carried out, knowing in advance that she did not want marriage and that it went strongly against the grain of her family tradition. Her choice of husbands in the marriages that followed left a lot to be desired. Her tendency was to be the source of financial support to the family, and her second husband, who sounded as though he were impulsive and sociopathic, ended up serving time in jail for burglary, by which time the divorce had occurred. Her relationship with her oldest son was strained, L.K. feeling that he blamed her for the difficult life they had led and for not providing a father for him. Her relationship with the younger boys, by contrast, was much better, and after her last divorce, she and her youngest son, then aged 17, decided to leave the area and look for a new life. At this point, her middle son had married and joined military service.

She and her youngest son moved to Nebraska, and both obtained employment on a large ranch. A few months after settling in, her son was backing a tractor up to a pit to dump a load of silage when he misjudged his position and, with his mother looking on, backed into the pit and was instantly killed. L.K. tried to yell, to warn him, and felt paralyzed. The accident was understandably devastating, and what followed was a period of grief without any crying and a progressive loss of her voice. She lost her job at the ranch and, for the first time in her life, was unable to care for herself, so she moved to Kansas to live with her middle son and his family.

Biophysical Examination

One look at L.K. was all it took to understand why the surgeon suspected a tumor process and that a full-scale evaluation for malignancy was obligatory. She was tall, pale-to-ashen in complexion, and thin, and she exhibited a look of suffering and pain. Her skin hung from her, especially around the neck, and her sternomastoid and trapezii muscles stood out very prominently. Her face was drawn from weight loss, and her hair was rumpled. On the whole, she looked as though she had been shrinking, as is often seen in patients with malignant tumors. She remarked that she had lost interest in herself and had, over the previous three months, lost her taste for food. She reported frequent frontal and occipital headaches and that she had been unable to cry since her son's death. Her voice, in this initial session, was a raspy whisper, which, she said, was as loud as she could manage.

Course of Therapy

Several items about this patient stood out. She seemed to have a lot of fight in her. In fact, aside from the dysphonia, what she found most distressing was that she could not function independently and needed to depend upon her son for economic survival. She ranked her need to apply for medical assistance as an even greater shame, expressing a great deal of feeling about her need to "pull her own weight." Also outstanding was her immediate grasp of the meaning of her symptoms and their connection to her physical symptomatology. I felt that inside this person, who looked close to death, there was a highly energetic individual capable of making emotional contact.

The initial diagnosis was a phallic character with a repressed oral block. I began treatment by focussing on her facial expres-

sion and eye contact, encouraging her to look at me, to look around the room, and to simply move her face around randomly. I also focussed her attention on her breathing, which appeared chronically held in an inspiratory pattern. She continued to talk in a whisper for the first seven sessions, with increasing tales of guilt and pain associated with her son's death. As the sessions progressed, I encouraged her to make sounds, not words, through her throat, attempting to get her to feel the movement of her voice in her throat, neck, and mouth. This continued for several sessions accompanied by mounting protests from her about her increasing level of fear. Thus far, she had exhibited little crying. Each time the crying seemed imminent, she clamped down, turned her face away, and avoided eye contact with me.

She arrived at the critical session in her treatment ready for action, announcing that she knew what she had to do, that the distrust she had for me, fearing that I would push her too far, needed to be cast aside. In this session, she remained in contact with me, tolerated spontaneous gagging, and broke into deep, tearful sobs, moaning loudly. It felt like a funeral. I encouraged her to scream, attempting to get her to face the scene in which her son was killed. She was ready at this point and screamed a tortured scream followed by crying and sobbing. She experienced great relief. She arrived at the next session speaking in a normal tone of voice. There was no evidence of the rasping whisper. She addressed, spontaneously, her lifelong tendency to assume responsibility for all that goes wrong, and said she felt it was her fault that her son was killed, that had she acted in time, he would have lived. When I pinned her down to the exact circumstances, it became clear that she was more than 150 feet away from him when she saw what was happening, and at this more rational moment, she was able to see that she could have done nothing to prevent his death.

At this point, therapy was interrupted by the need for surgery for stress incontinence. I was able to be present for the surgery, which was performed by the surgeon who had made the original observations during bronchoscopy. He confirmed the observation that her vocal chords had resumed their normal size. Following the surgery, I saw her for three more sessions. Her voice remained strong, she gained weight, looked attractive, and possessed none of the shrunken qualitities with which she presented. In the same spontaneous manner that she was able to tell me about her distrust, she was able to express gratitude, announcing that she was able and needed to leave the area and find a place to live and new employment. She had written several letters and found a job as a cabinetmaker some distance from her current location.

I had the good fortune to see her about 9 months later under circumstances that I thought would have broken her. Her middle son, a U.S. Army man, was in the hospital with a Guillian-Barré syndrome, and his paralysis had extended to his respiratory apparatus. He was on a respirator and completely paralyzed, and she had come back to help his family. She called for an appointment, her motive being to let me know what had happened to her son and establish the possibility that I would see her again if needed.

Discussion

A case has been presented in which substantial and significant energetic movement was accomplished without working directly on the musculature, but instead focussing on mobilizing the patient to do as much of the work as possible herself. I would like to direct my comments to two issues. First, I was struck by how much more meaning the patients can get out of a profound emotional experience when they are able to do work themselves. It helped this patient's self-esteem immeasurably when she was able to make a breakthrough via her own effort. Secondly, there is the issue of

the therapist's anxiety, especially the starting therapist, about making something dramatic happen as a way of assuring himself that he is doing something for the patient. Maintaining the "hands-off" attitude at this stage forces the therapist to examine this anxiety and to look for other, equally viable solutions to an energetic block.

First Do No Harm

MICHAEL GANZ, M.D.

Introduction

A major goal of psychiatric orgone therapy is to enable the patient to experience his emotions without distortion. This is effected by the gradual and orderly removal of muscular armoring and its associated characterological defenses in a manner particular to the needs of each individual. Some of the methods or techniques that are employed in the treatment consist of character analysis, deep breathing to induce a biological charge in the organism, direct pressure on areas of muscular holding, and the venting of emotions by making facial expressions and sounds, as well as hitting or kicking the couch. These procedures are all directed toward mobilizing the body's energy in an effort to overcome a stalemate between feelings that are held back but seeking expression and defenses directed against their emergence. The general techniques of the treatment are utilized with all patients, but the manner of their application must be based on a number of clear indications.

A determination of the approach that may be indicated in each case depends on an evaluation of the patient and his presenting neurosis. This includes a medical history and an evaluation of the current medical status. The strength, as well as the weakness, of the patient must be ascertained as a guide to his vulnerability and ability to tolerate the upheaval that often occurs in therapy. Finally, a working diagnosis is made, and a differential diagnosis is postulated to be considered as the patient and his illness become more fully understood. The foregoing is synoptic but is noted here because, without this much information at the very least, the therapist is in the dark and—germane to what follows in this discussion—the patient is at grave and substantial risk. We must not forget or minimize the fact that what is undertaken in orgone therapy of the neurosis is medical intervention on the deepest biological level. Even when the physician is well trained and astute, the challenges both he and the patient face are enormous. This is true whether the treatment is short term, directed toward the alleviation of an acute situation, or of longer duration and greater depth. Throughout, the therapist must be alert and able to recognize the development of a biopathic illness that may be either incidental or derived directly from the effects of the therapy. He must also be able to make medical decisions as to whether a complaint is organic in nature or otherwise, *i.e.*, hysterical or imagined.

The following cases illustrate some problems with which patients have presented after having been subjected to treatment by various types of medically unqualified "body workers" or untrained, self-proclaimed "Reichians." In each, attention is directed to specific examples of therapeutic mismanagement and the consequent disturbances in patients' functioning.

Cases

Case 1

A 48-year-old, professional, white male had been seen for the preceding three years by a "Reichian therapist" who had a social work degree. He claimed the treatment had been beneficial in that he was better able to relate on an emotional level, but that he and the therapist now felt an impasse had been reached. He presented as an articulate, intelligent man, who spoke rapidly and referred frequently to his tendency to become run down. He expressed the hope that therapy with a physician would help overcome that

problem.

He was moderately armored in all segments except for the neck, where armoring was extremely pronounced. On the couch, he talked endlessly and repetitively, with his eyes squeezed tight or fixed on the ceiling. After a few breaths, he would writhe dramatically, kicking and hitting the couch, with his eyes tightly closed and his teeth clenched. This was accompanied by angry, forced crying. Having spent himself in this activity, he resumed the compulsive talking, using psychological terms in a confused way to describe his feelings, current experiences, and early family interactions. This behavior, precipitated by only minimal breathing, gave evidence of an inability to tolerate energetic expansion.

Dynamically, the following was occurring: First, biological charging produced some emotional movement. This led to the thrashing about, which permitted the leaking off of some charge, while simultaneously intensifying the blocking at the eye segment. The patient's intellectualizing was the result of an increase in brain activity, while his compulsive talking aided in dissipating further excitement and reducing his anxiety level.

On the level of personal interactions, much the same thing was taking place. As an executive officer, he was solely charged with the development of new business for his firm. He attained superb results by virtue of a frantic schedule of social and civil "public relations" activities. The tremendous energy expended in these pursuits exhausted him until he developed a general weakness with colds and flu-like symptoms. He ran from the closeness of a sustained love relationship, with the same desperation that characterized his professional life. In both areas, he was driven and unsatisfied but unable to deepen his emotional contact.

The therapeutic errors in the previous treatment that led to this plight were in accepting the dramatic display as if it were a clear emotional expression rather than an inability to hold a charge, and in permitting both the associated loss of eye contact and the loquacious psychologizing to run on unchecked. The patient was indeed at an impasse as a result of his treatment.

Case 2

This 35-year-old, married, mother of three came for treatment of severe depression and anxiety. She was unable to derive any pleasure from her relationship with her children and was indecisive about continuing her marriage. Although an accomplished flutist, she had given up a faculty position and had stopped playing the instrument even for her own pleasure. On examination, she was found to be very lightly armored, tearful, withdrawn, extremely apprehensive, and mistrustful. Much confusion and hopelessness regarding her current problems and doubts that therapy would be helpful reinforced these problems.

In the first two sessions, she attained some relief from reassurance, a factual evaluation of her status, and a discussion of what might reasonably be expected from treatment. She then revealed some details regarding her previous therapy, which was of four years duration. That had been at the hands of a draftsman turned body-worker therapist, who represented himself as trained by virtue of his own treament with an orgone therapist.

Throughout the body-work treatment, she was instructed as to what emotions to display, whether they were felt or not. For extended periods, the therapist required her to express rage and so, unrelated to the presence of that or any other emotion, rage was the order of the day. Moreover, he explicitly stated that to do otherwise or to question his decrees was destructive to the therapeutic process, evidence of a defense, and showed contempt for the therapist. Should she experience a genuine emotion, it was belittled, as were her insights, and the therapist forced on her the acceptance of his interpretations. Caught in the transference these manipulations engendered, she attempted assiduously to be a "good patient," *i.e.*, to please him by producing the responses that were expected. After the therapist had made several sexual

overtures and she heard of his sexual involvement with some of his other clients, she terminated the treatment.

