

Experiments with mice and barley seedlings provide clear scientific evidence of the reality of the "gift of healing."

Healing by the Laying on of Hands: Review of Experiments and Implications

Introduction

In 1957, a series of experiments were begun between the author, a biologist engaged in biomedical research, and a man (OE) who claimed to have a gift of healing. OE based his claim on an intensive experience of ten years, during which time he stated to have favorably influenced the outcome of a wide variety of diseases in many persons by the laying on of hands (LH).

The author had no previous experience with or indeed knowledge of healing by LH except a vague recollection of stories in the Bible dealing with this matter. Furthermore, the healer's experience was entirely confined to relatively large mammals (men, horses, dogs, and cats) and, as it was proposed that the experiments be conducted in mice, the problem of how to practice LH in such small animals was first encountered. Mice were selected because their small size enabled us to meet the demands of present-day biomedical and statistical techniques to utilize sufficiently large numbers of animals and yet not exceed the modest space and funds available for their housing and feeding.

The problem of LH on mice was

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solved by devising a container made of galvanized iron and divided into compartments each large enough to hold a mouse comfortably so that it could turn around, but not so large as to allow the animals to move from one place to another. The size of the metal holder was adjusted to the size of the healer's hands so that when held by OE, all the mice in the holder were covered by his hands. The containers were covered with a fine wire mesh to prevent the animals from escaping. The bottom of the holder was solid. Eight to ten mice were placed in the holder at one time. In order that the animals would learn to sit quietly in the containers, they were placed in them for an hour daily, five times a week for one or two weeks prior to beginning of LH treatment.

Control mice not to be treated by OE were given a similar conditioning in the holders and when treatment by OE was begun, control mice were placed in the containers, and in some experi-

ments were given no treatment at all, while others received LH by a person who, as far as was known, did not have the power to heal. Still other mice were exposed to heat delivered by insulated electrothermal heating tapes. The heat delivered to the mice was adjusted so as to be the same temperature as that previously shown to be produced by the warmth of the healer's hands.

Another way in which all the mice, both control and treated, were made calm prior to the beginning of the laying on of hands was by gently stroking the backs of the animals for one or two minutes every day, five days a week, for one or two weeks. This was done concurrently with adapting them to sitting quietly in the metal containers. This procedure was stopped when LH was begun.

LH was carried out by placing the mice in the metal container which, in turn, was placed on the palm of one hand while the other palm rested lightly on top of the wire mesh covering the box. Thus, the hands did not touch the mice underneath the wire nor were the hands moved during treatment. Treatment with LH in all these experiments was given for fifteen minutes, morning and evening, five times a week. When treatments were given on Saturdays, it was given only once. No treatment was given on Sundays.

The Effect on Goiter

Because the healer had earlier claimed success in the treatment of certain diseases of the thyroid gland in man, it was decided first of all to test whether by means of LH he could influence the rate of development of goiters artificially produced in mice. Goiters can be produced in animals by feeding them a diet deficient in iodine, and also by

feeding them certain chemicals called goitrogens which interfere with the uptake of iodine by the thyroid gland. Therefore, in our first experiments, an iodine deficient diet and a goitrogen, thiouracil, were fed to mice, and the rate of increase in the size of the thyroid gland in both control and treated mice was determined by weighing the thyroids of mice sacrificed at suitable intervals. The first experiment consisted of seventy mice separated into three groups: two control and one treated. The control groups were placed in the metal containers at the same time as the mice receiving LH. One of the control groups received no LH, while the other received the heat treatment mentioned earlier; the third group received LH. The experiment lasted forty days, with OE treating the mice with LH for the first twenty days while JB treated them in the same way for the remaining time. (JB was working in the laboratory at the time these experiments were undertaken and it was subsequently shown that he could also produce significant telekinetic effects in animals and plants by LH.)

