

COMMENTS ON THE FISHER-HOOVER EFFECT

The Fisher-Hooper effect consists of the apparent generation of a gravitational field by the rotation of a non-varying magnetic field within a shield. It is suggested that the effect is due to the vector cross product of the magnetic field B and the velocity v with the electric component shielded out.

I would like to extend this explanation by the addition of a further concept. There is some evidence that time is essentially a field condition. The background of this premise is unimportant at the moment, beyond the fact that it seems to fill a gap in our scientific thought in a satisfying manner.

If we define tempic field intensity as the amount of time in a given region in a given interval, we can place it on the same footing as the other two basic fields, electric and magnetic. If we take as our interval the terrestrial second, we then have an established scale.

The force of gravity, parametrically, is $F_g = \frac{ML}{t^2}$ which is inversely proportional to the second power of time. If the tempic field intensity were increased in a region then, since that region will contain more than "normal" time the force of gravity would appear to be decreased, and vice versa.

In the Fisher-Hooper experiment when g was apparently increased by 4.7 miligalls, the equivalent decrease in t would be about 2.19×10^{-3} sec.

Looking again at the definition for tempic field intensity we may enquire regarding the distribution in space of this effect. As the inverse square law is fairly well established for the distribution of electric, magnetic and gravity fields, we could justifiably assume that the same law holds for tempic field distribution. Therefore, knowing the physical dimensions involved, we should be able to calculate the tempic field intensity generated in the working region of the experimental equipment.

We might also consider this point. If, as appears probable, the effect actually originates within the substance of the shield itself, then this could amount to either an increase or a decrease in the tempic field within the shield material and we will have to investigate by other means whether the new time structure originates from the shield material, or is "pushed out" from it, leaving a conjugate condition inside.

In the Fisher-Hooper experiment which gave 4.7 miligalls of artificial gravity, the corresponding time change would be 2.19×10^{-3} seconds. Therefore, within this region the second would be $(1 - 2.19 \times 10^{-3})$ terrestrial seconds. If a time sensing probe were used, operating at say 1 megacycle, the insertion of such a probe into this region would produce a frequency lowering of $(1 - 2.19 \times 10^{-3})$ (10^6) or 2.19 kilocycles which would be easily observable.

In electromagnetic units the parameters are as follows:

$$\text{Quantity } Q \text{ is } \frac{L^{\frac{1}{2}} M^{\frac{1}{2}}}{u^{\frac{1}{2}}}$$

$$\text{Electromotive force emf is } \frac{L^{\frac{3}{2}} M^{\frac{1}{2}} u^{\frac{1}{2}}}{T^2}$$

$$\text{Magneto motive force mmf is } \frac{L^{\frac{1}{2}} M^{\frac{1}{2}} u^{\frac{1}{2}}}{T}$$

$$\text{Field strength } B = \frac{\text{mmf}}{L} = \frac{M^{\frac{1}{2}} u^{\frac{1}{2}}}{L^{\frac{1}{2}} T}$$

The relationship between the quantities u and K is

$$\frac{1}{K^{\frac{1}{2}} u^{\frac{1}{2}}} = \frac{L}{T}$$

When the field B sweeps through a material having K and u the cross product of B and v

$$B \times v = \frac{M^{\frac{1}{2}} u^{\frac{1}{2}}}{L^{\frac{1}{2}} T} \times \frac{L}{T} = \frac{L^{\frac{1}{2}} M^{\frac{1}{2}} u^{\frac{1}{2}}}{T^2}$$

If the material is a conductor, electrons will flow and provide a displacement so that the outside potential is equal to the total emf. However, since the material is a conductor, no internal electric field can exist. However, since the emf is still present, this can only be offset by polarization of the remaining material. Parametrically this becomes

Polarization is QL

$$QL = \frac{L^{\frac{3}{2}} M^{\frac{1}{2}}}{u^{\frac{1}{2}}}$$

Since the difference between Polarization and Bxv must be zero

$$\frac{L^{\frac{3}{2}} M^{\frac{1}{2}}}{T^2} - \frac{L^{\frac{3}{2}} M^{\frac{1}{2}}}{u^{\frac{1}{2}}} = 0$$

$$\frac{u^{\frac{1}{2}}}{T^2} - \frac{L}{u^{\frac{1}{2}}} = 0 \quad \text{from which}$$

$$\frac{T^2}{L} = \frac{u}{L}$$

$$\text{But } \frac{L}{T} = \frac{1}{K^{\frac{1}{2}} u^{\frac{1}{2}}}$$

$$\text{from which } T^3 = K^{\frac{1}{2}} u^{\frac{3}{2}}$$

$$T = K^{\frac{1}{6}} u^{\frac{1}{2}}$$

The foregoing implies that within a substance the time is related to the dielectric constant and permeability; but whether one is the cause and the other the effect or whether all or one are merely indicators of something else is not apparent. However, we do know that the velocity of propagation of an electromagnetic wave is proportional to $\frac{1}{K^{\frac{1}{2}} u^{\frac{1}{2}}}$, so it is probable K, u, and T

are really three aspects of the same thing, since we have no reason to believe that length inside a substance is any different than length outside of it.

Because of the observed symmetry of the parameters involving K and u, it is reasonable to assume that the actual parametric relationship between T, K and u is $T = K^{\frac{1}{2}} u^{\frac{1}{2}}$ and it does not really matter which side of the equation we consider to be cause or effect.

