

DRAFTPROJECT MAGNET REPORT

Project Magnet was established November 21, 1950 by authority of Commander G.F. Edwards then Deputy Minister of Transport for Air Services. Prior to this date a certain amount of research in magnetic phenomena had been carried out in this Department in connection with Radio Wave Propagation studies and an indication obtained that the subject comprised a promising field of investigation. The project was set up for the purpose of studying various phenomena and concepts with particular reference to those aspects which may have received only casual investigation while our present electrical technology was developing.

The large number of sightings of unidentified objects, generally called "flying saucers", raised the question as to whether such objects could be emissaries of some other civilization having a technology somewhat different than ours, and possibly more advanced in magnetics. The limited amount of information available regarding the flying saucers has proven a serious handicap in evaluating the characteristics and salient features of this possible other technology.

THEORETICAL CONSIDERATIONS

As a starting point in the investigations by the Project Magnet group it was assumed that Maxwell's field equations might be only a special case of a more general set of equations and a good deal of theoretical work was done, mostly on a trial and error basis, to determine if any other terms could be included in Maxwell's equations and justified from a physical point of view, which would give solutions more extensive than the conventional solutions. What was in mind particularly was an investigation into the possibility of producing in effect a "magnetic sink". Investigations, to date, however, have indicated that so far as Maxwell's equations are concerned, they appear to be absolute. Justifiable assumptions to provide for additional terms merely alter the characteristics of the resultant wave functions without introducing anything substantially new. These studies of Maxwell's equations did, however, raise certain questions regarding the nature of the various fields involved and the manner in which such fields come into being. The generally accepted hypotheses were scrutinized carefully and a number of inconsistencies were detected. These inconsistencies and their experimental investigations form the subject matter of this report.

ESTABLISHMENT OF MAGNETIC FIELDS

Maxwell's equations imply that a magnetic field could move into position through lateral movement only. Longitudinal movement of the magnetic field would either be non-existent or meaningless if it did

exist. Mr. Robson, of the project magnet group, devised experimental means ~~which is described in appendix 1~~ to determine whether or not longitudinal propagation of a magnetic field could be brought about. The experiment was performed in a number of different ways and the result was completely negative in every case. This experimental evidence pointed to lateral movement only as a means by which the magnetic field became established.

Under this concept it at once became evident that there must be some underlying relationship existing throughout the various regions in which magnetic fields may be found to determine their distribution in these regions. If magnetic fields always integrate by vectorial addition into a single resultant field it is conceivable that this field could reach a condition of equilibrium in its surroundings, but this concept is open to a serious objection in the mechanism by which it could reach equilibrium if Maxwell's equations are to hold inviolate. If, on the other hand, magnetic fields do not integrate into a single resultant but exist independently, the foregoing objection is removed but another objection is substituted in that a rather special mechanism is required to tie the movement of the charge to the resulting magnetic field.

#### INDEPENDENCE OF MAGNETIC FIELDS

An experiment was devised ~~and is described in appendix 1~~ to determine whether or not fields integrate by vectorial addition. The results of this experiment indicated that the fields appeared to exist quite independently of each other and furthermore that the energy normally considered to be located in the magnetic field more appropriately should be considered to reside in the movement of the charged particles responsible for the field. In considering the independence of fields in relationship to known physical and engineering phenomena the concept does not appear to be at all contradictory. In most cases it makes no difference whatsoever whether fields themselves are considered to add vectorially, or whether the results of the effects of the fields are considered to add vectorially. There are, however, certain aspects involving the mechanics of small charged particles where it is conceivable that a substantial difference will result from the application of this basic concept.

#### ELECTRON DRAFT FORCES

One of the phenomena in connection with the waltzers was a report that the rims rotated. There is some doubt as to whether such rotation would be a necessity for the operation of the craft or merely a by-product of its operation. If the support of the craft were due to some influx of magnetic field, or an equivalent effect, a direct current could be induced in the rim which, by Lenz's Law, could provide a lift. Such direct current might be of very large magnitude and it was

reasoned that the drag due to electron drift could produce a substantial torque, thereby causing the rim to rotate unless measures were taken to prevent it. Preliminary experiments were set up to determine the magnitude of electron drift but the measured results were small and not too satisfactory. ~~However, a later experiment was devised which is described in Appendix 3 which gave very satisfactory numerical results for this electron drift force. The numerical values appear to be of the right order of magnitude.~~ This work is continuing with more refined apparatus.

### MAGNET SINK EXPERIMENTS

The original concept of this program of magnetic research was that some sort of magnetic sink, or region into which magnetic flux could be induced to flow, could exist in nature. As indicated in the paragraphs above on theoretical analysis, this concept does not appear to be entirely consistent with Maxwell's equations, nor does it appear possible that terms could be included in these equations to allow for the existence of such a sink. However, consideration of the behaviour of primary charged particles and their relationship with surrounding fields indicates that something of this nature may be possible but through a different mechanism than originally conceived. Experimental work is now under way to determine the validity of some of these concepts but it is still too early to report on any results. These experiments were delayed for several months due to slow delivery of certain materials. The amount of mechanical work necessary for setting up the experiment appears to indicate that a further six months at least will be required before any tangible answers are obtained.

### CONCLUSIONS

The project magnet program has been in operation for approximately one year. The initial group was quite small to start with and was further depleted during the year by two resignations in favour of more lucrative positions elsewhere. The results to date have hardly been spectacular and may even be claimed to confirm only what could be expected in the behaviour of fields. However, the work to date has more than confirmed the original belief that there is a great deal of unexplored territory in the field of magnetics and that research work along these lines most certainly will be fruitful.

A careful survey has been conducted of the past and current literature on the general subject of magnetics, and a substantial file of pertinent references has been built up. This file promises to be very useful in directing future lines of investigation.

CONCLUSIONS  
PROJECT MAGNET

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OBSERVATIONS

Saucers are real  
Strong magnetic fields  
Rims rotate  
Rims not airfoil  
Rims get hot  
Corona at high altitude  
Consistent geometry

Magnetic  
"Sink"

Large  
Gap

Gap

PHYSICS

Fundamental Electromagnetic Laws  
Maxwells Equations  
Quantum & Wave Mechanics

Independence of Fields  
Lateral Establishment of Fields  
Molecular, Electron, Proton Resonance  
Electron Drift Forces.