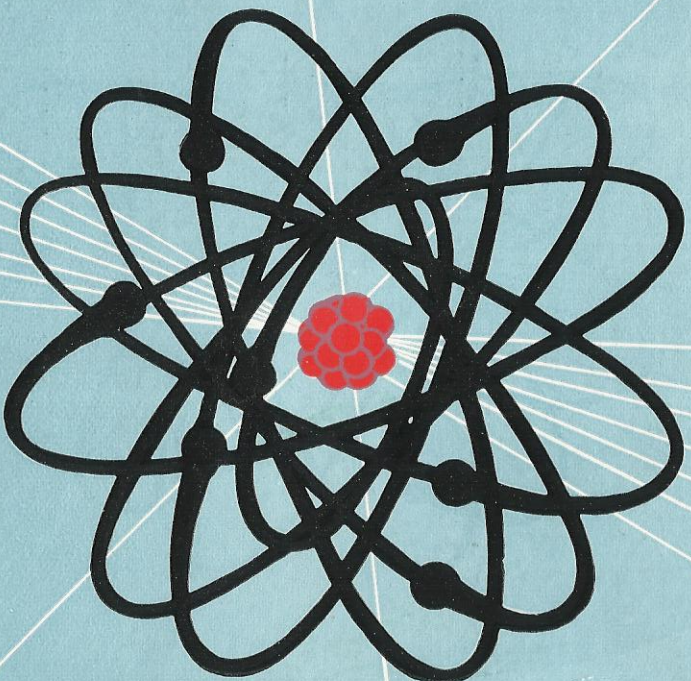


JUNE 1959



# MIND AND MATTER

A QUARTERLY JOURNAL

# THE DELAWARR LABORATORIES

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## EDITORIAL

MARCUS GREGORY, in his *Psychotherapy: Scientific and Religious*, published just twenty years ago, made the significant point in dealing with the study of the history of philosophy that once a neglected truth has emerged (as it does from time to time) it seeks to dominate the whole landscape.

"Somehow these truths," he wrote, "must be made to live together, for a truth which wants to kill all other members of its family when it comes to the throne invariably turns into falsehood."

We were reminded of Gregory's words when planning this issue of MIND AND MATTER and considering the theme of the forthcoming Conference and the vastness of the many problems involved in the relationship of science and religion. It has always been our aim in this journal not to overlay any one aspect of truth with another but to report objectively and accurately the most recent scientific discoveries as they appear and to publish observations on them by the best minds available to us. In this we believe we have very largely succeeded, for a journal such as this cannot be run on any narrow policy but must present a panorama for the viewing of truth in all its aspects.

The programme of the Conference contains this statement: "Our modern understanding of the nature of matter and its source must result in an extensive rethinking by everybody on those ideas that have held the stage for a considerable time". And there can be no denying the necessity for rethinking, as fresh facts are revealed—nowadays almost too rapidly—to form such a large part of the contemporary scene presented for our consideration.

There is undoubtedly a new and vigorous stirring in the realm of thought throughout the world. It is inevitable in such an Age of Discovery as has not hitherto been known to man. The wide sweep of his new conquests and the advance of his achievements in all directions make the necessity for his rethinking inescapable, and into that rethinking must come consideration of the impact of thought upon matter, with which subject the forthcoming Conference at Oxford will deal extensively. The event promises to be a momentous one, and those readers who have not already applied to attend but who wish to do so are advised to send their applications without delay.

Corroborative evidence of the workings of the power of thought upon matter continues to reach us from all over the world; from Germany, France, Canada, Sweden, South Africa, the United States and many other countries. And evidence of the effective use of radionics also continues to pour in, together with accounts of other diverse activities that come within the compass of this journal.

Between ten and twenty American Universities and Research organisations are now to investigate the effect of radio waves on living tissues, a subject dealt with in this number by John A. Osmundsen, who recounts the work of Dr. A. J. Ginsberg, a New York Physician, and that of Dr. Herman P. Schwan, director of the Electro-medical Laboratory of the University of Pennsylvania, and three other men of eminence in the United States.

We believe that the contents of this current issue of MIND AND MATTER live up to the contention of Marcus Gregory that the various discoveries of truth "must be made to live together", and by presenting the manifold aspects of the work of so many different researchers we feel that we are not an unimportant channel through which their different experiments and deductions can converge. It is our business to report the cumulative evidence of pioneering thought.

THE EDITOR.

## RADIO WAVES FOUND TO AFFECT CELL BEHAVIOUR

**T**HIS article which appeared in THE NEW YORK TIMES on March 30, 1959 is the first intimation, apart from the claims of various radionic operators, that radio waves can affect cellular behaviour. The information comes somewhat as a shock to all physicists judging by the remarks of the physicists and biologists visiting Dr. Heller's laboratory who say "I'll be damned".

We would remind our readers that the method of critically tuning a radio frequency to produce a resonant effect with a specific cell group in the human body is a routine performance with the more advanced radionic operators.

THE EDITOR.

### ORGANISMS LINE UP IN REPLY TO HIGH PULSED RANGE

**T**HE discovery that radio waves can influence the behaviour of cells has been reported by a team of scientists.

It is believed that the discovery may have far-reaching effects in medicine and in the understanding of basic life processes, as well as in industry.

The findings, published in two technical journals, have to do with the behaviour of many living and non-living substances in fields of radio energy.

The scientists are Dr. John H. Heller, Dr. A. A. Teixeira-Pinto and Dr. John L. Cutler of the New England Institute for Medical Research in Ridgefield, Conn. They have found that a variety of substances—including carbon, silver, starch, polystyrene particles, red blood cells and several types of living microscopic organisms—can be oriented by pulsed radio frequencies.

Perhaps the most significant factor in this work so far is the discovery that the new technique apparently permits the scientists to affect structures inside living cells. The use of the pulsed radio frequency of about twenty-seven megacycles on cells in the growing root tip of a garlic plant, for example, created some abnormal cells and killed others by interference with the heredity-carrying elements.

At present the scientists cannot explain the phenomenon. The possibility that particles under an impressed radio frequency tend

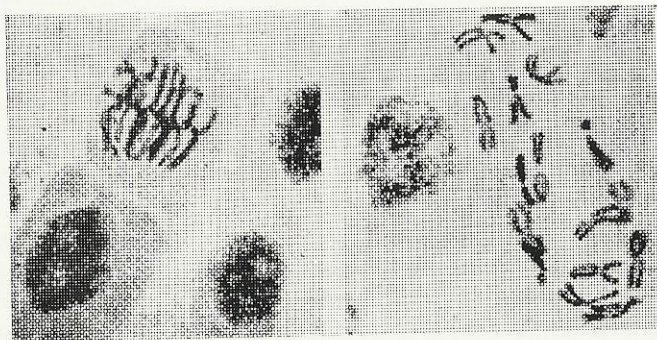


FIG. 1

LEFT PANEL

Microscopic view of garlic root tip shows arrangement of its chromosomes during normal division of cells.

RIGHT PANEL

On exposure to electro-magnetic field, chromosomes assume this pattern and are unable to reproduce.

to line up so that there is minimal distortion of the field is as close as they can come to guessing how it works, but this leaves many questions unanswered.

The scientists, however, are able to reproduce the effect predictably.

For example, randomly swimming groups of tiny, cigar-shaped organisms known as *Euglena* can be made to swim together in an east-west direction, along the lines of force in the impressed radio-frequency field.

They all move in straight lines as though obeying the lanes in a swimming meet. This analogy is extended by the little "flip turns" the *Euglena* make when they reach the end of a "lane" and swim back along their original paths.

Even more astonishing things happen when the radio frequency is increased a certain amount. The little organisms suddenly flip ninety degrees and all start swimming in a north-south direction.

Dr. Heller said that this ability to "play these things like a piano" has so fascinated his team that lights have been burning in the laboratory practically every evening and week-end since the work began last November.

"Visiting physicists and biologists usually don't believe it until they see it work," he said. "Then the first thing they say is, 'I'll be damned!'"

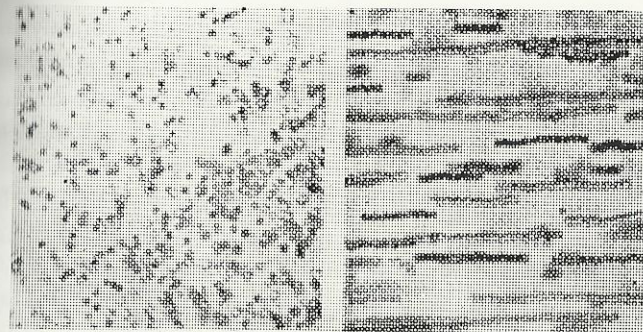


FIG. 2

Polystyrene particles form a haphazard speckled pattern in normal condition.

When subjected to a radio frequency field they follow the lines of force.

Dr. Heller and Dr. Cutler demonstrated the effect on several other things, including staphylococcus germs, amoebae and polystyrene particles, tiny synthetic particles of uniform size. All except the staphylococci behaved as predicted, lining up east-west under one radio frequency and north-south under another.

Dr. Heller explained that each substance seemed to have a favoured frequency for lining up with or against the field. *Euglena*, for example, line up east-west at six megacycles and north-south at about fifteen megacycles. Staphylococcus north-south frequency, presuming it has one, appears to be out of the range of the institute's present equipment, according to Dr. Heller.

Radio signals in the medium frequency range are being used roughly between five megacycles and forty megacycles. The scientists are at work on equipment that will take them into the radar range, or somewhat above 100 megacycles.

The present equipment consists of a radio frequency source that permits pulsation of the signal at various rates and powers. Pulsing is necessary because a constantly applied signal would fry any living material.

Wire leads from the power source end in electrodes of silver paint on the underside of a microscope slide that is covered with still another microscope slide on which the material to be examined is placed. In this way the experimental material is insulated from the

electrodes by two thicknesses of glass and thus exposed only to the radio field and not directly to any current carrier.

Preliminary results from work with this equipment are carried in *NATURE*, British scientific publication, and *THE RES BULLETIN*, the American journal.

The New England team got into this work by being dissatisfied with explanations offered for the reported development of cataracts and germ-cell damage in persons who worked with radar, a radio frequency considerably higher than that being used in the Ridgefield laboratory.

Some investigators suggested that the alleged damage was caused by the heating of tissue in the radar beams. Dr. Heller did not like this theory and set out to explore other possibilities.

#### ALTERATION OF GENETIC MATERIAL INDUCED IN PLANT TEST

“Four reports of the peculiar behaviour of fat globules in radio-frequency fields had been made since 1927,” he said, “and we decided to see if we could get similar reactions from other things.”

He added that a number of other substances that lined up and strung together under pulsed radio frequencies were soon found. One of their experiments stands out as an important turning point.

Working with a microscopic animal known as paramecium they noted that a tiny particle within the cell of a trapped organism flipped back and forth according to the impressed field. This meant, Dr. Heller explained, that it was possible to reach inside cells and affect many internal structures.

That new possibility led to an experiment in which cells in the growing tip of a garlic plant were exposed to the field for five minutes and then examined twenty-four hours later.

The scientists reported finding several changes in the cells' chromosomes, the heredity-controlling structures. Virtually all the classical aberrations known to be caused by ionizing radiation and certain poisons were noted, Dr. Heller explained. This finding suggests that radio frequencies appear to constitute a powerful new tool for studying the growth and genetic development of organisms.

Work along this line has already resulted in the creation of both lethal mutations and viable new strains of vinegar flies and certain bacteria, the scientists said. They speculated that this research

might find application in cancer treatment if it turned out that radio frequencies could be used to scramble the chromosomes in malignant cells, thereby preventing their further growth.

In addition, because each substance seems to have a preferred radio frequency to respond to, mixtures of different ones might be separated with the new technique.

In support of this possibility Dr. Heller cited experiments that showed how foreign substances could be made to flow over aligned polystyrene particles and how two different strains of penicillin spores were differentiated by the radio-frequency fields.

Dr. Heller also remarked that interest in his experiments had been expressed by the oil industry. Behind this interest, he explained, is the thought that if particles can be aligned before they are chemically strung together into fibers, extremely strong strands of the material probably can be created.

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## EFFECTS OF RADIO WAVES GETS WIDER LABORATORY STUDY

**T**HIS second article in *THE NEW YORK TIMES* of April 6 describes Mr. John Osmundsen's interview with Dr. A. J. Ginsberg after reporting the previous week on parallel work by Dr. John Heller. The importance of this work may be judged by the large number of University research programmes that are being diverted in the United States to the effect of radio wave frequencies on health, although for years scientists have denied that such effects are possible. It is to be hoped that the work and research at the Delawarr Laboratories will now receive more serious attention.

THE EDITOR.