The genesis of her initial attitudes was now explicable. The mistrust and confusion were evidence of treatment-induced blocking at the eye segment. This blocking derived directly from interpretations that ignored and undermined the patient's true perceptions, so she could trust nothing she herself felt. In an early session with the author, drawing attention to her worried expression, along with physical loosening of the orbital ridge and occiput, produced deep sadness with the memory of feeling unloved and abandoned as a young girl. She was amazed that these emotions had been hidden by the repetitive show of spite and rage she had been ordered to display.

The harmful effects of the patient's transference to her former therapist were immediately evident. Her attempts to win the therapist's approval by the "good patient" route defended her *simultaneously* against the emergence of earlier feelings of abandonment. Furthermore, creating a situation in which the patient was unable to make contact with real anger, due to the therapist's refusal to allow anything of a critical nature to be directed toward him, progressively immobilized her and mired her in the depression.

Case 3

This 32-year-old, single man, had been in the care of a self-proclaimed therapist for three years and also attended his group therapy sessions. He came with complaints of poor self-confidence and a sense of social unease and isolation. Striking was the flat and inexpressive appearance of his eyes and his tendency to stare directly into mine. His most pronounced attitudes were those of submissiveness and being apologetic. On the couch, during expiration, he threw his head back, collapsed his chest, and forced his pelvis forward, a voluntary and contrived orgasm reflex. At this point, his eyes took on a pleading quality, and he volunteered how much he "loved" the other members of his therapy group. On being questioned, he explained that he had been instructed by his therapist to move in that way on the couch, as that activity supposedly expressed the emotional quality of yielding. After breathing for a short time, he put on an abrupt show of anger followed by an affectless discussion of his mental associations in psychologocal terms. This tended to recur well into later sessions and was accompanied by his eyes appearing vacant or rolling back into his head.

Prior to his "Reichian" treatment, he was neither strongly introspective nor self-analytical. These traits had been fostered by both the individual and group therapy sessions, wherein the staring developed as well, as an attempt to demonstrate "good contact." On no occasion during his earlier treatment was attention drawn to his predominant characterological defense of passive submission, or to the expression in his eyes that accompanied it. His mechanical tantrums and analytical formulations had been encouraged, as had the substitute form of eye contact. Gradually, as such behavior was stopped in therapy with the author, his eyes began to show a degree of expressivity and he then began to feel some genuine anger. At this point, he quit treatment, albeit with effusive praise for the therapist. He gave financial straits, which proved not to be true, as the reason for stopping.

From my experience, he differed little from others of his character type given comparable strengths and personal accomplishments. His flight from treatment coincided with the first appearance of genuine anger. This suggested that, in addition to the therapeutically induced eye-blocking, his threshold for tolerating vigorous energetic movement and anxiety had been permanently impaired by the "Reichian" therapy.

Case 4

A 30-year-old male ski instructor presented with a foot that had once been fractured and

left untreated, and thus had healed with deformity. His "Reichian" therapist, who was not a physician but, as an artist, claimed that he "knew anatomy," had strongly advised against medical evaluation and treatment at the time of the injury. He told the patient, "Your foot will get better when you want it to," implying both the accident and the healing process were under the control of the patient's unconscious. As a result of this misuse of unearned authority and abuse of the therapist's influence, this patient was seriously hampered in earning his livelihood, as well as being permanently damaged.

Case 5

A 35-year-old, married, female executive came with dissatisfaction regarding her previous treatment by a physician who was practicing as an orgone therapist. She had been seen for over a year, during which time unremitting muscular work had been done, particularly on her jaw. While that repeatedly elicited crying which related to childhood beatings, neither character analysis nor a reasonable discussion of her current life had taken place. She had felt the treatment to be mechanical. Her complaints relative to her appetite and weight, as well as her appearance, suggested a thyroid disorder. On her second visit, palpation of her neck revealed an obviously enlarged thyroid gland. Referral to an endocrinologist proved that the gland was overactive and the patient clinically hyperthyroid. Much of the emotional symptomatology for which she sought treatment could be ascribed to this organic disease. The failure of the physician to make a timely diagnosis of the underlying disease state obscured the distinction between her organically and emotionally based complaints, which resulted in an unnecessarily prolonged period of ill health for the patient.

Discussion

In the first three of the above cases, various pathological conditions resulted from a number of errors in patient management. Because the therapists were intimidating and successfully portrayed themselves as infallible, emotionally healthy, and indeed the sole purveyors of health, the patients were trained to look to the therapists *exclusively* for insight, direction, and interpretation, while denying their own insights and impulses. This, combined with the propensity of the therapists to direct not only the choice of emotion to be expressed, but also the manner of the expression, further eroded the patients' contact with their own biological cores, the source of genuine feeling. As if that were not disorganizing enough, the therapists regularly determined what the appropriate response to a situation in the patients' lives ought to be and insisted that be the one expressed socially, regardless of the patients' own reaction or needs. Over time, all these measures led each patient to a marked intensification of holding in the eye segment. Since this was not recognized and was allowed to continue, the persistent energetic charging in the sessions created an anchoring of heavy armor in the head. This became even more pronounced by the patients' appropriation of the psychologizing to which they were subjected.

In each case, the acceptance and encouragement of forms of emotional expression that were substitutes for genuine feeling created new defenses in the superficial layer or facade. The increased blocking in the eye segment further distorted the patients' perceptions of their emotions; the exact opposite of the treatment goal. In those in whom the eye segment was the major or secondary area of armoring to begin with, the disruption of emotional and physical health was more pronounced.

In these cases and several others known to the author and not reported here, the manner in which transference was used to manipulate and subordinate the patients permitted no handling of negative transference. Appearing in any form, it was squashed by the therapist and called a defense or resistance. The patients typically responded

to this interpretation with guilt, feeling they were at fault for fighting the treatment. As a result, an obsequious quality developed in their characters. They came across socially as gentle, soft-spoken, and full of compassion and understanding; all traits which had been grafted to the superficial facade in order to appear like Reich's model of health.

Although most patients who came from these "therapeutic" experiences were to improve significantly, each retained an underlying and lasting sense of betrayal and exploitation. The specific modalities that are effective in handling these and other therapist-induced disorders will be discussed in a paper for later publication.

Cases 4 and 5 demonstrate the importance of correct diagnostic judgment. The timely intervention of appropriate medical treatment would have saved each patient needless disability.

First do no harm is a principal admonition to which every physician is exposed from early in his studies. It is the sense of his responsibility for the very lives of his patients, to which the student is exposed over the entire course of medical training, that instills a combination of respect and accountability for life that no other discipline imparts. A thorough medical training is absolutely necessary in order to responsibly make the medical decisions on which lives may depend; it provides a professional and emotional underpinning obtainable in no other way. Those who would practice this form of medical psychiatry without the requisite medical background and training in orgonomic psychiatry reveal their ultimate disdain for both the people they treat and the functions in nature that Reich discovered.

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.

THE OCULAR SEGMENT, PART I

The following seminar took place February 5, 1984.

Courtney F. Baker, M.D.: The topic today is the ocular segment, and, as always, it is a free-wheeling discussion. Let me just say a few things to get it started. The first thing that Reich says—and I think it is an important feature of the ocular block or any blocks—is that contactlessness, in general, is not a passive absence of something but rather the outcome of dynamic forces. In other words, there are repressed impulses attempting to break through and there are repressing forces acting to keep them down. The resolution of this conflict is contactlessness, a dynamic equilibrium. Obviously, then, when we mobilize it, we disturb the equilibrium. The second thing I want to mention is substitute contact. Substitute contact occurs (and Reich talks about this in the general sense) whenever an attitude stands out from the total personality as if isolated or in conflict with it. When you see an attitude that seems not to belong, then you are dealing with a substitute function. Thirdly, in talking about eye blocks, we spoke last year not only about the eye blocks that our patients have brought to us, but also the eye blocks that are created iatrogenically. With that, I will open the seminar to discussion.

Michael Ganz, M.D.: I have seen iatrogenic eye blocks, particularly in patients who have been "treated" by body workers or inadequately trained physicians, not necessarily people trained in our own discipline. There are many medical therapists trained by a variety of so-called Reichians, and I have seen a large number of their patients. Iatrogenic blocks have been developed as the result of very specific ways in which these people have dealt with the patients. One thing that they have done has been to force the patient to accept the therapist's interpretation of what the patient may experience. The patient may have an emotive reaction to something, the therapist will identify it, and, if the patient has any contrary opinions about what he might be feeling, they are rejected by the therapist. The patient becomes confused about his own perceptions. Rather than relying on the development of contact within the patient himself to identify his feelings, the patient loses contact because the therapist is in there interpreting: "Well, you're feeling this for this reason . . ."

Another not uncommon practice that has produced eye blocks in these patients when they stay in therapy with these therapists for several years, is the therapists spending very little time clearing up the eye segment, and more time opening up the lower segments, making them candidates for the development of hooks. They also force the patient to demonstrate an affect that is not felt, and not even appropriate. It is of tremendous importance to them that the patient appears to feel yielding or giving or some other sugar-coated emotion, whether it is genuinely felt or not. As a result, the patient comes into therapy, starts to breathe, and immediately goes into a phony routine. The next mistake is that, as they orchestrate these situations, they accept as genuine what the patient produces. They do not perceive that it is a substitute expression, and they encourage more and more substitute activity in the patient. What also

occurs is the seduction of the patient into situations where the patient feels it is imperative to please the therapist, and any resentment or any degree of criticism or contention with anything the therapist says or does is interpreted as a transference problem. It is worth saying that we may encourage a patient to bring out a feeling, but we do it, hopefully, when the feeling is near the surface or appropriate to the moment. In most of the patients I saw in California, with few exceptions, there was a look of pleading in their eyes. They looked practically supplicant, and the lower face was slack. It was almost as if every person who came in from this area looked exactly the same.

Arthur Nelson, M.D.: Did this transcend character type?

Dr. Ganz: Yes, it did. There were hysterics, catatonics, and phallics who had been rendered weaker.

Dr. Nelson: What you describe is brainwashing, which can transcend character type to some extent.

Robert A. Dew, M.D.: It's basically a rather disturbed form of orgone engineering.

Dr. Ganz: Unfortunately, when we err with patients, it is easier for the patient to defer than to confront us. If we are very strong, they won't stand up and say, "That doesn't sound right to me." If you're on the wrong track and encouraging the wrong or unreasonable emotion at the time, the patient will do his best to come up with it for you and it will develop into a substitute situation; and then the patient will get confused. In other words, this is an exaggerated description of what can happen when we make some kind of slip-up and miss the boat with somebody. The approach I have taken, with which I have had some success, is reeducative. I have been very direct, explaining to them what therapy is about, what they're doing, why they're doing it and giving them factual interpretations on an ego level. We must always try to keep things simple and clear and real. We must direct them to talk about the immediate phenomenon rather than their nursing experience every time they have intestinal distress. Also, they must express everything in clear English, since they tend to be so vague. Question them until they are clear, so they can hear their own clarity.

