GEOMAGNETIC FACTORS IN SPONTANEOUS SUBJECTIVE TELEPATHIC, PRECOGNITIVE AND POSTMORTEM EXPERIENCES

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ABSTRACT

This study was designed to test the reliability of the observation that (spontaneous) subjective telepathic experiences concerning death and crises have occurred on days when the geomagnetic activity was quieter than the days before or afterwards. Geomagnetic activity (aa index) at the time of three major classes of subjective psi reports: telepathic-clairvoyant (n=133), precognitive (n=105), and postmortem (n=140) experiences was compared. Highly statistically significant ($p<.001$) differences were found between the classes of experiences and for time by class interactions. Telepathic experiences occurred on days when the geomagnetic activity was much less than the days on which the precognitive or postmortem experiences occurred. In addition, the geomagnetic activity on the days of the telepathic experiences was significantly lower than for the days before or afterward the experiences and for the average of the month or year in which the cases occurred. This pattern was not found for the other two classes of experiences. The telepathy-geomagnetic pattern was internally consistent and very similar to the results of three other studies. The results strongly suggest that some factor associated with or enhanced by transient, sudden decreases in geomagnetic activity may facilitate the occurrence or the memory of the occurrence of telepathic experiences concerning death and crisis.

INTRODUCTION

Several studies (Persinger, 1985a; 1986; Schaut & Persinger, 1985a,b) have shown that subjective telepathic experiences tend to occur on days when the geomagnetic activity is quieter than the days before or after the experiences. The effect is quite strong statistically and is very similar in all three studies. Most of the experiences from the Schaut and Persinger (1985) study occurred between the years 1920 and 1967 while those from the Gurney, Meyers and Podmore analyses (Persinger, 1986a) occurred between the years 1868 and 1884. More than 98% of the cases involved episodes of sudden death, crisis, or illness to friends or family members.

The aa (average antipodal) index of global geomagnetic activity has been employed in all of the above studies. Daily or half-daily values refer to the average amplitude (in gammas) of geomagnetic activity (Mayaud, 1973). This measure is derived directly and quantitatively from magnetograms of observatories in England and Australia (hence the term "antipodal"). This particular measure of geomagnetic activity was selected because it provided a homogeneous quantitative series of highly reliable values that begins in the year 1868. In addition, 100 years of the data are easily accessible in the monograph (Mayaud, 1973) or on magnetic tape; consequent years are also available. The aa index is also strongly correlated with a variety of more recent geomagnetic activity indices that include dozens of measurements from tens of different stations throughout the world.

We decided to determine the reliability of the previous studies by analyzing the remaining cases of subjective telepathic-clairvoyant (T-C) experiences that were available to us. These cases had been reported in FATE magazine; its format was considered instrumental for the demonstration of the specificity of the geomagnetic effect on T-C experiences because both precognitive (PC) and postmortem (PM) experiences were also included. Except for the temporal displacement before or after the event, descriptions and details of precognitive and postmortem experiences are similar to TC phenomena. We considered the PC and PM experiences as both source (from FATE) and case controls. If the geomagnetic effect was specific to T-C, then it should not be evident in the PC or PM cases. If it were evident in all three classes, then some non-specific factor (such as just the display of unusual experiences) might be likely.

In the present study, we compared the three major classes of subjective psi phenomena: telepathic-clairvoyance (T-C), precognitive (PC), and postmortem (PM) experiences, with respect to the geomagnetic activity

during the weeks, months and years in which they occurred. The study was designed to allow comparison with previous analyses and to allow internal comparisons within subcategories of the major classes. Consequently, we also compared the geomagnetic conditions during different modes (impression, image, dream, apparition) of experiences, conditions of the putative agent (death or crisis) when appropriate and time of day. We were particularly interested in the internal (replication) consistency of the two collections of FATE cases.

METHOD

Data Base

All first person reports concerning telepathic-clairvoyant (T-C), precognitive (PC), and postmortem (PM) experiences that contained the day, month and year of occurrence were recorded from our library of FATE magazines. Most of the 234 issues were published between the years 1965 and 1985. The collection of reports were completed in two series (replications). The first replication, which was published elsewhere (Schaut & Persinger, 1985b), involved 57 T-C, 56 PC, and 75 PM experiences. The second (replication) study involved 75 T-C, 49 PC, and 65 PM cases.