**R**ESearch into the harmful effects and the possibly beneficial uses of high-frequency radio waves on living things is reported to be expanding rapidly in laboratories in the United States and Canada.

Investigations sponsored by the armed services are going on in at least ten American universities and research institutes. The research is aimed at providing knowledge that will make it possible to live safely with the increasingly powerful radar and other micro-wave generators being developed.

Although existing devices are said to be completely safe if properly handled the most powerful are believed to be potentially capable of causing serious damage at a distance of several miles. It is assumed, also, that the implications this has for weapons development are being investigated.

Parallel studies into the possible beneficial effects of much lower-powered pulsed radio waves have been begun or are expected to begin soon in fifteen or twenty other laboratories.

This work has been instigated largely by Dr. A. J. Ginsberg, a New York physician. He has reported the successful treatment of hundreds of cases of acute and chronic infections with these radio waves.

Dr. Ginsberg admits that he does not know how the apparent cures with his so-called Diapulse machine were brought about. But he has a theory about the ways in which pulsed high-frequency radio waves interact with living tissue. This theory has interested several prominent investigators sufficiently to prompt them to begin research into the matter, many with their own funds.

Dr. Herman P. Schwan, director of the electro-medical laboratory of the University of Pennsylvania—who consulted with Dr. Ginsberg on several research programmes—is cautious but not discouraging. In a recent interview Dr. Schwan remarked, “There is an interesting possibility that Dr. Ginsberg’s machine may turn out to be a very important advancement in physical medicine.”

Ironically, the effect of high-frequency radio waves on biological systems that Dr. Ginsberg believes can help relieve infections is one of the effects being looked for by the armed services as a possible hazard of high-powered radio waves.

What both groups are looking for are biological responses to radio waves that do not result from heating. Although these athermal effects have not been demonstrated conclusively many scientists engaged in this work agree that they exist.

The fact that radio waves can cause heating in tissues has long been known and has been widely used to treat inflammations and injuries to joints and soft tissues. This treatment, called diathermy, uses short-wave radio frequencies. Much more powerful higher-frequency (shorter wave) radar used for this purpose would cook internal tissues.

Dr. Ginsberg said that in 1943 he had investigated the idea that something other than heating might be going on in tissues treated with diathermy. In a paper published in *THE MEDICAL RECORD* for December 19 of that year he reported diathermy results that he felt could not be accounted for purely by heat.

This led him, he said, to try to eliminate the heating effect of the diathermy. He explained that the most logical means for doing this seemed to be to pulse the radio waves in such a way that any heat created would be dissipated between pulses.

With the help of Arthur Milinowski, a physicist, Dr. Ginsberg built a machine for this purpose and soon, he said, he achieved other striking clinical results. Animal experiments, he claimed, supported his contention that there was a beneficial athermal effect of radio waves on tissues.

According to Dr. Ginsberg’s theory the athermal effect of pulsed radio waves stimulates the body’s defence mechanism, marshalling the system that scavenges foreign materials and tissue debris. This system is believed to produce antibodies which act against infectious invaders.

Two reports apparently substantiating claims for an athermal effect were made in the March 28 issue of *NATURE*, a British scientific publication, and in the *RES BULLETIN*, an American journal.

Those papers carried accounts of the bizarre behaviour of micro-organisms and the apparent interference with heredity-controlling material in certain plant cells caused by pulsed radio frequencies.

The work, done by Dr. John H. Heller and his group at the New England Institute for Medical Research in Ridgefield, Conn., was instigated by Dr. Ginsberg’s search for scientists to look for an athermal effect of pulsed radio frequencies. A modified version of Dr. Ginsberg’s device was used in the group’s early work but it has since built its own radio pulse generator.

Dr. Heller reported that he was unable to detect any temperature rise in the cell containing tiny micro-organisms that swam either back and forth or up and down in response to different frequencies of the pulse radio waves.

Dr. Schwan believes his group at the University of Pennsylvania has found still another way in which high-frequency radio waves might affect living tissues athermally.

This is to change the performance of nerve cells by acting on the cell membrane. How this would ultimately affect the organism, however, is not known, Dr. Schwan said.

Dr. Schwan and several other scientists agree that a great deal must be learned at a very fundamental level to find out exactly what effects other than heat are created by high-frequency radio waves in living tissues and then whether those effects are good or bad. This, he explained, is a job that will take many years.

In the meantime the armed services are studying means for protecting persons who work around radar installations with radar-reflecting clothes and shielded buildings and passage-ways.

Those steps would be taken largely to give protection against the heating effects of radar waves, which are known to be capable of causing cataracts, reproductive cell damage and other injuries.

The Army, Navy and Air Force are also continuing their sponsorship of extensive research programmes on the biological effects of high-frequency radio wave energy. Progress in this work will be discussed at a tri-service meeting later this year.

And extensive clinical studies are being made to see if Dr. Ginsberg's idea of treating illness with pulsed radio waves can be evaluated statistically with patients, even though the possible athermal effects are not yet understood biophysically and physiologically.



## RADIO SIGNAL DIRECTS PARAMECIUM TRAVEL

By EARL UBELL

Science Editor, NEW YORK HERALD TRIBUNE

**T**HE following article appeared in the NEW YORK HERALD TRIBUNE and is reproduced with their kind permission. It appeared concurrently with the article in THE NEW YORK TIMES of March 30 and contributes further information of importance to the radionic phenomenon.

THE EDITOR.

RIDGEFIELD, Conn., March 29.—In a startling experiment scientists here have beamed a radio signal at a paramecium to "tell" the microscopic swamp animal where to go.

**Y**OU can see it through a microscope at the New England Institute for Medical Research. At first the slipper-shaped paramecium wriggles at random across your field of vision. Then Dr. John H. Heller, the institute's director, turns on the radio "juice."

Instantly, as if twisted by an invisible hand, the creature spins on the spot and swims toward or away from the radio waves. If Dr. Heller twirls the tuning knob to change the broadcast frequency the paramecium will make a flank turn.

For the first time then, these radio waves give scientists a tool for manipulating the inner "organs" of such tiny one-cell animals without damaging or killing them. This is also the first known direct effect of radio waves in producing a guided animal.

In further experiments—probably more important than the "flea-circus" tricks they can make the paramecia do—the medical researchers have shifted the position of and broken chromosomes inside of cells, the tiny boxes of protoplasm of which all living things are made.

### HEREDITARY CHEMICALS

The chromosomes are long strings of chemicals inside those cells. In some mysterious way they control the chemistry in the cell and in turn of the whole organism. Passed on through sperm and egg from

one generation to the next the chromosomes set the chemical behaviour of all future creatures of all races. They are the hereditary chemicals.

Dr. Heller showed this reporter a picture of a garlic plant—noted for its large chromosomes easily spotted under a microscope. It had been subjected to the radio waves. It was alive but its chromosomes were scrambled.

“We think that certain frequencies affect certain parts of the cells,” Dr. Heller said. “If we can learn what they are we can selectively affect the heredity or chemistry of the cell.”

In theory then, such radio waves could mix up the chromosomes of cancer cells and not harm normal cells if the right “cancer frequency” were found. Or, on another wavelength, the radio waves would turn normal cells into harmful ones. But such conjectures are at the moment a long way from reality.

#### FLIES TESTED

To test this idea Dr. Heller subjected fruit flies to rays. These favourite experimental beasts used by heredity hunters are now in their third generation. Dr. Heller has observed a sharp reduction in the number of males, but that is all.

Results of their work were published in *NATURE*, British scientific journal.

Dr. Heller, who did the work with Dr. John L. Cutler and Dr. A. A. Teixeira-Pinto, began the experiments because he was not satisfied with the explanations given for the deleterious effects sometimes observed when animals (and sometimes human beings) were subjected to high-powered radio waves.

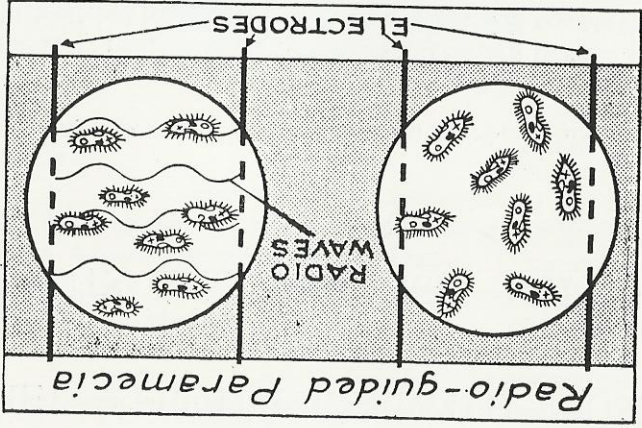
“The standard explanation,” Dr. Heller said, “has been that the energy of the rays simply heated up the animal and cooked it.” This is the same effect as being broiled by a sun lamp. But such ideas bothered Dr. Heller. What if the heating effect were removed, he asked himself.

#### RADIO PULSES

Dr. Heller's group tried it by making a special radio transmitter which broadcasts at between 3,000 kilocycles and 30,000 kilocycles—the short-wave band. But it sends out its waves only for a millionth of a second or so in pulses 100 times a second. That keeps the total

Radio Waves guide *Paramecia*—At left, the *Paramecia*, one-celled swamp creatures, are depicted swimming freely on a microscopic slide. There are no radio waves between the electrodes. At right, the radio is turned on and the animals can swim only horizontally.

FIG. 3



energy put out small compared with ordinary radio broadcasting. So there is no heating.

Such radio pulses—it had been known for at least two decades—can line up tiny particles of dust so that they form long chains as if they were pearls in a necklace. The Heller group has also used the waves to line up minute plastic balls, starch grains, carbon dust, fat droplets and other minute particles.

Since living things are made up of mixtures of particles it is conceivable that radio waves line them up inside the protoplasm to produce the various effects. Dr. Heller showed this reporter a radio-guided amoeba. You can barely see its jellylike insides stringing out. Discovered only last November and reported for the first time

in *NATURE*, the results raise many questions. Can the waves be used as a microscopic scalpel to perform surgery on cells? Can they produce mutations in the same way that X-rays and radioactivity do? What then is the effect of millions of radio and television sets which send out some radio energy on human listeners and viewers? What about special cooking facilities that employ radio waves to cook food? Can they harm the cook? Can you do anything with cancer?

To all these questions Dr. Heller shrugs his shoulders. “I don’t know,” he says, “we’ve just started.”



# THEY " FERTILIZE " WITH MUSIC AND PLANTS GROW BIGGER, BETTER, FASTER

By PROFESSOR T. C. N. SINGH, D.Sc., F.B.S.

**I**N the early morning hours a scientist in southern India is playing a high-pitched traditional melody on a violin. He repeats the tune over and over again for twenty-five minutes or more.

His only audience as he sits alone in his laboratory is a semi-circle of flowerpots containing specimens of *Mimosa pudica*, commonly known as Sensitive Plant.

He has been solo-playing like this daily since 1950, using different tunes on different plants—on sugar cane and marigold, tobacco and tapioca, cosmos, onion, sweet potato and petunia, to name a few.

He persists in this playing because his " audience " is proving amazingly responsive. The " listening " plants are growing taller and bigger than control specimens not subjected to the musical stimulus. Even their seeds are " applauding " the musician by transmitting these new growth powers to succeeding generations of plant life. Apart from the music, experimental and control plants receive identical cultural treatment.

*Impossible?* That 's a risky word to use nowadays. Twenty years ago who would have thought, for instance, it would be possible to cure many of man's diseases with a penicillin mould. A year ago who would have thought it would be possible to launch a moonlet into space and observe it circle our globe continuously in a chosen orbit at 18,000 miles per hour ?

Among eminent scientists who have expressed keen interest in these original experiments is Dr. Julian Huxley, F.R.S., world-famous biologist and author.

*Impracticable* for wheat and other field crops grown in Canada? Here is what Dr. Singh replied when FARMING TO-DAY queries him on this point: " I believe a musical dosing of grains and other

Canadian crops at a particular pitch, frequency and volume, would be practicable under outdoor field conditions."

*The explanation?* Sound waves of specific frequency, produced by the musical vibrations, bombard the plant's cell walls. This disturbance stimulates the sensitive protoplasm and nucleus contained inside the cell, and causes them to react in ways which accelerate the plant's normal and customary growth patterns.

THE EDITOR.