Byron Braid, M.D.: The patients I've seen who have come from other therapists, in which something like this has occurred, seem to have learned a specific way of "doing" the therapy and it is very difficult to stop. I have been working with one patient now for two years and still have not gotten through the episodes of contactless raging. She knows that she does not feel the rage, but it was what was demanded of her, and like a "good patient," she complied. Attempts on her part to protest were deflected by the therapist, who discounted her perception as a form of resistance.

Dr. Dew: The first thing you can always do is to stop what they are doing. I find that's always been helpful. Just stop it, even if it takes weeks and weeks, and then the contactlessness will appear. Then start over again.

Dr. Ganz: When they were doing something according to a set pattern, I would say, "Why are you doing that?" The reply was, "Well, aren't you supposed to?" A discussion followed, and as these people started to get into contact, they recognized how much rage they had against the fellow who had handled them. And that took a long time. After that rage came out, I was a hero for a while, and then I started to get it.

Dr. Dew: It seems to me it's no accident that much of the substitute contact takes the form of rage. In the animal world, it is fear that makes animals fight. They almost never fight unless they are driven to it by fear. The fighting may be just a primitive function, the organism's attempt to resist contraction by moving out again. The pairing that I see with substitute contact is that there is almost always a great deal of fear behind rage.

Another thing is that substitute contact can have a weird quality to it. It's not only not in keeping with the rest of the character, but it also has a strange mechanical quality. With regard to the ocular segment, you look to see

whether the eyes are actually taking part in what is going on. Often people close their eyes while carrying on. If you ask them to open their eyes, whatever they were doing just stops, without your even having to stop them.

Dr. Ganz: I've seen them also where they are carrying on frenetically, with eyes wide open, and it's as if they could be reading a magazine up there.

Louisa Lance, M.D.: You said, Bryon, that you had been seeing this person for two years. I inherited somebody from a bioenergetic therapist, a schizophrenic with a wide open pelvis and a totally closed head segment. It took me four years to get him into any kind of contact, and the bioenergeticist had done what Mike said, encouraging primarily very soft feelings. He came with an infantile quality, but totally "out of it," crying "Mama" and reaching. I had the same reaction Mike did. I would say to him, "What are you doing?" "Oh, I'm feeling for my mother." I showed him the mirror and said, "What do you see?" and he said, "A person who's feeling for his mother." "What do you see in your eyes?" "Sad eyes." It took four years to get him into contact; then he left treatment.

Dr. Braid: I recently met someone who had been in bioenergetic therapy for about four months and left with the sensation that it was driving her crazy and that they were "doing the same thing all the time." I asked what it was they were constantly doing, and what it came down to was that the therapist was attempting to open her up in the pelvic segment, with no regard for the upper segments, let alone the eyes.

Dr. Morton Herskowitz, D.O.: I see a patient who had been in therapy on and off for many years. He is very hypochondriacal and knows a lot about therapy. Before he came to see me, he sent me a five-page letter listing all his disabilities, among which were complaints of joint problems. When he first came, he would get on the couch and start yelling, "I hate you! I hate you!" It was more declarative than emotional. He thought that was anger. It was absolutely impotent, but he thought he was raising hell; apparently every other therapist had tolerated this as an expression of anger. Then he told me that he is afraid to punch because he is fearful of injuring his shoulders. His attempts to punch resembled a fluttering ballerina. He was miles from his real anger.

Dr. Ganz: The therapist has to be able to recognize if it is or is not substitute contact, and has to care.

Douglas Levinson, M.D.: This leads me to a question: When do you encourage some attempt to get at a feeling that you think is close to the surface and, when do you just wait until the patients can do something on their own?

Dr. Baker: There are things you can do. For example, on transference issues, every couple of months, you can fish around for negative expressions, and if the patient doesn't connect to it, you just stop. I don't think there is any harm in that. You don't always know. You can't always know, so one day you try it, with a little push, to see if there is a connection. Another thing that helps, generally, if you have a choice between fear and rage, is to get the fear out first.

Dr. Dew: I've had a number of patients who, during the early phase of therapy, will lie on the couch and breathe, and if left to themselves for 10, 20, or 30 minutes will not report any type of feeling; of course they will question why they are doing this. My own tendency is to try to get a feeling for what they are experiencing and where it might be held and work in that direction. If I have a feeling for what is being most superficially held back, I will see if there is a way to encourage them to express it. I have seen patients where none of these things really get very far in the early months of therapy; so I wait and see what happens.

Dr. Ganz: That's right. Also, what you may be describing is the patient's contactlessness; nothing is moving. Even in patients who you've seen for a long time, who are moving along well, weeks go by when you are just allowing them to feel the develop-

ment of charge, which is preparatory. You cannot get a breakthrough in every session. If there are four or five breakthroughs a year, the patient is doing great. Early on, if they do nothing but develop some charge and stay in contact, it is helpful to deal with their thoughts. If you follow the thought while they are building a charge, sometimes contact will be made.

Dr. Baker: I would like to make a plea for patience. I started seeing a fellow with heavy muscular armor a few months ago. I can work on his muscles and it doesn't even hurt him. He says, "This bothers other people?" I had him kick and hit and yell just to get him moving, and to soften him up a bit. He doesn't feel anything at the end of the session, even though he breathes better and looks better. After a couple of months, he reported that all his vague joint tightness and muscle aches were gone and that his emotional reactions around people are more charged now. So, there is a gradual filling up with charge, and eventually, I think, we are going to reach a threshold where things are going to ignite. But, you have to have patience. Early on, you are softening them up, charging them; though they lose it during the week, you repeat the cycle for a year or two until the threshold comes up to where you can really do some work.

Dr. Dew: In consideration of the "nothing is happening" feeling, you have to be patient, and that means you can't have anxiety about it. To really build up a charge, you have to achieve a surplus over that which is being discharged. The best way to do that is to have the patient breathe and roll his eyes. If patients are so stiff in the chest that they cannot breathe well, getting them to kick forces them to breathe. Actually, kicking drains off some of the energy you're trying to build up, but a benefit is accrued from kicking because you do get them to breathe. You have to look at the breathing apparatus very carefully to make sure that they are really breathing. If they breathe just with their diaphragms and their chests are not expanding, it's not going to get them going. Keeping the eyes closed is another way of keeping things down.

Dr. Lance: I think your point about the therapist's anxiety is very important. If someone comes in, for example, for eight months and says that nothing is happening, you might have a tendency to feel bad. I had a tendency, when I first started seeing patients, to think that I was not doing something I should have. This can bring up much in the way of countertransference issues. You can also see sometimes that a patient is really trying to get you to do everything *for* them, trying to get you to do the work. I treated a man whose chest was as rigid as a tabletop, and after a year-and-a-half of work, nothing was happening. I discussed it in supervision and was told, "You're working too hard." Then, I sat back and didn't touch the patient, and sure enough, things began to happen.

Dr. Ganz: I had a very similar feeling when I first started seeing patients: I felt great if I could get them to cut loose. So, that was just an initial anxiety I had as a beginning therapist about making something happen.

Dr. Levinson: Plus, the first year of seeing patients is rough because every single patient is in that phase, and it's frustrating because you don't have anyone beyond that. You feel, "What am I doing wrong?" Everyone's out of contact, which is natural, since they've just started therapy.

Dr. Ganz: I don't know whether anyone else has seen this, but I have one patient who is an attractive, vivacious hysteric, and it's been very difficult for me to get her to shut up and breathe, in part because she can be so entertaining and interesting. However, when I got down to business, I saw that one of the reasons this was happening was because I had underestimated the degree of her terror. When I let her breathe long enough to develop some fear, her bronchial apparatus would clamp down, she would start to wheeze, and then she'd become terrified. So, it wasn't just that she was being secretive, seductive, or entertaining, but rather, that

underlying all this was a great terror she had to get through. Sometimes, you just have to sit and wait until the patient can work through the feeling.

Dr. Baker: I had a patient like that, attractive and talkative, with very frightened eyes. She had to talk and talk and talk. It was a lot of work to get a word in edgewise. But you have to respect the fact that there is a limit to the amount of anxiety they can tolerate. They may not look like they're in such bad shape, but they are filled with terror.

Dr. Nelson: What you are really saying is that for some patients the defenses are really necessary.

Dr. Ganz: An hysteric comes in and doesn't look so bad, but from her side of the couch, it's terrifying.

Dr. Baker: Everything we do character analytically is, in a sense, working on the eye block, and, as Reich says, we want to get at contactlessness. We want to get them moving. First, make an exact description of the behavior. That would mean taking the most superficial thing about the contactlessness, and simply describing it to them exactly. And, I would add from my own experience, do it over and over again. Show the patients the difference between their ideals and the emptiness of their actual living, the difference between someone who is merely doing a lot of talking and someone who can set up a new life. Third, show them that their lack of real interest shows up in their real life conflicts and failures of work. In other words, they may talk about how interested or involved they are, but their actual failures and conflicts demonstrate that they're not really in contact. Then fourth, to get at their lack of a real inner experience, describe their behavior, the conflict between what they talk about and what is really happening in their lives, and the emptiness of their achievement compared to their aspirations.

Dr. Dew: From my own experience, I would emphasize that, if you clearly see a behavior, an attitude, you think is central, then it is absolutely critical that you keep at it week after week.

Dr. Herskowitz: I have a very basic question about circling around the room with the eyes. I have a kind of simplistic idea of what is happening physiologically. I say to myself, "I'm energizing the optic nerve, or I'm trying to make a connection between the brain and the eyes." Does anyone have a better, or more particular explanation of what's actually happening?

Dr. Nelson: You're stretching the extraocular muscles. I suspect that there's a lot of feeling involved in the muscles of the eyes and that they're holding it back.

Dr. Baker: It's also hard to pay attention to the holding while you're busy rolling your eyes and focusing out there.

Dr. Braid: There is a body of research having to do with neurolinguistic programming that has apparently documented that memories and experiences are revived by altering the direction of gaze, and that by looking in one direction, aural memories are stimulated, and by looking in another direction, visual memories are stimulated. My feeling after reading about this is that you are making unconscious material accessible by moving the eyes. Perhaps, we are stimulating the brain.

Dr. Nelson: I have found that, with some patients, what is significant about the direction of gaze is the fact that they are looking toward the side where the door was in their bedroom. I have also noticed in schizophrenics that you can never get the eye over to the maximum corner. When you can get the eyes all the way over, you often get traumatic memories.

Carol Stoll, M.D.: It's frequently something very threatening.