Procedure

Each report was coded according to the following parameters: hour (if given), day, month, year, sex of the percipient (reporter), classification (T-C, PC, or PM experience), mode of experience (feeling/impression, image, dream, or apparition), and general geographical location of the percipient (continent). The classification code also indicated if the experience involved sickness, crisis or death.

Case Characteristics

For the T-C experiences, the putative agent's situations at the time of the experiences were sudden sickness (n=12), life-threatening crises (27), and death (n=94). For the PC experiences, crisis was involved with 42 cases and death occurred in 63 cases. Chi-square analyses indicated that there was no statistically significant ($p>.05$) differences between study 1 and study 2 with respect to frequencies of class type, sex of

percipient (reporter), crisis/death condition or mode; 81% of the percipients were female. There was a significant ($p<.001$) difference between mode (4 levels) and the class of experience ($\chi^2=119.50$, df=6); this was due to the disproportionate number of apparitional forms (83%) in the PM experiences compared to the T-C (28%) and PC (25%) experiences. However, there was no significant difference between the proportion of different modes between telepathic and precognitive experiences only. Modes for T-C and PC experiences were not influenced by sex, crisis/death condition, or month of occurrence but they were associated with time of day ($\chi^2=10.16$, df=3, p=.02). Dreams (62%) and apparitional (75%) experiences were more likely to occur between midnight and 0600 hrs (local time) than impressions (36%) or images (31%). Impressions and images were more frequent during the other hours (0700 to 2300). Comparisons of all three classes with respect to the temporal specificity of reports: 1) specific hour, 2) day vs night, or 3) the date, demonstrated no significant ($\chi^2=4.30$, df=4) differences in distribution. Thus, reports of the specific time of the experience did not differ between the three classes of phenomena.

Geomagnetic Activity

AA values for the appropriate hemisphere in which the case occurred (north or south) were coded for the 3 days before, 3 days after and the day of the experiences. The mean aa value for the month and for the year in which the experience occurred were also coded. For those cases in which there was an hourly specification, simply the value for the day of the experience was used. For those cases in which the specific hour was specified, adjustments were made between local and universal time by using combinations of half-day values. This procedure has been discussed previously (Schaut & Persinger, 1985b).

The primary design employed multivariate analyses of variance (MANOVA) which allows repeated (dependent) measures to be combined with factors (non-repeated measures). In this instance, the repeated measures were the 7 successive days of aa values <u>or</u> the aa values for the day, month and year in which the experience occurred. The main factors were classes of experiences and replication. Other main factors that were considered before analyses began were class of experience and crisis vs death situations and class of experience (for T-C and PC) and the mode of the experience.

MANOVA were selected because it allows a dynamic (temporal) comparison of changes over time between geomagnetic conditions for separate classes or conditions of

experiences. Our previous analyses indicated that interactions (Persinger, 1985a; Schaut & Persinger, 1985a,b) between the day of the experience and the type of experience were the key phenomena. The rationale for selecting the key day (day of the experience) and the three days before and the three days after the experience was based upon both theoretical and empirical reasons. First, geomagnetic activity within 1±1 days is usually highly correlated (≥0.60) or dependent; beyond three days, there is little correlation (days are independent). Secondly, several previous studies (Persinger, 1985a; Schaut & Persinger, 1985a,b) have shown that more than ±3 days from the key day, geomagnetic values are usually not significantly different from the mean values of the month.

Because assumptions of homogeneity of variance are occasionally violated with geomagnetic indices (from outlier values; i.e., geomagnetic storms), log transformations of the daily, monthly, and yearly aa values were completed; MANOVA designs were applied to these values. Repeated measures for specific classes of experiences were completed separately to verify the results of the MANOVA and to more clearly delineate the temporal pattern of aa values; a posteriori correlated t-tests for within class comparisons and independent t-tests for between group comparisons were used. As an additional verification and data check, non parametric: repeated measure (Friedman's) and non-repeated measure (Kruskal-Wallis) were completed for the different classes. This is a routine procedure in our laboratory in order to control for possible non-linearities within data. All analyses were completed with SPSSX software on a DEC 2020 computer.