Referring again to the relationship resulting from the Fisher-Hooper experiment

$$T = K^{\frac{1}{6}} u^{\frac{1}{2}}$$

it appears that the external effect was brought about through the displacement of the electrons modifying the normal square root relationship. Normally, when all chunks of matter are in equilibrium with the time surrounding them, the square root relationship holds, but when polarization takes place, asymmetry is introduced and the relationship becomes sixth root. Hence, we would expect an asymmetry to develop in the fields external to the chunk of matter being operated upon as above.

There is another and somewhat different aspect to the Fisher-Hooper experiment that may be worth considering. Although we have not as yet made any official announcement of the fact, and have met considerable resistance in scientific circles where the matter has been discussed privately, there is some evidence to support the view that regions exist where in the binding forces of matter are altered.

This first came to our attention when quite a few aircraft failed in flight for no apparent reason. Where the cause of failure could be determined it seemed to involve the ultimate strength of materials which should have been strong enough.

A program was set out to investigate this phenomenon and towards this end several "Binding Force" instruments were constructed and supplied to colleagues in various parts of the world with the request that they investigate the regions near where aircraft or other structures have failed.

In several instances the reports came back that there did exist regions where the binding was below normal and which could have been involved in the structural failure. In addition, a few such regions were located where structures had as yet not failed, but which we believe could be dangerous.

As yet we have insufficient evidence to establish, with certainty, whether or not these regions have anything to do with the observed structural failures, but the present indications point in this direction. Nor do we know if these regions are fixed in position or if they move about; or if they manifest to a certain level and then decrease, ultimately to vanish. Nor do we know their dimensions.

The instruments used in these investigations are quite simple and consist of matching the pull in a metal spring stressed well under its elastic limit against the pull in a fiber made up of large molecules stressed just below its elastic limit. Reduction in binding will, of course, show up first in the fiber and cause it to lengthen and the pointer-carrying spindle, about which it is wound a couple of turns, to turn. Deviations are read from a scale over which the pointer moves. In operation, regions of slightly reduced binding produce a deflection from which the instrument recovers when removed from the region, but when regions of greatly reduced binding are encountered the instrument takes a permanent set and must be readjusted before it can be depended upon again.

It is suggested that we should not discount the possibility that the Fisher-Hooper experiment may actually be producing a region of reduced binding which affects the springs of the gravimeter, causing them to relax somewhat and give an indication as of increased gravity.

We are proposing to investigate both the above aspects of the Fisher-Hooper experiment, as well as several others, in the near future and we would like very much to hear from others who may also have looked at these aspects.

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BINDING FORCES

W.B.Smith

Matter as we know it is held together by "forces" the nature of which we do not clearly understand. We have developed some very elegant theories to explain most of the observed phenomena, and we add sufficient "correction factors" to make the theory fit the rest. But every now and then we come face to face with something which our theory just will not explain, and rather than admit that our theory is inadequate, discard it and start over again, we just can't bring ourselves to throw out such an elegant mathematical masterpiece, so we usually just turn our backs on the new fact and refuse to recognize it. This is well demonstrated in the matter of Binding Forces.

Several years ago, following several rather bad aeroplane crashes for which there was no satisfactory explanation, the people from "elsewhere" were asked through "contacts" if these crashes were possibly due to our craft flying too close to their craft. We were informed that while a very few of our craft had suffered in this manner much greater care was now being exercised by the saucer pilots so that this cause was virtually eliminated. We were informed, however, that our pilots flew around in complete disregard of the regions of reduced binding with which this planet is afflicted, and very often their craft was not designed with a sufficient factor of safety and came apart.

When we countered by saying that we knew nothing of such regions, we were informed that means for detecting them were easily

within our technology and that we should build suitable instruments and then pay attention to what they registered. They also passed a few uncomplimentary remarks about our propensity for shooting off atom bombs which actually created a pair of such "vortices" with each explosion.

The principle of the "Binding Meter" was then explained to us, and we were left to work out its detailed design. The principle is quite simple; - all matter is held together by the relative configurations of the three basic fields of nature, tempic, electric and magnetic. These configurations are characteristic of what we call the molecular structure, and the interactions of these fields is NOT linear. Therefore, since the fields interacting are the sums of the local fields and the background fields, such interaction can be used to indicate certain characteristics of the background, through this very nonlinearity.

Structurally the binding meter consists of a nylon fiber which is stressed close to its elastic limit (after having been overstressed to establish stability) pulling against a steel spring which is stressed well below its elastic limit. The nylon fiber is wound around a spindle which carries a pointer, so that any longitudinal movement of the fiber will cause the spindle to turn and the pointer to move across an arbitrary scale. In setting up the instrument nylon fishing leader was used and prestressed to the breaking point and this point noted. The instrument was then threaded and one end fastened to the spring and the other placed under tension to 75% of the previously noted breaking stress, and the

end clamped under a friction washer which was somewhat softer than the nylon, to grip it solidly without deforming the nylon. The whole instrument was then set aside for a few days to make sure that it was stable, after which the pointer was slipped to mid scale and the instrument was considered ready for service.

