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# A Two-Year Investigation of the Allegedly Anomalous Electronic Voices or EVP

Anabela Cardoso

## ABSTRACT

A relatively novel acoustic phenomenon has inundated the Internet and specialized literature. Several Associations, some of them with an important number of members, have formed around it in many countries. In the Anglo-Saxon world the phenomenon is called EVP (Electronic Voice Phenomenon) and is usually assumed as electronically mediated communication from or with the deceased. The first tests aimed at verifying the reality of these claims were carried out in Sweden and in Germany, in 1964 and 1970, under the direction of Professor Hans Bender from Freiburg University (Bender, 1970; 1972; 2011). The present report describes in detail the tests designed to record the allegedly anomalous electronic voices, or EVP, under controlled acoustic conditions. Series of experiments were carried out in Vigo, Spain throughout a period of two years under conditions controlled to the highest degree achievable. Several operators were involved in the many tests conducted in Acoustic Laboratories and professional recording studios equipped with very high levels of acoustic shielding. The protocols and procedures followed in the experiments, as well as the results obtained, are herewith described. Several extra voices were recorded during the many experiments performed for which no normal explanation was found.

**Key Words:** DRV, EVP, acoustic background support, anomalous electronic voices, carrier, frequency mixture, noise, phoneme mixture, transcommunication

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## Introduction

Controlled experiments aimed at the recording of the purportedly anomalous electronic voices (EVP) were carried out in Vigo, Spain, during the years 2008 and 2009. Dr. Anabela Cardoso (2010) was the research project director and also the main operator of the EVP tests.

The tests were inspired by Hans Bender's work with the Swedish artist and film

director Friedrich Jürgenson (1964; 2004) and by Dr. Konstantin Raudive's experiments in England, documented by Colin Smythe's Associate Editor, Peter Bander (Bander, 1972). In 1968 Raudive published *Unhörbares Wird Hörbar – Auf den Spuren Einer Geisterwelt* and a few years later the English translation *Breakthrough: an Amazing Experiment in Electronic Communication with the Dead* (Raudive, 1971) followed.

Before bringing out this translation, the English publisher, Colin Smythe, arranged for Raudive's work to be put to the scientific test. With the technical assistance of electro-acoustic experts Ken Attwood and Ray Prickett and in the presence, among others, of Colin Smythe, Peter Bander, Sir Robert Mayer, David Stanley, Ronald Maxwell, Raudive himself, four tape recorders (the principal recorder being made by Nagra, a Swiss company, and said to be well shielded from

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radio interference) were set to record for 18 minutes under the supervision of the aforementioned experts from Pye Records. In his book Bander describes the experiments and affirms that “instruments revealed recordings were taking place although the listeners [*monitoring the recording in real time through their headphones*] could hear nothing. On rewinding and playing back the tapes over 200 voices, of which 27 were clearly understandable, were heard”.

A second series of experiments was held in the screened chamber at the laboratories of Belling and Lee, in Enfield, England. This laboratory was equipped with a shield for radio frequencies designed to prevent the intrusion of electro-magnetic waves. Peter Hale, the top British expert in electronic frequencies screening techniques and one of the best in the world, together with Ralph Lovelock, physicist and electronics expert, supervised the recordings during which a series of clear EVP voices was again captured. In his letter to Colin Smythe, Peter Hale said about the tests: “*From the results we obtained last Friday, something is happening which I cannot explain in normal physical terms*” (Bander *ibid*, 1972). A large number of Raudive’s recordings have been preserved in Münster, Westfalia, in Germany, and another collection has recently come into the possession of the British Society for Psychical Research and subsequently given by them to the British National Acoustics Laboratory.

Both Jürgenson and Raudive claimed to record the voices of the deceased who, according to Raudive, live in an alternative level of reality that he called “the opposed world”. EVP voices sound like human voices and cannot be heard directly while the operator is doing his/her recording experiments. They are only audible on playback. EVP experimentation usually consists of one or more operators who do their recordings, on a regular basis, in a quiet site without extraneous noises. During the recording session they request a contact and ask questions from communicators of an unknown dimension of life where the deceased are also supposed to go on living. The session takes normally 15 to 30 minutes, with each question being followed by a short period of silence and then another question is asked.

There are also reports, albeit rarer, of anomalous electronic voices coming directly

from the loudspeaker of a radio (Cardoso, 2010). They are called Direct Radio Voices (DRV) but these are not specifically in the scope of the current research project.

Since the time of Jürgenson’s and Raudive’s experiments, there have been an increasing number of reports from all over the world of people who claim to receive the voices of the deceased through electronic means. While a good number of those reports might be attributed to pareidolia, there are others which deserve attention and should be carefully examined since the reported communications seem to carry the meaning attributed to them by the operator and other listeners (Brune, 2005; 2006; Brune and Chauvin, 1999; Cardoso, *ibid* 2010; Cardoso, CD, 2010; Locher and Harsch, 1989; Senkowski, 1989; 1995).

## Method The Operators

A diversified pool of operators from different parts of Europe was selected. Names and abbreviations of the operators follow: from Portugal: Anabela Cardoso (AC), Luísa Alcântara, Maria dos Anjos Antunes, from Germany: Ingrid (IH) and Uwe Hartmann (UH), from Spain: José Ignacio Carmona (Iñaki).

They were all experienced EVP operators with positive results who had never experimented together. This seemed a good way to test the possibility of recording the allegedly anomalous voices under what are considered in the specialized literature unfavorable conditions. It seems that an important requisite for these communications is the so-called ‘contact field’ which, apparently, is based upon a special synergy between operator/s, equipment, location and communicators. In this study all the sites chosen for the tests were unknown to the operators. Most of the equipment used belonged to the recording facilities of the selected institutions and, therefore, was unknown to all the operators. A couple of apparatus was private property of Anabela Cardoso (AC) and did not fit into this description but those will be duly identified.

Series of recording sessions were scheduled, taking into account the operators’ availability to come to Vigo, Spain. Besides AC nobody in the group lived in Vigo (some had



never been in the town before) and therefore, the tests were scheduled for different dates throughout the two-year period.

The operators were not alone in the recording room. Philip Newell (PN) or another Sound Technician, or both, were present throughout the experiments, either in the recording room or in the adjacent technical room (see diagram of the Metropolis facilities below).

### Location of the Tests

The tests took place in two different professional acoustic studios and were supervised by more than one sound technician. The premises were chosen because of their very high level of sound isolation, in order to guarantee the maximum possible acoustic shielding of the environment where the experiments were going to take place. They are among the most sophisticated in the region of Galicia, Spain, where AC currently lives.

