

A Preliminary Report On Dianetic Investigations With A Powers Design Skin Galvanometer.

Already two contrary schools of thought have appeared on the merits of skin galvanometers. The optimists hold that the device measures not only acute emotional tone in the Hubbardian sense, but chronic tone as well. Hubbard is the extreme. The skeptics reluctantly admit it registers at least the skin resistance in the preclear(s) hand. As usual, there are many viewpoints between these extremes. Several people here in Houston have bought, or have built, E-Meters of some design. This paper relates to experiences of A.B. Marshall Jr. and myself working with a Powers galvanometer built by Marshall. (now nearer 4 mos. FH) This instrument follows the circuit and specifications of Powers in Chicago Newsletter, except following changes; wire wound precision(1%) resistors, 50-0-50 Simpson Microammeter, generally laboratory grade components, matched tubes, etc. Max Relatively stable for a D.C. amplifier. Exact quantitative data available from A.B. Marshall Jr.

Electrodes. Dime size silver discs soldered to braided copper wire, discs coated with mixture of white vaseline and ground salt, fastened to skin with adhesive tape. With this arrangement, Pc is freed from preoccupation against moving arms, holding onto electrodes, clashing electrodes together, etc. Shorting meter out is obviated by adhesive tape covering electrodes. We have tried three electrode positions; a. palm of each hand. b. palm and back of same hand. c. both discs palm of same hand two inches apart. Palms washed with soap and water and alcohol to remove oil etc. Position c. seems most nearly optimum for us. Swabbing with alcohol, is overdoing it. Marshall and I made the assumptions individually and agreed, or made them together after discussion.

Working Assumptions While Processing With Galvanometer.

1. Change in skin resistivity of hands is inversely proportional to change of tension in nervous system. Circuit is so arranged that deflection of meter to right indicates increased resistance and lower tension, deflection to left decreased resistance, greater tension. Right deflection we call up or plus; down or minus is left deflection. ( Readings opposite from Matheson Meter. FH)
2. We distinguish two independent (?) variables indicated by the meter, namely; "muscle voltage" produced by physical activity alone, and "Galvanic Response" which we take to represent changes in emotional tone in the preclear. This we correlate with behavioral and gestural indications such as we observed before we used a galvanometer in auditing. This verification is not so positive as in the case of muscle voltage because less direct. Ratio between these two variables as indicated on meter depends on electrode position. Position c. gives greatest galvanic response, position a. greatest muscle voltage.
3. Absolute resistance of P8 in ohms before and after session is taken as follows. ( Curr and procedure given December ff. FH) 1. After session switch off meters disconnect electrodes, connect Decade Box. ( Heathkit Decade Resistance Box) 2. Switch on meter, and center meter with decade box. Read resistance from box potentiometers. This is End Resistance. 3. Reset bridge adjustments on galvanometer to position as at beginning of session. Recenter meter with decade box. Read resistance from box potentiometers. This is End Resistance. \$. Subtract smaller reading from larger. This is Delta R, the difference in resistance produced during the session. We assume this reading is not simple function of PC'S tone, but rather of several independent variables such as PC'S diet, ambient humidity, temperature, line transients (?) etc. We have observed a "drift in basic resistance taking usually about 45 minutes, first in one direction on meter, then the other, the two drifts being usually slightly unequal We guess that this effect may explain reports that PC's become "acclimated" to the electrodes. COMM ONE ENDS. COMM TWO. For several sessions we used tube shield electrodes a la Matheson, in stead of dime size silver electrodes. Cans increase sensitivity of response and make it easier to distinguish muscle voltages from galvanic responses. Stainless steel sponges were tried two sessions. Unsatisfactory characteristics. Copper sponge electrodes, ( scouring pads were substituted. Results similar to tube shields except much more comfortable. ( Have standardized on copper sponges. Jan. FH.)

second micro-ammeter has been added in parallel with the first. Its sensitivity is variable and has been set at approximately 1/5 that of the first meter. Now when the first meter pins, we can read a good approximation of drop or rise on the second meter. We call them G<sub>1</sub> and G<sub>2</sub>.

"Pleasure moments" are equivocal, as apt to register drop (tension) as rise (relaxation). Laughter is more apt to register a peak tension followed by a relaxation. We suggest diaphragm muscle voltage. It may also represent release of charge. (Revised in this second edition. FH)

Short series of Cybernetic experiments shows E-Meters probably little use for self-processing due to feedback. Preclear watching meter responds to meter's response to preclear's watching meter. This yields oscillations, and a tendency toward centering.

Routinely we take basic resistance of skin at start and end of sessions. With less than 10% exceptions End resistance is significantly lower than start resistance. Conclusion, accumulated sweat on skin. All resistances with cms and sponges are lower than with silver disc electrodes. Conclusion; larger contact area. General conclusion; basic resistance of palm skin is not reliable index of emotional tone. (Using 8-80 techniques %age of exceptions to above is nearer 75%. Jan. BH.)

A local dietician, Allan Riggs has built a series of E-meters using A.C. amplifiers, D.C. controlled, incorporating Germanium diodes in bridge circuit. The work very well. (Clyde Marshall proposes to build an A.C. model without diodes. F.H.)

When preclear goes to sleep in session, the meter indications fall below any significant value and are indistinguishable from electronic noise in circuit. When the PC wakes there is an abrupt drop in resistance followed by a much slower corresponding rise. This distinguishes between boiff and sleep when the PC does not snore. (conclusion; partly relaxation of grip on electrodes. Jan FH)

As with most D.C. instruments, E-Meter should be allowed about 5 minutes warmup. After connecting PC, we approximately center meter with Ratio Arm of bridge circuit. Sensitivity at minimum. We do not change Ratio Arm again. This simplifies measurement later. (In session adjustments with Coarse and Fine adjustment controls, Sensitivity to normal position for that PC. January, FH) If PC complains of feeling current through sponges, we assume electric shock facsimile. Input is under 1.4 volts from mercury cell.

AN EXPERIMENTAL PROCESSING TECHNIQUE. For a short series of sessions I was able to try a trick with a tape recorder with interesting results to me. Regular co-audit session is recorded, then played back to PC. That's it. Physiological discharge occurs in large amounts. I water at the eyes, yawn, twitch, laugh my fool head off. My own sessions seem to me the most comical sessions I had listened to in years. Conclusion; physiological feedback. I have no sonic recall on speech including my own. I conclude this is optimum method of scanning a session.

ON TERMS AND ORIENTATION. (Slight revision from Edition 1.) Many use Hubbardian terms with strict regularity but different meanings in context.

Reality, used as meaning; Semantic reality one person. Correspondence between semantic relations two persons (Hubbard's "Agreement") Opinion- "In my reality-"  
Viewpoint- "We have different realities on--" Level of Abstraction- "This incident has more reality than the others."

Compute; think, figure, opine, guess, estimate, suppose, reason, intuit, infer, deduce, recognize, conclude, anything except perhaps aesthetic synthesis or sensation.

Tone Scale; Table in "Dianetics" Chart in "Science Of Survival" Abbreviated form in "Self Analysis" Attitude Chart in "Handbook For Preclears" Illustrated scale in "Scientology booklet 6" Combinations of two or three of these, 2 dimensional grid of Minneapolis Group, 3 dimensional cube of Welton's group, others I haven't seen.

THIS IS CONDENSED EDITION OF HAND ONE AND TWO FOR ADDED NETWORKERS IT IS SLIGHTLY