Dr. Ganz: My idea is that the function of the eye is to see; so, when I ask a patient to move his eyes, I ask him not just to move them mechanically, but to describe what he sees. If the eye is blocked, it's not seeing. If there is a refractive error, you're literally out of contact, so a lot of people who get on the couch cannot see past the length of their arm. You are thinking that the contact

between you and the patient is important, but what he sees is a blur. I've encouraged those who can to get contact lenses, which, if fitted correctly, make a dramatic difference. So, when I have a patient move his eyes, I don't have him roll them around like marbles as fast as he can, but, I have him move them slowly and look at what he sees. Seeing acutely permits more contact, and ultimately more feeling comes through.

Dr. Herskowitz: I have a patient who cannot see me if I am more than a foot away. When I realized that for the first time, we had a marvelous session. He had never seen my eyes before. He had been in therapy with someone else who had never moved so close. He said that he had never seen his former therapist and that this was the first time he had seen me. It's tough on one's back, but it results in a positive experience. I think that the exercise of opening the eyes wide and shutting them tight as the patient breathes is as effective as rolling the eyes in getting energy moving in the eye segment; but it must be done carefully, so the opening is as wide as possible, not merely opening and closing.

Dr. Ganz: It seems physiologically more natural to open the eyes as they exhale, because there is general expansion at that point.

Dr. Dew: That depends on the emotion that underlies it. The two things you do when you're shocked or surprised is to open your eyes and take a breath in. If you're trying to bring out anxiety, then, you have the patient open his eyes wide on inspiration. My feeling about the whole question of moving the eyes is that moving a segment moves energy, produces a sensation that you can feel. If you stretch your own eyes around you can feel it in your stomach; so, just moving the eyes around produces feelings. In a sense, you may have to start mechanically, but then you're just trying to disturb an equilibrium by getting the eyes to move. What gets them to move in the eye segment varies. Sometimes, rolling the eyes is effective, or following a finger, or keeping the image unitary as a finger approaches the nose. The stress on the muscles is often anxiety-provoking.

Dr. Baker: That's interesting, because I think it is all true, although it's not the way I've handled it myself. I think of it in other terms: If they have to focus their attention outside themselves, then they cannot be so preoccupied with holding. One of the reasons I find that eye-rolling sometimes doesn't help is that the patients begin daydreaming, so you have to ask them to focus. While it is true that moving the oris muscles gets energy moving, I also feel that directing attention outwards while breathing allows the inner preoccupation to lift, and the patients can let go a bit. Otherwise, they can be all concentrated inside the head, with daydreams and fantasies.

Dr. Dew: Mort told me something that brings that out: having the patient call out the points of the compass as the eyes move. I tried it with a patient, and in about three rounds, he had everything confused.

Dr. Lance: A way to overcome that is to have them keep you in the circle while they are looking. There is almost no way they can daydream, because every time they see you, it's something real. If you ask them to touch everything with their eyes, it can really be dramatic. I also wanted to ask about the relationship of this to using the light on the eyes. I personally sense not much mileage unless the patients do it themselves at home.

Dr. Nelson: I have found it useful. I find that you can determine, in a subtle way, if they are out of contact, by noting if they begin to anticipate the light. Also, you can see that the breathing is very much tied to the ocular function, and that breathing can become inhibited in an attempt to keep up with the following. If you tell them to breathe, then the eyes go off.

Dr. Braid: One thing that Louisa taught me is that when you can't get someone in contact using a finger or the light, using a sound stimulus may do the trick. I begin snapping my fingers or clapping my hands and have the patients follow the sound

with their eyes. Sometimes that is much more effective, when they're not making the connection just by moving the eyes or following.

Dr. Dew: Last year, we spent the longest amount of time on the eye segment, and you can easily see why. When I first started out, I think I ignored everything above the hairline, or maybe a few centimeters south, but I've come to the conclusion that you cannot ignore anything, and many things that do not seem to relate immediately to the eye segment really do. We tend to focus on the occiput and the eyebrows, but there is a lot of area in between. The temporalis muscle crosses two segments. You can work all the way around to the back of the head, or over the dome, and have dramatic reactions in the eyes. It's curious that sometimes it's just on one side. Also, working on the mandible, the masseter muscle can have dramatic effects on the eyes; so, working in that area can be working on the eye segment.

To be continued.

Notes from Afield

Notes from Afield is intended as a forum for the presentation—in brief synoptic form—of findings from other sciences that bear more or less directly on any aspect of orgonomy. Readers are invited to contribute such material, citing the author, title, source, and date of publication. In the case of books or excerpts from books, the name of the publisher should be included. Contributors may also, if they wish, provide a commentary indicating the relevance of the information to orgonomy. The editors reserve the right to alter, revise, or add to such contributions as they deem necessary.

ON THE CANCER BIOPATHY

In a recent lecture (April 1984), "An Overview of Breast Cancer," given at Bryn Mawr Hospital, PA by Dr. Harvey J. Lerner, a number of significant points were made. Dr. Lerner, head of the Surgical Oncology and Chemotherapy Unit at Pennsylvania Hospital, remarked that there is considerable doubt in some minds that even the most radical surgical, chemotherapeutic, and radiotherapeutic procedures significantly prolong survival. Despite present day diagnostic techniques and diligent staging, it appears that, by the time the smallest detectable tumor is discovered, the patient is already in the last stages of the disease. Dr. Lerner has concluded that it is quite possible that the entire process takes several years—even a decade or more—to reach the point at which a tumor mass can be discriminated. He postulated that differences in survival with the various modalities of treatment are perhaps more apparent than real, deriving from the fact that they are applied at different times in the course of a long process, which in most cases proceeds to its own inexorable conclusion. He suggested that the real test of a therapy would be to observe the outcome if it were applied where the tumor mass were no larger than a pencil lead sized dot.

These remarks are entirely consistent with Reich's view that the development of the cancer biopathy may indeed be a long one and that, by the time the tumor is found, it is very late—often too late—in the disease process. Dr. Lerner's points, furthermore, support Reich's emphasis on detecting the cancer predilection (*i.e.*, T-reaction) before any tumor is in evidence.

R. A. Dew, M.D.

PREMENSTRUAL SYNDROME

Premenstrual syndrome (PMS) has come into the spotlight largely because of the pioneering work of British physician Katharina Dalton. Current medical literature and articles in popular women's magazines offer a diversity of etiologies, descriptions of symptom clusters and treatment modalities. There appears to be little agreement among the leading authors in the field. From a brief review of the literature, it seems that this stems from the lack of a clear or uniform definition of PMS; therefore, different criteria are used for diagnosis. The attempt is then made to compare findings from basically diverse clinical populations.

PMS has become a household word and is invoked to explain any and all complaints and behaviors related to menstruating women. But PMS is not a catch-all diagnosis nor is it an exclusionary diagnosis. PMS represents a multisymptom disease complex of varying degrees of severity affecting both psyche and soma. The true incidence in the population is difficult to assess because it is dependent on the definition used in the survey.

Premenstrual syndrome refers specifically to the presence of recurrent psychological

and somatic symptoms in the premenstruum with the absence of symptoms in the postmenstruum. The premenstruum is loosely defined as the period from ovulation to menstruation; the luteal phase. One must differentiate PMS from menstrual distress, which refers to the presence of intermittant or continuous symptoms throughout the menstrual cycle which increase in severity during the premenstruum or menstruum. Strictly, premenstrual tension refers only to the psychological symptoms of tension, depression, irritability, and lethargy. Premenstrual syndrome has also been called congestive dysmenorrhea and differs from spasmodic dysmenorrhea which are the commonly occurring abdominal cramps that crescendo on the first or second day of the menstrual flow. These conditions may coexist.

Without a strict definition of PMS, discussion of classification, etiology, and treatment are meaningless.

To be called PMS, Dalton and others propose the following criteria: a) symptoms occur exclusively during the luteal phase; b) symptoms increase in severity as the cycle progresses, being greatest in the last four premenstrual days; c) symptoms must be relieved by the onset of full menstrual flow; d) absence of symptoms in the postmenstruum; e) symptoms must have been present for at least three menstrual cycles.

The symptoms most frequently associated with PMS are of extraordinary diversity and include many of the most common symptoms of each medical specialty. There is often an exacerbation of chronic diseases such as multiple sclerosis, ulcerative colitis, asthma, ulcers, etc. during the luteal phase. For these reasons, each case must be examined individually so that underlying pathologies are not missed.

Common symptom combinations are tension, headache, and mastitis, or depression, backache and nausea. Among the other most frequent complaints are abdominal distension, edema of the extremities, breast swelling, muscle and joint pains, emotional lability, fatigue, lethargy, constipation, acne, rhinitis, food cravings and compulsive eating, herpes, and epilepsy, to name a few. The symptoms do not necessarily start at the same time and, over the years, there may be a gradual transition of the main symptoms.

Suicides, child batterings, and other violent acts may accompany the syndrome in severe cases. It has also been noted that women in the premenstruum have increased numbers of accidents, more hospital emergency room admissions, and that they may commit criminal acts during this time.

Pharmacologic methods of treating PMS include both over-the-counter and prescription medications such as vitamin B6 (pyridoxine), zinc, tryptophan, diuretics, progesterone, and bromocriptine, to name a few. All of these have been successful in certain cases, as have placebos, psychotherapy, stress reduction and exercise.

The very clear temporal relationship between hormonal and psychological and somatic changes that occurs during the menstrual cycles makes speculation of a causal link tempting. The complexity of the regulatory mechanisms of the menstrual cycle from the pituitary-hypothalamic axis to the target organs presents difficulties in finding a unifying theory, and to date none has proven consistently verifiable.

From an orgonomic point of view, it is possible to speculate about this fascinating and often disabling syndrome. In the luteal phase of the menstrual cycle there is a gradual build-up of energetic charge, which is then discharged with the onset of menstruation. The symptoms described in PMS might be understood as the result of increased charge, and the reaction of the organism to that charge. If the pulsatory function is disturbed and a sympatheticotonia sets in, symptoms occur. The extent of the contraction and stasis will determine the severity of the symptoms. This is not meant to suggest that women suffering from PMS must endure the symptoms until emotional health is

established. Depending on the specific constellation of symptoms, a treatment plan using pharmacologic agents may be tried. It is a misconception among some orgonomists and orgone therapy patients that, since the root of relief from the biopathy is the removal of armor, other medical means have no place in orgonomic treatment. On the contrary. It would not be in the interest of the health of the severely diabetic patient, for example, to withhold insulin and use only orgonomic methods. In fact, orgone therapy máy at times bring out symptoms of the Premenstrual Syndrome in a patient on her way to health.

Louisa Lance, M.D.

The Amateur Scientist in Orgonomy

This column is 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 which 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.