The University of Vigo was the first choice since the School of Telecommunication Engineering has a Laboratory of Acoustics with top levels of sound isolation and also a hemi-anechoic chamber ([www.teleco.uvigo.es](http://www.teleco.uvigo.es)). Associate Professor Antonio Pena (*Theory of the Signal*), in personal correspondence to Anabela Cardoso about the levels of acoustic shielding of the Laboratory, informed her:

“...The background noise in the interior of the chamber shows us that the acoustic shielding is very high. Its construction suggests it - a block of concrete suspended over dampening materials and isolated from the rest of the surrounding building.”

Philip Newell (PN) was technically responsible for the construction of the University Acoustic Chamber. Consulted by AC about the acoustic shielding of the Lab, PN informed:

“...I know that there is at least 70 dB of isolation from the adjacent rooms. Music at 100dB in the control room is inaudible in the [acoustic] chamber, next door”. And, in one of his technical reports, he informed: “...It was also noticeable that nobody’s mobile telephones had any coverage in the heavily acoustically isolated laboratory ...”

Nevertheless, given the nature of the project designed to test purportedly anomalous phenomena, still regarded with prejudice by the mainstream scientific

establishment in Europe, the pre-condition for the use of the University facilities was the assurance that there would be no direct involvement of its academic institutions or researchers in the work. The University facilities were put at AC’s disposal for a limited period during summer holidays, when there were no students or classes. Thus, the main recording room of the professional Vigo Sound Studio Metropolis was also hired for the tests.

The Metropolis was designed, like others in the UK, Spain, Portugal and other countries, by Philip Newell, international expert in sound isolation. PN’s expertise is interference-free recordings (<http://philipnewell.net>). In one of his technical reports, said PN about the Metropolis:

“It has also been reported in much of the [EVP] literature that domestic recorders function just as well, and perhaps better, than professional recording systems. This could be due to higher levels of crosstalk and lower levels of screening allowing more possibilities for the reception of signals which the equipment was not intended to pick up. However, in the studio where our current experiments are taking place I, personally, designed the audio cabling installation, the electrical power installation and the acoustics. It was all done in a way that was designed precisely to reject external interference, in order to achieve the cleanest possible recordings. The question began to arise as to the degree to which this heavily screened system could even reject the capture of signals of a nature which had not been envisaged in the design of the studio (EVP and DRV).”

And he added:

“...As prior literature had reported transcommunication [EVP] experiments even being made with radios tuned to the medium wave band, around 1 MHz, then it could probably not be said that all of the earlier tests made in the so-called Faraday cages had been definitively shielded from external radio pick up. In the studio in which we were experimenting in Vigo [the Metropolis], however, just about every part of the recording chain was shielded from *any* normally unwanted radio-frequency pick up.”

### The Technicians

As aforementioned, Philip Newell is a British electro acoustics engineer and shielding expert who lives in Galicia. Further technical



assistance was provided by Metropolis sound technicians and by the Portuguese sound designer Marco Lima (ML). Prior to the experiments, all the technicians were unknown to AC and to the other operators.

### Equipment

The main equipment used in the tests belonged to the institutions where the tests were performed. An old analogue Telefunken mains powered cassette recorder found by AC in an antiques shop was also used in some experiments connected to a Sennheiser microphone. The following equipment was used at the Metropolis in 2008: Neumann U 87 condenser microphone in its omnidirectional mode, Shure SM 58 moving coil microphone, Digidesign ProTools recording system in a Mac computer, A Telefunken mains powered cassette recorder (property of AC), A Sennheiser miniature omnidirectional microphone and power supply (property of AC), Three diode circuits constructed by PN.

In 2009 at the Metropolis, the above, with the exception of the diode circuits plus a Sennheiser MD441 microphone with preamplifier brought by experimenter UH from Germany, were used.

The following equipment was used at the University of Vigo in 2008:

The system of the Acoustics Laboratory: a Brüel & Kjaer 4190-LOO1 (Falcon Range 1/2<sup>2</sup> Microphones — Types 4188 to 4193) measuring microphone and pre-amplifier, connected to a Fostex R-DAT recorder. According to PN, “the system was 3 decibels down at 1.5 Hz, and hence could capture four of the infrasonic octaves.”

The Sennheiser microphone connected to the Telefunken cassette recorder as above described.

The following equipment was used at the University in 2009:

### Microphones

Sennheiser MD 441 hyper cardioid (used with a preamplifier). Brought by experimenter UH from Germany.

AKG C414 XLII in cardioid's pattern (property of ML).

Groove Tubes GT57 in figure eight pattern

(property of ML) connected to ML's laptop computer, via a mixer (Xenyx802, 8-input, 2-bus Mic Preamp), through the heavily mounted wall between the acoustic chamber and the technical room.

AC's laptop used to produce explicit noise inside the acoustic chamber.

For the measurements of the electrical and magnetic fields:

3D H/E Fieldmeter ESM-100 by Maschek, Germany, frequency area of the measurement: 5Hz-400kHz, 2 values per second (property of UH's University) connected to UH's laptop in an adjacent room.

### Noise Sources

Experience indicates that noise is possibly a carrier, or at least a beneficial factor, for the formation of the anomalous electronic voices. A lot has been written about it in the specialized literature.

Each recording situation is normally composed of implicit noise (background noise: noise of the environment, acoustic and electronic noise of devices, noise produced by the EVP operators, such as breathing or stomach noises, etc.) and explicit noise added by the experimenters. In order to reduce environmental noise to the largest extent, the present experiments were carried out in heavily acoustically shielded rooms. In addition, in order to differentiate between the noise of the devices, the noise unconsciously produced by the operators and the explicit noise played by the experimenters, separate observations were carried out.

Several kinds of explicit noise can be applied in EVP experiments. In the present experiments the following were employed as acoustic background, one at a time:

#### a) Frequency mixture:

Random frequency-mixture can be created by computer programs, the so-called pseudo noise.

1. Audio files with two types of noise - white noise and pink noise - were included in the present experiments.

2. Random static noise, also called 'white noise', obtained from a radio tuned between stations was also used in some experiments.



