What Are Electromagnetic Phenomena?

by

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Big Muddy Ghost Hunters
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In paranormal studies, electromagnetic phenomena (EMP) are usually extrasensory and come in several forms. Most commonly, investigators look for electromagnetic fields (EMF) with any of several devices designed to detect them, and for electronic voice phenomena (EVP) with analog or digital sound recording devices. EMFs and EVPs represent some of the most tangible evidence of paranormal activity. They, like all other forms of evidence, can also be deceiving.

Electromagnetic Fields (EMF)

EMFs can indicate nothing more than the presence of electrical wiring, transformers, power supplies, cell phones, video games, refrigerators, power lines, or other products of human activity in the material world. They can also indicate unexplainable forces, both natural or paranormal. There are many people, including myself, who are sensitive to EMFs. There is a wide variety of symptoms that can include headaches, nausea, sense of unease, paranoia, skin irritation, irritability, heart palpitations, and the odd brain malfunction. I, for example, am less sensitive to EMFs than I am to high frequency sound, such as that produced by sonic burglar alarms, which can produce some of the same symptoms. These are all forms of pulsating energy that have natural consequences for the human body, and we are surrounded by many of these forms every minute of our existence.

Besides the theorem used to calculate the sides of right triangles, Pythagorus discovered the harmonic relationships among musical notes, and defined the musical scale. The Pythagoreans (an Ancient Greek religious cult) were interested in the natural processes of sustaining health and well being. It is not a coincidence, they concluded, that harmonic relationships sound good, while disharmony sounds bad. The human body is fitted out by nature to harmonize with natural cosmic forces. The closest thing to a sin one could commit in the ancient world was to produce disharmony–to play, for example, a C with an F#. It is only in the modern world, dominated by various forms of alienation, that we have become comfortable with discord. Music therapy that people study today has very ancient roots. It is not unreasonable to expect paranormal phenomena to consist of harmonic energy.

Almost the first thing I do in an investigation is sweep the area with an EMF meter to locate regions of EMF activity. High EMFs in an area where paranormal activity is reported indicate either paranormal activity or explainable electrical sources. However, if high readings are found near a transformer or connector box, that does not mean that there is no paranormal activity there; it just means that unless you can test the source by turning off the electricity, you cannot tell the difference. A rule of thumb is that EMFs created by electrical circuits do not move unless there is some significant change in the source. Once you establish the pattern of standing EMFs, you can then look for changes in the pattern. I set up several EMF meters along with digital recorders–like traps–in various locations thought to have high activity. If one goes off, that indicates a moving EMF.

A technique gaining in popularity is the use of EMF meters to communicate with what appear to be intelligent, but invisible, entities. The entity responds to questions by activating the meter. It is not a new technique, but it is being used more frequently on certain TV shows. The TAPS investigators, for example, use the technique, but do not necessarily consider it to be legitimate evidence. I prefer a meter that emits a sound or beep in the presence of an EMF. That way, the

interchange can be recorded on an audio recorder. Lights-only meters require video for corroboration.

Electronic Voice Phenomena (EVP)

I began the study of EVP with a large degree of skepticism. Upon hearing that "ghost voices" had been recorded, and having heard some examples, I immediately thought of a dozen different ways in which these "voices" could have found their way onto recordings. Basically, there are only two ways anything can be recorded: (1) audible sound through the microphone, and (2) electronic signals captured by the recording circuitry.

Audible sound needs three elements to exist at all--a source, a medium, and a receiver. The source is a source of vibrations in the audible spectrum–roughly between 20 hertz and 20,000 hertz (cycles per second). Sounds generated at higher and lower frequencies can be recorded, but usually not heard as sound. Very high frequencies can affect some people who might not know that what is affecting them is sound. Sound is basically lazy, and moves better and farther through dense media, such as wood, steel, water, etc. The denser the medium, the better the sound moves. Sound can be concentrated through any sort of tunnel, and will reflect off the sides of the tunnel and continue for long distances. Sound can be dissipated by air currents, or other disruptions in the medium, and by other sounds. Sound will not travel through a vacuum, and space movies where you hear the space ships flying past the screen on the sound track represent a flagrant consumer fraud.

Because sound travels in waves, it follows characteristics of other wave patterns, as do ripples in water. There can be spots where the waves build up on each other to cause distortion, and spots where the sound waves cancel each other out. Sometimes sound can be heard distinctly in one spot, and not at all in a spot nearby, these spots are called *sound shadows*. Sound travels in straight lines, and will bounce off of hard surfaces to move in a different direction. The harder and smoother the surface, the better the reflection. If the surface is rough or porous, the sound will dissipate. Sound can also bounce off of thermal layers where the density of the medium increases.

