VIEWING MAGNETIC FIELD

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Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 VIEWING MAGNETIC FIELD BY G. B. HOUCK J. G. LAIRD C. C. WHIT[. PROBLEM Most individuals have never seen a magnetic field even though they are aware of the effect of one. During this past year, the authorsbecame aware that some people were reported to be capable of actually seeing what they thought to be magnetic fields. In fact, they reported seeing bloc, coing from, one end and red coming from the other end of a magnet. Because this phenomenon does not fit in the authors' understanding of current models of our physical reality, we decided to carry out a simple, controlled, scientific experiment to determine if this phenomenon was repeatable or statistical in nature.. Also by learning __from the subject who could see magnetic fields, it is hoped that some day our physics models will be expanded.. This paper is the documentation of that experi- ment and some recommendations for further experimentation- SUMMARY AND CONCLUSIONS On November 11, 197.9, the authors conducted an experiment where a subject attempted to correctly identify the polarity of an electromagnet. whose polarity was controlled, upon demand, by a computer random number generator. When the subject was ready for another trial, she would so indicate and one of the experimenters would press a button which instructed an Apple II computer to select either a "0" or "1" from an ordered array of 0's and I's initially established from a uniform random number generator. When an 0 was selected, the power was applied to the electro- magnet so that the end which the subject was viewing would have the polarity of a north pole. Similarly, when the computer selected a 1, the polarity was switched to that of a south pole. The subject would see red for the north pole and blue for the south pole determined using a compass. The color she called out was then recorded on a piece of paper by another experimenter. One hundred trials were Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 3 ↟ Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 2_ made. The experiment seemed to require a lot of the subject's energy and made her thirsty. She had to take several breaks during the 100 trials. It took approximately two hours to complete the 100 trials using the electromagnet After the completion of the 100 trials, the authors had the computer display the sequence of O's and I's that it had-used. A direct comparison of the subject's record with the computer record resulted in a 55%_ correlation... However, the first nine out of nine- rials were correct and the first 12 out of 14 trials. were correct. If the five trials proceeding the beginning of the full TOO trials are considered, the subject obtained 16 out of 19 correct answers. These five trials were under the identical conditions of the full 100 trial experiment. To check the possibility of the subject somehow reading the internals of the computer,

the subject was asked to repeat the experiment without the power attached to the electromagnet and simply guess whether the computer had an 0 or 1 for each trial. This took approximately one hour. The results showed the subject correctly guessed 51% of the trials (100 trials) with no apparent time displacement (i.e.-, the percentage was not markedly improved by displacing the sequence either forward or backward). The full extent of this subject's physic functioning has not been explored. It is not claimed that this subject actually sees the magnetic field., but she does see something which is related to the polarity of the magnetic field, and she has a color discriminate. This ability seemed to go in streaks during the first 50 trials and then became random thereafter. There may be many factors such as fatigue, boredom, etc., which had an effect on this experiment's outcome. The subject also described the nature of the "magnetic field" which she sees around a bar magnet and how that changes when magnets are placed in various positions relative to each other. These descriptions are included in, this paper. The overall results of this experiment are not statistically significant. However this could be a result caused by the conduct of the experiment, and more research   needs to be accomplished to understand what is going on. At this time, the authors know of two other potential subjects who claim to have a similar ability as the subject tested. Many tests could be performed to begin to understand this phenomenon and its sensitivity to many parameters such as magnetic field strength, lighting conditions, atmosphere and physical surrounding of the magnet, the -- biomedical state of the subject, etc. This