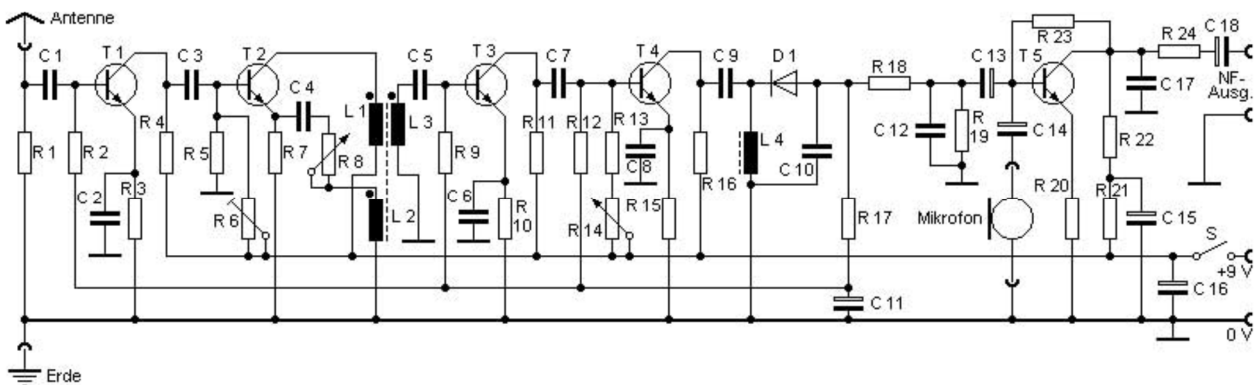
**b) Phoneme mixture:**

1. Some EVP operators, also called experimenters, use a mixture of fragments of words as explicit noise during their recordings. Audio files of this kind can be generated by a computer program called ‘EVP-maker’. This program, developed by Stefan Bion, became lately very popular for EVP experiments. The functional principle is based on a simple idea: an audio recording of human speech is cut into short segments which are rendered randomly. If the initial audio recording is made of natural speech, the result sounds like "random speech" i.e., a random mixture of phonemes or of syllables. Some parameters, like the length of the segments, can be adjusted by the program. The aim and apparent advantage of this technique versus the well-known ‘white noise’

method is to get a human speech-like background for EVP recordings without any real words or sentences, i.e., without any semantics. And the hope is to present an acoustic energetic stimulation for the formation of EVP utterances, within, above, or together with the random speech sounds.

2. The Psychophone. The apparatus was an invention of Austrian scientist Franz Seidl for the reception of the alleged transcendental voices during his experiments with Raudive (*Breakthrough* pp. 362-365). See circuit diagram below.

3. Human speech, either in the form of live conversations or of a computer file recorded with human voices.



**The Tests**

In 2008, several experiments we carried out.

**1. With AC as the sole operator**

In June 2008 four experimental recording sessions aimed at EVP reception took place at the Metropolis, between 20.30H and 21.30H. These were held on June 12, 17, 24 and 27. The experiments were invariably performed with the doors of the recording studio closed. The facilities were used in exactly the same way as for professional recordings.

Three diode circuits were constructed by PN in metal boxes according to the diagrams in Professor Alex Schneider’s Appendix to ‘*Breakthrough*’ (see pp. 341). The circuits were built with components close to those described because the precise diodes used in the 1960s are no longer generally available. The diodes were used in some of the June recordings connected to the analogue tape recorder.

The first experiment took place on June 12. It consisted of a casual conversation

between AC and PN in the role of participant in the experiment. The moon was waxing. Conversations, with or without questions to the presumed communicators, were one of the methods used by Konstantin Raudive in his experiments in England (Bander *ibid*, 1972) and by Friedrich Jürgenson in the experiments designed and controlled by Professor Hans Bender during which some extra voices were found commenting on topics of the conversation (Bender, 1970; 2011). Both the condenser and the dynamic microphones were connected to the studio’s digital recording system. The computer room is also acoustically isolated; it is separated from the recording studio by a double-glass window and double insulated heavy doors. The analogue system was directly operated by PN in the studio where the experiment took place. PN connected a microphone to one of the tracks of the cassette recorder and one of the diodes to the other track of the machine. Both pieces of apparatus were simultaneously recording on



the same blank tape, each one on a different channel, left and right. No additional noise was added to the environment. No extra voices were detected in the first test realised.

On the 17th of June, once again at sunset, another recording session was carried out at the Metropolis studio. The weather was hot and clear, and the moon would be full the next day. The first experiment of the day – on average each recording test took between 15 and 20 minutes, and two or three recordings were normally done in each session – consisted of a casual conversation between AC and PN without any explicit background noise.

In the next recording AC experimented alone in the studio while the sound technician Iago supervised the recording in the computer room. This time AC decided to follow a different protocol. The random noise produced by a Sony ICF-SW7600GR radio tuned between stations and by a transformed ‘broad band’ radio receiver, which cannot be tuned to radio stations and yields a hiss (Cardoso, 2001) were used as acoustic background for the experiments. The Sony radio was tuned to 7,249 KHz because this frequency seemed to cause less mains interference (PN had found out that the radio charger was defective and this produced much electrical interference).

At the beginning of the test AC stated that the project was an updated replication of Konstantin Raudive’s work and asked: “...*can Dr Konstantin Raudive hear me?*” During her brief talk, the radio started to produce voices and AC mentioned the fact loudly for the information to be registered on the recordings, thinking that a radio emission had managed to get through. As soon as AC finished her initial remarks about Konstantin Raudive, the radio voices surged, AC again mentioned the fact and lowered the volume to its lowest, actually thinking that it was a radio emission.

The sound technician in the adjacent computer room had also heard the voices while recording. The masculine voices were low and disturbed by electrical interference, apparently caused by the charger; they could not be directly understood.

When the experiment finished, AC and the sound technician listened to the recording and understood that the voices spoke in Portuguese. The loudest words sounded like: “*Está no estúdio*” followed by, almost imperceptible, “*aquí*” (File ‘U\_87\_03’ at 00:

01: 37”). Translation: “[He] is in the studio (here)”. These words were followed by a singing cadence that seemed to say “*falamos p’ ra...?*” (We speak for...). The first very soft, blurred words audible, could be interpreted with uncertainty because the amplitude is low and the signal to noise ratio very poor as: “*o Konstantin Raudive ...*” (Konstantin Raudive ...). The amplitude of the voices is approximately -31, 5 dB<sup>2</sup>. Since AC’s question had been if Konstantin Raudive could hear her, this seemed to be a reply. Could it have been an anomalous Direct Radio Voice (DRV)? To assess this possibility, the important point was to be sure of the content of the radio voices and this was the next step in the investigation.

The audio file was submitted to several listening tests by Portuguese nationals and by professional listeners, as was the case of Rafael, the chief sound mixer at Sodinor (a dubbing film studio in Vigo), and other sound specialists. The listening tests took place at the Metropolis’ well isolated listening facilities, and the content was confirmed. The people involved in the listening tests are regarded as experienced listeners. None of them was familiar with the DRV. The most trained ones spontaneously understood the words “*Está no estúdio*”. On the whole, the audio clip was heard and scrutinized by several dozen people. Their conclusion acknowledged that the signal to noise ratio was quite poor and confirmed the words: “... *está no estúdio*” and “*falamos*”. We can ponder that if AC had directly understood the content of the radio voices, she would not have lowered the volume of the radio as she did. We can also hypothesize that the radio voices replied to AC’s question about Konstantin Raudive and, in that case, would be anomalous.

No voices were heard or detected in the next experiment in which PN also participated. The radio hissing noise, now tuned to 7,248 KHz, was used as acoustic background.