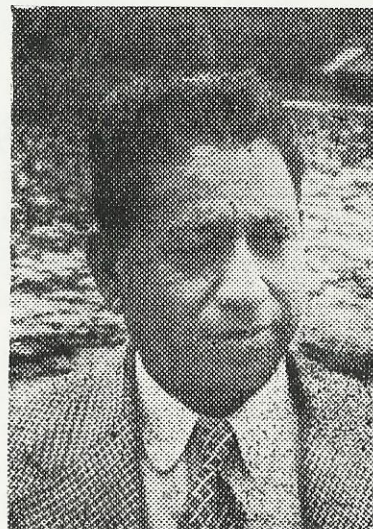


FIG. 4

Dr. T. C. N. Singh, D.Sc., F.B.S., Head of Department of Botany, Annamalai University, Annamalainagar, South India

**I**T all started with a tuning fork. Normally the streaming movement of protoplasm in plant cells slows down in the early morning and evening. But Dr. Singh and his collaborator, Miss Stella Ponniah, found that at these times of day they could speed up this streaming movement by sounding an electrically operated tuning fork for thirty minutes at a distance of six feet from the plant. This was in December, 1950, and the plant chosen for the experiment was one called *Hydrilla verticillata*. Seen under a microscope, the

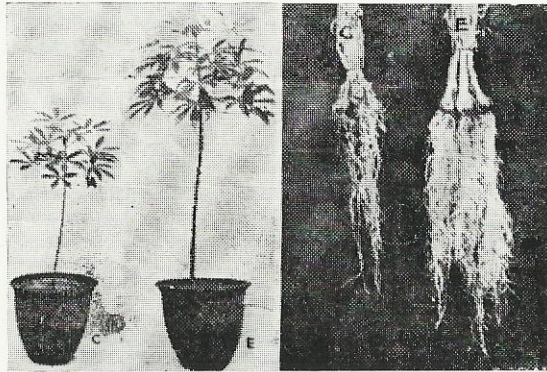


FIG. 5

In each of these pictures the musically-treated plant is the one at right. The other one grew in normal, music-less way. The two leafy plants are tapioca; the bulbs are common onions.

musically dosed protoplasm was streaming, even at 6 o'clock in the morning, at a speed not normally attained until later in the day.

Encouraged by this visible evidence of the effect of sound on plants, the experimenters then tried in turn a violin, a flute, some mandolin-type Indian instruments, and even the human voice. In each case the streaming movement of the plant's protoplasm was accelerated by the playing. The violin appeared to exert the most effect and in the shortest time.

This was the first step. They had proven to their satisfaction that sound waves striking the cell walls of plants increase the movement and activity of the protoplasm.

The next step was to find out what, if any, effect this musical stimulation, when repeated regularly over a period of weeks or months, might have on the plant's living habits. How would it affect its rate and extent of growth? Would it change the plant's reproductive characteristics?

A series of experiments was then conducted on a wide variety of plants, using different musical instruments and different tunes. In all cases control plants served as a basis for comparison.

Over a period of weeks a violin at pitch 5 was played for twenty-five minutes daily between 6 a.m. and 7 a.m. to specimens of *Mimosa pudica*, L (Sensitive Plant). By the end of the dosing period these

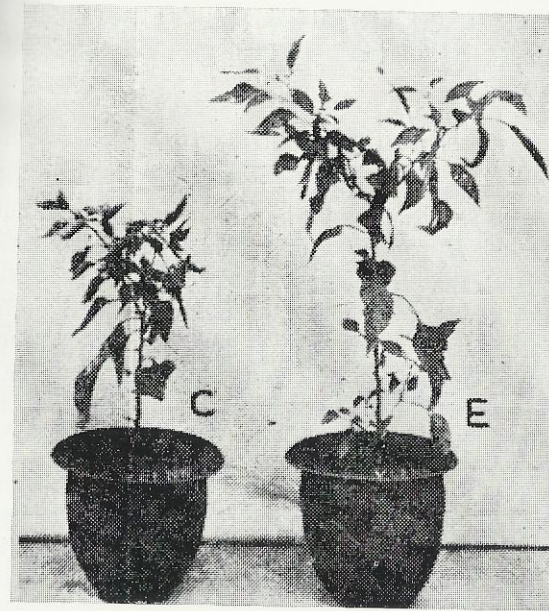


FIG. 6

Great stem height and leaf production are readily noticeable in the musically-treated pepper plant (*Capsicum annum* L) seen at right. Fruit produced on this plant was double that of the untreated control plant at left. The veena, ancient Indian musical instrument, was the "exciter" used in this experiment.

plants had grown to four times their original height, **while control plants, out of range of the violin music, but otherwise receiving identical treatment, only doubled in height.** The number of prickles on the experimental plants was about 45 per cent greater than on the control plants. Branching was more profuse and branch spread was noticeably wider, the length of branches of the experimental plants being 50 per cent greater than on the control plants. Leaf production was five times greater than that of the control plants.

A veena, an Indian stringed instrument, was played in the presence of a group of pepper plants (*Capsicum annum*, L), daily for several weeks. Result? The plants increased during that time 90 per cent in height, 120 per cent in leaf production, 50 per cent in diameter of stem, and 103 per cent in fruit yield, as compared with control pepper plants which were out of sound range of the veena.

Similar experiments had positive results with balsam, tapioca, petunia, cosmos, sugarcane, onion, garlic and sweet potato. Bulbing

and tuberization of the three last named were much more vigorous in the musically stimulated batches than in the undosed control plants.

#### SEEDS AFFECTED TOO

Two generations of seeds obtained from musically stimulated plants (*Mimosa pudica*, L and *Petunia hybrida*, L), and cuttings of musically excited *Hydrilla verticillata*, Presl. have been tested by the Singh-Ponniah team. In each case the progeny, or next generation, exhibited the new growth characteristics which had been created in the parent plants by the musical stimulation. The experimenters conclude from this that positive changes in the chromosome arrangements of the cells are caused by the repeated musical stimulation. In technical language, they suspect that "polyploidy" has occurred.

If this proves to be the case, if it is indeed possible by means of musical excitation to transmit improved growth characteristics through seeds to future generations of plants, a revolution in botany and agriculture is evidently in the making.\*

ANNAMALAI UNIVERSITY,  
ANNAMALAINAGAR,  
SOUTH INDIA.

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\* Dr. Singh reports that his method of musical stimulation has actually increased the chromosome count of certain species of water plants, from the normal  $2N = 16$  to  $2N = 20$ . To scientists this is a remarkable feat. He also declares that he has increased the nicotine content of tobacco leaves by the same method.

With Acknowledgements to FARMING TO-DAY, Toronto, Canada.

## IN RETROSPECT

By GEO. W. DE LA WARR

(PART 4)

OUR experiments at the Laboratories over the past eighteen years reveal that the progress made is quite phenomenal. The continual work when viewed in conjunction with the masses of discarded experimental apparatus tells its own story. At one time or another every known type of measuring apparatus, apart from the latest atomic measuring devices, has been used in an attempt to pin down the radionic phenomenon. The fact is that no detection apparatus yet produced and used in a normal laboratory process is of much use in this type of work.

The two processes that have contributed most to our work are the use of a photographic emulsion and the simple friction pad of the rubber detector. The physics behind the behaviour of both devices are unfortunately not fully understood. There are still mysteries connected with the behaviour of a photographic plate, and the static charges produced by friction are also a mystery to the scientist. It is perhaps not generally appreciated that the constitution of a charge of static electricity is unknown to science as yet. It is clear, therefore, that if the radionic phenomenon is to be explained then "scientifically" appropriate apparatus has yet to be devised.

#### A REMEDY FOR THE COMMON COLD

The existing apparatus, however, has been well tried and there are almost countless results vindicating the general principle. One of our more practical efforts was in 1953 when we decided to try to find a cure for the common cold. The procedure was to take the blood specimen of someone suffering with the early stages of this infection and then to arrive at an arrangement of the dials on the Diagnostic Instrument that would "recognise" Common Cold. This proved to be 40652 and from this we were able to re-set the dials to "recognise" the cure. We frequently call this the complementary rate; it is arrived at mathematically and it is the mirror image of the original diagnostic rate. The complementary rate of 60458 was therefore set up on the dials and the search for the common cold cure began.

We had decided beforehand that we should not seek among the fringe remedies such as colour, radio waves or sound waves but merely produce a formula that an ordinary chemist could follow. Taking a list of possible remedies we placed it under the sliding cursor bar of the Diagnostic Instrument and simply read each name on the list slowly whilst operating the detector. We found that four ingredients were necessary, so we next obtained the actual remedies and set about determining the correct quantities of each. Placing a clean glass petri dish on the Diagnostic Instrument we added small amounts from each ingredient plus distilled water until the Detector indicated that we should stop. In this way we arrived at our basic formula in approximately fifteen minutes.

The next step was to try it out. We therefore prepared a quantity in liquid form and called it "Cinnigen" as its most obvious and aromatic constituent was cinnamon. The dose was fifteen drops in half a wineglass of water and we gave a dose to our 'guinea pig'. It relieved his symptoms in one hour and by the fourth dose on the following day all his symptoms had cleared. We were naturally very pleased and proceeded to try it out on all and sundry for the remainder of the winter. With one exception every case was cured.

It is essential in this sphere of activity that reliable tests should be made, so we redesigned "Cinnigen" in tablet form and arranged for a factory test during the whole of the winter period. Through the kind offices of the Meridian Textile Factory at Nottingham we were able to quote 74 per cent complete cures before the Christmas period and 66 per cent cures after that time. Investigation showed that influenza is more general during the second period but "Cinnigen" was not designed to cure influenza. Even so the score was unusually high for this sort of test.

The general sale of "Cinnigen" was then discussed and it was decided that the Laboratories should not confuse manufacture with research. A company called Radia Products was therefore organised in Oxford. During four years it has sold 120,000 tablets, mostly by repeat orders as we do not advertise.

The important feature of this experiment is, I feel, that in fifteen minutes a formula was obtained for Common Cold and that it was never altered. The Diagnostic apparatus had been used in the service of humanity and once again its principles had been vindicated. How much longer must it be before these principles are to be more widely applied in the prevention of the more serious diseases such as

disseminated sclerosis, cancer, and the like. Even if we organised a private hospital ourselves we should not be allowed to engage medical doctors except for pure research only.

We have developed an antidote for polio in a similar way to the foregoing but we are unable to get it tried out. We have been particularly aggravated by the senseless treatment of thousands of monkeys each year in developing polio vaccines. An appeal was made to the Royal Society for the Prevention of Cruelty to Animals to support us in the development of a Polio antidote but the application was rejected.

The efficacy of this method of matching the energy pattern of a plant with that of an organ or a cell group borne out by the results seen when the plant is administered in some form or other to the patient. Digitalis *v.* Heart Muscle, to mention but one of these states of resonance. Pencillin *v.* Staphylococcus to mention another. They are almost too easily found by this method of using the Diagnostic Instrument but it is also equally difficult to prove their precise sphere of action clinically in view of the extreme complexity of the animal species.

#### "FOR SUBVERSIVE ACTIVITIES"

In promulgating any major change in human affairs there is always a tremendous inertia to overcome. The pioneer invariably gets thrown to the lions. The Radionic pioneers are still being thus victimised but there are signs that prejudice is now decreasing. Looking back, however, we can sometimes view a few of the earlier difficulties with not a little amusement.

In March, 1952, we shipped a Diagnostic Instrument and a Colorscope Major by air freight to a client in Queensland, Australia. The Customs Department at Brisbane held them up for classification, and a month later decided that our Instruments were prohibited imports and would therefore be confiscated.

The value of the apparatus was about £290. We tried to get further information on the attitude of the Australian Commonwealth Customs. We were told that according to advice from competent authorities the claims made on behalf of our Instruments were fantastic and untenable. The local Member of Parliament at Brisbane was approached and I wrote to the Australian Prime Minister. It was necessary to delay confiscation and so the Minister for Trade and Customs was approached at Canberra. A year after

the Customs seizure I received the following letter from the Prime Minister's Department.

Commonwealth of Australia,  
Prime Minister's Department,  
Canberra.  
23rd March, 1953.

Dear Sir,

I have been directed by the Right Honourable The Prime Minister to acknowledge your letter of the 23rd February, 1953, concerning the seizure by the Customs Authorities of two instruments produced by your organisation.

The matter has been investigated and it has been ascertained that the Diagnostic Instrument and the Colorscope were declared prohibited imports in accordance with the provisions of the Customs (Prohibited Imports) Regulations.

These Regulations are under the jurisdiction of the Honourable the Minister of State and Customs and the Prime Minister does not propose to intervene in his administration of them.

Yours faithfully,  
A. S. BROWN (Secretary).

This was final but I was allowed to reassign the apparatus to New Zealand. The interesting thing about this event is that the provisions of the Customs (Prohibited Imports) Regulations classified our apparatus as "likely to be used for subversive activities". The ruling is still in force to-day.

We once had trouble getting a Colorscope to a coloured medical doctor in the Gold Coast, now Ghana. It was held up by the Customs at Takoradi for a year and it was released only through the good offices of an Assistant Commissioner. Incidentally the particular medical doctor in question was one of our most sensitive operators. He was a most intelligent and kindly person, a product of Calcutta and Oxford Universities.

