THE SEVENTH SENSE

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29 CHALLENGE TO SCIENTISTS

All through 1951 and 1952, writers for scientific journals made frequent scornful reference to the failure of dowsers, Henry included, who had been subjected to tests that had been incorrectly labeled "scientific." Both Henry and I, they said, wanted to prove Henry's ability by allowing him to dowse water veins. This, they said, wasn't fair—wasn't scientific. No test was scientific unless it was repeatable: unless it was quantitative. So persistently did they babble of quantitative experiments that they had no time to listen to an account of the saving of a cotton crop.

By "quantitative" they meant measuring Henry's dowsing ability in ordinary figures—numbers—digits; and until he could be thus measured, according to them, dowsing didn't exist and was witchcraft.

By "repeatable" they meant that they should themselves be able to reproduce the experiments and obtain the same positive results—or at least that competent scientists should be able to do so. Unless they could, to hear them tell it, dowsing was nothing but a ritual pattern, a folk science, or something downright shameful.

These critics clearly implied that I was averse to such repeatable experiments: that if I had possessed even a smattering of scientific knowledge, I would have welcomed such experiments.

This was not so. In *Henry Gross and His Dowsing Rod* I again and again stated emphatically that scientists of good faith were welcome at Rocky Pasture; that Henry and I would go far out of our way to co-operate in any scientific experiments they cared to propose, provided only that such experiments were conducted im-

partially and objectively, in keeping with the true spirit of science: not along time-wasting, moss-grown, obsolete lines.

I freely admit that I am not a scientist, an admission that unfortunately is never made by any water geologist able to carry a clip-board; but I know what constitutes sound scientific procedure, which is something that a lot of so-called scientists I have encountered apparently do not know. I know, for example, that in investigating a phenomenon like water dowsing, the scientist must assume, as a working hypothesis, that the phenomenon exists. The scientist who fails to assume this will waste his efforts on improperly designed experiments—but he'll never again waste mine.

I know also that experiments in dowsing are only repeatable, in any proper sense of the word, if the dowsers are equally reliable. This means that in order to repeat such experiments, the ability of the dowsers must first have been tested and established. The dowsers' opinions of their abilities cannot be accepted: their abilities must be independently tested in advance.

These statements are so self-evident as to seem trivial, and I only record them because so many so-called "scientific" investigations of dowsing have been what is called statistical. In pursuance of this statistical method, a number of self-styled dowsers are gathered together—perhaps as carelessly as through a newspaper advertisement—and are tested en masse. Then the results are averaged.

This method is only acceptable if, in advance of the tests, the ability of the dowsers is known to be high. Otherwise the experiment is worse than misleading: it is foolish. I have long dealt with dowsers; and in my experience, reliable ones are few and far between—and it is not easy to pick the talented ones from those who believe sincerely but misguidedly in their talents.

But they *can* be picked. It is possible to assemble a group of dowsers whose dowsing reactions will take place at exactly the same spots. Those reactions can be measured in figures, just as the strength of a man's handgrip can be measured. This measuring can be repeated by anyone who has the proper equipment—and that equipment must be mental, physical and mechanical.

This is where the scientist comes in, and where I go out.

By writing a book about Henry Gross, I created a character who otherwise would have been, comparatively speaking, unknown. Under ordinary circumstances, an author can do whatever he

pleases with a character he creates. If, in *Northwest Passage*, I create the character of Hunk Marriner, I can kill him, no matter how much I like him, whenever his death materially furthers the story. But if the character created is alive and breathing, and subject to the usual human needs, and on top of that is possessed of unusual talents, he cannot be treated like a character in fiction.

That is why neither Henry nor I can forever be at the disposal of scientists who want to carry on interminable experiments. We have work to do. Henry must, by his own efforts, make a living; and I, in every way I can, must help him to do so—even by brusquely saying No to scientists who want to fritter away their energies and ours on matters long since proved: by saying No even more bluntly to thoughtless people who urge Henry to utilize his skill in their behalf without compensation or for a mess of pottage.

We can give the scientists the tools, so to speak, but they must finish the job.

In Chapter 2, I mentioned experiments conducted by a group of electronics engineers who first came to Rocky Pasture in April, 1952. They wrote me in February:

> This letter is written in the hope that Mr. Henry Gross may be available for a demonstration of his unusual faculties to a group of interested engineers and physicists.
>
> During the past year we have as a group discussed, and become seriously interested in, the techniques relating to extra sensory perception, dowsing and similar phenomena. It was fortunate that one of our group happened to chance upon your book describing in detail the behavior of Henry's rod. Throughout the book it was evident that persons contacting you would receive cooperation in their efforts to examine and explore this new phenomenon. We therefore request permission to visit with you and Mr. Gross at a location and at a time convenient for a demonstration.
>
> We reside and are employed in New York City and wish to drive to Maine over a week-end for observation of the above.
>
> It is our sincere hope that both you and Mr. Gross are not overburdened at this time so that a meeting may be arranged.