BASIC BION EXPERIMENTS

PATRICIA S. BURLINGAME*

A few years ago, I became interested in Reich's scientific discoveries, particularly his work with bions. After extensive reading, as well as discussions with those currently involved in bion experimentation, my fascination grew, as did my skepticism. Despite persuasive photographs and the first-hand accounts of people who had replicated various bion preparations, I was unable to overcome the bias of my traditional scientific training, which emphatically stated "life from life." It was suggested that I set up a few experiments and prove to myself whether or not life can arise from nonlife, and whether or not plant material can disintegrate into bions which in turn reorganize into animal life. I am now doing just that, and wish to present a few basic experiments for those of you who wish to do the same. The suggestions are based in part on my own experience, and in part on Reich's findings, as described in *The Cancer Biopathy* (1) and *The Bion Experiments on the Origin of Life* (2).

I. Background

In *The Cancer Biopathy* (1:15), Reich defines the bion as a microscopically visible vesicle consisting of a membrane, a fluid content, and a charge of orgone energy. These vesicles are the basic functional units which all matter, whether organic or inorganic, will break down into when subjected to heat and the swelling effects of a moist environment. In addition, given the proper conditions, bions have the ability to organize into complex protozoa-like organisms that grow and divide. Microscopically, bions appear as spherical or bean-shaped structures with a bright blue color and a visible energy field; they are approximately 2-4 microns in diameter and display a rapid, vibratory motion. When exposed to an electric current, they will migrate to one or the other electrode, depending upon the polarity of their charge. Reich found that, when transferred to the proper medium, bions may be subcultured for many generations.

II. Preparation of Earth Bions

Bions may easily be prepared from garden soil and other finely divided nonliving substances such as powdered charcoal or iron filings. The substance is heated and then allowed to swell in either water or, to quicken and enhance the swelling process, in a solution of potassium chloride. The resulting bions may soon be observed microscopically and used in various experiments such as migration studies (see article on page 24 of this issue) or in Preparation 6. Also, over a long period of time, one may observe the

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progressive disintegration of the particles and the ensuing increase in both number and aggregation of bions.

Equipment: The following items will be used in the preparation of earth bions. Those marked with an * are not essential, although they will certainly enhance the reader's success with these experiments. Suggested sources are given.

Item	Source
garden soil, 1 tablespoon	moist, sunny location
fine screening	tea strainer, flour sifter
distilled water	pharmacy, supermarket
*potassium chloride (KCl)	
glass test tubes, 1 dozen	
test tube caps	
test tube rack	scientific supply company[1]
glass pipettes	or well-stocked hobby shop[2]
flat microscope slides with coverslips (No. 0, 18x18 mm)	
or	
well slide	
*parafilm	
*autoclave or pressure cooker	(Perhaps you will be able to use autoclave and/or microscope in a hospital or school science lab.)
microscope, capable of at least 400x magnification	
*incubator	
*scale	

Preparation: Obtain a small amount of soil from a sunny, moist piece of land. Spread the soil on a plate and allow to dry thoroughly. This process may be speeded up by placing soil in a hot oven or in the sun. Crumble the dry soil and sift through fine screening to remove any small stones or visible vegetable matter such as leaves or roots. Make up a 0.1 N solution of KCl by adding 7.5 grams of KCl crystals to 100 ml of distilled water and stirring or shaking until dissolved. Place a pinch of soil in each of 12 test tubes, then fill the tubes half full with the KCl solution. (If KCl is not available, distilled water alone may be used.) Shake gently to uniformly moisten the soil, then cap.

Autoclave (or pressure cook) 6 of the tubes for at least 30 minutes at 120°C (250°F). If no autoclave is handy, the tubes may be heated in a water bath as follows: Place tubes in a pot, supported in a test tube rack. Fill the pot with water to just above the level of fluid in the tubes, then bring to a boil. Cover the pot with a lid and boil for at least 45 minutes. The longer the soil is heated, the faster and more advanced will be the breakdown of the particles.

When cool, wrap the tops of all tubes to be kept for more than a week or so with small sheets of parafilm. This will prevent the loss of fluid due to evaporation during long-term storage while allowing a free exchange of oxygen and carbon dioxide. For short-term storage, the parafilm is not necessary. Store all tubes in an incubator at 37°C. Room temperature storage will produce satisfactory results, but the bions will not remain viable for as long a period of time.

Sampling and Observation Technique: The following method is used for observation. Gently tap the side of the tube to be sampled until a cloud of particles rises; then let it settle for a few minutes to allow the larger particles to sink to the bottom of the tube. Using a pipette, transfer a small amount of liquid to a microscope slide. If using a flat slide, a small drop is placed on the slide and a coverslip is applied over the drop by carefully lowering one edge until it touches the slide just past the outer edge of the drop, and then angling the coverslip down until it lies flat on the slide. When done correctly, there will be no air bubbles present under the coverslip and the liquid will extend to the edges without flowing onto the slide. The latter point is important because excess fluid on the slide will wet the microscope's

[1]Fisher Scientific, 711 Forbes Ave., Pittsburgh, PA 15219; or Thomas Scientific, Vine Street at Third, P.O. Box 779, Philadelphia, PA 19105.

[2]Edmund Scientific, 101 E. Gloucester Pike, Barrington, N.J. 08007.

objective lens, preventing observation and possibly damaging the lens. If a well slide is used, simply place a slightly larger drop of fluid in the well, leaving it uncovered.

Place the slide on the microscope stage and position it so that the coverslip or well is centered over the beam of light. Select an objective lens that will yield a final magnification of between 400x and 500x. (The magnification I generally use is obtained as follows: 15x ocular lens times 1.5 body of microscope times 20x objective lens = 450x.)

Using the coarse adjuster, and watching its progress from the side, lower the objective until it is almost touching the coverslip or droplet, being careful to avoid actual contact, which will crack the coverslip or wet the lens. Then, using the fine adjuster, slowly raise the objective while observing through the oculars. When the large soil particles come into view, gently focus up and down, again using the fine adjuster, until they are very sharp and clear.

Control Preparation, Initial Observation: To appreciate the effects of heating and swelling on inorganic matter, we will compare the progressive breakdown of the heated and unheated preparations.

First sample the liquid from an unheated tube (a control tube) as described above, and observe the different structures present. The most numerous objects will be large, irregularly-shaped particles of earth, brownish-colored, with margins that may be straight, rounded, or irregularly shaped, but smooth and sharp. The texture and color may appear mottled and irregular, and the particles generally somewhat shiny. Also seen are clear crystals, with sharp, straight margins, and perhaps blue highlights. These microscopic pieces of soil appear inert and lifeless; no motion is seen.

In contrast, floating in the fluid may be seen many lively bions. These appear as bright blue spheres or bean shapes, much smaller than the soil particles, and are usually surrounded by a glimmering white halo of light, which is the visible manifestation of their orgone charge. The bions will be rapidly jiggling around, either in more or less the same spot, or in a random fashion across the field of view. (Note: If all small objects are seen rapidly streaming in one direction, the microscope is not level, causing the fluid to pour to one side. In this case, shim up the microscope or the table on the upstream side of the flow, since the lenses reverse the apparent direction of movement. Use pieces of paper to do the leveling, as the amount of adjustment needed is very small.) Take note of the number of bions present, their size and shape, and in how lively a fashion they move.

A few blue rod-shaped objects may also be present. As with the bions, they may be moving rapidly in place or across the field; in addition, they may also be seen to bend and straighten repeatedly. On occasion, you will see rods with a bion attached to one or both ends. Bacteria are sometimes seen in the control preparations, although these are more common when wet soil is collected and used without first being dried. Cocci appear smaller and paler than bions and lack their sparkling three-dimensional appearance. They also do not have the jiggling motion of bions, which is therefore obviously not due to Brownian motion!

You may at this point wish to write down your observations, including sketches of any structures present. Then, when observing these preparations over a period of months (or years!), memory does not have to be relied upon, and you will have a record of the progressive vesicular disintegration of the soil particles.

Heated Preparation, Initial Observation: Next, using a clean slide and pipette, examine a heated sample in the manner described above. Many more bions and rods will be visible, and they will appear more lively, *i.e.*, their jiggling motion will be faster, and the color and field may appear

brighter. The particles of soil may have already begun to break down, although this is more often seen after a day or so.[3] And, of course, no bacteria are present, since they were all destroyed during the prolonged heating process.

At this point, there are but minor differences between the control and heated preparations. The bions observed in the control tube have been created by the natural heating and swelling effects of the sun and the rain on the earth. (This phenomenon may be strikingly demonstrated by examining fresh, wet soil straight from the garden, in which will be found very many bions, and soil particles that are already well-advanced in vesicular breakdown.) The influences of high temperature and the KCl solution will be more apparent as these preparations are observed over a fairly long period of time.

Observation at Higher Magnification: Those of you who are fortunate enough to have access to an oil or water immersion lens may wish to observe bions at a higher magnification, measured in the thousands. For oil immersion, prepare a sample using a flat slide and a coverslip as described above. Place a drop of immersion oil on top of the coverslip and very carefully lower the objective lens until it touches the drop of oil. If using a water immersion lens, lower the lens into the drop of fluid in a well slide or place a drop of water on top of a coverslip and proceed as with the oil immersion lens. After making contact with the oil or water, look through the oculars and very carefully focus up and down with the fine adjuster until the soil particles come into focus. As the field you are observing is very small, it may be necessary to move the microscope stage, which holds the slide, a small distance to one side in order to bring bions or particles of earth into view. Avoid large or rapid shifts, as this will disrupt the column of fluid through which you are viewing.

When thus observing bions at magnifications of 2000x and higher, internal wave-like vibrations are seen, with fluctations in the blue color. In addition, the margins of the bions appear to pulsate in a regular manner. These lifelike properties are not seen in the intact, inert earth particles that have not as yet begun to break down.

Since you have set up a number of tubes, the opened ones may now be discarded. By doing so, the use of a sterile technique is not necessary, as would be the case if one sample were to be examined repeatedly without risk of bacterial contamination.

Subsequent Observations: One week after preparation, again sample and examine the contents of a control tube. Note any changes in the number and appearance of the bions and the condition of the earth particles. It is likely that you will see little difference compared to the first day. The bions will not have increased in number significantly, and the earth particles will look essentially the same. A few more bacteria may be present, with perhaps the addition of yeast cells or fungus, but this is not very likely in the absence of any added nutrient substance.

In contrast, the heated preparation will have undergone noticeable changes. More bions are likely to be present, and they may be larger and livelier than those seen previously. Loose clusters of bions may be present. The earth particles will have begun to alter in appearance; their margins will look somewhat softer, and there will be a few areas that will have broken down into clear or blue vesicles. At this point in time, it may be possible to observe what Reich termed "plasmoids," which he described as vesicular tubes that protrude from partially broken down earth particles and are seen to expand and contract. They are also seen to bend and straighten. Again, keep in mind that these lifelike movements are being observed in a sterile preparation!