The results showed that the thyroids of the two control groups increased in weight significantly faster under the influence of the iodine deficient diet and thiouracil than did the mice receiving the LH treatment. Inasmuch as the thyroids of the control mice receiving the heat treatment did not grow significantly faster than did those of the non-heated controls, the heat produced by the warmth of the hands during the LH treatment could not be responsible for the significant inhibition in the rate of goiter development in the mice treated by LH.

That heat could not be held responsible for the significant inhibition of goiter development was shown by a

second experiment involving thirty-seven mice separated into two groups: a control group, and a group which was treated, not by LH, but by placing the mice in direct contact with the cloth (wool and cotton) cuttings which had been held in OE's hands for fifteen minutes, once on the day of the start of the experiment and twice during the next twenty-four days, the entire experiment lasting forty-two days. Ten grams of the cuttings were placed in each cage containing four or five mice for one hour, morning and evening, six days a week. The control mice also received cuttings, but these were not held in the hands of the healer or any other person. The cuttings were dropped into the cage and an hour later the mice were always found sitting on the cuttings spread out beneath them. The results were the same as in the first experiment. That is, the thyroid glands of mice treated with the cuttings held in the hands of the healer developed goiter more slowly than did the control mice.

Further experiments were conducted in this series on the return of goiters to normal size after the goitrous mice were placed on a normal iodine diet. Here also, the influence of LH directly on the mice, as well as indirectly via the influence of cloth cuttings, was tested and in both situations the rate of return of the goitrous thyroid to normal size was more rapid in the animals receiving the LH treatment by the healer, whether directly or indirectly.

The Effect on Wound Healing

Following these experiments, a new series on the influence of LH on the healing of skin wounds was begun. The technical details were published ear-

ier¹⁻² and it need only be stated in the present context that LH by OE did accelerate significantly the rate of wound healing in mice as compared with animals which received no LH at all, or were treated by LH by persons who made no claims to a gift of healing. Here also, evidence was obtained that body heat could not be invoked as the cause of the accelerated healing.

The Effect on Plant Growth

Subsequent studies involved tests on the effect of LH on the growth of barley seedlings and these investigations were also reported.³⁻⁵ Here also it was observed that to obtain significant stimulation of plant growth it was not necessary to practice LH directly on the plants themselves but only on the solutions used in the initial watering of the plants. Thus, significant stimulation of plant growth was observed when the healer held his hand for thirty minutes over the solutions in open vessels,³ in closed reagent bottles,⁴ or sealed under vacuum in glass bottles.⁵

The latest study to be published on the effect of LH on plant growth⁵ involved not the original healer (OE) who was the main subject of investigation in the first experiments on animals and on plants, but involved the second person (JB) who was mentioned as having treated the mice for the last twenty days of the first goitrogen experiment. Subsequent to that experiment, significant telekinetic effects were obtained with this person as "healer." Another significant feature of the latest experimental study was that two other persons, both suffering from mental depression, were also investigated: one (RH) suffered from a neurotic depres-

sion while the other (HR) was ill with a psychotic depression. Both JB and the two other subjects each practiced LH for twenty minutes on a separate bottle of saline which was sterile, non-pyrogenic, and vacuum sealed. Each bottle was used to water eighteen peat pots, each containing twenty barley seeds. A fourth bottle was used to water the barley seeds in another eighteen pots, but this bottle received no LH treatment by any person. That is, the latter group served as controls.

The hypothesis was that there was a direct relationship between the mood of the persons doing the LH treatment of the solutions and the subsequent growth of plants watered by these solutions. Thus, it was hypothesized that a solution held for thirty minutes in the hands of an individual in a confident mood would permit plants watered by this solution to grow at a faster rate than plants watered by identical solutions but held for the same time by persons with a depressive illness or not held by anyone (the control group). The experiment also tested whether solutions held by the depressed persons would inhibit plant growth relative to the control group.

The results showed that the seedlings watered by saline held by JB (who was in a confident mood at the time of LH on the saline) grew significantly faster than the remaining three groups, while the plants treated by the person who had the psychotic depression (HR) showed the slowest rate of growth. Thus, this part of the hypothesis was supported by the experimental data. However, the plants "treated" by RH, who had a neurotic depression, had a slightly higher growth rate than that of the controls and this was contrary to expectations.