#### "MACHINES WERE FULL OF SAWDUST"

Fortunately this sort of thing is rare, except of course in the classical instance of the United States.

In outlining some of the difficulties we have had to contend with abroad I am really showing how little difficulty there has been. The most entertaining example is more recent and relates to the United States. In July, 1956, we sent a Diagnostic Instrument and Book of Rates by air freight to a Research Foundation in the United States. Import duty was paid and the U.S. Customs held the shipment for the approval of the U.S. Food and Drug Administration and the U.S. Department of Health, Education and Welfare. Considerable delay then ensued as the various officials and departments tried to understand the literature accompanying the instrument. Our client engaged an attorney but to no avail and the apparatus was shipped to Washington for investigation.

At a high level a committee was formed of disinterested experts, including two well-known physicists and two medical doctors, to examine the apparatus. The conclusion of this committee was that the apparatus was completely worthless in the diagnosis and treatment of any ailment or disease; importation was therefore to be refused and the decision was final. My clients were not allowed to be represented at the committee and I did not learn of the affair until November, by which time the apparatus was on its way back to me. It is interesting to observe how the cause of science is forever hampered by "experts". I understand that in the four months customs delay we had incurred the displeasure of five Government Departments and fifty-seven personnel.

One day in April the following year I received a newspaper cutting from a friend in America. It read as follows.

#### "SAVING THE SUCKERS" by Fred Othman

*Washington D.C.*

"I've got bad news to-day for the Delawarr Laboratories, Raleigh Park Road, Oxford, England, a firm that must have thought we were a nation of suckers.

"This outfit shipped over here a consignment of complicated looking devices, littered with dials, knobs, levers, push buttons, wheels and gauges, for the cure of diseases ranging from abscesses to whatever begins with Z.

"The idea was to set the dials in accordance with a chart showing a wide variety of ailments, sit close by and breathe deep.

"The customs agents were interested in this miracle machine and turned a sample over to the Food and Drugs Administration which

attacked it with hammer and chisel and discovered there was nothing inside but sawdust. So the Federals confiscated the whole batch of wonder-workers and thereby saved from anaemia a good many American pocket books.

“Dr. John L. Harvey, deputy commissioner of the Food and Drugs Administration, said it was an alluring piece of apparatus, all right, but that it was utterly inert.”

This masterly piece of reporting afforded us considerable amusement, except for Mr. Stevens, our expert instrument maker, who stoutly denied the presence of sawdust in any instrument he had ever made.

Two days later a report and his photographer from the DAILY EXPRESS walked through the gates and said that he had heard that our instruments were full of sawdust and they wanted a story and photographs of the inside of the apparatus. I told the reporter that we had decided to have no further dealings with the Press and he promptly turned on his heels and said, “O.K. then they are full of sawdust”.

This took me by surprise, and having visions of yet another adverse article in the English Press I decided to capitulate. I showed the reporter round and opened up various instruments for his inspection. He appeared to be agreeably surprised and as is usual with the more skilled newspapermen “he became my brother and enjoyed every minute of it”.

I must say that I felt we had done a good job in difficult circumstances. On the following day, however, right across the top of the centre page of the DAILY EXPRESS, April 4, 1957, was printed

“THE MIRACLE MACHINES WERE FULL OF SAWDUST”

My staff were despondent. One wanted to give notice because his friends had cut him. Patients rang up and sympathised or simply told us to stop treatment. All the practitioners in the Radionic Association suffered a reverse and their hundreds of patients were shocked. It was all rather discouraging for a time until Mrs. de la Warr and I, and a few well disposed people, got our work under control once more. It was a very interesting experience especially as somehow or another no fewer than twelve of our

Instruments have since materialised in the United States out of thin air, and are working to good purpose; others are being made in that country. I feel that the day is not far distant when the Washington Investigation Committee will have ample evidence on which to reverse its decision. In the meantime I hope that I am not displaying signs of a persecution complex—it is merely a sense of frustration.

#### PRESERVATION OF MILK

It is important that the practical applications of the Diagnostic Instrument should be developed and encouraged. Another example of the Diagnostic Instrument in action was in 1956 when our staff medical doctor, Dr. A. Kazmi, was asked to investigate the possibility of preserving milk a few days longer than was at present possible. I had been discussing the problem with an executive of the Pressed Steel Corporation as the Milk Marketing Board were experiencing difficulties in the distribution of milk. Apparently in the larger cities it is not now possible to deliver fresh milk daily owing to the increased population. Large scale refrigeration at dairies was already installed on a wide scale and *fresh* milk in its true sense had long been a thing of the past; and being in many instances both pasteurised and refrigerated its nature had been changed. Milk treated in this way goes sour more quickly.

The solution to the problem of distribution was to deliver only on alternate days to let the consumer do the refrigeration. In the larger cities where the problem was acute the numbers of refrigerators of any kind is approximately 1 in 10 families. Inquiries were being made into the possibility of providing cheap milk refrigerators under subsidy. It was not a practical solution, however, and we were told that if anyone could discover a means of delaying the time it takes milk to sour in summer conditions he would perform a national service. We should, of course, have been forewarned because this kind of statement was all too familiar.

The procedure was to obtain some fresh milk, place a sample in the Diagnostic Instrument and simply run over a list of possible additives that might possibly preserve milk. The most difficult part of this operation was to procure fresh milk. We discovered that the milk delivered daily, even in our rural area, had possibly been in a refrigerator already and it had certainly been pasteurised. The story of how the nation's milk is spoiled by pasteurisation we will

leave for a future occasion. (Do you know that calves cannot survive on pasteurised milk?) Making a special arrangement at the dairy we managed to obtain some fresh milk and proceeded with the experiment. Dr. Kazmi soon found that the element "copper" was in some way suitable and we set about trying various dilutions of *cuprum metallicum*.

Beginning with the infinitesimal dilution of one atom of copper to a million molecules of distilled water we met with instant success and were finally able to use a homeopathic dilution of 5c or a solution of 1,000 million dilution. This preserved our fresh milk for five days, whereas the fresh untreated milk lasted only two days. Now, my point really is that with the aid of the Diagnostic Instrument and in a matter of ten minutes or so we had arrived at a solution of a problem that by normal methods of routine research would have taken many days or even weeks by the normal research method of trial and error. The mere fact, of course, that the Milk Marketing Board viewed askance the addition of anything at all, however harmless, to the nation's milk (although the nation's loaf is adulterated beyond belief) goes to show that we should have left the problem alone.

#### APPROACH TO THE CANCER PROBLEM

The use of the Diagnostic Instrument in determining the correct prescription for a patient is a function that has not been described in these pages. We have always maintained that this side of the work alone would bring untold benefit to humanity. We regard this principle of selecting by "resonance" as an essential part of our work. Briefly expressed it means that the energy pattern of a cell group is used to select an appropriate corrective energy pattern of a plant, a fungus, a mineral, and the like for the purpose of treating the patient's cell group. If we establish the rate for heart muscle on the dials the instrument can then be used as a *probe* in the search for a remedy that will act on the heart muscle. It may, of course, select a remedy that is too strong in its action but we can detect this instantly and reject it. Such a simple procedure, as you can well imagine, enables some excellent prescribing to be done.

Another approach in prescribing by resonance, and one that I have already shown in action in the design of the common cold remedy, is to set the instrument for a disease rate and search



FIG. 7

Photograph obtained with Mark I Camera using patient's blood specimen and dials set to rate for Cancer of Uterus.

methodically for a cure. My insistence in extolling the virtue of this feature of the work is due to a strong urge to attack the cancer problem. Millions of pounds and dollars are spent every year by research laboratories in trying to solve it and in my opinion the money is largely wasted. The reason that we have not concentrated more on solving it is largely due to the attitude of the medical profession. One kindly American doctor in charge of the Department of Medicine in one of America's largest hospitals said to me after having seen the work in progress at the Laboratories, "Whatever you do, Mr. de la Warr, I would advise you not to produce a cure for cancer; it is the hard way in, as you would be practically slaughtered by the opposition. I would suggest that you can prove your principle by simply dealing with say rheumatism as there would be less opposition".

This was good advice and we have taken it to heart but from time to time we are faced with cases of cancer and incipient cancer and must do something about it. Our staff medical doctor in 1954 was particularly keen on doing research into this problem, having had one or two spectacular successes that I will not describe here. He obtained my permission to ask for assistance from a senior medical

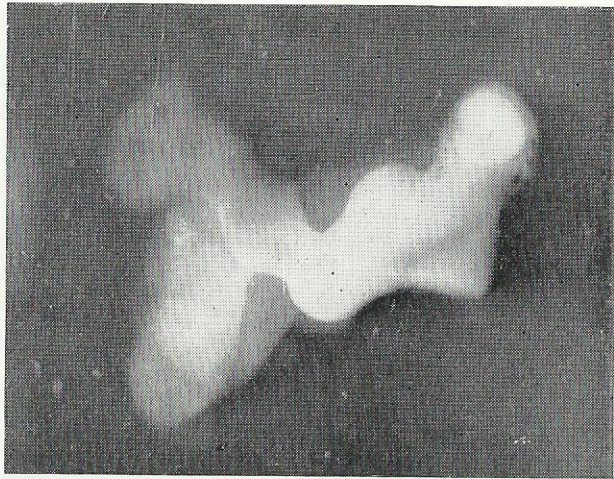


FIG. 8

Repeat of Fig. 7, but with the remedy Graphites 200 placed on the Camera in addition.

colleague in the Radcliffe Infirmary, Oxford, and we offered to collaborate in the treatment of a cancer patient. The point blank refusal that we obtained was extremely disappointing and the project was discontinued. Evidently we should have accepted the American doctor's advice.

At that time, however, we had a case of suspected cancer of the uterus in a woman aged 48. Considerable pain was being experienced on the left side at intervals by the patient in the region of the left ovary and the independent opinion of the gynaecologist was sought. He advised immediate removal of the uterus but the patient wished to try our method first. She was sympathetic to the idea of medication and did not want the operation if it could be avoided. It was agreed that if in four months the pain had not improved she would have the operation.

We had previously taken a photograph of this case on the Mark I Camera for "Cancer of Uterus" and obtained the photograph seen in Fig. 7. Its intensity was such that we thought that the presence of actual cancer would soon be verifiable clinically. Taking the Diagnostic Instrument we dispensed with the usual routine of making

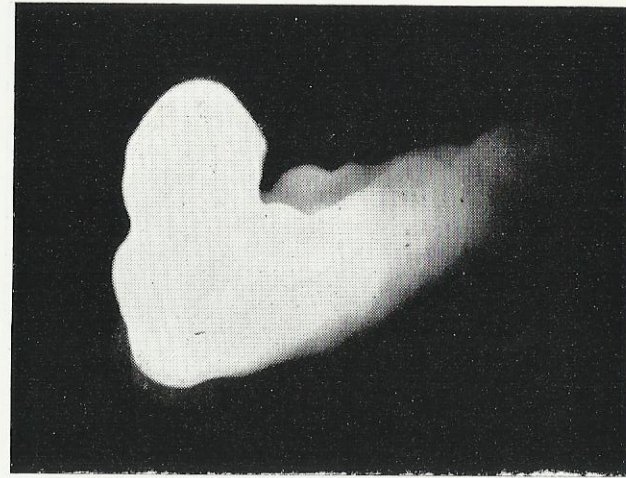


FIG. 9

Repeat of Fig. 7 one hour after first dose was taken.

a Radionic Analysis and simply went for correct prescription. It was decided that as the greater part of nature's storehouse of plant energy was listed in the Homeopathic Pharmacopoeia we would begin with that. After having searched through this book with the aid of the Detector we selected three possible remedies Lachesis, Hydrastis and Graphites. Not knowing which of these three was the most suitable we tried the effect of each of them on the disease radiation by using the Mark I Camera. We placed both the patient's blood specimen *and* the remedy on the Camera and when the more specific remedy was tried in this way it tended to cancel out the disease radiation. The Graphites produced the clearest plate (see Fig. 8) which is a repeat of Fig. 7 for cancer of uterus but with the remedy added.

It was decided to give one dose only of 5 pilules and then watch results by Camera. One hour after the dose was taken we repeated the original photograph seen in Fig. 7 using the blood specimen only and were most intrigued to find an initial aggravation (see Fig. 9) especially on the left-hand side where the patient had previously complained of pain. It should be noted that although the photograph shows an intensification the patient felt no increase of pain.





FIG. 10

Repeat of Fig. 7 six hours after first dose was taken.

After six hours we repeated this and were delighted to find that the disease radiation had cleared (see Fig. 10). We felt that at least we were on the right lines and like most pioneers we felt rewarded by this little success although we were well aware that we had a long way to go yet. How long would the single dose of Graphites last and what disease recession would it accomplish?