I had, to put it as gently as possible, been truly overburdened with experimenters, and had given far too much time to people who didn't know what they wished to do, how they wished to do it or where they hoped to arrive. A disconcerting number had proved to be absorbed in strange theories or to be riding peculiar

hobbies: too many wished to talk vaguely and at fatiguing length on matters in which I was supremely uninterested. So I replied cautiously to these electronics engineers that before a visit to Rocky Pasture could be arranged, we must have further information as to their plans. For me a week end is a long and valuable period, and I wanted to know what experiments they had in mind; what equipment would be required at our end; how much time would be involved. This information, I said, they should send to Horace Levinson, because any explorations they might make would be closely observed and supervised by him.

We learned that the group had been reading Professor Tromp's book, *Psychical Physics*, to which I referred on p. 91, that they wished to verify and elaborate certain experiments described in the book, that they would supply all necessary apparatus, and that two days would suffice for a preliminary exploration.

So I wrote them to come ahead, and they arrived at Rocky Pasture by car early on a rainy Saturday, April 26, and wasted no time getting down to work. The original leader of the group, Robert Essex, had been prevented from making the trip, and had been replaced by Harris Gallay, a consultant electronics engineer. His associates were Harold Cohen, Arthur Goldschmidt, and Julius Levine, all electrical engineers. A full report of the experiments conducted on Saturday and Sunday was subsequently written by Harris Gallay, based on notes made at the time, and I shall quote from this report in the next pages. The report began:

> We brought electrical measuring equipment, a d.c. oscilloscope, a battery operated d.c. millivoltmeter, a laboratory type a.c. operated d.c. microvolter, and auxiliary equipment such as metal rods, skin-contacting electrodes, rod insulators, etc. With these we intended to measure and correlate the dowsing perceptions of Mr. Gross with electrical potentials generated at his skin at the point of contact with the rod.
>
> The grounds were water soaked from heavy rainfall, so we worked indoors until outdoor conditions were better. . . .
>
> Mr. Gross demonstrated his use of the dowsing rod. Holding a forked branch in his two fists, he directed questions orally to the rod, such as, "In which direction is the nearest vein of running water?" "What is the flow in gallons per minute?" "How deep is the top of the vein?"
>
> The answer to the first question would come as Henry slowly rotated his body, rod poised, when suddenly the rod would deflect downwards, indicating that he was facing the proper direction.
>
> Answers to numerical questions, "How many feet deep?" "How many

gallons per minute?" "How many feet distant?", were answered when the dowser orally proposed a number to which the rod would respond yes or no, by dipping or not. By a process of elimination, the dowser would arrive at the correct number, beyond which the answer would be negative.

Some of these tests were repeated with the writer [Gallay] holding one end of the forked branch, Henry the other. The rod would not reply unless the "circuit" between our persons was completed by Henry laying his free arm across my shoulder. The rod would then deflect sharply to the proper question, and it was beyond my physical ability to restrain it, even though the end portions in my and Henry's fists did not rotate at all! Henry explained that he used fresh cut forks because an older dry fork was likely to fracture under such conditions. Try as I might, concentrate as I could, I could feel no other sensation but the twisting of the rod when he placed his arm across my shoulder. It was a most uncanny phenomenon, and had to be experienced to be believed.

To get on with our experiments, a Y-shaped copper rod was substituted for the forked branch. It gave equally sensitive replies. Henry preferred the branch because he was accustomed to it and could therefore work faster and more comfortably. When it was explained that the metal rod was better suited to the electrical measuring techniques we intended to employ, he readily consented to go along with us.

In using the metal dowsing rod, we insulated his left handgrip, so that the voltmeter could be connected across from the left-hand portion of the rod to a metal foil wrapped around Henry's left wrist. The interruption of the electrical circuit path with the insulated grip and the high resistance voltmeter had no observable effect on the dowser and his results.

The rod dipped and answered questions just as well when held in insulated grips as when held by the bare hands. The insulation merely provided a convenient set of terminals for the application of the voltmeter.

Throughout the tests, both indoors and out, Henry's cooperation and interest never flagged, although the strain and his ensuing exhaustion were obvious to all present. It was only after we had quit work Saturday night, and were on our way to a hotel that he complained of exhaustion and a headache. Actually we had observed his fatigue several hours previously in his labored breathing and the slowing up of his reactions.