On June 24th, at 20:00, one more set of experiments was carried out at the Metropolis. The moon was waning and the weather was partially cloudy. This time only the condenser microphone was connected to the digital recording system. The two analogue tracks of the cassette recorder were set for the diodes,

<sup>2</sup> All amplitude values mentioned refer to the peak values measured by Sound Forge Pro 10.0 software.



which were recorded digitally from the line outputs of the cassette recorder. Some whispers with apparent semantic content were identified but, in spite of the fact that the majority of the voices recorded in the presence of Professor Hans Bender with Friedrich Jürgenson as main operator “were revealed by the analysis of the sounds with Visible-Speech-Diagrams to be at the threshold of human auditory capacity” (Bander *ibid*, 1972), very low whispers will not be taken into consideration in the scope of this research project. No proper voices were detected in this test.

On June 27 another set of tests was done at the Metropolis. The diodes were connected to the Telefunken cassette recorder and this time both the condenser and the dynamic microphones were connected to the digital recording equipment. The waning crescent had been on the 26th.

On this occasion a most beautiful voice that could not be heard coming through the Sony radio used as a source of background random noise - now tuned to 7,429 KHz and producing a soft hiss - appeared recorded on the computer hard disc. It was only heard by the listening team during playback. It was a soft feminine voice with great reverberation that seemed to speak from the bottom of a long, wide tunnel and sounded like uttering in Portuguese the following sentence: “*Somos nós (Luís)*” (Translation: “It is us (Luís)”). This time AC experimented together with PN, and all her questions and comments were in English.

The voice was captured by both the dynamic and the condenser microphones and although, as usual, the recording levels were set at the same value for both microphones, the Shure SM 58 recording is much lower (the utterance has peak amplitude of -41,6dB). As happened throughout the experiments, although lower, the sound seems to be more defined in the dynamic micro file than in the condenser file with a peak of -19,5 dB (Files SM 58\_05 and U 87\_03, minute 07:20”). This is most likely due to the characteristics of the microphones.

The voice appeared in the recordings after AC finished one of her questions with “... is this correct Rio do Tempo?” AC understood the first two words of the three word sentence “*Somos nós* (possibly: *Luís*)” the first time she

heard it. The last word is not clear because much softer and it sounds like progressively diluting from a strange spatial positioning. Further auditory tests by a group of Portuguese nationals, the chief sound mixer of Sodinor above mentioned and two sound technicians of the Metropolis confirmed the understanding of the words “*Somos nós*” but no unanimous agreement was reached about the third word (probably ‘*Luís*’ but ‘*Sim*’ for some) in result of its very feeble amplitude. Interestingly *Luís* was the name of AC’s deceased brother and the 27<sup>th</sup> of June was the date of his birthday.

In the test that immediately followed, the second of the evening, AC mentioned *Luís*’ birthday and asked if her brother could reply to her. It should be emphasized that no listening had yet been performed when the second test took place and therefore, the sentence “*Somos nós (Luís)*” had not yet been detected. The coincidence between the date and the word “*Luís*” can be interpreted as:

- pro: the word “*Luís*” is indeed related to the date.
- con: when trying to identify a meaning, subconscious thinking may lead to that word.

This second test was done with the noise produced by both silicon diodes amplified through the electronics of the cassette machine, passed through a mixing console and fed back into a loudspeaker, so that the sound of the diodes was passed into the air and mixed with AC and PN’s voices digitally recorded by the two microphones. PN described the “new system” in the recording proper (Files ‘U 87\_04’ and ‘SM 58\_06’). No extra voices were found.

About the two voices recorded in June, said PN in his Technical Report N<sup>o</sup> 2:

“...From all the tests made and analysed in June, only two voices remained unaccounted for. The first was captured via a Neumann U 87 microphone, digitally recorded by a Digidesign ProTools system. Despite the fact that there was no unanimous agreement about what the voice was saying, none of the staff of the recording studio could recall ever having captured such a voice during any normal recording [of the studio], and no attempt to re-create a similar sounding voice was even vaguely successful. The second voice, of a soft but highly reverberant nature, was captured simultaneously on June 27th





via the Neumann U 87 condenser microphone, and a Shure SM 58 moving coil microphone. Recordings made simultaneously on the cassette recorder, via two different diode circuits (Nos. 1 and 2), showed no sign of the voice. No explanation could be found for how a softly spoken voice could penetrate the acoustic isolation of the studio, and *within* the studio there were no reverberant spaces. A test was arranged for July to listen for external voices from the studio's surroundings, to see if any similar sounding voices could be detected..."

And in his Technical Report N° 3 PN summarizes:

"...In short, nothing whatsoever was captured which in any way resembled the two anomalous voices in question, and we could think of no ways to recreate anything similar to them. Furthermore, the female voice with reverberation (the second of the two voices under discussion here), captured on June 27th, had a sound character which it was difficult to imagine to have come in any normal manner through the small loudspeaker of the short-wave radio that was being used as a background noise source at the time. The voice had an open sound which was totally uncharacteristic of the radio (a Sony ICF-SW7600GR), and, what is more, nobody in the room at the time of the recording, (Anabela and myself), and who were less than two metres from the radio, recall hearing anything of the voice at that time".

### The November Recordings

On November 13 around 17:00H another experiment with AC as the sole operator took place at the Metropolis. The weather was bright, cool and the moon was full that same day. Sound technicians PN and Marco Lima (ML) were also present.

The big innovation this time was the use of the psychophone. PN built the machine according to the diagram in *Breakthrough*. A microphone was directly connected to the psychophone, the output of which went directly into the ProTools digital recording system. The psychophone did not emit any sound into the air. The other systems – the usual Metropolis condenser and dynamic microphones, as well as a dynamic cardioid microphone brought by ML and set up in a MS system (recording SE 4400 8 Figure) were also set up to record independently but

simultaneously with the psychophone. No analogue recordings were made.

Besides the voice of the operator captured through the microphone input, the psychophone captured also a mixture of radio emissions, which could be heard during the playback of the recording. None were heard live from the air. Several seemingly anomalous voices were recorded which were detected upon playback. Some of those even seemed to have a characteristic Portuguese accent and to say pertinent things such as "Ela é portuguesa?" (Is she Portuguese?), or, translation: "You came from another world", etc. However, they will not be considered for the purposes of this research project because, being so mixed up with the radio voices proper, pareidolia could occur and it would be too risky to vouch for their paranormality.

Conspicuous noises, apparently not produced in the controlled recording environment, appeared recorded this time. The sound of scratching, which could have been produced by AC's pencil writing on paper to show the time to PN, is immediately followed by the sound of tapping, and a series of three raps similar to a table tennis ball jumping on a hard surface precedes very fast voice whispers. During the first months of her experimentation in 1998, AC recorded very similar knocking sounds that apparently were not produced in the recording environment (Cardoso *ibid* 2010).