The means and standard errors of the mean of the daily aa indices for the three days before, the three days after and the days of the experiences as well as the averages for the month and years in which the experiences occurred are shown in Figure 1. Multivariate analyses of variance (MANOVA) of the seven repeated measures (7 successive daily aa values) and two factors: the three classes of experiences (telepathic, precognitive, and postmortem) and the two replications (one vs two) demonstrated no significant difference ($F(1,372)=0.56$, $p>.01$) between replications but a highly significant ($F(2,372)=11.20$, $p<.001$) difference between classes of experiences. The results of the MANOVA were similar for the log (base 10) transformations of the aa values ($F(2,372)=10.67$, $p<.001$).

A posteriori analyses (Scheffe's set at $p<.05$) on both the raw scores and log transformations indicated that the T-C experiences occurred when the aa activity of the week ($X\pm S.E.M.=19.3\pm0.9$) was lower than the values for either the PC (24.2 ± 1.1) or PM (22.8 ± 1.0) experiences which did not differ from each other. The results were identical for both absolute values and log transformations. Nonpara-

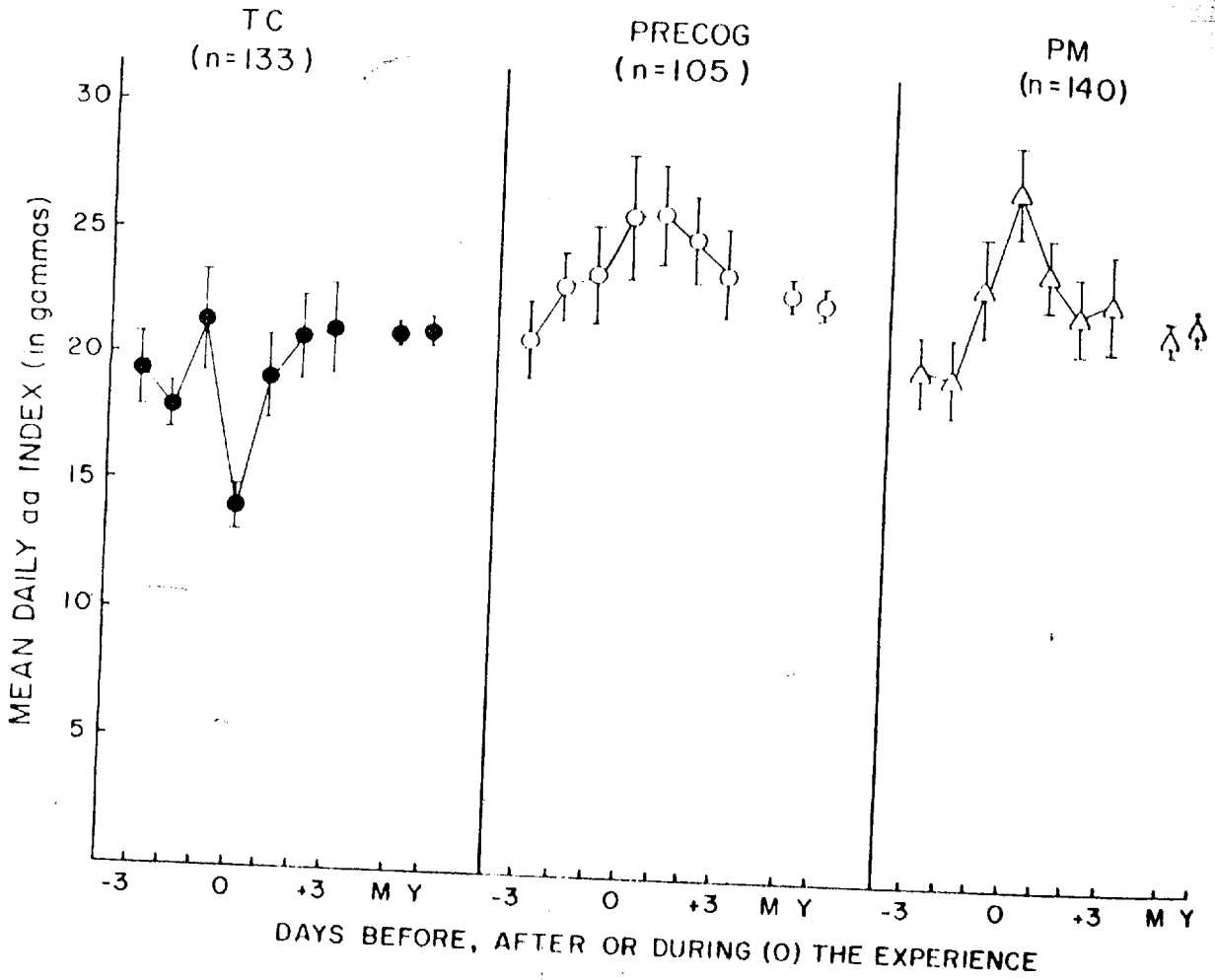

Figure 1: Mean daily values (in gamma) of the aa (antipodal) index of global geomagnetic activity for the three days before, three days after and the days of telepathic (T-C), precognitive (PC), and postmortem (PM) subjective experiences. n refers to the number of cases in each class of experience. M and Y refer to the means of the aa values for the months and years in which the experiences occurred. Vertical bars indicate ±1 standard error of the mean.

metric analyses (Kruskal-Wallis) indicated that the geomagnetic activity was also quieter during the week of the T-C cases (mean ranks=161) than for the other two classes (ranks 213, 200) of experience (χ^2=15.41, p<.001).

By far the most striking effect was the statistically significant class by days interaction. This was evident for both normal (F(12,2332)=4.30, p<.001) and log transformed data (F(12,2232)=4.42, p<.001). A posteriori contrasts indicated that this interaction was due to the quieter geomagnetic conditions on the day (X=S.E.M.= 13.9±1.0) of the T-C experiences compared to the days on which the PC (26.