The report went on to describe in detail a long series of experiments aimed at finding some sort of correlation between Henry's dowsing perceptions and changes in skin potential, as measured between various points of Henry's hands, wrists, arms and body.

In making these measurements, the two electrodes were attached to Henry's skin in various ways. At one point, for example, the electrodes "were made of cotton wool soaked in salt water. Copper strips with leads soldered thereto were wrapped over these wet

wool pads for the wire connection to the amplifier." Other arrangements were tried.

Although the experiments were continued all day Saturday and during Sunday morning, no positive results satisfactory to the scientists were obtained. On several occasions interesting results seemed to be in the making. There would, for instance, be a sizable jump of the needle on the voltmeter when Henry faced in the direction of a vein and his rod went down—but in each case control experiments showed that the jump in voltage could not be considered as significant.

As previously stated, all this work was done indoors, owing to rain. So Henry was not working over actual water veins. He was doing long-distance dowsing, although the planned experiments called for measurements made while Henry and non-dowsers (as controls) walked back and forth across actual water veins.

The original aim of the experiments was to attempt to repeat and verify certain results obtained by Professor Tromp, as previously pointed out, and I must explain briefly what this means.

Tromp's theory of dowsing is essentially as follows: There exist certain regions which he calls "dowsing zones." These are regions in which there exist sharp variations in electric or magnetic fields, which can actually be measured by the appropriate electrical or magnetic instrument—in some cases, for example, by an ordinary magnet. Tromp believes that a dowser is so sensitive to these physical variations that they are somehow perceived by his unconscious mind and transmitted to the dowsing rod in the form of unconscious muscular contractions. In support of his theory, Tromp presents experimental evidence. The crucial question is not, of course, whether there exist variations in electrical fields, but whether it is possible to correlate some measurable electrical change in the dowser with such variations in the field. Tromp believes he has found such a correlation. In entering an actual dowsing zone, Tromp says, there is a jump in skin potential, as measured between certain points of a dowser's body.

In order to test this theory it is clearly necessary for the dowser to move in and out of a "dowsing zone"; in other words, the dowser must walk across an actual vein. There appears to be no place in Tromp's theory for distance dowsing. It would be necessary to as-

sume that a change takes place in a dowser when he imagines that he walks across a distant vein.

The changes in skin potential found by Tromp were small, of the order of a few millivolts.[1] A millivolt is a thousandth part of a volt. In order to measure so small a change, scientists declare, extensive precautions must be taken to reduce experimental errors to a point so low that they will not hide the effect to be measured.

In the experiments carried on at Rocky Pasture this question of experimental errors was the critical one—critical, at least, until on Sunday afternoon, the weather having cleared, the experiments were taken outdoors.

There is a vein of water under the fairway of the sixth hole of the Kennebunkport golf course. The vein is large and is ideal for scientific experiments; for after running its course it obligingly comes to the surface in a springhouse where golfers refresh themselves. So the most skeptical water geologist could scarcely go so far as to deny its existence. It was at a spot over this vein that the Gallay group set up its apparatus to make its outdoor measurements, and Gallay reported:

> We were rewarded with results far more favorable and decisive than anything we had been led to expect from the results of the indoor "distance dowsing" tests. Here on a rise of ground at the edge of a golf course, Henry, using the same metal dowsing rod, was able to develop 100 millivolt deflections as he passed directly over the vein. This action was repeated several times with consistent results. Other persons were tried as controls, duplicating Henry's physical actions exactly. The maximum deflection observed with non-dowsers was 10 mv.

In other words, the jump of the meter-needle was so violent, so emphatic, that the usual precautions against small experimental errors were wholly unnecessary.

Gallay's final sentence needed qualification. The experiments were conducted as follows: Using long wires attached to the electrodes, Henry walked back and forth across the vein. As his rod went down, the sharp jumps of the meter-needle, indicating the change in skin potential, were recorded by one of the group of engineers. After Henry had crossed the vein, the needle returned approximately to its original position.

[1]So small as to suggest that he was working with dowsers of inferior quality.

To control this experiment we used all those present, including Horace and me. Each repeated Henry's walk with apparatus similarly adjusted. With one exception we obtained deflections of less than 10 millivolts.

The exception applied to one of the engineers, Julie, for whom the rod unexpectedly worked and the needle jumped 30 millivolts.

Julie looked from the meter to the rod and from the rod to us with an expression of genuine consternation. Like others for whom the rod works for the first time, he found it impossible to believe that he was a dowser, and he was even reluctant to let Henry test his ability. But from the standpoint of the experiments this fact had to be determined; for if a non-dowser could produce a deflection of 30 millivolts, we had to know it. When Henry *did* test him he found that Julie was able to locate the vein accurately at a point where its position was not apparent. Julie was a dowser, though to what degree we could not know. My impression is that to this day Julie refuses to believe that he can possibly be a dowser.