There is also a voice whisper which seems to be constructed with noise and was easily detected in the microphones and in the psychophone recordings. It is inserted in-between the abovementioned noises and it seems to reply to AC's question in English: "Is the psychophone a good way for your EVP messages?" The whispered sentence sounds like: "*Contacto pode fazer no rádio*" (Contact you can make in [through] the radio). (Files PSICHOPHONE Line\_02 at 05':00", SM 57 Dynamic\_02, U 87 Condenser\_02 and SE 4400 8 Figure \_02 all at minute 04':59"). The psychophone inclusion sounds more modulated, more like a proper voice while those registered by the other microphones, of the same content, sound more like vocalized noises. In the MS recording system the whispers are practically imperceptible. When the apparently anomalous whispered voice finishes, a loud knock can be heard in the recordings. At the end of this particular



session, PN stated loudly for the record that during the works he was absolutely concentrated on environmental noises and none could be heard, while ML added that he had done the same and only a couple of stomach and saliva noises had been produced by AC, PN and himself.

## 2. Experiments with AC and the Portuguese Operators Luísa Alcântara and Maria dos Anjos Antunes

The first recordings took place at the Metropolis. The experimental recordings proper used white noise artificially produced as acoustic support and yielded no significant results. However, totally clear and loud voices that did not belong to the people present appeared recorded when the small group of people that included the two Portuguese operators, this author, Philip Newell and Francisco, Luísa's husband, were preparing another experiment that would use human voices as background noise.

Since Dr Konstantin Raudive and Friedrich Jürgenson used controlled conversations in their recordings (Bander, 1972; Bender, 1970; 2011), an experiment using voice phonemes was devised. It is assumed that the sound of human voices facilitates the production of the anomalous electronic voices. This assumption is based upon the premise that the communicators use human phonemes as the 'raw material' from which they produce their utterances, and it seems to be at the origin of the EVP-maker software. Although, as aforementioned, the method is currently favoured by many EVP operators, the use of human phonemes in whatever form increases the probability of pareidolia. This factor should be taken into careful consideration when analysing the results.

### Preparation for the EVP Experiment with Human Phonemes as Acoustic Background

The experiment proper was designed to use human phonemes of informal conversations between operators and participants, recorded live in the acoustically shielded recording studio of the Metropolis. For this purpose the group invented sentences and engaged in illogical, funny conversation; some recited poems. AC decided to have the conversation file thus obtained reversed and use it as

acoustic background for the experiment proper that would follow. The idea behind the reversing of the recorded conversations was to provide a background of human phonemes, without semantic content, for the formal experiment and thus test the latest fashion among EVP operators as above said.

This preparatory, informal recording took place at the usual hour of the tests, around 21.00H, on July 26, 2008 in the main recording studio of the Metropolis. The moon was in the waning crescent the day before. As usual, all the doors were closed in the studio. The five people present – AC, Luísa Alcântara, Maria dos Anjos, Francisco (Luísa Alcântara's husband) and PN - deliberately chatted nonsensically as explained.

Very unexpectedly, sentences uttered by voices that sound very different from the operators' and participants' were found in these informal recordings. One of those, of exceptional clarity and intelligibility, seems to be of a young boy and says: "*e um pouco envergonhado*" (Translation: and a little ashamed [timid]). It is preceded by a feminine voice that clearly says "*já estou a ficar nervosa*" (I am already getting nervous); the clear feminine voice in Portuguese is apparently very different from the voices of the three women present. It appeared recorded in the middle of a sentence in English spoken by AC. AC's speech seems to have been abruptly cut out and replaced by the aforesaid sentence in Portuguese, in a kind of overlapping of AC's voice. However, at the end of what would have been AC's talk, the two voices can be perceived simultaneously – a fragment of AC's voice and the last phonemes of the extra feminine voice. The juvenile, boyish voice that says "*e um pouco envergonhado*" comes next and is followed by still another voice that whispers something not easily decoded because it is muffled. In some way these sentences resemble a conversation going on between two or three people, not physically visible, that observe and comment on what is happening in the studio because ten or so seconds later, AC pressured PN saying "Philip say things!" Until then, PN had been rather quiet, not participating in the nonsensical talk going on. To this PN replied timidly: "... it is difficult under strange circumstances".

These startling acoustic occurrences started at minute 02':29" of the files recorded by different means - the condenser and the



dynamic microphones and the analogue tape deck (Files Audio\_2\_01, condenser\_02, dynamic\_02, of July 26, 2008) - and continued for almost five seconds.

In the course of the same informal recording, another very interesting voice that does not sound similar to the operators' or to the participants' voices and, similarly, comments directly on what is happening in the room appeared recorded at minute 03:07". AC had just scolded Francisco for being quiet and pushed him to speak, laughing and saying loudly in Portuguese: "so the men are all quiet, what is happening here?" At this point a masculine voice appeared recorded that says clearly and loudly in English: "This is hot!" It is distinctly understandable while Maria dos Anjos softly recites a poem in Portuguese in the background. It was registered by all the apparatuses.<sup>3</sup> The conversation between operators and participants above described was animatedly carried out in an atmosphere of laughter and excitement.

Without being previously listened to, because they were not part of any proper test but only intended for use at the next formal EVP experiment as acoustic support, the files were digitally reversed by the Metropolis sound technician and played as background noise in the proper EVP experiment with questions that followed.

The extra voices in the original babble files were detected in subsequent listening purely by chance, in view of the fact that the recording was not part of the formal tests, and, therefore, not meant to be submitted to listening scrutiny but just reversed for subsequent use.

The reversed files used in the EVP experiment proper were later compared to the original non-reversed babble files which, fortunately, had been saved to the computer hard disk of the Metropolis.

Formal EVP experiment using reversed human voices as acoustic background

A puzzling occurrence happened in the formal experiment that used the reversed voices as acoustic background. At minute 03:40" (Files 'Condenser\_03' and 'Dynamic

\_03') operator Maria dos Anjos asked if somebody was listening to her and could he/she give a name. Fifty seconds later and immediately before she asked her next question, Francisco's reversed voice can be heard saying clearly "*Felipe*" (Philip); this is followed by a two seconds pause and his voice continues "*Felipe da Silva*" (Philip da Silva), a name and surname in Portuguese. The original audio file was checked and it showed that exactly at this point Francisco stuttered, mispronounced a word and repeated it. Since Francisco does not normally stutter, this episode appears even more interesting because the stuttering and repetition of a specific word allowed for the formation of a name and surname in time to match the operator's question and request, i.e. before her next question. It would be of great interest to consider the "odds to chance" involved in this chain of acoustic events and obtain a p-value.

### Experiments with the Same Operators at Vigo University Laboratory of Acoustics

The tests took place on July 28, 2008 between 13:30H and 15:00H. The moon was still waning. In his technical report, said PN about the University experiments: "One set of recordings was made with a CD recording of white noise as the background, reproduced via the full audio-frequency range loudspeakers of the laboratory. Later recordings were made using the aforementioned Sony radio, tuned to 13.600 kHz as the background source. The aerial was folded. It was also noticeable that nobody's mobile telephones had any coverage in the heavily acoustically isolated laboratory, which, being alongside the radio frequency laboratory, shared much of its shielding. Nothing but a smooth random noise was heard emanating from the radio. After the recordings, the DAT was copied to CD, which was transferred the next day to the ProTools system in Metropolis studios. The audio cassette was also fed into the ProTools system the following day."