This difference in behavior of the plants "treated" by the two depressed persons relative to the control group was explained as follows: the growth rate of HR's plants was slower than that of the controls because he was agitated and depressed at the time he was holding the saline solution in his hands, and in so doing, something associated with his depression was transferred to the solution which then inhibited the growth of the barley seeds. He never inquired as to why he was given a bottle to hold.

On the other hand, when RH was given a bottle of saline to hold for thirty minutes, she inquired as to the reason for the procedure, and when told, she responded with an expression of interest and a decided brightening of mood. Also, it was observed that she cradled the bottle in her lap as a mother would holding a child. Thus, the important fact for the purpose of the experiment was not what her general diagnosis was but what her mood was *at the time* she was holding the bottle, and she did not appear to be depressed at that time. Therefore, the growth of the plants was not inhibited when watered with the solution she held at that time. In short, it would appear that the mood in which a person is in can influence materials with which that person comes in contact: a positive mood leading to a "positive influence," a negative mood having a "negative influence."

Discussion

The implications of the latter experiment are numerous: if a man's mood can influence a saline solution which he is holding, then it would appear natural to assume that the housewife's mood could influence the quality of the food

she is preparing for a meal. Indeed, in some countries menstruating milkmaids were not permitted in that part of the dairy where cheese was prepared, presumably because of the unfavorable effect on the bacterial cultures. Similar prohibitions exist in the silkworm industry. Furthermore, folklore has it that the canning of perishables, the stiffening of beaten eggwhite, and the survival of cut flowers are all negatively influenced when in contact with a menstruating woman. Such attitudes find some explanation in the experiment just described in that many women, though by no means all, become depressed just prior to and during the early days of menstruation, and it is the depression, not the menstruation, which has the negative effect. Thus, it is predicted that a depressed man would have a similar influence on the processes cited above.

On the positive side, persons who love plants are generally known to be very successful in growing them. The same applies to the rearing of animals or children.

The findings of the experiments on plants reported here have relevance also for the placebo effect which has been defined as "any response attributable to a pill or potion other than that due to its pharmacodynamic or specific properties." High percentages of persons suffering from a wide variety of illnesses have reported relief from the taking of placebos,⁶⁻⁸ which have even been known to reverse the normal pharmacological action of drugs.⁹ Again, the personality of the investigator himself can have a definite, measurable effect on the subject being tested and this quite separate from any bias regarding the drug under investigation. For example, a consistent 12% increase in gastric acidity was observed in response to an oral placebo in one

group of subjects tested by one investigator, while another group tested by another investigator consistently gave an 18% decrease (cited in 10). Another example of the placebo effect is the large number of enthusiastic reports describing the therapeutic effects of a new drug only to be followed later by negative reports. This has prompted the old saying that physicians should be sure to use those drugs while they still have the power to heal. Thus, the tendency of medicine has been to look upon the placebo effect as a kind of deception permissible under certain circumstances. This is understandable inasmuch as the placebo effect is too often unpredictable to place any real reliance on it; it is much better to search for drugs with specific pharmacological actions. However, the experiments described in this paper suggest an explanation for the phenomena of the placebo effect and indicate a process which may be at the core of healing, and of positive growth generally.

The tendency in the past was to explain the effect of the placebo in terms of the expectations of the patient. That is, the prescribing of the placebo was seen as a kind of positive suggestion to the patient, but the experiments described in this paper indicate that the feelings and expectation of the physician may be at least as important. If these are positive and hopeful, they may communicate themselves directly to the patient, but they may also produce some effect on the remedy as the doctor passes it to the patient. This is parallel to the situation in the experiments when JB's positive feelings caused the transmission of something to the saline solution he was holding, which, when poured on the plants, accelerated their growth. Reports have appeared in the literature of positive effects being produced by

placebos as long as the physicians were unaware of this and thought them to be substances with a specific therapeutic potentiality (cited in 10).