[3]When Reich did these experiments, he found that vesicular breakdown occurred very rapidly after boiling. This does not seem to be the case today. In most instances, I have found that both soil and leaves take much longer to break down than Reich reported. This may be due to the oranur condition of the atmosphere today (3).

The clear crystals may also show signs of bion formation, although in preparations I have made, they have taken much longer to break down than the darker, less angular particles. What actually will take place, of course, depends upon the composition of the soil used in these preparations, as it is apparent that different minerals break down at different rates.

Continue to observe the progress of the control and heated preparations at increasing time intervals. I suggest further examination at 1, 3 and 6 months, and 1 year. If a larger number of tubes is set up initially, observations may be made more frequently and over a longer period of time. This I leave up to the curiosity and free time of the investigator.

The appearance of the control preparation will more or less parallel that of the heated one, although it will lag behind for several months or more. Presumably, the end point for these preparations will be complete vesicularity, with no solid particles remaining. However, since I have only observed earth bion preparations for a limited time, I am only able to describe their appearance after approximately one year. At the end of one year, the heated preparation contained a large number of bions, as did the control. Rods were present in both, as were loose aggregations of bions. Many of the earth particles had become almost completely vesicular, appearing diffuse and lacey, and often it was difficult to distinguish them from clusters of bions that had coalesced from a free-floating state. This advanced degree of breakdown was seen to a greater extent in the heated sample. Also seen more often in the heated sample were clear crystals whose margins had softened and become bionous. Bacteria were still found only in the unheated tubes.

III. Additional Bion Experiments

Here are a few more suggestions for those who may be interested in a more detailed study of bionous disintegration. Most of these experiments entail comparative tests, changing only one factor at a time. I found that it is easy to get bogged down when changing too many parameters at once, as one ends up not being sure which variable caused which change.

1. *Method and duration of heating:* Compare the results of autoclavation vs. boiling, or of heating for various lengths of time. Which method works better, *i.e.*, which causes a more rapid breakdown? After what length of time does prolonged heating no longer have any effect?
2. *Medium:* Compare the effcts of KCl vs. distilled water. Perhaps you might add beef broth or other nutrients to the original solution. Does this affect the breakdown or enhance the clustering together of bions?
3. *Gas Exchange:* Tightly seal half the tubes and observe the effects of the lack of free access to oxygen and carbon dioxide. (Threaded tubes and screw caps are available from scientific supply houses. Straight-necked tubes may be sealed with a thick layer of wax.) Is fresh air as necessary for bion longevity as it is for other life forms?
4. *Wet Soil:* Using soil that has not been dried and pulverized, observe the progression of the control vs. the heated preparations. Since vesicular breakdown has already begun in the wet soil, and has not been arrested by drying, does the control preparation still lag behind the heated, or is its rate of disintegration the same?
5. *Temperature:* Compare the effects of different storage temperatures. Does chilling significantly slow the process? Do increasing temperatures speed it up? If so, is the relationship between temperature and speed of bion formation linear, and at what temperature do the effects appear to level off?
6. *Quantizing:* I have found this tech-

nique to be helpful in assessing the contents of bion preparations made of many different substances. Using a 1 ml syringe fitted with a 25 gauge needle, place exactly 0.02 ml of fluid on a flat slide and apply a coverslip. Being sure to use the same magnification at each observation, count the number of bions present in one quarter of the field. If your microscope is supplied with a grid, the number of bions per square are counted. By using the same amount of fluid from each sample, a fairly accurate comparison of different preparations, or the same preparation at different times, may be made.

7. *Subculture:* Autoclave or boil several tubes of any available liquid bacteria growth medium, such as nutrient broth. Carefully remove the caps from the bion preparation to be subcultured and the broth tubes, avoiding touching the mouths of the tubes. Quickly pass the mouths of the tubes through the flame of a propane torch; then, using a sterile pipette, transfer a drop of bion fluid to each of the tubes of broth. Again flame the tube mouths, and replace the caps. Store the tubes of inoculated broth in the incubator. Observe the broth tubes for cloudiness, which will indicate the growth of—bions? bacteria? Count the bions in a freshly inoculated tube, and then in additional tubes after various time intervals. Are the bions increasing in number? Decreasing? Are there any forms present that were not observed in the original preparation? Are any original forms now absent?
8. *Migration:* Determine whether the bions present in preparations of various ages migrate, and at what rate. Do they move faster with age, demonstrating an increase in charge, or do they slow down, or neither? Test bions made with some of the above variations and note the effects on how they migrate.
9. *Staining:* Obtain a biological staining kit from a scientific supply company and stain earth bions at various stages of breakdown. Nonliving substances do not take up these stains. Do the bions? The vesicular earth particles?
10. *Heating to Incandescence:* Using powdered charcoal, sand, or fine iron filings, prepare by heating one of these substances in a flame. This method separates the heating and swelling processes, which are concurrent during boiling or autoclavation. With a small metal spatula, scoop up a pinch of charcoal, sand, or iron filings and hold over a propane torch flame for several minutes. The material will at first glow red, then become white hot. At this point, plunge the end of the spatula into sterile KCl solution and, after flaming the mouth of the tube, cap.

    CAUTION: Always wear glasses or goggles during this procedure, as the fine particles tend to pop off the spatula during flaming; for this reason, a heat-proof work surface is also desirable. Wear a heavy glove, or hold the tube with metal clamps, as the fluid, and thus the glass, become very hot when the spatula is inserted.

    Observe the nature of the fluid immediately, and after various lengths of time. Compare to a control preparation made by placing the same amount of unheated material in a separate tube of KCl. Are the fluids clear? Cloudy? Does the appearance change with time? Now observe the control and heated preparations under the microscope. Note whether the particles are solid and inert, or vesicular. Are there greater differ-

ences initially than in the heated and unheated earth bion preparations? Into what do the particles break down? Does the control preparation appear the same as the heated one, and only a little behind, or are there qualitative differences as well?

11. *Photography:* A permanent, visual record of microscopic preparations is extremely valuable when one is delving into these relatively unexplored areas of nature. Often things are seen in photographs that were missed during the "live" observation. In addition, the progress of a preparation is most apparent when a series of photographs is lined up and viewed sequentially. And of course they are of great value in demonstrating one's results to those who may be skeptical.

It is beyond the scope of this article to present in detail the techniques of photomicrography, so I recommend to those interested in pursuing this subject the very informative book published by The Eastman Kodak Company, entitled *Photography Through the Microscope*. It is available at any good camera shop, as is the necessary adapter which is mounted on the microscope of a single lens reflex camera. This adapter, called a T-mount, will fit any microscope. In addition, you will need another, intermediate adapter, that is specific for your camera. The combined price of these two adapters is about $30. High-speed film is now available that is corrected for the tungsten light used with most microscopes. And don't neglect the advice readily available from your local camera store owner.

References

1. Reich, W.: *The Discovery of the Orgone, Vol. 2: The Cancer Biopathy.* New York: Farrar, Straus and Giroux, 1973.
2. Reich, W.: *The Bion Experiments on the Origin of Life*. New York: Farrar, Straus and Giroux, 1979.
3. Personal communication from Dr. Courtney F. Baker.

Introducing the IOS

The Institute for Orgonomic Science (IOS) is a new organization, incorporated in September 1982 and developed under the leadership of five medical orgonomists: Courtney F. Baker, M.D., Byron Braid, M.D., Robert A. Dew, M.D., Michael Ganz, M.D. and Louisa Lance, M.D. The Institute is a tax-exempt corporation supported by volunteer effort, course fees, and contributions. It is not affiliated with any other organization. Over the past two years, a growing number of physicians and researchers have joined its various training and research programs.

Orgonomy is first and foremost a science, and the Institute's founders believe that its ultimate contribution will derive from a careful reproduction, and eventual practical use, of its factual scientific basis. Orgonomy is not a cult or philosophical system of belief, nor is it a movement to effect social change. For this reason, the Institute places a high priority on scientific research and the training of medical practitioners and scientists to expand, clarify, and continue the work begun by Wilhelm Reich. In addition, the Institute has begun publication of the *Annals* in order to bring its findings to others who may be interested, stimulated, and encouraged to expand the work.

This philosophy is reflected in the bylaws of the Institute, which divide its membership and functions into three categories: research, training and education, and publication of its findings. In addition, membership and positions of responsibility or authority are rooted in the practical application of work democracy. Eligibility for full membership in the Institute requires two years of work, and a continuing productive work function is required for maintaining membership status. We do not believe that the Institute or any other organization has authority in the field of orgonomy other than that which derives from the practical, factual demonstration of knowledge and work by the members of the organization. Orgonomy is as yet an infant science, and its students must be ready to accept and acknowledge scientific truth wherever and by whomever it may be discovered.

The IOS maintains a research laboratory in Gwynedd Valley, Pennsylvania. An active research program has been under way for several years; some of the results are being published for the first time in the *Annals*. Research is being conducted in physics, medicine, and biology, including at present: the study of biogenesis; the Reich Blood Test; the effect of various orgonotic devices on wound-healing in mice; orgone physics and meterological functions. Weather modification is carried out when atmospheric conditions make it necessary. Several other smaller biological experiments have also been done. All research is reported at the annual scientific meeting held in the spring; some of this work will appear in future issues of the *Annals*.

The Institute gives two weekend lab courses each year for laymen; the course entails lectures and laboratory work in the fundamentals of orgone physics and biogenesis. In addition, the IOS gives a four-day advanced laboratory course for physicians and qualified professionals.

The IOS is deeply committed to the training of physicians and medical students in the theory and practice of medical orgonomy. A year-long course in somatic biopathies is given to qualified medical students and physicians. A complete training course for medical orgonomists is offered, including a yearly didactic course, clinical seminar, and individual supervision. Progress in the training depends both on demonstrated knowledge and characterologic readiness. The clinical seminar is open to both trainees and practicing medical orgonomists, and

includes topics relevant to the practice of medical and psychiatric orgonomy. In addition, the advanced laboratory course and a working knowledge of Reich's basic laboratory findings are required parts of the training program. From time to time, the Institute also sponsors a seminar for teachers and social workers.

Finally, of course, the IOS has begun publication of the *Annals* on an annual basis, with supplementary issues during the year as appropriate. Readers are encouraged to submit articles of interest for publication.

The Editor

The Mismeasure of Man

by STEPHEN JAY GOULD

W. W. Norton & Co., New York, London, 1981. Cloth, $14.95.

The layman's view of scientists is generally of men dressed in white lab coats performing, often at great personal sacrifice, experiments aimed at benefiting mankind. Though laymen may know little of scientific methodology, they have a feeling about the objectivity of the process. The facts of the data are the source of the conclusions. They may be aware that in the distant past, as in the oft-told tales of Copernicus and Galileo, prevailing opinions had an effect, at least temporarily, on the disposition of the facts and conclusions. And they read occasionally of scientists who doctor their results to make them come out right, but these are regarded as the exceptions. Scientists and Science are generally held to be pure.