As usual, the experiments consisted of a series of three or four questions put by each operator to supposed communicators. Each question was followed by a period of silence of between one and two minutes, and then another question was asked.

In the experiments with white noise, a couple of alterations of the white noise were

<sup>3</sup> Although neither very closed microphones nor a laryngograph for each participant were used, it is possible that forensic tests can determine if the voices under analysis here belong to any of the participants in the conversation.



detected. Those were easily perceived as whispers with linguistic content by the listening team constituted by AC, ML and Rafael, the Sodinor chief sound mixer abovementioned. The amplitude is very low (around -32,5dB while the white noise recorded by the DAT is in the region of -34dB). The clearest of the utterances was recorded during AC's experiment and it seems to be a pertinent reply to the question asked by the operator in English at 04':57": "... are you also here today, with us, in this studio of the University of Vigo?" The masculine voice whispers in Portuguese, at 5': 07,9" of the digital audio file (File 'Extract from CD 2 - Track 3 ANABELA') and 16': 24,3" of the analogue recording: "*Está aqui o Cardoso*" ("Cardoso is here"). "*Cardoso*" is the surname of AC's deceased father, brother and other paternal family. AC's deceased brother, a Merchant Marine captain, was usually called "o Cardoso" by his colleagues instead of his full name, Luis Cardoso, which they never used. The utterance is audible both in the DAT University recording and in the Telefunken tape recording (Files 'Tape Audio 1\_01.L.' and 'Tape Audio 1\_01.R'). The sound is cleaner in the digital recording perhaps because it is free from machine and tape noises but it is louder in the cassette recording, being understandable at direct listening without amplification (-25,4dB while the background white noise immediately preceding it was registered at -27,2dB). Subsequently to noise cleaning with Sound Forge Pro 10, the content became clearer and is easily understandable by anybody who knows Portuguese sufficiently well.

No whispers or voices were detected in the formal tests that followed using the Sony radio hiss as acoustic background.

However, apparently anomalous, clear voices were recorded when the first formal EVP experiment with Luísa Alcântara finished. Philip Newell disconnected the analogue machine but not the digital equipment, exchanged a couple of words with Luísa and opened the studio door. Next, a screeching metallic sound can be heard in the recording, immediately followed by a clear, well-structured feminine voice that says in Portuguese: "*Estamos aqui por cima*" (literal translation: "We are here above") at -33db. This is followed by what sounds like the shouted voice of a youngster that seems to

resonate from far away and says "*Só isso!*" at -36 db. ("Only that! [That's all]"). Before this last voice, almost at the sub-acoustic level, a kind of faint pre-echo with the same content can be perceived with proper amplification (File 'Extract from CD 1 - Track 2 LUISA ANJOS' at 06':49").

The tests were done during the Summer holiday season and besides PN, the three operators and Francisco, there was nobody else in the big building of the School of Engineering where the Acoustic chamber is located. Considering the unmistakable semantic content of the sentences in Portuguese, which can be clearly understood by any native of the language, their peculiar sonority and the fact that they bear no similarity to the operators' or the two men's voices, it seems that these voices can be considered anomalous acoustic events.

### **3. Experiments with the Spanish EVP Operator Iñaki**

From the 5th to the 8th of August 2008 the well-known operator José Ignacio Carmona (Iñaki) came from Toledo to participate in the research work (Carmona, 2010). This operator experiments without any additional background noise and monitors the whole recording live with headphones.

#### **Tests at the Metropolis on August 5**

On August 5 there was a new moon and around 19.30H Iñaki experimented alone at the Metropolis without any explicit background noise. AC and PN stayed in the recording studio with him but did not speak.

The environmental noise of the room recorded by the condenser microphone during the experiment was around -50 to -52dB, and -56 dB and less by the dynamic microphone. The voice of the operator often displayed -35 dB of amplitude in the dynamic microphone recording.

Perhaps the most interesting incident of this afternoon was the recording of what sounds like footsteps. Everybody sat quietly in their chairs, without moving, throughout the experiment. Although Iñaki did not mention it while he recorded, as soon as the test finished he told AC and PN that he had clearly heard the sound of footsteps through his headphones at some point of the recording (nobody else heard it). It was indeed found out that



rhythmic beats had been digitally recorded at minutes 03':15" by the condenser and dynamic microphones. The Telefunken cassette deck registered the same noises at minute 02':50". The analogue recording is quite louder (around -24 dB) and the sounds can be perceived at direct hearing without amplification. The sound of the three beats immediately precedes what seems to be the noise made by the springs of the operator's chair. Although the studio has top class acoustic isolation, it is extremely difficult to decide on the possible anomalous nature of the beats.

### **Iñaki at the University Lab on August 6**

As had happened the day before, Iñaki chose to record without any explicit background noise. The recordings were again carried out with the professional technical equipment of the University and with the Telefunken machine connected to the Sennheiser microphone handled by Philip Newell. AC was also present. The tests started at 14.15H.

Several remarkable incidents were registered during this experiment. From minute 12':42" to 12':47" the experimenter requested the invisible communicators to reproduce the sound of footsteps recorded the day before at Metropolis. At minute 12':56, 9" (2 Pista de Audio.L) the sound of what could be taken by two footsteps can be heard, although at lower amplitude than the day before, followed by the sound of a bang a few seconds later (13':18,6").

The sound of the 'footsteps' cannot be directly perceived in the analogue recording, although the sound of a bang can also be heard in the analogue recording although lower ('Audio1\_01.L').

At minute 15':45" the experimenter asks if the communicators wish to give testimony of their presence in any way. At 15':53,6" there is one low knock which is immediately followed by five clear and fast knocks (easily and directly audible in both recordings).

At minute 17':57" of the same file the operator asks if the invisible communicators are able to read his thought, and at minute 18':04" what sounds like a soft masculine voice whispering in Portuguese "*Somos capazes sim*" ("We are able, yes") can be heard. The amplitude is very low, -44dB only; it needs to

be significantly increased and noise cleaned for some intelligibility.

At minute 22': 48" the sound of what clearly resembles three dog barks was recorded by the University DAT, while only one bark is apparent in the analogue recording. This is perhaps the most interesting acoustic occurrence of the afternoon because, six seconds later, the operator addresses his deceased dog 'Golfa'<sup>4</sup> and begs her for a sign, a bark, some evidence that she is near. The 'barks' have an amplitude of -37, 5 dB and can be directly heard. After being slightly amplified the sounds were presented, without previous suggestion, to several inexperienced, normal listeners. They were immediately identified by more than a dozen people as 'dog barks'. Since there was no dog inside or around the chamber (or even in the deserted building) and, besides, dog barks cannot penetrate the heavily mounted acoustic shielding of the Laboratory of Acoustics, it seems legitimate to conclude that these sounds can be classified as anomalous. Furthermore, the incident could be speculatively, but meaningfully, associated with the inclusion above mentioned that affirms the communicators are able to read the operator's thought and with the operator's request to his dog for a sign of its presence.