paper is submitted merely as a beginning into what may be one path to improving the model of our reality. BACKGROUND The authors are engineers. Jim Laird is a radar designer at McDonnell Douglas Astronautics Company (MDAC), in Huntington Beach, California, with 26 years of experience in designing and developing all types of electronic systems. Jack Houck is a system analyst with MDAC, with 18 years of experience in advanced engineering developments of all types of defense systems. Chick White worked with Jack and Jim at MDAC for several years. (until 1977) as a specialist in electronics. He invented a waterbed-vibrator system and formed his own company (Electronic Design and Development Engineering, Inc.). Jack and Jim have been conducting research related to unexplained phenomenon such as "remote viewing" as defined by Targ and Puthoff. In. this research on remote viewing, several examples have occurred where their subjects have: described. phenomena which seems to correlate to electromagnetic effects which are not normally visible. For example, one subject described smoke rings coming up from a. large. dish antenna which was radiating S-band (2 to 4 GHz) electromagnetic pulses. Another subject observed a brillant light and. particles being thrown out (i.e., like a sparkler) from,a nuclear reactor. Some individuals claim to see auras, others claim "out-of-body" experiences where they "see" their own body... The parapsychological, occult, and psychology literature. is full of descriptions of these phenomena. The authors speculate that perhaps these subjects are observing some unknown aspect of magnetic energy which actually takes on the appearance of being. solid in whatever dimension or reality these subjects slip into when they perform these paranormal functions. In the summer of 1979, Jack was describing some of the observations he had made from the remote viewing experiments to Chick. Chick then mentioned that his wife, Janet, had once demonstrated the ability to correctly identify the end of a. bar magnet as he attempted to randomly present different ends of the magnet to her.. In the uncontrolled environment, a whole host of explanations were possbile from her seeing imperfections in the ends of the magnet, receiving the answer telephathi cally, to her being able to see the magnetic fields. In October 1979 during a meeting of Jim and Jack with Hal Puthoff these observations were discussed. Hal suggested that Janet be the. subject in a controlled experiment. This, paper documents the initial effort in implementing these experiments. EXPERIMENTAL CONDITIONS AND EQUIPMENT The Sunday evening prior to the actual experiment, Jack met with.Chieck and Janet in their residence, The experimental procedure and equipment was discussed. Chick provided all the equipment for the experiment. During this meeting, Janet demonstrated her ability using several small bar magnets and a small electro- magnet. It was apparent that. this activity required intense concentration and --energy for Janet. She was unusually thirsty. She found. that placing. the magnet on a white piece of paper with dim lighting aided her.

She also observed that her digital watch seemed to interfer so she removed it.. Also, when anyone was within approximately 10 feet from where she and the magnet were located;: she felt that their "fields" also interfered, making polarity sensing more difficult.. With the bar magnet on a piece of white paper on the kitchen table and, aligned parallel with the earth's magnetic field, Janet described the magnetic fields. which she saw as an hour glass (3 dimensional) as shown in Figure 1. The hour glass shape seemed to neck down at the center of the bar magnet. The interior of the hour glass shape was red near the north pole and blue. near the south pole. The fields had sthe greatest concentration of color at the center and faded out further away from the magnet (in terms of inches). Figure'1 was drawn to scale as Janet drew what she saw. When the magnet was rotated 90 degrees such that it was aligned perpendicular to the earth's magnetic field, both ends of the magnet. became white, even though the hour glass shape remained. Figure 1. Field Created By Magnet When holding two bar magnets so that they attracted each other,, Janet saw the fields intersecting as shown in Figure 2 with a white region in between where the fields intersected. When she held the two bar magnets such that they repulsed each other, the fields seemed to become collapsed lines, as shown in Figure 3 with a pitch black area in between. The authors feel this data might be valuable to other researchers. There seemed to be some distortion depending on which pole of the magnet was pointed toward the