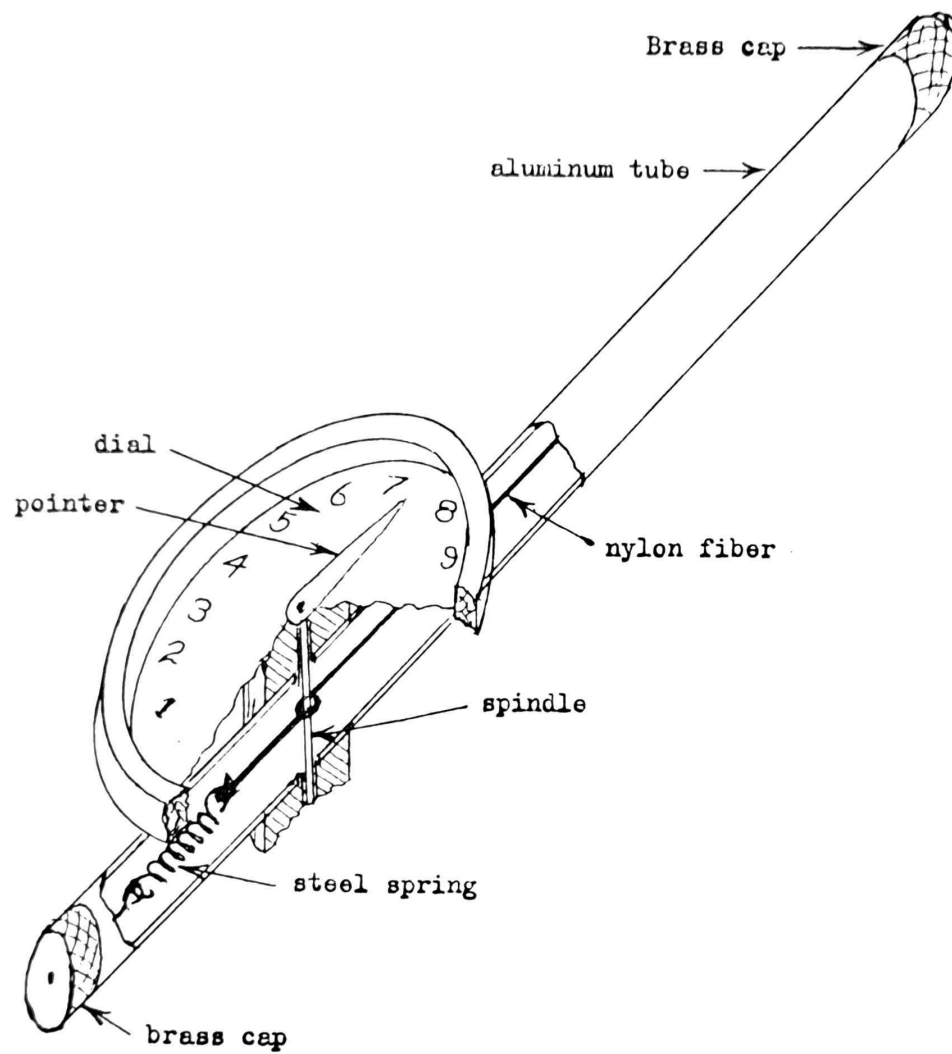
By making the body of the instrument of aluminum tubing about 1/2 inch diameter and 10 inches long, the combination gives very good temperature compensation, and a range of temperature of 100°F makes less than 1/2 division on an arbitrary scale of 12. There is no perceptible change over the complete range of humidity and no parametric sensitivity was observed. Dimensions apparently are not critical, and successful instruments have been made with quite a variety of parameters. Unfortunately, we have no way of calibrating these instruments at the present time, and the best we can do is use them for qualitative indication.

My colleagues and myself have investigated the general areas through which aircraft have flown just prior to unexplained crashes and we have found several regions of reduced binding, the meters showing several scale divisions change. These regions seem to be roughly circular and about 1000 feet in diameter, and probably extend upward quite a distance. A few have been detected by air when planes have flown through them, but fortunately in these cases the craft were strong enough to remain intact!

Whether this is generally true or not we cannot say, but it does appear that things are somewhat stronger in the northern

latitudes than they are farther south, and certain areas seem to be permanently afflicted with reduced binding. We do not know if the regions of reduced binding move about or just fade away, but we do know that when we looked for several of them after three or four months we could find no trace of them.

It would therefore appear that this business of reduced binding would stand quite a bit of further serious investigation. Unfortunately, because of the unorthodox source of this information efforts so far to obtain official recognition has resulted only in more letters being added to the "crank file".



BINDING METER

NEW PRINCIPLES IN QUANTUM MECHANICS, A REVIEW.

W.B. Smith

Dr. H. C. Dudley, Chief of the Radio-Isotope Laboratory at the U.S. Naval Hospital in St. Albans, N.Y., has had the courage to challenge the orthodoxy of modern science in his new book, *NEW PRINCIPLES IN QUANTUM MECHANICS*. The following extracts will do more than any reviewer to set forth this challenge.

"The key to how scientists have misled themselves, and therefore the rest of mankind, is in the wedding of Mathematics and Philosophy, and their adoption of the infant Science, circa 1800. In the following four chapters is given an analysis of the mental processes which have led us to conclusions that are so firmly embedded in our consciousness as to be considered "scientific truths". Yet these "truths" have never been observed by any man. Strange creatures, we Homo sapiens!

"But the fantastic, the frightening aspect of this very human fault is that those who are so wholeheartedly accept the philosophical-mathematical explanation of the universe and its working parts do not see the lack of factual data which originally permitted the development of this school of thought. Most have never read the original papers or popularized articles, long available in English translations, of Lobachevsky, Riemann, Lorentz, Fitzgerald, Minkowski, Weyl, Einstein. Modern students have not unemotionally examined the unprovable, unmeasurable propositions that are the bases of modern physical theory.