The Gallay report concluded its description of this series of experiments:

> The remaining time available for us was rapidly approaching zero. The weather was again threatening, and we had in prospect a long automobile drive back to New York City that same night. The tests therefore had to be terminated with the complete verification, by repetition and the use of non-dowser controls, of this one measurement:—the generation of electrical pulses of 100 and more millivolts between Henry's left wrist and the metal divining rod when he passed over a vein of water.

These experiments were continued on July 18 and 19, when Gallay returned to Rocky Pasture in order to test Henry and a Canadian dowser, Desrosiers.

As a dowser, Desrosiers was unusual in that he used no dowsing rod or mechanical device of any sort. His dowsing reactions came through painful sensations on the soles of his feet and arthritic-like twinges in the small of his back.

The experiments were conducted outdoors and followed the general pattern of the golf links experiments on April 27. That is to say, where Henry was concerned the same technique was used.

For a time the problem of attaching electrodes to Desrosiers seemed insuperable. It was finally solved by fastening one electrode

to a particular region of his back, and the other to either leg, halfway between ankle and knee.

Experiments of this sort are always difficult, as every laboratory scientist knows, and much effort was expended before satisfactory results were attained. Finally, however, over a vein that flows into Half Moon Pond (p. 86), the same success was achieved as on the tests on the sixth hole on the Kennebunkport golf course in April. Changes in skin potential of from 100 to 200 millivolts (1/10 to 1/5 of a volt[2]) were obtained when Henry or Desrosiers walked across the vein with electrodes properly adjusted.

On this occasion, fortunately, there was sufficient time for a long series of control experiments in which several non-dowsers participated.

As in April, the non-dowsers imitated the physical actions of the dowsers as closely as possible when crossing the vein. The non-dowsers did everything in their power, through muscular contortions and through forcing the stick downward while over the vein, to duplicate the large changes in skin potential recorded for the dowsers. All these efforts were fruitless. The highest jump in skin potential that could be obtained by a non-dowser in this manner was 30 millivolts.

When the results of these experiments were reported by a leading scientist to a distinguished physiologist, famous for his work on delicate electrical measurements, he replied:

> Any bonafide sudden change in the skin potential to the amount of 100 to 200 millivolts (0.1 to 0.2 volts) would be indicative of a highly abnormal emotional state such as might occur in an epileptic convulsion. If sudden changes have occurred in experiments with Henry which could not be accounted for through faulty contacts or other extraneous disturbances, such results would appear to indicate an extraordinary deviation from the usual, whatever the cause.

Since Henry and Desrosiers were surely not in the throes of epileptic convulsion, the conclusion seems to be that something remarkable happens inside the body of a dowser that characterizes the act of dowsing and cannot be duplicated by non-dowsers.

As I said before, these experiments raise many interesting questions.

[2]On this basis, ten Henrys, connected in series, would illuminate a five-room house.

Is the change in skin potential related in any way to the ability of the dowser? In other words, is a high order of dowsing ability associated with high changes in skin potential, and vice versa?

Is the jump in skin potential dependent on the amount of water flowing in the vein?

Does it depend on the depth of the vein?

Why is the exact position of the electrodes so essential in the case of a dowser like Desrosiers, who does not employ a dowsing rod in order to obtain his reactions?

These and many other points remain unanswered; but the main conclusion—that under certain conditions large changes in skin potential accompany the act of dowsing—is of major importance.

It is of such importance that it is almost inconceivable that scientists who are specially qualified in the measurement of electrical changes in living tissue will not repeat and if possible extend these experiments. For if the major conclusions of the experiments are verified, the most antagonistic of skeptics will no longer be able to say that dowsing is nonsense and does not exist. The problem of its interpretation may remain, but not that of its existence.

I can understand how an honest scientist can hesitate to accept new and strange facts without careful verification, but I have no respect for so-called scientists who, when confronted with new facts, turn their heads in the other direction and shout at the top of their lungs that the facts do not exist.

I challenge scientists of good faith to examine the facts of dowsing for themselves through experiments like those outlined in this chapter. If they will not do this, they cannot, without making themselves absurd, pontificate on matters of which they know nothing.

I have little to add to this account of our dowsing experiences in 1951, except to note with gratitude the heartening number of people who proved to be conscientious and careful: who kept their promises: who, in the face of ridicule, had the courage to make use of a sense that exists as surely as do integrity and fair play. I feel only pride and thankfulness for the opportunity given us during that hectic year to further the world's knowledge of dowsing and bring to light supplies of water that might have remained forever unknown.