earth's north pole. Further work needs to be performed to understand what Janet is seeing. During the actual experiment, the subject, Janet, sat at the kitchen table looking at one end of the electromagnet placed on a. piece of white. paper. The electro- magnet consisted of a coil of 28 gauge wire which had approximately 12,000 turns, estimated to have-an inductance of 10 Henrys. The coil for this experiment had no iron core. The two wires from the coil were connected to a 1 1/2 volt DC. power supply which was located approximately 10 feet from the location of the coil in another room (bedroom). The polarity of the coil was switchable using relays which were set by an Apple II computer. The relays were also located in the bedroom. The door to the bedroom was closed. The wires.ran under the door. Another set of wires controlled the switch on the power supply and the button which Chick pushed each time Janet said she was ready for the next trial. During Figure Z. AtpactioR Fisids Figwr & Rpuisiw Fl" EARTH MAGNETIC FIELD LINES - -__ initialization the computer selected a set of random numbers equal to the number of trials to be run and stored them in an array. Each time the button was pushed to indicate a new trial, the computer selected a random number from the array of preselected random numbers (either 0 or 1). The number was not displayed on the TV screen. The trial number (e.g., T = 5) was displayed on the TV screen during the time the electromagnet coil was activated. Based on the selected number (0 or 1), the-computer selected the desired polarity for the electromagnet. The power was removed between trials. When Janet gave the indication of color she saw at the selected end of the magnet, Jack recorded her response. After 100 trials were completed the computer displayed the random number sequence which was then compared to the list of Janets responses. Figure 4 1:. a: schematic. which summarizes the test setup during the experiment. Before the actual experiment was run, several groups of 5 and 6 trials were made to check on the experimental conditions. Thirty-six trials were made during the hour before the actual experiment (100 trials). During that time, a 60 volt DC power supply was used and resulted in the coil heating up. Janet began to report red most of the time and indicated that the blue was very weak and hard to see. .Jack and Chick suspected the thermal environment may be affecting what she was seeing. Thus; a 1 112 volt DC power supply was used for the actual experiment after the coil had cooled down. Five trials were made just before the full 100 trials were started on which Janet scored 4 out of 5 correctly. TEST RESULTS The results of the 100 trial experiment with the electromagnet are shown in Table 1. The overall result was 55 correct identifications of'the- magnet polarity with a computer 0 corresponding to Janet seeing red, and a computer 1 corresponding to Janet seeing blue. These results are also plotted in Figure 5, with the times she took a rest or had a drink 'of water noted. It is'part cularly impressive that she correctly identified the first nine trials successfully and 12 out of

the first 14 trials. If the five trials accomplished just preceding the experiment were considered, then it would be 16 out of 19 trials. Janet needed a rest after 13 trials of the official experiment and as seen in Figure 5 seemed to have streaks of hit and misses until around trial 55. After that, her performance seemed to Table 1 Experiment with Janet White (With the Magnet) Janet Computer Janet Computer J t ane Compu er Janet Cu 1 Red 0 26 Blue 51 Red 1 76 Blue 0 2 Red 0 27 Blue 52 Blue 1 77 Blue 1 3 Red 0; 28 Red 53 Red 1 78 Blue 0 4 Blue 1 29 Red 54 Red 1 79 Blue 1 5 Red 0 30 Red 55 Red 0 80 Blue 6 Red 0 31 Blue ,6 Red- I 81 Blue 7 Red 32 Blue 0 57 Red 0 . 82 Blue 8 Red 0 33 Blue 0 58 Red 1 83 Red 9 Blue 1 34 Red 1 59 Red 0 84 Red 10 Blue 0 35 Red 0 60, Red 0 85 Red 11 Blue 1 36 Blue 1 61 Red 1 86 Red 12 Blue 0 37 Blue 0 62 Blue 1 87 Red 13 Blue 1 38 Red 1 63 Blue: 0 88 Blue 14 Blue 1 39 Blue 0 64 Blue 1 89 Blue Blue 0 40 Blue 0 65 Red 1 90 Blue 16 Blue 1 41 Blue 0 66. Blue 0 91 Blue 17 Red . 