±2.2) and PM (27.5±1.9) experiences occurred. None of the other interactions (replication by day; class by replication by day) were significant statistically. There was also no significant difference between days (F(6,2232)=2.50, p>.01). Differences between normal aa values on just the days of the experiences were highly significant (F(2,375)=28.33, p<.001). The variance of aa values for T-C cases only was significantly less on the key day compared to the other two classes (Bartlett Box F=34.36, p<.001). However, a Kruskal-Wallis test indicated a highly significant difference between classes for the mean ranks of the values (χ^2=59.54, p<.001).

Additional MANOVA were completed to determine if the days of the experiences for the three classes were different from the monthly and yearly values. A posteriori correlated t-tests indicated that the T-C experiences occurred on days (X±S.E.M.=13.9±1.0) that were significantly quieter than the months (20.9±0.5) or the years (21.3±0.4) in which they occurred; however, there was no significant (p>.05) difference (t=0.80) between the aa values for the month and the years in which the T-C cases occurred. Similarly, there were no significant differences between the aa values for the days on which the precognition or apparitional cases occurred and their monthly aa (22.9±0.8, 21.9±0.6, respectively) or yearly aa values (22.6±0.5; 22.4±0.4, respectively). The aa values for the months and years in which the T-C experiences occurred were not significantly different (p>.05) from the aa values for the months and years in which the PC and PM experiences occurred.

We reasoned that if the relative decreases in geomagnetic activity on the days of T-C experiences were strong, the effect should be evident if we simply compared the differences in aa values between the days of the experiences and the months in which they occurred. Consequently the absolute aa value of the day of each experience was subtracted from the mean monthly value. The means and standard errors for these differences for each class of experiences were: T-C (-6.8±0.9), PC (+3.4±2.0), and PM (5.6±1.8). One-way analyses of variance indicated a highly significant (F(2,377)=17.82, p<.001) difference

between the groups. A posteriori Scheffe's set at $p<.05$ indicated that the effect was due solely to the relative decrease in geomagnetic activity during T-C experiences compared to both the PC and PM experiences that did not differ from each other. Calculations of relative changes for each case (key day aa value minus the monthly mean) divided by the monthly mean and multiplied by 100)) demonstrated values of $-32\pm4.1\%$, $14.4\pm9.4\%$, and $28.2\pm5\%$ for the three classes, respectively ($F=21.36$, $p<.001$).