Only photography could provide a short cut to the answer and we found that the effect of the first dose of Graphites had lasted for a few days. On the tenth day the Camera told us that the return of the disease radiation was static at approximately 30 per cent less intensity. The second dose of 5 pilules was then given and at 10-day intervals for a total of four doses. After two months when a final photograph was taken the plate was practically clear, and we all felt that we could breathe again. The pain had not returned since the first day after the remedy was taken. The patient was delighted, and so were we.

I do hope that this simple process of remedy selection will soon become more widely used.



## DO PLANTS EFFECT THE TRANSMUTATION OF ELEMENTS?

By

M. BARANGER, *Professor of Chemistry*

### Summary

THE question discussed is the following. Do plants obtain all the constituent elements from the external environment or are they capable, through an unknown process, of synthesising elements which did not exist before in that environment?

To our knowledge there are very few experimental results which allow a direct reply to this question to be given. We shall quote, first, the famous experiment by Van Helmont, thus described by the author in *Ortus medicinae* (1648):

“I placed in a vase of clay 200 lb. of plant soil, which had been dried in the oven, and I planted in it a willow stem which weighed 5 lb. After five years, the willow had grown, and weighed 69 lb. and about 3 oz. The vase had been watered with rain water or distilled water only, each time it was necessary. The vase was large and buried in the ground; and to protect it from dust, I covered it with plates of galvanised iron, pierced with a great number of holes. I did not weigh the leaves which fell during the four preceding autumns. Then, at last, I again dried the soil of the vase, and found the same weight as before (200 lb. less about 2 oz.). Water alone had, therefore, been sufficient to produce 160 lb. of wood, bark and roots.”

The method employed by V. Helmont is remarkably accurate, considering the stage of quantitative chemistry at that time.

Let us also quote the experiment made by Vogel (1844) and reported by J. J. Berzélius in the *Treatise on Mineral, Plant and Animal Chemistry*, Paris (1849), 2nd edition, page 17.

“He sowed seeds of cress, *Lepidium sativum* (of which he had determined the sulphur by analysing an equal quantity of seeds of the same species), in crushed glass deprived of sulphate or of any other sulphurous compound; he watered them with distilled water, covered them with a glass cloche and analysed the air of the room, so as to determine the sulphur. . . . A few months later, the adult

plants with ripe seeds, were dried and burnt with a mixture of potassium nitrate and potassium carbonate; the result was that a quantity of sulphuric acid double that which was contained in the seeds was produced. These experiments demonstrate that either sulphur is not a simple element or that the source which produced the sulphur has remained unknown, despite all the care which had been taken to discover it. . . ."

Finally, there are the important works by Von Herzelee published in Berlin from 1876 to 1883 (Verlag Von Hermann Peters, Morenh-strasse 28). The author takes up the same problem and applies himself to obtain the complete determinations of certain elements: P, K, Ca, S, Mg, etc., in several plants during growth.

The method consists in determining one or more elements in the seeds, then in determining the same element or elements in the plants obtained from these seeds after growth in distilled water to which pure mineral preparations had, or had not, been added.

The experiments by Von Herzelee are numerous and are concerned with a range of elements and plants. The conclusion of this learned man is categorical: "Plants are capable of effecting the transmutation of elements."

Von Herzelee reports numerous analytical results which, according to him, demonstrate the existence of important changes in the content of elements in the systems subject to analysis when they pass from the seed to the plant stage. The method employed by the author is correct, but the number of trials too limited for each case examined; furthermore the general precautions for avoiding sources of error are insufficient. The general coherence of the results obtained, however, is impressive.

That is why we decided to resume these trials, taking all possible precautions and working with a great number of cases so as to allow them to be judged by statistical examination.

The results given in this lecture are the outcome of four years of work involving thousands of analyses.

We have used the Cerdagne vetch and established its content of phosphorous, potassium and calcium before and after germination of the seeds in twice-distilled water to which chemically pure calcium salt was, or was not, added.

Here is a summary of this work:

## 1. METHODS.

The work was carried out with a great number of lots, of 7-10 grams each, of seeds or vetch, selected, measured and graded by hand, then stabilized in respect of the external environment.

For example, we have worked on 4 times 100 lots of 10 grams of seeds, weighed to 1/100th mg.

100 lots were used for the determination of K and P in the seeds.

100 lots were germinated by placing them in twice-distilled water for thirty days.

100 lots were germinated as above but for forty-five days.

100 lots were placed to germinate for thirty days in twice-distilled water to which pure  $\text{CaCl}_2$  had been added (13 mg. of Ca per lot).

The plants obtained from the last 300 lots, grown in the same nutritive environment, were analysed to determine the contents of K and P, referred to the initial weight in the seeds. For this purpose we used the classical methods, previously tested for their precision and accuracy, and described in *Practical Treatise of Plant Chemistry* by A. Brunel-Tourcoing, 1948.

The petri dishes, containing the seeds during their growth, were weighed before and after the trial and the changes in weight were shown on a graph.

The dishes containing seeds=water= $\text{CaCl}_2$  alternate with those which contain no Ca. These two series of precautions eliminate the error which could arise from elements coming from the containers, or from the atmosphere, being added in favour of the plants.

Finally the determinations are carried out in groups of six belonging alternatively to the four series given above with the object of eliminating the introduction of accidental experimental errors.

The statistical study of the results was done by an independent specialist: M. R. GAVE.

## 2. RESULTS.

They are brought together in the two attached graphs where the percentage of P, K and Ca, as well as the values of K/P (which are independent of the weight of the seeds) are shown in the abscissae.

Each curve is based on 100 determinations. The general conclusions are as follows:

(a) The dispersion of the results is regular and is solely due to chance.

(b) *Phosphorus*. There is a significant decrease in the phosphorus content in the calcium series.

(c) *Potassium*. Non-germinated seeds, and those germinated in twice-distilled water during thirty or forty-five days, show no significant changes in potassium content.

Those which germinate in a calcium environment, seem, on the contrary, to show a significant increase of about 10 per cent in the potassium content.

(d) *Calcium*. From the statistical analysis: it seems that there is a significant increase of the order of 1.5–2.5 per cent in the calcium content during growth in pure water or in water containing calcium.

These results, obtained by taking all possible precautions, confirm the general conclusions proposed by V. Herzele and lead one to think that under certain conditions the plants are capable of forming elements which did not exist before in the external environment.

### 3. PRACTICAL CONSEQUENCES.

They cannot be underestimated. We can list some of them:

(a) Certain plants would bring to the soil some elements useful for the growth of other plants; this would lead us especially to define and revise the current notions on fallows, rotations, mixed crop, fertilizers and the manuring of infertile soils.

(b) Nothing prevents us from thinking that certain plants are capable of producing rare elements of industrial importance. Numerous cases of "abnormal" contents in certain plants of elements practically absent in the external environment are already known.

The convenient theory according to which there is a selective concentration of these elements by the plant, has, in fact, no direct experimental proof and should be revised.

(c) In the sub-atomic field, the plant supplies us with an example of transformation which we are not capable of performing in the laboratory without bringing into action particles of high energy—in the same way that we are not capable of bringing about at ordinary temperatures the syntheses of innumerable products, either alkaloids or others, which are extracted from plants.

It seems that the theoretical consequences in the field of sub-atomic physics are not negligible.

In brief, if these works are not contradicted by other laboratories—and to this day none of the specialists who has examined them has been able to find any experimental errors—it would be a case of developing this kind of investigation and of modifying, in consequence, a certain number of theories which do not seem to have the benefit of a sufficiently experimental basis.

ECOLE POLYTECHNIQUE,  
PARIS.

(Paper presented to Conference Polytechnicienne, December 1958)



## THIS IS OUR LIFE

By MAJORIE DE LA WARR

FROM time to time we have been asked how exactly our working day is spent at the Laboratories and some surprise has been shown when we have said that it sometimes begins as early as 5.30 to 6.30 a.m. At that time Mr. de la Warr begins meditating or writing or both; it is an appropriate time for either activity, a time of peace and quietness of which I also take advantage for meditation and the planning of the later hours.

This period continues until we breakfast, during which the first committee of the day is often held with our two daughters who so admirably sustain us with help and constructive criticism. We collect the work we had brought home the night before, and then walk across the gardens to the Laboratories, giving thanks as we pass that way, for it is in these gardens, from which so lovely a view of Oxford's spires is obtained, that we plan to build a sanctuary in which further healing work can be conducted.

Every sign of activity is apparent as we arrive at the main building—our staff share our own zeal—and I am soon with my secretary studying the day's appointments and the many letters and telephone messages.

wish to advance a step further they must pass the "ability test"; special instruction has then to follow. This branch of the work, together with sitting on four separate committees of the Radionic Association, means that one day in every seven working days is occupied in this way.

There are also visitors who come from many parts of the world to pursue their interest in this subject. Many come to see what is being done, bringing with them sincerity, sympathy and understanding. Others—though not many—reveal scepticism and scorn but to all Mr. de la Warr gives very freely of his time and his knowledge. Some of our visitors come in an advisory capacity. There are two or three to whom we owe much gratitude and appreciation for all the time and thought they give on our behalf.

There may be others who need consultations or treatment. So many tell us that when they enter the three acres of ground they at once experience a feeling of peace and happiness. (Sometimes I must pursue my consultative course in London, where I go periodically for the convenience of those who cannot visit Oxford.)

There is no doubt that our staff contribute to this sense of comfort, for they are very happy and each one does his or her best to help us in our various tasks.

When the staff have finished their work, we often walk round the gardens to enjoy and share the peace, and then go back to our offices again. Probably our best work is achieved at this time. When we feel we have accomplished all we can for one day we return to our house in another part of the garden.



## CONFERENCE PREVIEW

### A PANORAMA OF ITS ACTIVITIES

MANY people tell us that they fail to understand why Science and Religion as two contrary aspects of social activity should be coupled as if in some way related and interdependent. Others appreciate that the organisers of the Second Conference on Science and Religion are aware of this close relationship. Yet another, perhaps more critical group, ask if the choice of title is the best that can be devised, and wonder if such a title as Mind, Matter and Religion would not have been more appropriate to the theme of the Conference.

These questionings are welcome signs that the subject matter of the eight sessions planned for the Conference have been well chosen and they will make a useful contribution towards finding answers to many points of view.

The title Science and Religion has been carefully chosen after considerable thought and discussion. It may be useful at this point to give the definitions of "Science" and "Religion" preferred by the organisers as being sufficiently all-embracing to establish the relationship between these two great aspects of social activity.

Science is knowledge in any field. It must be neutral in its values and cannot by its very nature be confined to any specialisation. Religion covers discord in the field of non-material activity and should not be confused with Theology.

To-day many of the leading cosmologists are prepared to concede that all cosmologies must in the end lead to the metaphysical as the ultimate reality.

If this be conceded then there must be a relationship between Science and Religion although the approach to Truth may well be along seemingly distinctly separated and unrelated routes.

After the first Conference on Science and Religion held at Moor Park College, Farnham, in the Spring of 1958, it was decided to set up an *Ad Hoc* Committee to organise the Second Conference. The members of the Committee have been skilfully selected to secure as wide an outlook as humanly possible to ensure establishing a balance of differing views.

When the Conference is over the *Ad Hoc* Committee will have completed its task and will dissolve. If there is a desire for any further Conference or series of Conferences no doubt a new Committee will be created from among those who feel sufficiently moved to take further action. Nobody can make any money out of the Conference. In the unlikely event of there being a surplus it will go to the MIND AND MATTER TRUST, a charitable trust recognised as such by the taxation authorities in this country.

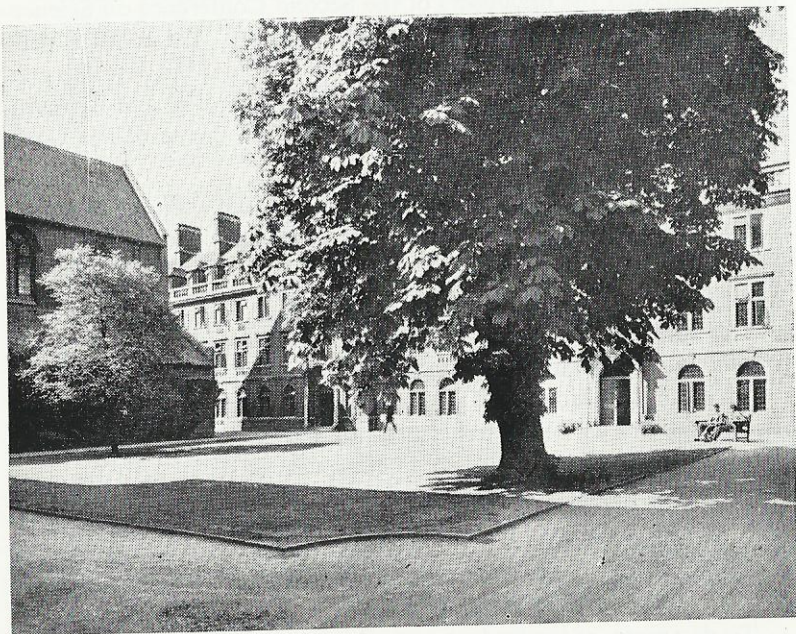


FIG. 11

A wing of St. Peter's Hall, one of the newer of the Oxford Colleges.