In *The Mismeasure of Man,* Stephen Jay Gould assessed the work done in the field of intelligence measurement in the past two centuries. He painstakingly reviewed the protocols of the scientists involved, checked the mathematics, and evaluated the logic of the formulations. The result is a fascinating piece of detective work, outlined below, which would distress those innocents who hold science to be sacrosanct. What we see is a procession of men of education, culture, and stature who have made the facts fit their prejudice and preconceived notions. Some were obviously outspoken bigots like the British professor who toured the U.S. in the late 19th century proffering a suggestion on how to solve our "racial problem," viz, for every Irishman to kill a Negro and be hanged for it. But most were innocent victims who unwittingly absorbed the social prejudice of their time or class, and who, unaware, projected these attitudes onto their calculations.

Most of them were promulgators of the theory of biological determinism. This theory assumes that the current status of the organism (or the group) is an index of where it should or must be. It denies, Gould says, "an opportunity to strive, or even to hope, by a limit imposed from without, but falsely identified as living within."

The idea of hierarchical rankings of organisms from plants to man started with Aristotle. Plato suggested the idea of the ranking of mankind with people at the bottom constructed of inferior stuff and an elite put together with superior materials. He later called it a lie. But the idea was natural enough to 18th and 19th century intellectuals of ruling nations. Alexander Pope wrote:

> *Without this just gradation, could they be*
> *Subjected, these to those, or all to Thee?*

All men are subject to the limitations of the attitudes and conventions of their times. Linnaeus, who gave us the first scientific classification of biological organisms (*Systema naturae,* 1758), was not loathe to pontificate while ostensibly describing. He described *Homo sapiens afer* (the African black) as "ruled by caprice"; of African women he wrote, "women without shame, breasts lactate profusely."

In the 19th century, a scientific age, the race to prove the scientific basis for a prejudiced position on hereditary determinism was on. In 1860, Etienne Serres, a famous French medical anatomist, assumed that he had found the clue to racial inferiority in nonwhites in his measurements of the distances between navel and penis, "that ineffaceable sign of embryonic life in man." This distance is small relative to body height in babies of all races. Thereafter, the navel moves upward, most in whites, next in

orientals, least in blacks. This, for him, revealed the relative childishness of blacks and adolescence of orientals.

The tradition of playing unfairly with the figures goes back a long way in this domain. Samuel Morton, a distinguished Philadelphia scientist and physician, and possessor of the largest collection of skulls from around the world, published, in three separate volumes in 1839, 1844, and 1849, comparative measurements of brain capacity. These comprised the "hard data" that were quoted throughout the civilized world in the 19th century. The results were what every good American would have anticipated. Whites were on top, Indians are in the middle, and blacks are on the bottom. When Gould examined Morton's data, he discovered that, in the comparison of Indian skulls with Caucasians, the small-brained Inca Peruvian skulls had been overrepresented, and in calculating the Caucasion mean, he had used only 3 of the 17 Hindu skull measurements because "they were smaller than those of any other existing nation." Morton's results showed that Indian brain capacity is, in the mean, 5 cu. in. below the Caucasian norm. Actually, when the math was rechecked, the Indian skulls were 7 cu. in. below the Caucasian mean, but this figure would have placed them below the blacks—and that would have confused the theory. The problem of how the small-brained Incas constructed such an elaborate civilization was troubling to Morton, but he was soothed by their easy conquest by the Conquistadores. Though data was readily available to him, Morton ignored the correlation of brain size and height (the bigger the body, the larger the brain) and the correlation of brain size and sex (males, with larger bodies, have larger brains). When all the subgroups from Morton's tables were equally weighted there was no significant difference in mean values. What part of the operation was conscious, and what unconscious, when Morton used an all-female sample of 3 Hottentots and an all-male sample of Englishmen to prove the superiority of whites to blacks?

In the beginning of the 20th century, quantification earned new respect as the benchmark of scientific validation. In 1906, a Virginia physician, Robert Bennett Bean, following a common assumption that intelligence resides in the front of the brain and sensorimotor functions in the posterior portion, compared measurements of the genu (front part) and the splenium (back part) of the corpus callosum (the structure that connects the hemispheres). He made comparisons first in blacks and whites, then in males and females. He found that whites have more genu and less splenium than blacks, and hence more intelligence; and that males have more genu and less splenium than females. He said nothing about brain size itself, because in an addendum to his data, they were revealed not to differ. In an editorial in *American Medicine* for April, 1907, Bean was commended for providing "the anatomical basis for the complete failure of the negro schools to impart the higher studies . . . " The data looked too good to Franklin Moll, Bean's mentor at Johns Hopkins. He repeated the experiments with one difference—he measured the genus and spleniums without prior knowledge of whether the brains were of blacks or whites. He found no significant differences.

The principal and most distinguished measurer of skulls was Paul Broca. Unlike Morton, his data-gathering techniques and his precision were impeccable. What was less than ideal was his bias in assuming that human races could be ranked in a linear scale of mental value. He did not consider that human variation could be random rather than hierarchical. Consequently, when he set out to determine "meaningful" attributes that determined rank, he simply dismissed those that didn't come out right. For example, the ratio of radius to humerus (a higher ratio means a longer forearm, a character of apes) started well with a ratio of .794 for blacks and .739 for whites. But then, an Eskimo skeleton yielded .703, an Australian aborigine .709, and a Hottentot .703. So Broca abandoned this criterion. Later, when

measuring brain size, the large brain size of yellow people, which exceeded the white, caused temporary dismay, until he concluded that, while the table did not reflect the actuality at the top of the scale, it worked well at the bottom of the scale where he found the black races.

Although craniometric arguments have gone out of fashion among biological determinists in our century, some diehards remain. Arthur Jensen uses craniometry to support the validity of I.Q. measurement, though the correlation for brain size and I.Q. is a low one (.30). He dismisses a correlation value of .25 for I.Q. and physical stature as of no functional relationship, though the value is in a similar range. He assumes that the brain size to I.Q. correlation factor would be much higher if more of the brain were not "devoted to non-cognitive functions."

With the ascent of Darwinism and the general acceptance of evolutionary theory, the attempt to provide a scientific base for social prejudice turned from measuring heads to the doctrine of "neoteny," which was firmly established in evolutionary theory. The doctrine taught is that it is evolutionarily advantageous to retain the traits of childhood for a long time, to develop slowly. In this view, those previously regarded as inferior were superior. So the argument was dropped like a hot potato, except for a few who now found that blacks, for example, had departed most from the advantageous proportions of childhood.

Cesare Lombroso in Italy achieved fame for a while with his theory, based on body measurements, that criminality is an evolutionary throwback. The measurements were supposed to have revealed the genetic features of the disorder. One of its few remaining traces is revealed in its influence on Dr. John L. H. Down. In describing the syndrome named for him, Dr. Down attributed "obliquely placed" eyes and yellowish skin to ethnic degeneration. The fact that the victims "excel at imitation" coincided with the trait most frequently described as oriental in the racist classification of the time—Mongolian idiocy, mongolism, etc.

Alfred Binet, the director of the psychology laboratory at the Sorbonne, first set out to measure intelligence by continuing to measure skulls, as Broca had done. But, after publishing nine papers on the subject, he came to a remarkable conclusion: He discovered his own unconscious bias in his measurements. "Suggestibility," he wrote, "works less on an act of which we have full consciousness, than on a half-conscious act—and this is precisely its danger."

Forsaking physical measurements, he devised a series of psychological exercises which involved functions of ordering, comprehension, invention, and correction. The result of the assigned tasks was to be regarded only as an empirical guide. He was very careful to state that "it does not permit the measure of intelligence, because intellectual qualities are not superposable, and therefore cannot be measured as linear surfaces are measured." Intelligence, he said, is not a single scalable thing like height. He felt it incumbent on him "to insist on this fact." The insistence was occasioned by fears that teachers might reify the resulting number as an entity, divert a child's behavior into a predicted path, and thus create self-fulfilling prophecy. Binet not only refused to label the I.Q. as inborn intelligence, he also refused to let it be used as a score of intellectual value. Its only use, in his view, lay in discovering those whose poor performance indicated the need for special education; and for these, the first thing was that "they must learn how to learn." He devised a program of "mental orthopedics" designed to increase attention, will, and discipline. One exercise, for example, was to see how many dots the child could put on a piece of paper in a given time. After this training, the I.Q. scores improved significantly. Binet never confused the score increase with a measure of greater intelligence, but assumed only that the child had acquired greater use of his potential. The improvement of scores was regarded as confirmation that they define nothing innate or permanent.

In the United States, H. H. Goodard first imported Binet's test to aid in the classification of those with subnormal intelligence. It ultimately resulted in the establishment of the class of morons—those below normal but above imbecile level. With the clear number obtained with Binet's test, Goddard easily fell victim to the promulgation of the thesis that a low score indicates an inherited taint. He tried to illustrate the history of a foundering South Jersey family, the Kallikaks (a fictitious name). In the Kallikaks study, Goddard didn't bother to administer Binet tests, he proceeded instead, by a process of intuition and guesswork, and distorted their photographs, to boot, as Gould discovered.

The first person to call for the general use of the Binet test so that everyone could be placed in his proper intellectual niche was Lewis M. Terman of Stanford University. He had so much confidence in the derived number that he suggested that occupations should be assigned on the basis of the I.Q. score. In his testing, there were embarrasing discrepancies between the scores of people actually holding the job and Terman's I.Q. rating. Express company employees, for example, were smarter than they should have been. More distressing was the fact that a series of 256 hoboes and unemployed, who should have been at the bottom of the list, rated better than motormen, salesgirls, firemen, and policemen. The fact that the data was other than what Terman assumed it would be made it "out of line" until he changed the rules and brought the data in line with his expectations; he chose to test the lowest 25% of each group. The hoboes then plummeted to their rightful place at the bottom.

Terman, excited by his achievement in arranging his contemporaries in their proper intellectual places, set out with his associates to review the past in a five-volume series on *Genetic Studies of Genius*. Two I.Q.'s were involved for each subject: one from birth to age 17, and another from 17 to 26. The numbers obtained are a methodological artifact based on a ground of 100 and adding points according to values assigned to biographical data. Consequently, the first scores (to age 17) are generally lower by an average of 10 I.Q. points than the second, because there is generally less biographical data before 17. Poor Copernicus has an I.Q. of 105, for lack of a sufficiently substantial biography. Moreover, parents' professions were ranked on a scale of 1 to 5, and points awarded or subtracted for the parents' rank. An individual who did nothing notable by age 17 could still score 120 if his parents were prestigious enough. John Bunyan and Michael Faraday, both of humble origin, barely reach 105 by 17. Shakespeare, also of humble origin and unknown childhood, would have scored below 100 on the first rating, so he was omitted. Artists don't get high marks in general. Witness the following statement about Mozart: "A child who learns to play the piano at 3 . . . and who studies and executes the most difficult counterpoint at 14, *is probably above the average level of his social group.*" (Italics added.)