"The experimentalist does not comprehend how the philosopher has supplanted data-taking by mathematical symbols and manipulations. Much easier to compute than to experiment and secure accurate data!

"There were some men who lived during the development of the basic postulates of modern theories who doubted the logic on which they rest. Moreover, these men resented the use of the promotional methods of the market place, which were blatantly used to fasten on the minds of men, at all levels of culture, what many considered to be a false scientific doctrine. Certain of these men, having the courage of their convictions, published books reporting on various aspects of the situation as they saw it at first hand.

"To dismiss all such publications as the work of crackpots, as the railings of ~~XXXXXXXX~~ "cranks rebelling against the father-image of established authority", is to belittle the work of technically trained men of high renown, respected in their fields of specialization. In order that students of the physical sciences may know that there were (and are now!) other views in fundamental physical theories than are presented in recent physics texts, there follow reviews of the more pertinent of these works.

Because scientists, mathematicians, and philosophers have for centuries wrestled with the idea of an absolute, mathematicians have mesmerized themselves into believing that by setting up two frames of reference they have in some way eliminated the need for an absolute plane or point of reference. But by the system of two frames of reference they establish the most unstable of points of reference, man himself. Such egotism!

"If there is, or ever was, such ~~XXXXXXXX~~ as a device of the devil, it is the mathematical concept of two frames of reference. For in following this Pied Piper mathematicians and theoreticians actually describe two entirely new planes of existence, worlds built of imaginary geometries and mental aberrations. They have thus indeed deluded themselves into believing

that "man is the measure of all things, and there is no other measure."

"Thus again we see how the minds of men, be they scientists, mathematicians, or philosophers, can be swayed by emphasis and selected data. The techniques of modern advertising and propaganda are centuries old, and under any other name are especially effective if their devotees are convinced they are right.

"In reading the popularized histories of relativity, one notes that when the Theory of Relativity was first propounded, only a dozen or so persons had the mental stature to understand the theory. Tacitly, and subtly, it brought out that these intellectual giants were so far removed from the garden variety of scientists who objected to the theory that the criticism was but like the babbling of children. It is here that we see the beginnings of the most successful and sustained application of the "big lie" propaganda technique that man has ever foisted upon himself. Repeat! Repeat! Repeat! Ignore or belittle criticism. Those who do not agree will pass. And a scientific "fact", a "truth", becomes fastened in the minds of men at all levels of culture.

"Consider also that the eminent German mathematician Hilbert once defined mathematics as a game played, according to certain rules, with meaningless marks on paper. The following is addressed to the professional mathematicians: You have developed many complex games, played with many unintelligible marks on paper. You have invented many new games utilizing many "markers", "checkers", or "men". You have changed the rules of the game at will, and often in the middle of the game. You, the professionally trained mathematicians, are the only men who really understand what you are doing, and for that reason most men stand in awe. Your vanity is tickled, and you have found the answer

for that very human urge, a feeling of superiority. You have acquired "status".

"There are some of you who doubt where you are heading, but the great, great majority are convinced that your course is correctly plotted. Are you prepared to accept the responsibility, should your navigation prove faulty? The experimenter, too busy being a high-level technician and gadgeteer, has entrusted his leadership to your hands. He is dealing not with marks on pieces of paper, but with forces that are beyond your comprehension, unless you have actually observed a nuclear explosion. Are you and your craft prepared to stand before the bar of history and defend your present position?"

Part two of Dr. Dudley's book deals with the consequences of the postulation of a particulate universe and the fact that such a universe would be quite consistent with that within which we live, and incidently, not nearly such a mathematical monstrosity.

It is unfortunate that Dr. Dudley, did not understand, or was not prepared to accept the fact of the field nature of Time, because this concept combined with the excellent work set forth in this book would have rounded out the picture and offered a very much simpler, more readily understandable, and probably more realistic representation of the universe in which we live.

For anyone who has sufficient scientific background to appreciate these things, this book is highly recommended. It is most disturbing, but maybe we ought to be disturbed!

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- 2 -

A Christmas Story: LAMPS TO LIGHT THE WORLD

By

Wilbert B. Smith

The day was dark and dismal,
The sky was overcast,
A cold north wind was blowing,
Heralding Winter's blast;
Store-windows brightly glistened
With merchandise displayed,
Interspersed with sparkling lights,
Christmas was on Parade !

Here and there a Christmas Tree
With strings of lights aglow
And the Star of Bethlehem
The Christian Way to show,
And throngs of happy people
Hurried along the street,
Busy with their own affairs,
Their daily chores to meet.

A newsboy cried a headline
About Atomic War,
Military readiness
And horrors held in store;
While some may voice their reverence
Unto the Prince of Peace,
Their brothers plan destruction,
With violence increased,
Degrading Cosmic Energy
For evils yet untold,
Instead of atom power plants
For Lamps to Light the World !

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ENGINEERS ARE PEOPLE

W.B.Smith

When a politician makes a mistake he justifies it by a bill in Parliament. When a lawyer makes a mistake he initiates a law suit, and sends the bill to his client. When a doctor makes a mistake he buries it, and sends the bill to the heirs. But when an engineer makes a mistake, there is Hell to pay! Q.E.D. engineers must be different!