We must recall that when it was decided to hold a Second Conference the organisers had in mind holding it at Moor Park College, which all those who attended the First Conference agreed had a delightful and unique atmosphere so suitable for a Conference of this nature. It soon became apparent to the organisers, however, that the number of those who had already signified their desire to attend the Second Conference would completely out-tax the capacity of Moor Park, and with great reluctance an alternative venue had to be sought.

After some inquiry the organisers were fortunate in having St. Peter's Hall, Oxford, put at their disposal. But after having committed themselves to St. Peter's Hall the organisers realised that even the facilities there would be inadequate to cope with the numbers wanting to attend, and by good fortune they were able to hire for the period of the Conference the famous Oxford Union Debating Hall, which is within a stone's throw of St. Peter Hall. The facilities provided by the Oxford Union Debating Hall at once made it possible to accommodate any number of visitors and so it is not too late to apply.

A large number of bedrooms has been reserved in various Oxford hotels for those who could not be included in St. Peter's Hall. It will be seen that every effort has been made to make certain that no one who is able to attend the Conference will be disappointed.

The Conference will open at 5 p.m. on Wednesday, July 1, under the Chairmanship of Sir Victor Goddard, K.C.B., C.B.E., and the First Session begins, after supper in College, at 8.15 when Dr. Griffith Evans, F.R.C.S., will set the theme of the Conference. The last and Eighth Session will take place at 11.45 a.m. Saturday morning when Dr. Griffith-Evans will sum up the work of the Conference, and the Conference will end at 12.30 p.m.

We have been asked why the Conference should have been planned to take place in the week rather than at the week-end. The reason is that so many of those wishing to attend have week-end duties to perform and would have been excluded from a Conference which interfered with these inescapable responsibilities.

The theme of the Conference is the impact of thought upon matter. Our modern understanding of the nature of matter and of its sources must result in an extensive rethinking by almost everybody on those ideas that have held the stage for so long. Orthodox interpretations of recent scientific discoveries have produced materialistic concept of reality. The most recent discoveries, however, will enable this concept to be corrected.

On Thursday morning at 9.30 a.m. Mr. and Mrs. G. W. de la Warr will demonstrate, with the aid of the instruments they have devised, the impact of thought upon matter and will give some indications of the exciting developments in prospect. This address will be illustrated with slides. Ample time will follow for questions, answers and discussion.

On Thursday afternoon there will be a practical demonstration by the staff of the Delawarr Laboratories in one of the halls of the Oxford Union Debating Hall. It had been the intention of Mr. and Mrs. de la Warr to invite all the members of the Conference to a garden party in the delightful precincts of their laboratories, but taking into consideration the more than fickle character of the English summer and the difficulty, in the event of rain, of crowding a large number of people into the laboratory buildings the idea was discarded with regret. So, in place of that kindly thought—for the certain convenience of everybody—the staff of the laboratory will visit the Conference for the afternoon.

At 8.15 p.m. on Thursday evening Dr. C. E. Last will speak on "The Impact of Thought upon Matter" and discuss the metaphysics of the problem.

On Friday morning at 9.30 we are promised a most unusual and deeply interesting series of three addresses, from Professor Arabindo Basu speaking as a Hindu, U. Maung Maung Ji as a Buddhist and Imam Muhammed Yakub Khan speaking as a Muslim. They will speak on their understanding of how discovery in the field of the primary state of matter can be related to the religious interpretation of Life, its purpose, regeneration and fulfilment. The organisers of the Conference are greatly indebted to the World Congress of Faiths for the kindly interest its officials have shown and for their most valuable and practical suggestions for the arrangements of this session.

On Friday afternoon at 2.30 the Rev. Franklin Loehr, Director of the Religious Research Foundation, Los Angeles, U.S.A., will review some of the more important results of his wide researches into the power of prayer on organic bodies. The correlation of his work with that of Mr. de la Warr, although they were unaware of one another's work, should be fascinating.

Mr. Loehr and his wife have come specially from Los Angeles to address the Conference—a generous gesture for which the organisers are most grateful. Mr. Loehr is ready to undertake other speaking engagements both in England and on the Continent after the Conference. Those wishing to avail themselves of his services should write to him c/o the Delawarr Laboratories, Raleigh Park Road, Oxford.

At 8.15 on Friday evening Mr. Cyril A. Davson will give an address on what is to be understood by the term "The Physics of

the Primary State of Matter". This phrase was created by the late Carl Schappeller. There is perhaps no one as well qualified to write and speak on this subject as Mr. Davson who has spent over thirty-five years in close study of this vast concept and was for years a greatly trusted and valued colleague of Schappeller.

On Saturday morning Mr. Loehr and Mr. de la Warr will jointly examine the implications of their work and their expectation of its



FIG. 12

The interior of the Debating Hall of the Oxford Union Society, where the Sessions of the Conference will be held.

importance to mankind. This should be a fitting and absorbing conclusion to the work of the Conference.

At the end of their joint session—as has already been said—Dr. Griffith-Evans will sum up.

Mr. J. V. H. Wredde has most generously undertaken the task—as a labour of love—to record the whole of the proceedings of the Conference; the report of the Conference will thus be available as soon after the Conference as possible to all those who were regretfully unable to be present.

We have been asked quite frequently why MIND AND MATTER has devoted so much space and attention to this Second Conference on Science and Religion. We believe this forecast of the proceedings will provide part of the explanation and we are confident that a study of the full Report of the Conference will give more than an adequate answer to this question.

It is the Editor's view that the purpose of MIND AND MATTER is to report any developments in the field of the physics of the primary state of matter, and certainly one of such importance as the proceedings of this Conference. He believes it will prove to be a landmark in scientific and religious progress of profound importance to all who are interested in the impact of thought upon matter.

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## THE BLESSING OF PLANTS EXPERIMENT

RESULTS from this experiment are still coming in and it is most heartening to see the care and attention to detail that has been given. Some of the photographs show a very obvious increased growth in the blessed plants and others less obvious, but to the expert eye a sturdier growth is apparent. We reproduce in Fig. 13 one of the most pronounced results received to date; it was sent to us by Mr. J. Rawson of Easingwold, York. The combined moist weight of the blessed plants was 5 ozs. and of the unblessed plants  $3\frac{1}{4}$  ozs., that is to say a 53 per cent increase in weight. The soil was removed from the roots by washing and the plants were then photographed and weighed, it is altogether a very satisfactory experiment.

Interesting sidelights are contained in the correspondence we are receiving. The letter from Mr. H. W. Heason produced on page 62 under Correspondence contains references for which we are grateful. Several participants found that there were many more weeds germinating in the blessed pots. A few persons write to apologise for not sending in their results as it was found to be too difficult to complete since they could not help being sorry for the unblessed plants.

In some instances almost violent criticism has been directed to us for daring to presume to bless anything. Gentler criticism has also come our way because we suggested only one form of blessing. Many have agreed that the instructions concerning the ritual were not positive enough, or that they could "evoke" the energy better if they followed their own methods. One Bishop was so kind as to reassure me, however, that it was an exciting experiment and he wished he had the time to take part in it.

The following extract of a letter from a participant in Holland may perhaps give encouragement to those whose results were not up to their expectations.

"Our gardener's observation about the 'Blessing plants experiment' has a feature of interest which I would like to mention to you. When the plants started growing, to the great disappointment of the gardener and his wife, the unblessed ones became much higher than the others. They kept the four pots in a row, however, outside their window. As time passed they observed that the blessed plants were less high indeed, but thick, strong, vigorous and with many flowers, while the unblessed ones seemed anaemic and long but weak, with just one or two flowers. With great interest they now follow further development, until harvest time. But would not it show that again our Western haste to see results by mechanistic means such as turning a switch and there the Power acts in a spectacular way, blinds us to the laws of life?"

### CONTINUATION OF THE EXPERIMENT

More results have yet to come in and we see no reason why the experiment should not continue throughout the year. It is problematic whether or not the experiment should have been carried out during the growing season. To carry it out in the luxurious growth period using almost perfect soil and to expect to improve on perfection is perhaps a trifle arrogant and we would ask our participants to consider repeating the experiment later in the year.

It is our contention that when a person *thinks* he produces a thoughtform which can be used to affect living matter. We also postulate that the energy pattern thus produced will vary with that person's inherent ability to perform the rite and the character of the particular thought that he is using. What does a "blesser"

think about? Is it the amount of growth required, the nutritional value of the plant or is it that he is thinking of perfection in that plant and sending it Love? In an experiment of this kind there will be complete variation in the results obtained unless one person has carried out all the experiments and even then the individuality of plants will mitigate against uniformity. In any case how *does* one standardise a thought? We think that contemplation of the written word as a preliminary is helpful but the simple act of blessing a plant should not require this assistance.

The task of choosing the words to describe the experiment and the actual words to be uttered was completely beyond us if all denominations were to be satisfied, and so we decided on a simple phrase that would make an impression on the experimenter's mind. This phrase has caused considerable controversy, as was expected, but that was one purpose in promoting the experiment. The various reactions one sees taking place in persons when they hear about the experiment makes an interesting study. The editor of a Roman Catholic publication for instance has suddenly ceased his association with us after having consulted a leading physicist about the experiment. I do sympathise with his difficulty but he should read the new book by the Reverend Franklin Loehr, *The Power of Prayer on Plants*. It is an excellent corroboration of our contention and I am looking forward to hearing him speak at the forthcoming Conference on Science and Religion.

#### DOES THE ENERGY SPREAD?

Our first attempt this year at the Laboratories to carry out the experiment in order to obtain a photograph of a completed experiment for inclusion in the brochure has given us much trouble as there was very little difference between our blessed and unblessed pots. Although on numerous previous occasions we have always been able to obtain the increased growth there was something that had been done differently. Examining the experiment we found that there was possibly some difficulty due to the proximity of one plant to another. Previous experiments had been carried out in the greenhouse. Further investigations by our "thought probe" method showed that the new six-foot long zinc tray in which plants were placed was in some way joining the pots together. My old hobby

horse of the electrostatic nature of the radionic phenomenon immediately came to the fore again and we are now proposing to run an experiment where pots are electrically insulated as far as possible and each plant pot is connected to a galvanometer.

It is unlikely that our galvanometer will reveal much more than the momentary difference in electrical potential between the plant pot and earth. In previous experiments, using the spot galvanometer



FIG. 13

Photographic record of the results obtained by Mr. J. Rawson of Easingwold, York who took part in the Blessing of Plants Experiment.

on treated plants *in the ground*, we have run into an unexplained phenomenon. When the spot galvanometer is left connected to the treated plant the spot on the galvanometer seems to "freeze" in one position and when the wire from the plant is disconnected the spot does not return to zero. Only by shorting across the terminals of the galvanometer can this "charge" be dissipated quickly.



What is an electrostatic charge anyway? I am afraid that this is an answer that no one knows. What is Reichenbach's Odic Force and what is Reich's Orgone Energy? These questions spring to mind and complicate an otherwise simple experiment. Let us simply produce evidence of the increased growth of plants by blessing and turn it over to the scientist. He is the person we are tilting at.



FIG. 14

Photographic record of the results obtained by Mr. R. Finch of Northampton  
The blessed plants are on the right hand side.

#### BLESSING CUT FLOWERS

We are indebted to Mrs. Adair Roberts for the following extract from her letter.

"I think the reason cut flowers last so long is perhaps because I treat them like something ultra human. As I cannot carry parcels I have flowers delivered and when they arrive I welcome them to my home as I would do an honoured guest and as for guests, I first see to their comfort and rest and then show them their room and hope they will enjoy their stay with me as much as I shall enjoy their company."