Sound travels particularly well over smooth, flat surfaces. Researchers working near a lake or a pond should be wary of voices coming from across the water. A conversation in a living room from across a lake can be picked up by sensitive equipment, such as digital recorders. Ghost voices that can be heard by those present during the investigation (and there are many instances of this phenomenon) are not technically EVP. EVP are picked up on tape, but not heard by investigators during the recording. So, sound is not the cause of EVP even though audible voices during an investigation are very important, not to mention thrilling, and should be recorded for analysis. Researchers must spend a good deal of time analyzing the research site for potential sources of sound, and must control for non-ghostly sources. Experimenting with your recording equipment under different conditions is highly advisable.

Radio frequencies are another matter. The medium is not an issue unless it is dense enough to prevent the radio waves from penetrating. There still must be a source and a receiver. Critics of EVP suggest that the electronic circuit of the recording device is picking up radio waves, which is entirely possible. Radio frequencies, which cover a very broad spectrum, are much more complicated than sound waves as far as understanding the relationship between the source and the receiver. Atmospheric conditions can produce what radio enthusiasts call *a skip*–that is, low power transmitters can be picked up half way around the world. Rather than try to explain the complicated ways in which high frequency waves can be produced and transmitted, I will simply say that there is no way to determine definitively that high frequency transmissions are not sources of EVP. I am not sure that proof is necessary.

I am personally convinced that EVP exist and I have recorded them. At least some of them are not explainable by theories of stray sound or radio frequencies. I suggest that all researchers of the paranormal read the book entitled *There Is No Death and There Are No Dead* by Tom and Lisa Butler. It is this book that convinced me. It also convinced me that reasonable research standards can be applied to EVP study which can produce conclusions at least as valid as any in the physical sciences. There is one thing that a researcher can rely upon to support conclusions of paranormal activity--it is, in a word, *context*.

The Butlers reported on many incidents of the detection of EVP. They classified EVP into three categories: Category One is a recorded phenomenon that anyone can recognize as spoken words with a specific, coherent meaning. Category Two is a recorded phenomenon that most people can decipher with some coaching. Category Three is a recorded noise that is unexplained, but that does not convey anything that most listeners would recognize. I would add a fourth category: recorded sound that is clearly a voice speaking in a structured way, but the words are unintelligible.

Not tied to any specific contextual parameters, Category Three is useless to the paranormal researcher–at least, no more helpful than someone interpreting ink blots or clouds. It might be useful in psychoanalysis, but does little to establish the meaning of EVP, even if it is a sound genuinely produced by a spirit. However, if the sound follows immediately after, say, a spoken question, or the entrance of a certain person into the room, then it may be considered as one element of an investigation that supports a conclusion. If the sound has structure, as I suggest for Category Four, then it can be recognized as a voice asking a question or making a statement with a clear number of syllables, even though the words are indistinct. These recordings can also contribute to a conclusion about the presence of paranormal activity.

If, in the process of the investigation, a recorded voice says "why did you drop the ball during the softball game last Sunday?" or comments on your choice of wearing purple shoes with orange pants, or knows some obscure detail about your grandmother that no one else knows, and these observations are true, it will be hard to explain away your results as stray sound or radio phenomena. You may have a genuine ghost.

The pervasive theory for how ghosts record their voices is that they "shape" noise in the environment into electronic sounds. EVP seem to occur more frequently when there is electromagnetic disturbance in the atmosphere, such as a thunderstorms or sun spots. Some EVP researchers use a television or radio tuned to a blank channel (white noise), and the spirits use the static to form communications. Analysis of white noise EVP is perilous for two reasons: First, white noise generators can randomly produce recognizable patterns that can be interpreted incorrectly. Second, the human brain is wired to look for patterns, even when none exist. The eager investigator longing for evidence can hear what is not there. It is like seeing the Virgin Mary in the mold on the refrigerator. Digital recorders are thought to have enough internal noise for the spirits to do their thing without outside white noise. In both cases, it is thought that the communication is generated electromagnetically within a circuit. This theory, of course, does not explain audible voices at the investigation sight. Those phenomena are not EVP, and must be explained in other ways.

Communication has a purpose. Any sound without purpose is just noise. EVP that consist of random noises are not useful in any respect other than to say that they exist. Because communication does have a purpose, and because paranormal experts insist that ghosts have the same sort of personality characteristics and behaviors they did in life, then we can assume that recorded EVP worth considering can be assessed in the same way that any other human communications can be assessed--relative to their purposes.

To this point, I have heard several examples of EVP. Just like human speech, all of them have

differences in tone, pitch, rhythm, cadence, inflection, etc. On one episode of the TV show *Ghost Hunters*, an EVP was played for the audience that I would consider a legitimate example of evidence which can be used for inclusion in an investigation of the paranormal. The example was recorded by a homeowner who was experiencing paranormal occurrences in his home, and called TAPS to investigate. The voice on the recorder was a male voice that very clearly and distinctly said "Seth." There was nothing before or after this utterance.