1 42 Blue 0 67 Blue 1 92 Red 18 Blue 0 43 Red 0 68 Red 1 93 Red 19 Blue 0 44 Red 1 69- Red 1 94 Red 20 Red 0 -45 Red 1 70 Blue: 1 95 Blue 21 Red 0 46 Red 0 71! Red, 0 96 Red 22 Red 0 47 ' Red 0 72' Blue 1 97 Blue 23 Blue 0 48 Red 0 73 Red 0 98 Red. I 24 Blue 1 49 Red 0 74 Red 1 99 Red 0 25 Blue 1 50 Red 1 75 Red 100 Red 0 Red 0 55 Correct Blue 1 Red 1 Blue 0 } 45 Correct behave randomly. Is this due to fatigue? What was she seeing during the latter half of the experiment? There were times late in the experiment where she did have a hard time differentiating the colors and may have guessed. There seemed to be after-images of red and black squares getting in her vision some times. Because the experimenters had not programmed the computer to allow her to pass, she was forced to make a decision when she may have preferred to-paass--: After the experiment (100 trials) was completed, another, 100 trials were made when Janet was asked to guess whether the computer had.,.a.zero.or one. For this, the electromagnet was disconnected. The results of this experiment is recorded in Table 2 and also plotted in Figure 5. The overall experiment-resulted in 51 correct answers (hits) out of the 100 trials. Also, this series seemed to behave more randomly than the results when she used the magnet. This series went faster (I hour) than the series of trials when using the magnet (2 hours). Janet said whatever number came to her. The experimenters became curious about the behavior of the random number generator which seemed to put out a string of either zeros or ones for these. two experiments. The number of times a one came up is shown in Figure 6 as a function of the trial number for both of these series of 100 trials. It can be-observed in Figure 6that during the first 55 numbers the random number generator seemed to output more zeros than ones but became more random thereafter. Because these were generated at the beginning of each experiment (i.e., all 100 were determined before trial number 1), the possibilities of a bad random number generator or a PK effect on the random number generator were considered. Subsequent analysis. of the Apple II random number generator showed that this behavior was common with or without Janet in the room. This particular random number generator did seem to output a larger number of strings of zeros or ones than would normally be expected. For large numbers of trials, the random number generator did perform well. For example, many times the random number generator was made to select 10,000 samples and usually produced between 5,000, plus and minus 25, ones. Thus, it was concluded that no PK was affecting the computer and that further study of the random number generator performance was necessary. Experiment with Janet White (Without the Magnet) Janet Computer Janet Com uter Janet Computer 1 1 26 0 1 51 0 2 0 27 0 1 52 1 3 0 28 1 53 1 4 1 29 0 0 54 1 5 1 30. 0 0 55 1 6 0:.. 31 0 1 56 1 7 0 0 32 0 0 57 0 0 0 33 0 0 58 0 9 0 1 34 1 0 59 0 10 0 0 35 0 1 60 0 11 1 36 1 1 61 0 12 1 37 .0 1 62 0 13 1 38 1 1 63 0 14 0 0 39 0 0 64 1 15 1 1 . 40 0 0 65 0 16 1 .0- _.__41_ . 0 0 66 1 7 1 0 42 0 67 0 18 0 1 43 1 0 68 1 19 0 44 1 0 69 1 20 0 1 45 0 0 70 0 21 1 0 46 1 0 71 0 22 0 0 47 1 0 72

0 23 0 1 48 1 0 73 0 24 1 1 49. 0 1 74 25 1 1 50 1 0 75. 51 Correct 1 1 Janet Computer 76 0 0 77 1 1 78 1 0 79 0 1 80 0 1 81 1 1 82 0 0 8 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 0 1 0 0. 0 0 Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 🡅 Approved For Release 2001/03/07 CIA-RDP96-00788R002000130018-8 N 0 🡅 Approved For Release 2001/03/07 : CIA-ROP96-00788R002000130018-8 RECOMMENDATIONS The speculations of the experimenters were that Janet would obtain a much higher success rate when using the magnet than actually resulted. Because-her- perfor- mance was so good at the beginning, the authors suspect that she can see a color discriminate between the polarities. of a magnet and the experiment itself may have been improperly designed to demonstrate this phenomenon. Fatigue and boredom with this type of-replicate experiment are probably major factors. Clearly more experimentation is required. Several other subjects will be tested. The computer program will be modified to allow the subject to pass if he or she does not have a clear response. Many variables need to be examined. This is a simple experiment to implement. No human knows the sequence of numbers contained within the computer until after the total number of selected trials is completed. Therefore, no telepathy or ESP from any other person involved in the experiment enters directly into the results. This paper documents the beginning of experimentation with a phenomenon which is not understood. Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 🡅 Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 Appendix A schematic of the wiring used for this experiment is included in~ th event that other researches might duplicate it. This schematic is presented in Appendix Figure A. Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 🡅 Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8 DC SUPPLY IN TO MAGNET 14. - GNO >------~- J L 7q Appendix Figure A. Schematic For Experiment 3W d S.L REVERSE Approved For Release 2001/03/07 : CIA-RDP96-00788R002000130018-8