The whispers with presumed semantic content detected often appeared before or after involuntary physiological noises produced by the operator such as the saliva, breathing or empty stomach ones or by a slight rotation of the chair. One of the chairs made a clinking sound when the operator moved on it. These minor noises can be easily checked in the recordings. None of them can account or be mistaken for the 'dog barks' above mentioned.

The next informal experiment was performed with PN recording the murmur of Iñaki's and AC's conversation while they walked in the long corridor of the building. The Acoustics Laboratory double doors stayed open, so that the mumble of the operators' voices could reach inside the chamber and allow PN to record it - File '3 Pista de Audio.L'. There was nobody else in the big building of the School of Engineering where the Acoustics Laboratory is located. Philip Newell went for a

<sup>4</sup> All questions put by the operators to the purported communicators were not prepared beforehand but spontaneously asked during the experiment.



walk to check on this and when he returned, announced loudly so that it could be recorded by the machines: “There is nobody else in this place”.

As had happened with the Portuguese experimenters, apparently anomalous voices were recorded during this informal experiment. They started at 0’16” of the audio file mentioned with a clear sentence by a masculine voice that says in a mixture of the local Galician and Spanish “*Ment[r]jes<sup>5</sup> paseo yo en Vigo!*” (“In the meanwhile I’ll wander through Vigo!”), immediately after Iñaki remarked that his personal DAT machine had been left in the recording mode saying: “... and my recorder continues recording, well that’s all right, I’ll check it later”.

A few seconds later, at 00’:26” of the digital recording, while AC and Iñaki were still speaking in the antechamber of the laboratory before heading to the corridor (PN remained inside supervising the machines), a very different masculine voice whispers in Portuguese: “*Há passagem*” (There is passage). Was this ‘passage’ a reference to the fact that the voices could get through? It could be interpreted as such.

Twenty three seconds later, at 00’:49,7”, immediately following AC’s comment in Spanish “Ya está!”, and while the resonance of the last phoneme of AC’s loud voice can still be perceived in the recording, two very beautiful feminine voices speaking in Spanish, one of which says: “*Per[o]<sup>6</sup> huye*” (“But [he] runs away”) and the other, very melodious, with great reverberation: “*No cree!*” (“[He] does not believe!”) appeared recorded in both systems. AC had come back to check that the door of the chamber remained open and said “Ya está” (It’s done) after holding the door with a piece of wood. The operators thought that the content of this ‘conversation’ of unknown origin could be regarded as a reference to PN who is not well disposed toward the voice phenomenon.

What could be interpreted as “*O Luís é surpresa*” ([For] Luís it is surprise) uttered by a feminine voice is registered at minute 2’:03”, seeming to overlap Iñaki’s and AC’s voices chatting. AC’s deceased brother’s name was Luís, as aforementioned. At minute 02’:25,6” of the same file, a singing masculine voice

appeared recorded which seems to say in Portuguese “*Lá vem Luís!*” (“There comes Luis!”). The two operators, AC and Iñaki, return to the Acoustics Laboratory some twenty seconds later. The voices mentioned (“*O Luís é surpresa*” and “*Lá vem Luís!*”) will not be considered for the purposes of the present research project because they are too muddled with the operators’ voices and it would be too risky to vouch for their paranormality. However, they appear to be anomalous and are mentioned with the aim of throwing some light into the voice phenomenon, which seems to benefit from a somehow chaotic, uncontrolled physical environment. They are much clearer in the University digital recording than in the cassette recording.

In the next formal experiment AC and Iñaki experimented together at the Acoustics chamber. It was digitally recorded at ‘4’ and ‘5 Pista de Audio L’. A couple of apparently anomalous whispers were detected in this recording. The most obvious of those was in reply to Iñaki’s remark addressed to Jürgenson, Raudive, Germán de Argumosa and other famous EVP pioneers. He finished with: “now, from the other side, you [they] can testify that the contact is feasible”. The question finished at minute 07’:41” and, at minute 08’:04” of ‘5 Pista de Audio L.’ a very feeble utterance that seems to say “*Era o contacto...*” (“It was the contact...”) appeared recorded at -43 dB of amplitude. The natural sound of the environment during the experiment oscillated between -44 and -45, 6 dB. As said before, the Spanish operator records without any additional noise source.

Throughout the experiments, the whispered utterances recorded without any additional acoustic background are lower than the ones recorded with an acoustic support. The former must be similar to “the low-amplitude, taped-recorded voice effect” described by Bayless, for which he emphasized the need of “high amplification” (Bayless 1980, Scott Rogo and Bayless 1979).

At the end of the experimentation PN properly drew the operators’ attention to the metallic noise one of the chairs could make and that was deliberately recorded for comparison to unidentified metallic noises that might appear in the recordings.

<sup>5</sup> The ‘r’ is practically inaudible.

<sup>6</sup> The ‘o’ of the word “pero” is not audible.



## Iñaki Goes to the Metropolis Again on August 7

The experimentation started at 14.20H with both operators very tired from the intensive work of the preceding days. The moon would be in waxing crescent the next day.

In one of the experiments, an audio tape copied from a professional music CD that mixes dolphins' shrieks of joy with sounds of water and soft melody was used as background acoustic support. The tape was copied to the computer hard disk before the experiment in order to be compared with the recordings that used it as background noise. AC and Iñaki experimented together with this acoustic support.

A whispered masculine voice was recorded by the two microphones with this acoustic background. The voice appears to be a confirmation of Iñaki's comment that EVP voices (replies) sometimes occur before the operator asks the related question. Iñaki finished his talk with: (translation) "...this occurrence must logically mean that your time is distinct from the Earth chronological time". The masculine voice says in Spanish "*Es distinto sí*" (It is distinct, yes). The inclusion appeared at minutes 8':17" of files 'U87 CONDENSER\_DOLPHINS' and 'SM57 DYNAMIC\_DOLPHINS'. The files of the formal experiment were duly compared to the original music file and it was verified that the utterance does not exist in the original dolphins and music file.

The usual series of tests was performed but no other voices were detected.

## 4. Experiments in 2009 Operators

Professor Uwe Hartmann and his wife, Dr Ingrid Hartmann, came from Germany to take part in the tests. The Spanish operator Iñaki came from Toledo to participate again in the works.

### Location of the tests

The sites were the same as previously indicated for the experiments in 2008.