To determine the strength of the repeated measure (daily aa values) differences between days for the classes of experiences separately, both parametric and non-parametric repeated analyses were completed. The T-C cases demonstrated highly significant ($p<.001$) repeated measure differences ($F=4.36$, $df=6.792$; $\chi^2=34.33$, $df=6$); A posteriori tests indicated that only the day of the experiences was significantly different than the other days. For the PM cases, a significant repeated measure effect also occurred ($F(6,834)= 5.70$, $p<.001$; $\chi^2=30.32$, $df=6$, $p<.001$). A posteriori (contrast) correlated t-tests demonstrated that for apparitional experiences, the day of the experience was significantly more active relative to two to three days before the experience ($2.70\leq ts\leq 3.75$, $df=139$). There were no significant ($p>.05$) repeated measure differences for the precognition experiences ($\chi^2 = 6.13$, $df=6$; $F=1.76$, $df=6,734$).

Further tests were completed to determine the internal consistency and cross-reliability of the results. These analyses were completed as log 10 transformations of the aa values in order to reduce the possible distortions from extreme outlier values. The first step was to determine the internal reliabillity of the most significant effect: the marked, decreased geomagnetic activity on the days of T-C experiences compared to the days before and afterwards. As shown in Figure 2A, the two replications are almost identical. The experiences occurred when the geomagnetic activity became suddenly quieter compared to the days before and afterwards.

Cross-reliability with other analyses are shown in Figure 2B. Here the geomagnetic activity on the days of, the three days before and the 3 days after the T-C experiences are shown for the 17 new cases that contained specific dates from the Stevenson (1970) collection and for the 78 major cases that contained specific dates (between the years 1868 to 1885) from the Gurney, Myers and Podmore (1886) series. Monthly and yearly aa values for each of these collections are also displayed. As can be seen, in all three studies, the T-C experiences occurred on days when the geomagnetic activity became suddenly quieter compared to the days before and afterwards. In addition, the days of the T-C experiences were also quieter than the average monthly or yearly aa values. These differences