One of our illustrious ancestors once said that the "Whole world is queer but you and I, and sometimes I have my doubts about you!" which illustrates our propensity to regard everyone else according to our own private standards. Birds of a feather flock together, and engineers are no exception. We have our formal and informal flocks, our learned societies and our bull sessions, and we regard this as the norm, which it is. But is it really adequate?

Every profession has its own special language, and engineering is particularly highly developed in this direction. Even within the profession there are many and varied dialects according to the various branches. Communication is always marginal among people and misunderstandings are common, but between different language groups it is even more difficult. Engineers, however, do have some advantage in this direction in that basic science and mathematics do provide to some extent a common language, but between engineers and the unfortunate rest of humanity there is still a very wide language gap.

Everyone is prone to regard himself and his kind as rather superior and to look a little down on others not so favoured. The engineer is apt to

regard a scientist as a "long-hair", and the scientist in turn is apt to regard a mathematician as an "idealist", and the mathematician in turn is apt to regard the philosopher as a "metaphysician", and so on, each respecting the abilities of the other but categorizing them as rather impractical. In general we become knowledgeable in these adjacent areas only insofar as they overlap our own.

This brings up the next point, namely that of Authority, spelled with a capital A. Our modern science is a tremendously complex system of knowledge, most of which was contributed by highly specialized people in very narrow areas. If the area is small enough and few enough people are active in it, these people become "authorities" and what they say goes, with one proviso which is the catch in the whole system, that what they say must be stated in terms of one of the many languages or dialects which are understood by people in other areas. Otherwise, they are not understood, and for the reasons already stated, are looked down upon as psycho-ceramics. Our modern science contains a vast number of people who qualify as authorities because they are at once experts in their own areas and speak a language or dialect which some other group or groups understand and who are prepared to vouch for them. Scince it is obvious that everyone can't cover all areas it is equally obvious that Authority must be accepted, and in general we are prepared to do so, if the Authority speaks intelligibly.

However, there is an increasing area of "no-man's-land" which is apparent to those who look at the overall picture, where there is neither Authority nor common understanding. As our frontiers are pressed outward they take the form of spearheads, and leave unexplored areas between them, and if the advance guard gets far enough ahead these areas are closed off and become pockets of the Unknown, or Anomolies. These anomolies are generally not well known, and only those in nearby areas are aware of them, and our

standard procedure for dealing with them is to dismiss them with the glib statement that "if someone took the trouble to study them they could all be explained". I am not so sure. In any advance the tendency is to proceed over the easy terrain and avoid the mountains,- but the rich minerals are usually found in the mountains.

What is really needed in our society is more common understanding, more common language between specialized areas, more interest in the other fellows specialty, and most of all a recognition that in spite of all ideas to the contrary, we are all people.

Engineers, by virtue of their special training, to think precisely, to use information and data gathered by others, to design and build what others want, are in an admirable position to take the initiative in the direction of a common understanding, and there are a great many things we can do to foster the fusion of the myriad of isolated specialists into an integrated whole, to become the science of the future.

For example, when we prepare technical articles let's prepare them with more words and less mathematics. Let us explain in plain english what happens in the black box instead of trying to impress someone (probably ourselves) that we are brilliant mathematicians. Let us prepare more papers directed at acquainting people in other areas with what we are doing and why. Let us not be afraid to include areas a bit beyond our immediate specialty, thus building a link between two otherwise isolated diciplines. Within the experience of every engineer there is the romance of challenge and accomplishment, so let us share this with others and in so doing contribute to a common understanding of at least a little of our way of life. I am sure that if there is to be anything like world wide understanding it will have to come about in just this way. Maybe, as engineers, we should be people too and show the way.

The basic difference between engineers and the rest of humanity is the engineer's training to use data constructively and take as much as possible into account. In other disciplines there are other characteristics which are sometimes not entirely compatible with the engineer's way of thinking and therefore barriers in communication and philosophy exist. We, as engineers are inclined to regard such other disciplines as "ivory tower" and aid and abet the occupants in maintaining their isolation. Maybe we should tear down such walls rather than help build them, and because of the engineer's broader background maybe we should make the first moves.

The best way to dissolve a barrier is to penetrate beyond it and work from both sides. An ancient king once asked his councillor how best to get rid of an enemy and received the reply "Make him your friend". In the world of science this is particularly true because differences cannot long exist in an atmosphere of friendly understanding. It is through the resolution of differences that progress is made. Nature is ONE, and there is one truth no matter how many aspects it presents to the various disciplines or how many interpretations there are of it. Remember the poem about the Six Blind Men of Indostan who went to see the elephant. If the barriers among them had not existed, even with a little understanding, each would have had a very much better idea of the elephant than he could possibly have gleaned through his own capacity for observation. I maintain that right now we are all looking at the same elephant from widely different points of view, but because of our own specialization we see only very limited aspects of it and none of us really understands what the critter actually looks like. Maybe we should tear down the barriers, pool our understanding, and take a new look. If we are People first, and engineers, scientists, mathematicians etc., second, we should be able to do this, and as Engineers I think we should make the first move.

THE PSYCHOLOGICAL ANOMALY

W.B.Smith

The Oxford Dictionary defines Psychology as "Science of nature, functions, and phenomena of the human soul or mind." and Science as "Systematic and formulated knowledge; pursuit of this or principles regulating such pursuit." There are deep implications in these definitions which, if we accept, lead us into very interesting areas and right up against an anomaly. There is little doubt that when we study or pursue any subject we do so to acquire knowledge about it; to ascertain the truth concerning it; and to become acquainted with it. Therefore, it is the Reality for which we search, not its interpretation.