Next, Gould relates, Terman proclaimed the validation of the hereditarian view of race and class as his goal. He achieved this by committing two gross statistical errors: 1) He extrapolated from variation within a group to differences between groups; and 2) he used the innate biology of pathological conditions (*e.g.*, Down's syndrome) as a basis for ascribing natural variation within a group to the effects of heredity. To bolster what must have been unconscious misgivings about this enterprise, he then showed that, despite low correlation between social status and I.Q. (.4) there was a high correlation between social status and the teacher's assessment of intelligence, social status and school work, and social status and age-grade progress. Of course, the fact that all of these correlate well with one another adds nothing to the original finding that social status and I.Q. correlate poorly. The added four functions may all be redundant functions of the same unknown causes.

This hereditarian study conducted in 1914-17 was all but recanted in the Stanford-Binet

revision of 1937, when all potential differences between groups were framed in terms of environment. The statements were then truer to the facts, as Terman noted: "Nor should it be necessary to point out that such data do not, in themselves, offer any conclusive evidence of the relative contributions of genetic and environmental factors in determining mean differences observed."

As regards inheritance and intelligence: It would be foolish to assume that there is not considerable inheritance of some functions of intelligence. But the assumption that a numerical score is a mark of inevitability is even more foolish. As Gould says, "Genes do not make specific bits and pieces of a body; they code for a range of forms under an array of environmental conditions." Another point of confusion is confounding factors involved in in-group studies, say, studies of comparisons of twins of whom one is adopted-out, then applying the conclusions to statements derived from between-group studies (as between whites and blacks). This is like applying to apples what pertains to oranges; it violates the rules of logic.

The greatest political impact in the field was effected when Robert M. Yerkes devised an intelligence test for all army inductees. The results of the tests were later published in a book by Yerkes' associate, C. C. Brigham, entitled *A Study of American Intelligence* (1923). The book called for social action. It cited alleged racial differences revealed in the army tests and pointed to the need for reform in immigration policies to prevent deterioration of the social and intellectual fabric of the country. The Immigration Restriction Act of 1924 repeatedly referred to this data. Six years after the passage of the act, Brigham recanted and stated, "Most psychologists working in the test field have been guilty of a naming fallacy which easily enables them to slide mysteriously from the score in the test to the hypothetical faculty suggested by the name given to the test . . ." He recognized that the army data failed to measure innate intelligence and provided the reasons why: foremost, that the tests measured familiarity with American language and culture, not "intelligence." Notwithstanding Brigham's apology for participation in the enterprise—"One of the most pretentious of these comparative racial studies—the writer's own—was without foundation"—the immigration quotas that resulted kept millions of Southern, Central, and Eastern Europeans from immigrating to this country before the Holocaust.

Charles Spearman, mentor of Cyril Burt and author of the use of factor analysis in psychology, who for most of his life proclaimed that by means of his mathematics he had uncovered an intelligence factor, called "g," that was a real entity, recanted in his last book, published posthumously (1950). He declared that all his work amounted to only "cautious empiricism."

But one who stood his ground to the end in emphatic declaration that intelligence is revealed in the I.Q. number and is clearly genetic was Cyril Burt. In his earliest paper with the avowed purpose of proving these points, Burt reported on his study of 43 boys from 2 Oxford private schools, 13 upper class and 30 lower-middle class. These tests involved several parts, including: 1) "tests of mental functions of varying degree of complexity," and 2) "careful empirical estimates of intelligence" as evaluated by the headmaster, teachers, and 2 of the boys included in the study. He found that the upper class boys were smarter. As a final test, he correlated the boys' intelligence levels with those of their parents. They correlated. How did he measure parental intelligence? He *assumed* it from the parents' profession and social standing. Though the fraudulence of Burt's later work has now been reviewed almost *ad nauseum,* the poor design and circular reasoning of the earlier work stands in little better light. The poor quality of the experimental work is more glaring in view of the fact that Cyril Burt was a man of extraordinary erudition, capable of subtle and complex reasoning. The charitable interpretation is that he was the victim of his own fixed idea, first in his poorly reasoned

early experiments and later in his manufactured data. His "official" biographer ascribes the fraud to emotional illness.

Following Burt, L. L. Thurstone continued explorations in factor analysis. He did not aim to continue Spearman and Burt's investigation of the "g" factor (because he recognized that that was a mathematical construct), but to continue the search for some real entity. Instead of a single intelligence factor, he discovered, by ingeniously rotating correlation axes, a number of what he called "vectors of mind." He assumed that these represented real aspects of intelligence. What Gould clearly demonstrates is that all these factoral analysts failed to recognize that there would have to be biological substantiation before any of their mathematical results could claim to represent real faculties. Pure hereditarianism (and pure environmentalism) would both predict positive correlations, but the correlations would substantiate neither. Thurstone admitted that the use of factoral analysis to provide answers in psychology was attendant upon the lack of hard, factual knowledge in the field. One doesn't use factoral analysis when discussing the mechanics of falling bodies, where principles are understood.

In 1979, Arthur Jensen resurrected Spearman's "g" factor in an 800 page defense of the I.Q., in which he not only envisions a hierarchy of "g" in mankind, but a ladder of ascending "g" in creatures from protozoa to extraterrestrial intelligences. This straight line of ascending "g" confounds evolution, which proceeds as branches of branches, in one fell swoop. A scheme formulated by a member of a queer species—*Homo sapiens*—the measure of all biological nature.

What information does biology provide regarding genetic differences within mankind? First, genetic influence (as regards behavior) is spread diffusely among genes. There is no gene for aggression, for example. The general opinion holds that, as regards behavior traits, the genetic influence determines a range of possible behaviors, not specific ones. Thus, we can adapt with aggression when that is appropriate and peacefulness when that is appropriate. Next, and most important, Gould argues that hereditarians go astray when they fail to distinguish between what is properly genetic and what is cultural. What is unique to man is his brain. As Broca determined, the size of our brain has been constant since Cro-Magnon man. But the uniqueness of our brain has enabled us to evolve at a furious pace in the "Lamarckian" sense, that is, by transmitting acquired characteristics (knowledge, techniques, customs) by means of culture, while we evolve at the usual imperceptible pace of evolutionary time in the Darwinian sense. The flexibility of behavior (put another way, the possibility of reacting to a situation in a variety of ways) is the hallmark of our intelligence and is the reason for our cultural diversity. The fact is that we are a neotenous species; we resemble a juvenile chimpanzee—a small face, vaulted cranium, large brain in reference to body size, *foramen magnum* directly under the skull, primary distribution of hair on the head, axillae, pubic area, etc.—rather than an adult ape. This evolutionary bane of remaining "childish," gives us the room to grow more physically, intellectually, and behaviorally, than any other organism.

There is a fund of knowledge, which increases constantly, that tells us "the overall genetic differences among human races are astonishingly small." Paraphrasing Lewontin (1972), Gould also states: ". . . if the holocaust comes and a small tribe deep in the New Guinea forests are the only survivors, almost all the genetic variation now expressed among the innumerable groups of our four billion people will be preserved."

Does this mean that we are all the same, all equal? Certainly not. One of the basic principles of evolutionary theory is that, in one sense, no one is equal to another. We are constantly being born different from everyone else. Though culture accelerates our differentiation, the differences are only behavioral, not genetic. In a half million years (if we are here), there will be, all things

being equal, significant genetic differences within mankind. Hereditarians then will have no difficulty proving their thesis.

What is the significance of the theme of *The Mismeasure of Man* for orgonomy? First, it provides a biological, evolutionary platform from which to view man and his intelligence. Since we are all armored and consequently do not see some things as they are but through the prisms of our character, it is refreshing and restorative to be exposed to the biological view. In this perspective, as in the best of what we do with our patients, the aim is to maximize the potential with which we are born.

Secondly, through his diligent, eminently logical and incisive exposure of a group of bright, often well-intentioned men who sought to establish scientific proof of their prejudiced ideas, Gould makes us aware of how easily our unconscious wishes lead us to oversights, missteps, and devious procedures that enable us to reach our "scientific" goal.

An interesting aside: Probably no scientific endeavors have been attended by more disavowals and recantations by scientists late in their careers than those of these men who sought to establish proof of genetic differences in intelligence in man. (Do these belated pricks of scientific conscience suggest there is hope for mankind?) The clear protocols of others that reveal their obvious errors, with no attempt to cover their tracks, remind one of criminals who leave clues so that they will be apprehended.

We are all prejudiced; and we in orgonomy, too, are subject to enthusiasms that may lead to baleful errors in our work. The fact that we are a numerically small group, that our work is poorly understood and often distorted by the larger part of the community tends to create, on one hand, a tendency to preachiness in our sociology, where fervor may overtake fact. On the other hand, because we are surrounded by skeptics and people who don't take us seriously, we may tend to become paranoid as regards the "others." Their simple ignorance may be interpreted as hostility. Their natural impulse to defend their turf may be viewed as an irrational attack. These caveats notwithstanding, we must certainly remain alert to the operations of the superficial and secondary layers as our opponents deal with our work, to be neither seduced by their feigned acceptance nor silent in the face of their unreason; this, also, must be dealt with objectively.

Because sociological orgonomy operates through men, it is subject to human distortion. For example, the concept of emotional plague, when clearly defined, is a tool for understanding aspects of human interaction on both personal and historic levels that were not recognized before Reich. But, when filtered through the "Little Man" in us, it can descend from its scientific usage to become a mere term of cult opprobrium: Whoever opposes *me* suffers from the emotional plague.

Many of us who work in orgonomy at this time are practicing therapists. As such, our patients are prone to endow us with special authority and power. The temptation to use their authority to make pronouncements in areas of which we have insufficient knowledge is a hazard in our work.

In the realm of the physical sciences in orgonomy, we are prey to the short or long counts of all experimenters eager to prove their thesis. The fact that we are surrounded by deaf ears might have induced us to shout, but up to this point, we have resisted the temptation.

We are bearers of a consequential science. Gould has shown how easily other scientists, governed by enthusiasms rather than data, mismeasured what they sought to measure. We must be forewarned, so that we do not include dregs with the wine we transmit to future generations.

Morton Herskowitz, D.O.
Philadelphia, Pa.

Communications and Notes

Announcements

Byron Braid, M.D. has been elected to the Board of Trustees of the Institute.

Patricia Burlingame, an associate member of the IOS laboratory, has been elected to regular membership status.

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 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, must be interviewed by one or more training therapist, and must 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 which includes biographical data, information about classical and orgonomic training, and personal 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 1985. 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: 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). This 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. Will be offered next in October of 1984. 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.

Tables should be typed double spaced. Figures and graphs should be scaled to fit within a 5¾ x 8½ inch format. All should be clearly labeled. Manuscripts accepted for publication are subject to copyediting. They become the property of the Institute for Orgonomic Science and may not be reproduced without the consent of the authors and the Institute.

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