The utterance was very consistent with the tone, pitch, cadence, and inflections one would use in making a one word statement. It was not a question; it was not an exclamation; it was not a proposition; it was not a random sound. It was a simple statement, and a complete communication. It did not give much information about the intentions of the communicator, but that is another matter. I would be willing to consider this EVP, along with other evidence, as support for the conclusion of the existence of paranormal phenomena.

I have heard other examples of EVP that reminded me of the communications I heard in the military. Most of them were partial or incomplete communications--fragments--in which none of the words was recognizable. They had the tone, cadence, and inflections one would hear from back and forth communications on a radio during military operations. These EVP are suspect for a number of reasons.

First, at least some of them were collected in the Southwestern US. Beginning at Fort Huachucha in Southeastern Arizona, which is the largest military communications testing range in the world, constant military operations take place north through Arizona and Southern Utah, northwest through Nevada, east to New Mexico and Colorado, and west to Central California, particularly around China Lake. Not only are various long range and battlefield communications systems being tested regularly, but there are various simulated military operations going on all the time. Some of these operations involve high speed aircraft, which may be in the right position to leave a radio imprint on your recorder, but will be in and out without you realizing it. Again, atmospheric and geographic conditions can produce just the right combination of factors for a short period of time.

The military has communications technology that the average person cannot begin to understand. Based on my experience with black programs, take what you think the best technology is and multiply it by ten. Crowded radio frequencies and the possibility of interception have forced the military to use transmitting technology that is nothing like what is used by the local radio station or CB enthusiast.

How do you know whether or not you may have caught a stray military radio signal? For one thing, it will be completely different from the character of a commercial radio station, and somewhat different than what you would hear on a HAM radio or a CB band. If you cannot tell the difference, you should familiarize yourself with them. By hook or by crook, arrange to listen to these various types of communications by contacting operators, or by purchasing a receiver. For another thing, because military vehicles are constantly on the move, the signals you are likely to get will be short or in fragments. National Guard units make great sport of clicking their transmitter buttons in residential and crowded traffic areas because they know it disrupts commercial radio signals.

Is the EVP a strong, radio-like signal with a particular communications-like sound to it? Can you understand the words? Almost all military communications are encrypted or scrambled. What is the cadence and voice inflection used? Does it sound like an officer giving orders? Does it sound like one soldier communicating information or responses to another? Military communications are generally short and to the point, often just a few words. Does it sound like a short and direct, but complete, communication? Is it a clear response to something you said or did, or did it just appear out of nowhere? Did you pick up some music? Note the time and

location, and ask the local radio stations what they were playing at the time. Check and see what large stations are picked up in the area. The “X” in Texas, for example, can be heard throughout most of the south central US.

This is not to suggest that radio-like EVP are not legitimate ghost voices. But we are constantly bombarded with many levels of radio and microwave frequencies, satellite communications, military and amateur communications, as well as cellular technology. It is not enough to get a recording of a sound when you did not see anyone else around and then call it a "ghost voice". This conclusion must be accompanied by a thorough and sincere analysis if it is going to be credible and useful for the advancement of knowledge.

EVP that are not clear and easily understandable must be taken with reservation. Some researchers spend a good deal of time training themselves to understand ghost voices. That makes a good deal of sense to any white person who has heard old, black blues singers–understanding what they are saying takes a trained ear. However, one should not want to hear what is not actually there; that is the Rosenthal Effect, and can be the result of a strong desire to communicate with the beyond or to get something marketable.

Even without understanding the words, one can get a clear and consistent impression of the purpose of the communication from the characteristics of the sound that can be easily recognized by yourself and by others. It is the responsibility of the researcher to be able to classify the sort of communication this utterance is likely to be. To do that, one must observe and note how people say things in different contexts. Is it a joke? Is it a plea? Redressing? Praising? A rejection? An acceptance? Etc., etc. Does it sound like an evangelical preacher? Does it sound like a teacher giving a lecture? Does it sound like a child whining for something?

Unfortunately, the only way to know the potential for military communications, or for any other radio interceptions, to show up as EVP is to test. Since the military is not going to give up equipment for this form of testing, the researcher can try other things. Place yourself near a military installation, in a public and legal spot, and just turn the recorder on. Sit and read a book while it runs, or drive around in silence. If you do not have a military installation nearby, run your recorder when you travel around the vicinity. You will know if there are audible sounds present that may be picked up by the recorder but are not EVP. This method establishes a baseline of EVP that are not likely to be ghosts. For example, I know that my car produces a radio frequency signal which is picked up by the digital recorder. It is like a high frequency beeping, as a monitor might make. It is there one hundred percent of the time when the engine is running and none of the time when it is off. It is not audible except on the recorder. If that is not bad enough, I have one recorder that seems to be hypersensitive to 60 cycle hum; it picks up the hum when the others do not.

Testing, critical thought, and analysis are the tools needed, not only for understanding EVP, but for interpreting all paranormal evidence.