In psychology we deal with the Normal and the Abnormal, and we would like to have a clear cut line between them, but unfortunately this is not the case and the one blends into the other. It has been said of one old gentleman that he once remarked, "The whole world is queer but Thee and Me, and sometimes I have my doubts about Thee!" We are all most prone to evaluate everyone else according to our own yardstick, but who is there to say that each of our yardsticks contain precisely thirty six inches? In general, we agree that when deviations occur wherein a pattern of behaviour varies considerably from a familiar median, that pattern is "abnormal", but can we honestly say that it is not right, true or real? Patterns of behaviour which are quite normal at certain times and in certain places may be quite out of place or abnormal under different circumstances, but does that necessarily invalidate those patterns?

Most textbooks on psychology are replete with lengthy discussions on normal and abnormal patterns of behaviour, always referred to the author's particular yardstick, and still more lengthy expressions of opinion and

interpretation of the patterns, and many exotic words are coined describing these abnormal patterns.

By mutual consent most psychologists have agreed that the norm ought to be that pattern to which the majority adhere, and while minor deviations are tolerated major ones are regarded as illnesses which ought to be treated to restore the norm. But there seems to be marvelously little concern that this rather artificial norm might be very much lopsided according to some more nearly absolute standard, and precious little is being done to establish any such standard.

In the definition of psychology reference was made to the soul and it was implied that this was something rather apart from the body. If this is truly the case, then it is the viewpoint of the soul which should be important rather than a mere physical pattern of behavior. Maybe the soul itself should prescribe the norm against which its pattern of behavior should be gauged.

We have at the present time, and have had all through history people who were "ahead of their times" and who demonstrated patterns quite at variance with the currently accepted norm. If these people were productive and kept out of trouble they were accepted, otherwise they were burnt as witches or incarcerated as insane, and these reactions exist today, except that we have names for the "ailments".

In the full knowledge that the human soul (ego, entity, I AM, or whatever it is called) is something quite apart from yet intimately associated with the physical body, and persists and develops through incarnation after incarnation, and is in essence the governing principle of the physical body, can we in all honesty judge the viewpoint of the soul? Can we truly establish an artificial norm against which it should be gauged?

Do we really understand a condition just because we have given it a name?

Many of us give lip service to the Christian faith, saying that our ideal pattern of behavior emulates that of Christ, yet if Jesus were to be inspected psychologically there is little doubt that he would be labeled a paranoid or some other exotic name to establish His particular pattern of deviation from the norm. Today there are quite a number of people who claim to have had conversations with Jesus, and if we are true Christians we must believe that this is possible. But we cannot prove this point since we have access only to the person making the claim, and if we claim to have checked the matter with Jesus we automatically place ourselves in exactly the same category as the paranoid who makes the claim in the first place!

We have a rather narrow window of perception through which we can observe the human soul, with a lower level just recognizable as human and an upper level just recognizable as divine, with ourselves being somewhere near the middle of this window. If we are quite normal, then most of the other people whom we observe seem to be located near the middle of the window with a few deviates at one side or the other. The people near us we can understand, but those near the edges of the window are understood with the utmost difficulty, if at all. However, if we ourselves are near an edge of the window (the window of the majority) then our own window appears to be slid along so that we are still at the middle, and the majority are offset well to one side, with some even being located outside the window, and therefore beyond our understanding. In this, as in all else in this universe which we inhabit, everything is relative and must be gauged by us relative to our own position.

Probably the greatest problem which psychologists have in dealing with those who deviate appreciably from the norm, is that they don't want

to be "cured". But did it ever occur to anyone that a "cure" may not be what is called for? Maybe, from the viewpoint of the soul involved, its pattern is quite normal and it is the rest of the world that is displaced. If the soul has not yet evolved up to the median standard no amount of "treatment" will ever correct this situation; only time and experience through further incarnations. If, however, the soul is further evolved than the median, no amount of treatment will return it to the median. All this is of course, quite apart from actual mental sickness, which is in its own way similar to any other sickness to which the physical vehicle may be subject. The real job of the psychologist should be to distinguish between mental sickness and deviations due to the relative evolvment of the soul, treating the former and trying to understand the latter.

SPUTNIKS, SAUCERS, AND SPACECRAFT (1)

W. B. Smith (2)

On October 3rd, 1957 the Russians astonished the world by placing an artificial satellite called a Sputnik, in orbit around the earth. To most of the world artificial satellites and space travel were things which might happen sometime in the dim and distant future, but to have a satellite actually aloft brought home the fact that space travel was about to become a reality. There were official announcements that the sputnik was there and many people managed to get glimpses of it as it raced across the sky. Because it had been announced officially it was considered quite proper for people to admit having seen it.

With an artificial satellite aloft and people looking skyward, there were an increasing number of reports of objects being seen which were not sputniks. Many of these objects were confused with the sputnik and this confusion would have persisted except for the fact that the sputnik orbit was known and predictable. Many of these objects were recognized by their viewers as definitely not sputniks, and since it was now considered polite to admit to having seen things in the sky, many of these reports came forward and were added to the already thick files of flying saucer sightings.

The fact of the first sputnik, and the many more which followed, made it quite apparent that our race was upon the threshold of space travel, and had actually taken the first step into the great outside. With this realization came also the realization that space travel was not really quite so fantastic as it had seemed at first, and that it was quite within the realm of possibility that some other race elsewhere might be a bit ahead of us and actually be doing it, and that maybe there was something to all the stories about flying saucers after all. However, officialdom was not yet quite ready to admit the reality of the saucers, probably because they were not yet ready with all the answers to the questions which would be asked.