G. DE LA WARR.



## THE DEVELOPMENT OF MINIATURE RADIONIC INSTRUMENTS

ONE of the first Diagnostic Instruments we constructed in 1943 was almost too heavy to lift. It measured 26" x 23" x 8" and was able to take a full size X-ray negative in the left-hand panel. This panel was illuminated to show up the negative, and the sliding cursor could be passed right over it. The instrument panel was on

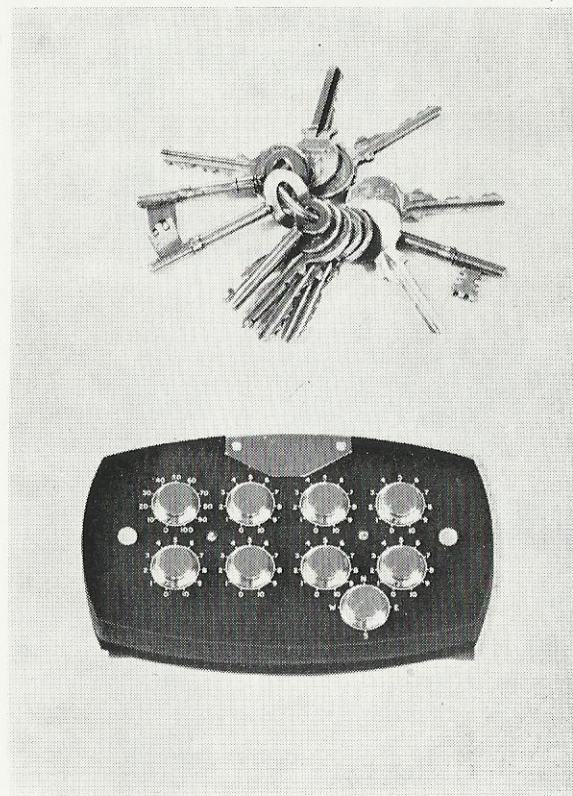


FIG. 15

The new Pocket Diagnostic and Treatment Instrument. The rubber detector pad is on the reverse side.

the right-hand side as seen in Fig. 16 and the patient's case could be analysed from the X-ray negative although nothing might be visible to the naked eye. The emulsion of the negative was in fact replacing the blood specimen.

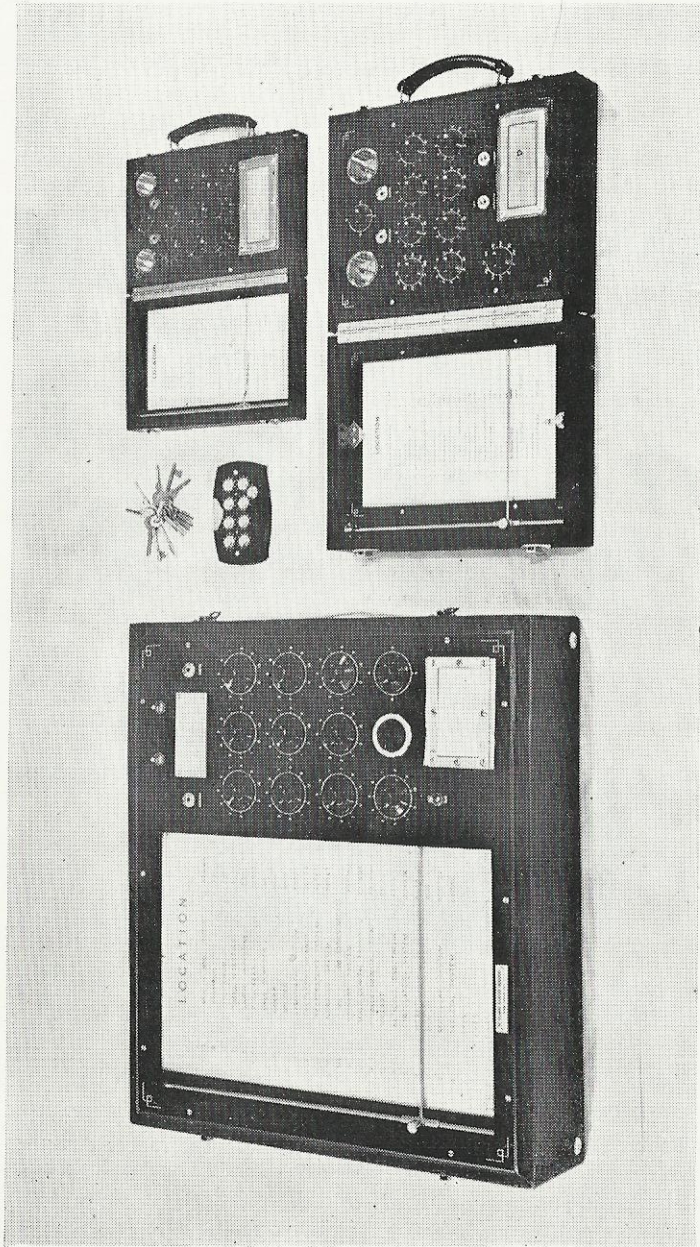


FIG. 16

Progress in the design of the Diagnostic Instrument 1943 to 1959. The model on the left with an illuminated panel for X-ray photographs is obsolete. The two on the right are the current Standard and Miniature models.

This state of affairs was soon rectified by the Portable Model produced in 1944, which fifteen years later is still our standard model and in demand. Last year we decided that although measuring only  $13'' \times 10\frac{1}{4}'' \times 5''$  it was too bulky for travelling, especially for air travel, and we designed a Miniature Diagnostic Instrument  $11'' \times 7\frac{1}{4}'' \times 1\frac{3}{8}''$ , using mostly the same components as in the Standard Model. The Detail Cards are much smaller, and it is a altogether very satisfactory little Instrument especially for despatching to foreign countries, air freight charges being so costly.

Early this year a very good friend said to me, "I want a pocket Treatment Instrument that I can take on holiday with me, and also one that I can carry in my pocket to treat me personally". This seemed a good idea but we decided to go one better and make it a Diagnostic Instrument as well. The result is the Pocket Diagnostic Instrument seen in Fig. 15 measuring only  $5\frac{1}{2}'' \times 3\frac{1}{8}'' \times 1''$ . I may add that it is an extremely sensitive little device and has uncovered one or two unexpected aspects of the radionic phenomenon.

Broadcast Treatment Instruments are an essential part of a radionic practice and some of the larger practices require whole rooms full of them in serried ranks. This occupies much space when sixty or seventy instruments are required in addition to the bulky Colorscopes and Sub-Sonic Treatment Instruments. The problem was presented to us last year and we designed a Miniature Broadcast Treatment Set that will occupy much less space on either shelves or walls. It has already proved itself a most efficient piece of apparatus, and seven can now be accommodated in a space formerly occupied by five.

The most expensive piece of apparatus we make is the Colorscope Major, but it is at the height of the Instrument Makers art and takes one man two weeks to build it after the case is made. Its eight revolving turrets, each containing seven colours, call for precision work, but miniaturisation may be possible when we have overcome the trouble occasioned by the heat produced by the projector lamp. If we fit a small electric cooling fan we may succeed in reducing both weight and price. The Colorscope was first produced in 1949 and it is still in demand. Since it can be specifically tuned to treat any cell group in the body it can be relied on to produce rapid results and is one of the mainstays of a radionic practice.

G.W.D.



## SOME EXPERIMENTS ON RATS WITH RADIONIC APPARATUS

By WILLIAM J. FURR

**I**T is felt that considerable interest will be shown in the following experiments carried out by William J. Furr, Director of the Teleologic Foundation, Miami, Florida. These experiments establish the presence of the transfer of a radiation from the radionic instrument to an animal in close proximity. It is also of interest to see how much more receptive some animals are than others to this type of radiation.

THE EDITOR.

### EXPERIMENT NUMBER 1

**T**HE diagnostic instrument was placed alongside the cage of a large and well-fed rat. In the well of the instrument was placed a small bottle of castor-oil, and the rate for the digestive tract set on the dials, with the rat's blood-specimen in the well.

The snapping of several twigs behind a screen attracted the rat's attention to the instrument, and it was noted that a strong magnetic aura was set-up from the rat, radiating towards the instrument, as though trying to detect what was going on.

As the rat radiated it picked up the vibrations of its own blood-specimen, along with those from the dials, and the elicitation of the dial settings and the affectations to its wave-length from the specimen, and the castor-oil, were elicitation it carefully interpreted.

Observed from behind the screen the rat was seen to go to the side of the cage nearest the diagnostic instrument and start visibly vibrating all over, virtually "beaming" his personality on the diagnostic instrument.

The rat was visibly intrigued; after fifteen minutes it started passing body-waste from its system in ever-increasing quantities; thus illustrating that the effects of the wave-pattern from the instrument virtually gave the castor-oil to the rat's system, without removing the cork from the bottle.

In a continuation of the experiment the rat became too sick to stand up, and was virtually being poisoned by an over-dose of castor-oil.

### EXPERIMENT NUMBER 2

The diagnostic instrument was set on the rate for "forehead", and the rat began to beam upon the instrument. At first there were observable results, but after the first day the rat began to put its head down and to rub the top of the head with his fore-paws.

After the second day the rat was desperately trying to stop the affectations to the cells in its forehead, but showed no signs of discontinuing the magnetic affinity set-up with the wave-patterns eliciting from the instrument.

After the third day the rat was too feeble to be concerned when a cat was put on the table beside the cage; and it took the rat two days to return to a normal condition after the diagnostic instrument was removed.

After a return to normal the cat's blood-specimen was substituted for the rat's, and in time the cat became so sick that it was vitally afraid of the radiations from the rat.

### EXPERIMENT NUMBER 3

In using two instruments, one for the rat and one for the cat, and placing "fear" on the rat's instrument, and the complement thereof on the cat's instrument, it was observed that in time the rat became vitally afraid of the cat.

Then the situation was reversed, and in time the result was just the opposite; the cat became vitally afraid of the rat and sought to escape from its cage.

### EXPERIMENT NUMBER 4

The rate for "right leg" was placed on the instrument for the rat, and at the end of the second day it was found that the right hind-leg of the rat was severely affected, so much so that it could not walk upon it.

In putting the complement setting on the dials it was found that the rat's leg returned to normal in half a day, after a half-hour's exposure and then cutting off the instrument and letting Nature do the rest.

### EXPERIMENT NUMBER 5

In performing these same experiments on a dog it was found that the animal would not keep its attention on the instrument.

The dog's owner would direct its attention to the instrument, and the dog's ears would go up as though in recognition of something eliciting from the instrument, and it would then turn away—as if to say, so what?

After several days of efforts the results indicated that there were no visible affects of the dial-settings on the dog, and no indications of affectations of medications placed in the wells; for each time the dog's attention was directed to the instrument, after only a moment the dog would divert its attention to something else.

#### EXPERIMENT NUMBER 6

A most interesting experiment was to set the dials to activate the saliva glands of a well-fed rat.

The rat promptly ate another meal, and then another, until its stomach was so extended that it could not walk away from the food; but still in desperation, it tried to eat while lying on its side.

#### NOTE

No permanent harm resulted to these animals except to the rat that was poisoned by too much castor oil.



“There is a principle which is a bar against all information, which is proof against all arguments, and which cannot fail to keep a man in everlasting ignorance—that principle is contempt prior to investigation.”—Herbert Spencer.



## HEALTH

By C. W. DAVSON

HEALTH has been defined as being *a state of equipoise between the factors that make up the whole man*. Let us analyse this in the light of the Primary Physics.

It has been said that any unbalance in the general functioning of our minds and bodies leads to a disturbance which, if prolonged, can bring about disorder, if not disease. True, but at the best only partially true. Actually, the truth or otherwise of this statement depends on what we mean by *unbalance*.

The whole of nature, macroscopic and microscopic, operates by unbalance and only by unbalance; or, better expressed, using a technical term, by dynamic balance.

#### DYNAMIC BALANCE

I am in dynamic balance when walking, and far more so when running. My equipoise depends on the next step. If this next step is not forthcoming I shall fall.

The great fundamental dynamic balance, and thus the great unbalance, is the Absolute, the Universal Consciousness, the Creative (God, as men usually term it). I prefer the term Creative to Creator, as the former expresses the Infinite—that of which all things are.

Fundamental unbalance (or dynamic balance) is creative. On the other hand, complete balance would be stagnation, but only in a universe, wherein we must have dynamic balance, unbalance, and thus functioning. In infinite space itself, within which all things are instead of functioning we have *potential*, which is not dynamic, but static balance capable of dynamic action on release. But this is beside the point here.

Our own solar system is in unbalance, or dynamic balance. Our moon is rushing towards our earth, but it never reaches it because of its simultaneous orbital motion. Here we have a perfect example of unbalance being always *in* balance—in other words, in dynamic balance.

Every form of functioning is due to unbalance, or dynamic balance. For example, the relative motion between our earth and the sun brings seasonal changes resulting in growth and its subsequent counterpart, decay or the like.

The child is in unbalance both in mind and body. Its first experiments with its limbs to see what can be done with them, their purpose, and how they work. Its immature mind is always striving, and striving is due to unbalance (reaching out physically and mentally). It is an equipoise where the goal is always a little way ahead or in advance. A child is rather like the much-advertised bookcase—complete but never finished! And we adults are, of course, similarly situated; our centre of gravity (mental and physical) is always ahead of us; the in-balance is always dependent on the next step.

