

RECENT EXPERIMENTS ON PHYSICAL ASPECTS OF THE MUSCLE-TONUS-REFLEX (DOWSING)

S. W. TROMP (*Netherlands*)

The many unscientific publications and statements of most dowsers frighten the conservative scientist. Therefore, and inasmuch as the dowsing reaction may be described physiologically as a kind of muscle-reflex, I have suggested the use of a more scientific and less provocative name for dowsing and radiesthetic phenomena: the *Muscle-Tonus-Reflex*, similar to the *Photodermatic Tonus-Reflex* of Ehrenwald.

Experiments have indicated that both the use of a pendulum (known as *pallomantic* or *radiesthetic* phenomena) and dowsing rod (*rhabdomantic* phenomena) are due to similar muscular reflexes which should be differentiated only physiologically in the *Pallomantic Muscle-Tonus-Reflex* and the *Rhabdomantic Muscle-Tonus-Reflex*.

I am convinced, as a result of many years of field experiments, that the dowsing reaction is a reality and not due to auto-suggestion, and that it is caused by an unknown super- (not extra-) sensoric sensitivity of the human body to certain external geophysical fields, probably comparable with the sensitivity for sudden changes in weather, long before the temperature, humidity or other meteorological indicators suggest such changes. The two main reasons for my belief that the *Muscle-Tonus-Reflex* is physical in nature are: (1) That none of the dowsers carefully tested showed either telepathic or clairvoyant ability in other paragnostical tests; (2) That none of these dowsers could indicate the location of a pipe, or cave, etc., unless he was standing or walking above it. It is

difficult to believe that a really telepathic or clairvoyant diagnosis could be so restricted as to be operative only when the human body is in position directly above the object.

Three main types of basic experiments were carried out:

1. Magnetic experiments. a) Using artificial magnetic fields (created by a ring-shaped tangent galvanometer); b) Using local disturbances in the earth's magnetic field (indicated by an ordinary compass or magnetometer).

2. Cardiographic experiments. a) Measuring electric skin potential variations in dowsing zones and above human beings with a string galvanometer of Einthoven; b) Indicating existence of dowsing zones coinciding with concentrated low-frequency, electromagnetic, alternating fields in modern buildings (as a result of buried conductors) with a cathode ray type of cardiograph (Elmqvist cardiograph).

3. Soil conductivity experiments, indicating a relationship between dowsing zones and sudden changes in the soil resistivity, in particular, zones of minimum soil resistivity, registered either with two- or four-electrode soil resistivity meters.

A full report on the experiments, mentioned sub. 2 a, consisting of over 500 experiments and recorded in 130 electrocardiograms, was given in 1949 in the author's publication "Psychical Physics" (pp. 310-330 and fig. 407-431—Elsevier Publ. Co., Amsterdam).

The experiments described sub. 3 will be published in the near future by the Foundation for the Study of Psychophysics under the title "Experiments on the possible relationship between soil resistivity and the muscle-tonus-reflex" (with 40 diagrams of which 6 were prepared by Dr. J. Wüst and Dr. Petschke during recent experiments in Germany, which confirmed the author's observations).

All these experiments tend to establish that the *Muscle-Tonus-Reflex* is a real physiological process resulting from stimulation by external geophysical fields. Once this observation is generally accepted one must consider seriously claims that dowsing zones could have harmful medical effects upon

persons resident in them for many years. Despite the fact that many statements as to such effects cannot be considered of high scientific standard, a vast amount of material suggesting a direct influence of dowsing zones is so impressive that it will be difficult to neglect this problem in future research.