(1) This paper was given as a talk to the Illuminating Engineering Society, Canadian Regional Conference, at a luncheon on June 11, 1959, in Ottawa.

(2) W.B.Smith, B.A.Sc., M.A.Sc., P.Eng., Superintendent, Radio Regulations Engineering, Department of Transport, Ottawa.

During the past ten years I have made a serious and extensive study of the phenomenon of flying saucers. I have covered every aspect that I could come to grips with, and have arrived at some conclusions, which, I might say, are entirely my own and do not represent any views which might be held officially or unofficially by the Canadian Government. I think that many of these objects are spacecraft, and that they come from "elsewhere" than on this planet; that they are built and operated by beings very much like us, but who are more advanced in the business of living than we are, and that the saucers represent a technology which is much ahead of ours. I do not propose to wade through the reams of material upon which these conclusions are based, since this is practically all available in the current literature. I propose only to summarize this material.

Many thousands of people have seen lights in the sky which behaved as no light normally seen in the sky ought to behave. Many thousands of people have seen what appear to be solid objects in the sky which behaved as no solid object normally seen in the sky ought to behave. Many people have seen objects at close enough range to be able to say definitely what these objects were not, even though they could not say what they were. Many scientific observations and pictures exist with respect to these objects which just can't be explained away without challenging the honesty of the observers.

I have interviewed many people who claimed to have seen a flying saucer, and I am convinced that they are normal honest folk who are reporting as best they can something which they actually did witness. We would be happy to accept the statements of these same people in a court of law as witnesses to something more mundane, such as an automobile accident, so why should we doubt them when they tell about having seen a flying saucer? I do not think that these people are liars, fools, neurotics and hoaxters. Even if the sighting evidence were all we had I would still be inclined to accept it as fairly well establishing the reality of spacecraft from elsewhere.

However, we have in addition to visual evidence a variety of confirmation in other forms. Many sightings have been confirmed by radar with identical positions being established. Physical evidence of witnessed landings, such as imprints in soft ground, broken bushes, withered vegetation etc., is plentiful and well confirmed. Various items of "hardware" are known to exist, but are usually promptly clapped into security and therefore are not available to the

general public. Substances such as "angel hair" and molten tin, etc. have been observed to drop from these craft, and have been gathered up and analysed. Strong magnetic disturbances have been observed in the vicinity of these craft. In fact, I would say that many more people have more evidence supporting the reality of flying saucers than evidence for the reality of atom bombs. But atom bombs bear the stamp of official disclosure.

It is a well known fact that our science consists of a few basic facts and a large amount of conjecture, cemented together with great numbers of "correction factors" and "perturbation factors". We have many anomalies in our science, but instead of heeding them as Nature's warning that there was something wrong with our concepts, we shoved them into the background and turned our thoughts to those things which appeared to be more self consistent. Consequently, I am convinced, we have missed the boat on many occasions, and now when we have before us the magnificent fact that space travel through other means than on the business end of a rocket is possible, we are unable to cope with the situation, and instead of learning from these beings who come to us from elsewhere in flying saucers, we deny them, ignore them, and hope that they will go away.

I think that there is too much evidence to ignore, that the saucers are real and are extra-terrestrial spacecraft, and since their behavior cannot adequately be explained by our science, we are forced to the conclusion that this alien science transcends ours, and may even be beyond our reach.

Fortunately, a few serious investigators had the moral courage to face up to this problem in spite of the cries of "heresy" from orthodox science, and reasoned that if some other race could do these things, so could we. I will not dwell on the many dead ends which were investigated or the theories which were developed and discarded, because this is typical of any and all scientific progress. Suffice it to say that many of our basic physical concepts were tested and found wanting. Many things which we have held sacred in science were found to be valid only under specific conditions, or are special cases of a more general concept. My own group has concentrated on problems associated with gravity, refusing to believe that Newton's Law that "every particle in the universe attracts every other particle with a force which is equal to the product of the two masses and a universal gravitational constant divided by the square of the distance between the two masses" was the alpha and

omega of gravity. Since flying saucers demonstrated what appeared to be gravity control, it certainly seemed logical to assume that such control could be established. Furthermore, certain aspects of the behavior of these craft gave us valuable clues to the real nature of the universe, and its elegant simplicity.

At the present time we do not have all the answers. Nor do we have anything like an integrated theory. All we have is a collection of facts based on observation and the results of a number of experiments, but we feel that this foundation is considerably more secure than that of our current orthodox science, for in it there are no anomalies. We know that gravity is not at all what Newton visualized. Far from being a basic force in Nature, it is really a derived function, and is the consequence of a dynamic condition, not a static one. We know what goes into its makeup; we know its "formula" and have a pretty good idea of how to go about bringing it under control. We have conducted experiments that show that it is possible to create artificial gravity (not centrifugal force) and to alter the gravitational field of the earth. This we have done. It is fact. The next step is to learn the rules and do the engineering necessary to convert a principle into workable hardware.

So far, this work on gravity has been carried on entirely as a personal project, privately financed at a cost which is minute compared with the cost of the current rocket program, and with the volunteer assistance of a few people who are sincerely interested enough to put in long hours after their normal working day, and face the criticism leveled at anyone who dares to think differently. I am sure that if even a small fraction of the money being spent on rockets were spent on proper research looking toward gravity control, with the example of the flying saucers before us, and with the possible help from these people from elsewhere, we could join them in space much sooner, more safely, and more economically than we will ever be able to do on the business end of a rocket.