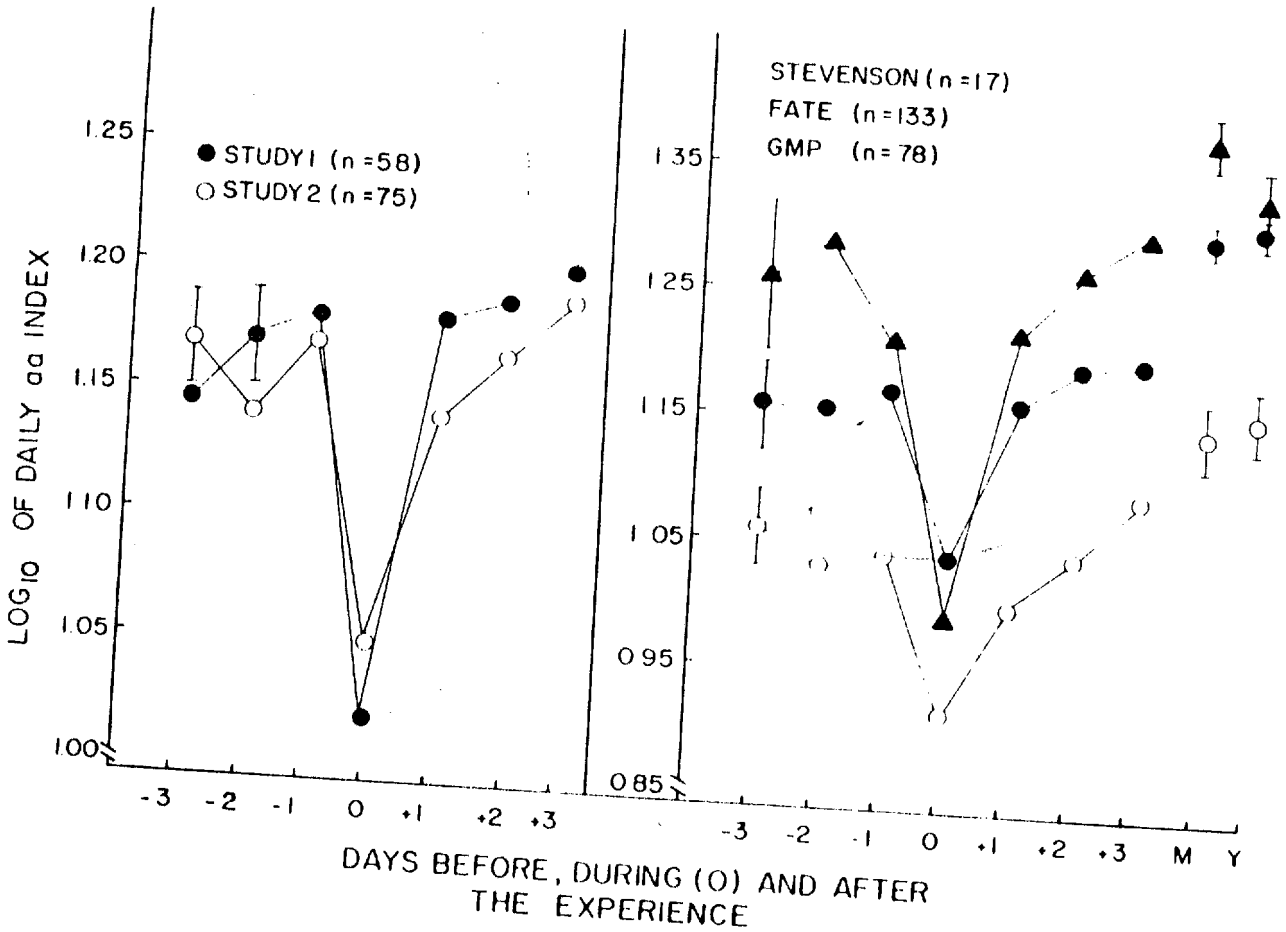

Figure 2: A) Log (base 10) transformations of the mean aa values for the three days before, three days after and the days of subjective telepathic experiences for replication 1 (n=57) and replication 2 (n=75). B) Log transformations of the mean aa values for the days during, before and after telepathic experiences from the Stevenson, present and Gurney, Myers and Podmore (GPM) series; the GPM series occurred between the years 1868 and 1885. Means for the log transformation of the aa values for the months (M) and years (Y) in which the experiences occurred are shown for each data base. Vertical lines indicate ±1 standard error of the mean.

were highly statistically significant (Persinger, 1985a; Persinger, 1986a).

Because the chi-square analyses of T-C and precognitive cases indicated that more T-C cases involved putative agents who were dying compared to crises/sickness, MANOVA were completed for the seven days as function of the two classes of experiences (PC vs T-C) and whether the agent was dying or ill/in crisis). There was no significant difference between the condition of the agent ($F(1,222)=1.80$; $p>.05$) or class by agent interaction ($F<1$). Again, there was a highly significant main difference ($F(1,222)=11.74$; $p=.001$) between the two classes of experiences as well as the class by day interaction ($F(6,1332)=2.88$, $p=.009$).

Four modes of experiences had been designated in this study: impression/feeling, image, dream, and apparitions. To determine if the modes of the T-C experiences were differentially associated with the aa index of geomagnetic activity, MANOVA was completed for the seven days (key day ± 3 days) and the mode factor (four levels). There was a significant ($p=.002$) mode difference ($F=5.06$, $df=3,129$) and not surprisingly highly significant ($F=4.60$; $df=6,774$; $p<.001$) differences between daily aa values; there was no significant mode by day interaction. The day differences were due solely to the relative decrease in geomagnetic activity on the day of the T-C experiences (regardless of mode) compared to the days before or afterwards. The significant effect (K-W $\chi^2=12.40$, $p=.006$) between modes was due primarily to the higher overall geomagnetic activity during the week in which T-C experiences involving dreams occurred relative to those involving apparitional displays. We wondered whether or not T-C cases that contained the specific hour of the experience might demonstrate a more enhanced geomagnetic effect than those that referred to only the date or to a day vs night dichotomy. These results were interesting in light of the hypothesis that the decreased geomagnetic activity might facilitate the memory of the T-C experiences rather than their occurrence (D. Scott Rogo, personal communication). MANOVA demonstrated no significant difference between cases with different temporal specificity ($F<1$).