In illness the progress towards health is likewise always dependent on this next step, this next effort—a spiritual effort made by the patient in co-operation with the medical treatment he or she is receiving, or the like if it is through a healer.

But to return to the child. Cellular multiplication is taking place until the child reaches full physical maturity. But what happens then to the unbalance which has so far produced what we term *growth*. If this fails to cease at maturity we then get a form of cellular structure which we term a mis-growth, be it beneficent or malignant.

In the normal adult another unbalance now makes its appearance, the most powerful urge known to us human beings, but also equally present in most animal life—the sex urge. This is the life motive power within us, operating as creative, or, better expressed, as a procreative force, known as that which propagates and thus perpetuates the species.

#### THE VITAL EFFECT OF THOUGHT

Every action, and particularly that of thought, causes some unbalance.

Thought is said to be the parent of action; and the thought-action cycle must have a powerful effect on body functioning, arresting or promoting normal respiratory, digestive and sex urges, together with contributory influences—circulatory and glandular deposition.

One Harley Street surgeon who, in his later years, endeavoured to find, where possible, substitutes for surgery, declared that the surgeon's knife is an invader and that medicine and drugs are always fortuitous in their action. This is, of course, due to the ever-changing chemico-physical condition of the body, and the fluctuations in quality and intensity in the mind impulses with which the bloodstream and nervous and muscular systems are from moment to moment suffused and stimulated towards maintaining and where necessary regaining health, or negatively towards disorder and subsequently even disease.

When we study mind and matter we shall find that it is mind which matters most.

Do we not greet each other when we meet with a "Well, how are you?" And could we not equally well say, not "How do you do?" but "How do you think to-day? What have you selected from the great conscious whole?" for we human beings lie cradled in the lap of immense intelligence. Is our thinking therefore always positive towards the scheme of things around us? Is our compass needle being constantly re-oriented towards the North—towards the positive—irrespective of circumstances, or are we allowing our constant re-directed in-balance to be disturbed by emphatic trifles?

But I am not going to gild the lily. Circumstances in life can be grim, even insurmountable, or at least they may appear to be so; for example, serious derangements of mind and body, whatever may be their cause or origin. Death itself is inevitable; sometimes the passing may be peaceful or even beautiful, but not always. It was reported that Sir Herbert Beerbohm Tree, when he lay dying, uttered (in French) the following: "If this is death, it is not amusing".

#### REGAINING HEALTH

This dissertation, or call it what you will, would be rather pointless if it did not attempt to answer the two most pregnant questions:

What is ill-health and how can it best be combated? If ill-health is not unbalance, what is it? Mis-balance, sometimes actually producing misgrowth.

And now, our second question. How can we, within our limited powers and resources, best overcome this mis-balance and restore equipoise between the factors which make up our whole being?

I suggest, according to information I have gathered from medical men, osteopaths and healers, that the most potent influence in eradicating misbalance is co-operation by the patient with the doctor or healer, in so far as this is possible according to the nature of the illness. Psychiatrists, who are really mind-surgeons, spend much time, skill and energy trying to establish this mind equipoise, and once this has been accomplished the patient is no doubt well on the way to recovery, or at least the path is open for recovery where this is completely or even partially possible.

An osteopath cannot and will not manipulate until the patient is completely relaxed, and physical relaxation is attained only when the mind is brought to the neutral, that is when there is no urge, no demanding impulses.



#### RADIO WAVES TO "PASTEURISE" SOIL

High frequency radio waves, directed at harmful soil fungi, are successfully "pasteurizing" soil, in a series of experiments being conducted by Washington State College researches.

Encouraging results are reported in controlling a soil-borne disease called seedling damping-off. The scientists filled wooden greenhouse flats with soil heavily contaminated with the disease.

These flats were then exposed to high frequency radio waves. Then crimson clover was planted in each flat.

How much of the clover came up was the test of how well the high frequency energy had pasteurised the soil as far as this disease was concerned. In most instances, damping-off was controlled after a five-minute exposure to the radio waves. This was true with samples of both Sultan and Puyallup silty loam soils—two types quite common in western Washington. The scientists got over three times the stand of clover in the treated flats that they did in the untreated diseased ones.

With acknowledgements to FARMING TO-DAY, Toronto, Canada.



## BOOKS TO READ

By THE REV. FRANKLIN LOEHR

(Doubleday & Company, Inc., Garden City, N.Y. \$3.50 cents)

Reviewed by Clarence Winchester, A.R.Ae.S.

READERS of MIND AND MATTER will already be familiar with the name of Franklin Loehr of Los Angeles, an account of some of his prayer experiments having been reprinted in the March issue of this journal; but it is not unimportant that more should be known about him, especially by those whose attitude to the subject may be sceptical or even derisive.

It is one thing to consider evidence of the power of prayer from a minister of religion who has only a theological background but quite another to consider such evidence when it is recorded by a minister who had a sound scientific training in the procedures of laboratory research in chemistry before deciding to enter the Presbyterian Church ministry. Added to his scientific experience were several years' application to Hebrew and Greek, and a useful if elementary knowledge of Aramaic, Chaldean, Assyrian, Egyptian and other ancient languages, plus some experience of flying (with nearly tragic results) before he became chaplain to the 471st Heavy Bomber Group (U.S.).

With such a background the author may well invite attention from even the most sceptical; there are so many to-day who are not drawn to any theological concept of the workings of what is called the supernatural but who are none the less interested in various aspects of it. They look for and demand facts, and although they take many other things on faith, as we all must in our daily lives, their demand for proof remains constant. Franklin Loehr is no stranger to this condition. He found it especially in the U.S. Air Force, and although he entered the ministry on faith he was not averse to seeking some proof himself, if only to aid his ministerial work among men, particularly young men, who asked critical questions of him and expected satisfying answers.

Doubting Thomasses in any walk of life are natural irritants to the convinced but they can be stimulants as well. They have their place in the scheme of things and sometimes contribute more to life's pattern than is generally realized by advancing further the researches of the faithful. Franklin Loehr is the man for them.

Enclosed is a check for my subscription to the journal, *MIND AND MATTER*. I am eager to receive the March issue, which you mention in your letter.

Yours sincerely,

NICK J. BERBELIS.

Lake End House,  
Newstead Abbey Park,  
Linby, Notts.

March 31, 1959.

DEAR MR. DE LA WARR,

In preparing for the experiment with Bean Seeds outlined in the recent issue of *MIND AND MATTER* I recalled a conversation with a neighbour a few days ago. I had remarked that the interest in setting seeds lay in the visualization of later results. He laughed at me, and responded, "Oh, I can't see the flowers when I set the seeds. I just set them."

It occurred to me that here might lie some clue to "green fingers". In certain occult theories a World of Thought is postulated, in which a prototype in thought form, or spiritual archetype must exist before a material form or entity can come into being. There are also the results from your camera, wherein a future potentiality residing in an object can be photographed, suggesting (indeed proving) the existence somewhere in some indefinable medium, of an image of what is about to be. Is it not a possibility that the clarity or intensity with which one visualises the mature plant which will develop from the seedling one watches day by day may have some bearing on the result; that is, strengthen the image in the "World of Thought", or "realm of mind" as you call it? In blessing the soil during this experiment I personally shall find it impossible to disassociate a visualisation of a strong, sturdy bean plant. The facility or lack of facility to see in one's mind's eye a picture of the show of flowers one hopes to result from one's plants and sowings may possibly have some influence on the success or otherwise of the eventual display.

May I also venture to take the opportunity of drawing your attention to what seems to be a most significant passage in relation to your work, in *MAN OR MATTER*, by Ernest Lehrs. (Forgive me if you are familiar with this most fascinating book.)

In a chapter dealing with the spectrum the following words appear. Lehrs theories have no connection with orthodox physics. He considers that light and darkness are both dynamic conditions of space.

"Rudolph Steiner felt the need for pioneers who, by advancing along the paths opened up by Goethe, would press forward into the realms of undiscovered phenomena on the upper border of nature, and this prompted him to give to those who were ready to listen various pointers towards new ways of experimental research. . . . Now, among the indications given in this latter field (physics) and not yet worked out, there is one which deals with a way, unknown to-day, of influencing the spectrum with a magnet.

". . . His indication points to nothing less than a leading over of the optically produced spectrum from its usual linear form, with two boundaries on either side, into a closed circular form, and of doing this with an adequate application—as yet undiscovered—of magnetic force. Further, according to his statement, the point where the two ends of the spectrum meet will prove to be a fountain-head of certain higher natural forces which otherwise are not directly accessible.

"Our understanding of magnetism as a specific representation of the polarity of the second order (polarised gravity) enables us to understand, at least in principle, how magnetism might influence—not light itself, as present-day physics erroneously believes—but the secondary polarity of the spectral colours formed out of the primary polarity Light and Dark. . . ."

". . . The reason why this fourth and highest metamorphosis of Light (the other three are the visible spectrum, ultra-violet and infra-red) does not appear in the ordinary spectrum is because it is of too spiritual a quality to be caught by the optical apparatus. . . . With the aid of this (magnetism) it will be possible to organise together round a common spatial centre that part of the activity of levity which escapes the optical instrument and thus remains cosmic, and that part which appears by itself in terrestrial space.

"Once this has been practically carried out, we may expect a complete colour-circle to appear as already divined by Goethe. The full circle consists of twelve discernible colours, with the Goethean peach-blossom diametrically opposite the green. It is in this region of the peach-blossom that—again according to Rudolph Steiner—we shall find a source of actively working life-forces. . . ."

Since the images produced on your photographic plates are the result of an effect on the emulsion similar to that created by ordinary light, it would seem to suggest that a relationship of some kind or

other exists between the cause of this effect and ordinary light. Rudolph Steiner, of course, died in the 1920s.

With best wishes, Yours sincerely,  
H. W. HEASON.

Michaelchurch Court,  
Michaelchurch Escley,  
Hereford.

DEAR MR. DE LA WARR, April 4, 1959.

Further to the articles re blessing in MIND AND MATTER; I thought the following story might interest you as well as suggest an interesting line of experiment. I cannot vouch for it, but it came from a reliable person who was told by a clergyman after having heard a lesson on thought and prayer.

A very saintly old chap was given twelve cabbage plants by a friend; he planted them and as they progressed was disappointed to find caterpillars ravaging them. He took a caterpillar, and talked to it saying, "Now this must stop. You can have one of these to yourselves but must leave the other eleven to me." After talking in this vein for some time he said a prayer over the plants.

The result was that one plant was devoured and the other eleven completely untouched. Some time later he saw the friend who gave him the plants and learned that his friend had lost all plants through the caterpillars.

Yours sincerely,  
A. E. CHARLES.

#### ERRATA

We ask the special indulgence of our readers to the errors in this issue, but owing to the National Printing Strike the Quarterly has been produced under great difficulties. We therefore apologise most sincerely for the late appearance of this issue.

Page 7 fourth paragraph; "fivers" should read "fibres"

Page 24 fourth paragraph; "report" should read "reporter"

Page 39 fourth paragraph; "covers" should read "discovers"

Page 59 under "Books to Read" should appear "The Power of Prayer on Plants"

Back page inside cover. "New Bottle for New Wire" should read "New Bottles for New Wine".

## TRANSHUMANISM

We cannot refrain from quoting an excerpt from Professor Julian Huxley's brilliant book "New Bottle for New Wire" because had we had his great gifts of expression we could not have expressed the aims and objects of the Laboratories in more felicitous terms.

THE EDITOR.

AS a result of a thousand million years of evolution, the universe is becoming conscious of itself, able to understand something of its past history and its possible future. This cosmic self-awareness is being realised in one tiny fragment of the universe—in a few of us human beings. Perhaps it has been realised elsewhere too, through the evolution of conscious living creatures on the planets of other stars. But on this our planet, it has never happened before.

Evolution on this planet is a history of the realisation of ever new possibilities by the stuff of which earth (and the rest of the universe) is made—life; strength, speed and awareness; the flight of birds and the social politics of bees and ants; the emergence of mind, long before man was ever dreamt of, with the production of colour, beauty, communication maternal care, and the beginnings of intelligence and insight. And finally, during the last few ticks of the cosmic clock, something wholly new and revolutionary, human beings with their capacities for conceptual thought and language, for self-conscious awareness and purpose, for accumulating and pooling conscious experience. For do not let us forget that the human species is as radically different from any of the microscopic single-celled animals that lived a thousand million years ago as they were from a fragment of stone or metal.

"The new understanding of the universe has come about through the new knowledge amassed in the last hundred years—by psychologists, biologists, and other scientists, by archaeologists, anthropologists, and historians. It has defined man's responsibility and destiny—to be an agent for the rest of the world in the job of realising its inherent potentialities as fully as possible."

*New Bottles for New Wine*, p. 13, Chapter heading down to end of third paragraph, Dr. Julian Huxley, Chatto and Windus, 1959.



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