FOREWORD

This essay suggests that gravity and the motional magnetic field might be the one and same thing, and offers a means of gravity control if this should prove to be the case. A few new concepts are introduced but these are quite logical and have been confirmed by experiment. A program is at present underway based on the premises set forth in this essay, looking towards the control of gravity and as of this date the results appear to be quite promising.

April 10, 1959.

W. B. Smith, M.A.Sc., P.Eng.

SUGGESTIONS ON GRAVITY CONTROL
THROUGH FIELD MANIPULATION

W. B. SMITH

The Fisher-Hooper experiment⁽¹⁾ which we have successfully repeated several times suggests that there is a relationship between gravity and the motional magnetic field, and that they might even be the one and same thing⁽²⁾. Our experience in electrical engineering indicates that the motional magnetic field is electric in nature in that it can move electric charges. We know that we can shield out the effects of displaced electric charges but we can't shield out the effects of gravity or of motional magnetic fields.

We believe that the electric field induced by a motional magnetic field is distributed throughout the region occupied by the motional magnetic field, and if that region is also occupied by a conductor then there will be electric charges displaced to its surface in such a manner that the two fields will be equal and opposite inside the conductor and there will be an electric field outside the conductor equal to that of the displaced charge.

We notice at once a dimensional discrepancy here since the electric field from the displaced charges emanates from a surface whereas the electric field induced by the motional magnetic field appears throughout the volume, even though the gradients of the two are of necessity inversely identical. It is fairly obvious that this can only be true if the two fields continue to exist independently and do not combine to form a resultant field structure, from which we may generalize that fields of the same kind may interact to form a resultant field structure only if their antecedents are compatible.

Again, suppose that there is not a conductor in the region occupied by the motional magnetic field. We have good evidence (in the Betatron) that the induced electric field is still there and if the region is occupied by material which is non-conducting, such material will obviously be subjected to exactly the same electrical stress as was the conductor. Now, since we believe that matter is fundamentally electrical in nature such stress must

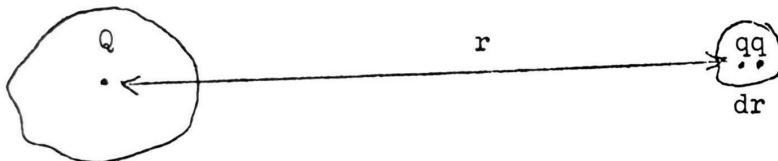
- (1) A Progress Report on Gravitational Research. Joel E. Fisher and W. J. Hooper. Presented at New Boston, N.H., August 16, 1958.
- (2) New Horizons in Field Theory. W. J. Hooper (unpublished)

result in some kind of "polarization" which will not be offset by the movement of charges.

From the foregoing we may conclude that the electric field induced by the motional magnetic field could and probably does have very much the same properties as gravity, and in fact might be the same thing. We note that it will induce a "polarization" in matter, whether conducting or non-conducting, and such polarization remains aloof from any electric fields due to charge displacement which may also develop.

From our observations on the behaviour of gravity we conclude that the individual component fields must have compatible antecedents because resultant field structures do form, and furthermore behave externally as if they emanated from a "center of gravity". Furthermore, the idea of polarization is entirely consistent with the observed "big mass - little mass and force between them" relationship of gravity.

Consider a chunk of matter Q and a smaller bit q separated by r .



Polarization force in the small bit is $q(qdr)$

$$\text{Equating forces } q(qdr) = \frac{Qq}{r^2} + \frac{Qq}{(r+dr)^2}$$

$$\text{Gravity } F = \frac{Qq}{r^2} - \frac{Qq}{(r+dr)^2} = (qdr)^2 \frac{1}{r}$$

This equation says that, if the foregoing reasoning is correct, gravity is proportional to the square of the "polarization" times the "divergence" of the field from Q . In the vicinity of the surface of this planet we have

$$\text{Polarization} = 2.5 \times 10^5 \text{ esu} \cdot \text{cm/gm}$$

$$\text{Equivalent } Q = 5 \times 10^{22} \text{ esu}$$

$$\text{Divergence} = 1.6 \times 10^{-9} \text{ cm}^{-1}.$$

It is suggested that the Fisher-Hooper experiment⁽¹⁾ must have been

operating on the polarization term of this equation because

1. The effect was very small, and
2. It always resulted in increased gravity.

If it is our desire to control gravity this obviously is not a very fruitful place to operate and we would do much better to see if we can work on the divergence term, which is much smaller and occurs to the first power only and hence can be made negative.

To alter the divergence of the field from Q it should only be necessary to add at right angles, field components having compatible antecedents so that a new field structure will form having its own characteristic divergence. In this manner we should be able to make the divergence of the new structure almost anything we desire and objects within this structure would experience a "gravitational" force $F = (\text{Polarization})^2 \times (\text{new divergence})$. Obviously, if the new divergence is negative objects subjected to this force will tend to fall away from rather than towards Q.

There are a number of mechanical and magnetic problems associated with obtaining in practice a motional magnetic field with compatible antecedents and a configuration to approach the above requirements but these problems do not seem to be insurmountable and experimental work is now under way which should establish whether or not this method can really be used to control gravity.

WBSmith