DISCUSSION

The results of this study replicate and extend the conclusions of other analyses. Quite clearly, subjective T-C experiences concerning death, crisis or unexpected illness have tended to occur when the geomagnetic activity was less than the days before or after the experiences. The V-shaped relationship of the geomagnetic activity during the period of the T-C experiences from FATE is similar in both direction and magnitude to two previous studies (Persinger, 1985a; 1986). Like these studies, the weeks and the days of the experiences from the FATE collection were quieter than the months or the years in which the experiences occurred (although the latter two were not different from each other). This suggests that the geomagnetic factor involved with T-C experiences exists in the order of days rather than months or years.

The major additional feature of the present study is the direct comparisons of three major classes of subjective psi experiences: T-C, precognition (PC), and postmortem (PM) phenomena. The latter two types of experiences were used as source (FATE) and case controls. PC and PM reports were source controls because they originated within the same potential editorial and selection biases as the T-C class. Reports of PC and PM experiences were case controls because they involved similar themes (death or crisis), hours and months of occurrence and gender proportions. Neither the PC nor the PM experiences demonstrated the geomagnetic pattern that was displayed by the T-C experiences.

Although the geomagnetic patterns around the days of the T-C, PC, and PM experiences differed markedly, there may be some global geomagnetic factor in the latter two classes. The most obvious possibility occurs with the PM experiences. Both parametric and nonparametric analyses indicated that PM experiences (which were primarily postmortem apparitions) occurred during periods when the geomagnetic activity was increasing; the days of the experiences were in fact significantly more active than the two to three days before the experiences. However, this elevated activity was not exceptional because there were no differences between these days and the monthly or yearly averages. This means that the PM experiences were more likely to have occurred when geomagnetic activity increased following a lull (quiet period) in geomagnetic activity.

The significance of this pattern is not clear. It may reflect as suggested by D. Scott Rogo (private communication) and E. Staton Maxey (private communication) that more people die during periods of increased geomagnetic activity. Because more than half of the

numbers of PM experiences occur within 3 days (Persinger, 1974a) of the empirical event (the death), these phenomena would simply be more frequent because deaths are more frequent. Indeed there is some evidence that increased incidence of myocardial infarction (Malin & Srivastava, 1979) and crisis/accident-related deaths (Persinger, 1983; Persinger & Nolan, 1984) may occur during increases in geomagnetic activity. This explanation assumes that the PM experiences are independent of geomagnetic activity and that the importance of this global factor is to simply increase the incidence of mortality or crises.

An alternative explanation is that enhanced geomagnetic activity actually contributes to the PM experiences. Several studies suggest that the electrical lability of the human brain may be influenced by some factor associated with geomagnetic activity. Rajaram and Mitra (1981) have shown that epileptic seizures occur more frequently during periods of increased geomagnetic activity; the pattern is obvious for both monthly analyses and during special (eclipse) conditions. The most frequent type of epilepsy in the adult population is temporal lobe or complex partial forms. Even in normal subjects, small microseizures are particularly likely during sleep, especially during rapid eye movements (REM) because of the intimate role of the hippocampus in the dream process.

Several empirical studies (Hess, Urech, & Wieser, 1982) involving depth electrical recordings indicate that the temporal lobe is particularly labile during dream periods and hence may become susceptible to environmental factors (Persinger, 1985b); day-night differences in the susceptibility of rodents to magnetic fields are well documented (see Kavaliers & Ossenkopp, 1985, for latest references). It is interesting that the hourly incidence of temporal lobe epileptic seizures is very similar to the occurrence of subjective spontaneous psi experiences. This pattern is evident even for the hourly occurrence of epileptic seizures (Spratling, 1904) that occurred during the last century, before the introduction of modern anti-convulsant drugs. One factor that is known to exacerbate temporal lobe unstability are the corticosteroids and ACTH levels of the blood (Stevens, 1982). They are elevated during periods of stress, such as following the death of a family member or friend.

The variance of the daily aa values for the PC experiences was conspicuously and statistically higher than for the T-C and PM experiences. One initial explanation is that the <u>label</u> of precognitive experiences contains phenomena of heterogeneous sources. We also suspect (D. Lewicki & M. Persinger, unpublished data) that some accommodation must be made for the geomagnetic activity on the day of the <u>experience</u> compared to the day of the <u>event</u>. This is an important consideration and will be used to test

the hypothesis that PC experiences tend to occur when the geomagnetic activity is similar to what the activity will be on the day of the event. This effect would support a more traditional (temporal dimensional) interpretation of PC experiences.