The experiments on the healing of the goiters and wounds also provide some explanation for some other facets of the healing art known to physicians for a long time. Thus, OE approached these experiments with feelings of confidence and it is suggested that the positive outcome was related to these feelings.

On the other hand, in one of the wound healing experiments, the rate of healing in mice receiving LH by a group of first-year medical students (whose attitude towards LH was understandably skeptical) was consistently below that of the mice not receiving any LH.¹ In line with these findings is the well-known importance of a physician's bedside manner: a confident, cheerful manner may do much to hasten healing. The importance of the therapist's emotions in the healing process is especially recognized by psychotherapists, some of whom are required to undergo a prolonged investigation of their inner emotional life so as to ensure a certain minimum of emotional health. However, even among trained therapists, those who bring to bear high levels of accurate empathy, unconditioned positive regard and genuineness tend to produce better psychological functioning in their patients, while those with low levels of the same attributes tend to produce further regressive behavior.¹¹

Thus, such attitudes of empathy and love may be decisive factors in psychotherapy¹² and indeed may be at least as important as specific training in psychotherapy. This is suggested by the apparently high consistency of improvement rate found with various therapies

ranging from those conducted by physicians without psychiatric training, to intensive psychoanalysis¹³ and by similar improvement rates for various types of neurotics treated by different forms of psychotherapy.¹⁴, p. 21. Poser cites an experiment in which undergraduate students with no training or experience as psychotherapists achieved slightly better results than trained psychotherapists during group therapy with 295 psychotic patients.¹⁵ Presumably, the untrained students were intrigued by the novelty of the task and therefore performed enthusiastically. There is a trend in some areas to a greater use of trained non-professional personnel as aides in the treatment of the ever-increasing numbers of mentally ill.¹⁶

That the patient must also have confidence and trust in his physician if he hopes to see an improvement in his condition is also long known. Thus, in psychotherapy, the prognosis of patients who do not come voluntarily to treatment is poor; that is, an attitude of acceptance is expected from patients before therapy can begin, and especially does the successful treatment of drug addicts and alcoholics fall in this area. Freud said that patients must have faith in their physicians to help them "fight out the normal conflict with the resistances which we have discovered in them by analysis,"¹⁷ and Reich went further by refusing to give interpretation to patients' material as long as elements of distrust towards the physician lingered on in them.¹⁸, Chapter 4. Even in our experiments it was observed that agitated and nervous mice that did not sit quietly in the cages during LH treatment did not respond favorably to such treatment. That is, attitudes of agitation appeared to prevent them from receiving from the healer whatever was necessary for acceleration of wound healing. This

was the reason for training them to sit quietly in the holder during the LH.

Those who claim success in healing by LH or related procedures also state that patients should not be in a state of active opposition to the treatment if they hope to be healed. Some have even stated that while it is desirable for the patient to have faith in the healer, it is not necessary, but that it is enough if the person wishing to be healed is neutral in his feelings and has an open mind.

Persons who claim to have the gift of healing have often stated that the work of healing is not done by themselves but by a Higher Power with whom they claim to be in contact. This they do through evoking some positive emotion in themselves, such as submission to the will of God or the affirmation that "Jesus saves," or some prayer. They claim that when healing occurs they feel some power moving out from themselves to the patient and if the treatment is by LH, then the power is felt as a movement down the arms to the patient or as a vibration in the palms of the hands held against the patient.

The Christian Church has had a long acquaintanceship with healing by the laying on of hands, and indeed its early phenomenal growth was aided by the numerous healings brought about by this and related procedures. Subsequently, such healings became less important and today persons, even Christians, who claim such powers are looked upon askance by some spiritual heads of Christianity. That healing by LH is a reality is supported by the experiments cited in this paper, but problems have arisen with healers in the past, and the story of Rasputin is a case in point.

On the other hand, there are persons

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with the power to heal who do much to alleviate suffering quietly and selflessly.¹⁰ The work of such persons should

be looked into further by all those who seek for ways to diminish human distress.

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