The general trend of the slope in geomagnetic activity over days for PC experiences is still positive. This may support a second hypothesis that PC experiences tend to occur during slow, gradual increases in geomagnetic activity. These changes in activity could have become a learned cue (Persinger, 1979) through processes that facilitate unusual associations between subtle and overt environmental events. The processes would be due to the deepened and widened affect of the experients because of their enhanced temporal lobe lability (Persinger, 1985b; Persinger & Roll, 1985).

Regardless of the interpretation of these patterns, the results indicate that the T-C geomagnetic relationship is not likely to be an artifact of either general psi "experiences" or reporting. Most of the experiences occurred long before the geomagnetic hypothesis was developed. In addition, the FATE cases are remarkably similar in general characteristics to the cases of more accepted data basis. The classic argument that FATE readers (or publishers) simply reiterated traditional T-C experiences is not supported. The critical data in the present study were the dates of the experiences. Geomagnetic activity on the days of T-C experiences was similar to that of the days of T-C experiences from other sources. These dates were not an experiential artifact since both PM and PC experiences did not demonstrate the pattern.

The next step is to determine the mechanism/s. Living systems can respond to geomagnetic variations of the magnitude that were involved in the present study. As reviewed by Ossenkopp and Barbeito (1978), homing capacity of pigeons is adversely affected by increased geomagnetic activity; quiet geomagnetic periods facilitate homing and probably migration behaviors. One hypothesis is that sudden, enhanced geomagnetic activity interferes with subtle natural electromagnetic phenomena that act as both directional and informational sources. That sudden enhancement of natural electromagnetic noise can interfere with communication between members of a species is well documented. Fish that communicate by interorganismic emission of ELF and VLF electric fields demonstrate marked deterioration in social communication and behaviors during local thunderstorms; presumably the sferics generated by the local storms masks the subtle oranismic signals.

There is strong but not conclusive evidence that human beings may respond to geomagnetic variations or to the

stimuli generated by them (Persinger, 1974). A recent study by Subrahmanyam et al. (1985) has suggested that human beings can respond to slow electromagnetic variations that are similar in magnitude (5 or 50 gamma) to the continuous pulsations (Pc) of the geomagnetic field. They found discriminable changes in both electroencephalographic and subjective experiences when field frequencies between 0.01 Hz and 20 Hz were presented; maximum effects were noted with 0.01 Hz and 0.1 Hz fields. Of particular interest was the enhanced effect of these exposures when the volunteers were facing or lying north compared to the other three major directions. Similar patterns were found with non-human animals.

If this effect is replicated then two important and perhaps crucial conclusions are relevant for psi research. First, human beings can respond, both at subjective and objective neurobehavioral levels, to natural-intensity electromagnetic fields. Secondly, human beings respond to frequencies (or more appropriately, periods) that are commonly associated with geomagnetic fluctuations. They may occur for hours to days (and sometimes weeks) with periods ranging from a few seconds to several tens of minutes.

There is a potentially rich source of signals that are correlated with geomagnetic activity or that occur within these low frequency ranges (Campbell, 1967). In addition to the traditional ELF fields that are generated within the ionosphere-earth cavity, there are ULF (ultra low frequency) stimuli. Many of them occur as continuous pulsations (Pc). For example, Pc 1 variations have defined periods of 45-100 sec (0.01 Hz) and 150 to 600 sec, respectively. Whereas the typical amplitude values of Pc 1 are in the order of 1 gamma, the values for Pc 4 and Pc 5 are 10 and 100 gamma, respectively.

We expect that psi experiences, like other behaviors, should be influenced by the subtle, complex stimuli within the environment. The sensitivity of the living system and the complexity of these stimuli are just now becoming apparent. Even if one assumes that psi potential or experiences are homogeneous in time and space, the role of the human being as the neurobehavioral detection system cannot be ignored. Whereas the occurrence of psi may be geomagnetic field independent, the results of the present study suggest that at least the detection of psi stimuli is affected by the geomagnetic condition.

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