## A. EXPERIMENTS AT THE UNIVERSITY

Tests were carried out at Vigo University, Superior School of Engineering, at the Laboratory of Acoustics of the Dept. of

Telecommunications, on July 23 from 15:00 to 19:00H. There was a new moon. Dr. Anabela Cardoso (AC), Dr. Ingrid Hartmann (IH), Prof. Uwe Hartmann (UH) participated as operators and Marco Lima (ML) as Sound Technician.

During the experiments AC, IH and UH stayed in the recording room, whereas ML was in the technical room making the recordings (see the sketch below). This time the equipment did not belong to the University.

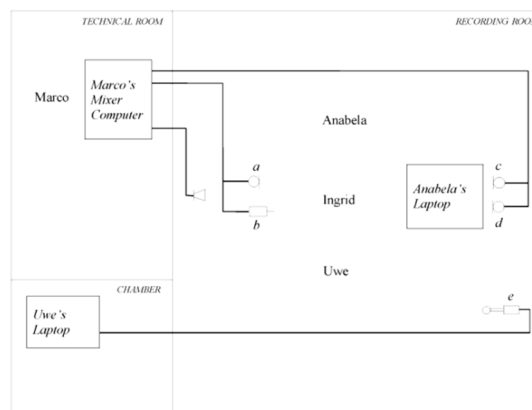
Three microphones were used: Sennheiser MD 441 hyper cardioid, used with a preamplifier (property of UH). AKG C414 XLII in cardioid pattern (property of ML). Groove Tubes GT57 in figure eight pattern (property of ML).

They were connected through the heavily mounted wall between the two rooms with the mixer (Xenyx802 8-input 2-bus Mic Preamp) and ML's recording computer in the technical room.

In parallel to the EVP experiments, measurements of the electrical and magnetic fields were continuously carried out. For this purpose a field meter:

"3D H/E Fieldmeter ESM-100 by Maschek, Germany, frequency area of the measurement: 5 Hz ... 400 kHz, 2 values per second" was used. The field meter was connected to a laptop in a little chamber beside the acoustic laboratory because of the heavy noise made by its hard disc.

A further computer (AC's laptop) was used in the laboratory to produce an explicit noise for the recordings<sup>7</sup> (See diagram).



a - Sennheiser MD 441 with preamplifier  
 b - psychophon  
 c - AKG C414  
 d - Groove Tubes GT 57  
 e - Fieldmeter ESM-100

<sup>7</sup> The psychophon mentioned in b) of the diagram was not used because it malfunctioned.



Two types of noise were used:

a) Frequency mixture - a file with pink noise was created by a computer in the technical room and sent over into the recording room where it was played by a loudspeaker.

b) Phoneme mixture - the aforementioned EVP-maker.

Two wave-files in Portuguese (a poem read by AC) and German (a text read by UH) were previously created as acoustic source for the EVP-maker program. The speech files were reversed with the software Sound Forge and at the Laboratory of Acoustics were fed into the EVP-maker software, which sliced them into small bits of words corresponding to approximately the length of syllables; the resulting EVP-maker noise was directly played back live on a computer in the recording room through the computer loudspeaker.

### Procedure

Firstly, the background noise of the room without additional noise sources and in the absence of the experimenters was recorded, followed by a recording of background noise with additional pink noise. This recording also took place in the room without the experimenters. In a third experiment, the background noise with additional pink noise in the presence of two experimenters (IH and UH who remained silent in the room) was recorded.

After these preliminary measurements two recordings were carried out. Operators AC, IH and UH were in the recording room: Recordings of a conversation between the operators with additional pink noise. Talk and questions in English and German (duration: 8 min 52 sec). Recordings of a conversation between the operators with additional EVP-maker noise. Initially the EVP-maker noise based on the Portuguese language was used; secondly, the EVP-maker noise based on the German language was used. Talk and questions in English and German (duration: 12 min). During all recordings the E/M field was measured continuously with the Fieldmeter in 3 dimensions. The Fieldmeter produced a data set per 0,5 sec storing it in a file.

### Recordings Previous to the Experiments

Extra voices, apparently anomalous, appeared

recorded on the computer hard disk during the initial period of preparation for the experiments while testing the cable connections, the position of the microphones, recording levels, etc. These recordings were never meant to be an informal experiment such as the one above mentioned with AC and Iñaki chatting in the corridor of the Laboratory of Acoustics. They were done purely for technical reasons.

At minute 01':33, 6" a full sentence in Portuguese appeared recorded, seeming to have replaced AC's talk in English with UH. The feminine voice is very different from AC's voice and says with singing intonation: "*Estamos aqui nós todos!*" at -44,3dB ("We are here all of us!"). It is clearer in the Sennheiser MD 441 hyper cardioid used with a preamplifier (File 441\_01) and in the Groove Tubes GT57 in figure eight pattern recordings but practically inaudible in the AKG C414 XLII in cardioid pattern. At 1':39,5" again a feminine voice says in Portuguese: "*Nós estamos aqui, vamos ter respeito [to]*" (We are here we'll be respect [ful]) with an amplitude peak of -44,7 dB. Similarly it seems to have replaced AC's voice talking in English to UH who does not understand a word of Portuguese. The amplitude of both sentences, and of the whole recording, is very low but when amplified both become perfectly clear and understandable to any listener proficient in Portuguese. The equipment was being tested and preliminary arrangements for the experiments were being carried out. The experimenters' voices talking to each other reach a peak of only around -36dB in the Sennheiser MD 441 recording and the environmental noise is around -45dB, while the environmental noise is inferior to -66dB in the AKG C414 recording and to -63dB in the Groove Tubes GT57.

### Voices Recorded During the Preparation for the Recordings With Additional Pink Noise

Similar acoustic events happened during the preparation for recording tests with additional pink noise. A couple of feminine voices seem to speak coherently in Portuguese. Nevertheless, the situation is confusing because the operators were in the chamber preparing the equipment and chatting, sometimes all at the same time. It seems risky to avow the paranormality of these voices





because, in addition, the recording levels were set far too low and that adds to the muddle. These voices and the utterances above mentioned, although clear when amplified and easily understandable by any native of the language, will not be considered for the purposes of the present investigation. They are too low and muddled with the experimenters' conversations. Reference is made to them to illustrate the ambiguity and uncertainty of judgement created by unclear and disordered speech, notwithstanding the fact that the voices may be anomalous and their formation probably favoured by the same conditions that compel this author to discard them, i.e., a state of acoustic disorder.

However, during the preparation for one of the experiments, before the pink noise was played in the chamber, an unexpected voice was recorded by the different means which should be considered in the scope of this report. AC engaged in conversation with IH while UH did the technical arrangements for a new experiment. When AC suddenly asked IH about Ernst Senkowski's health, IH hesitated uttering "Ahn, Ahn, yeah, yeah" in an attempt to find the appropriate English words to reply. At this point (01':35" of 'file 441\_13' or '414\_12'), a masculine voice can be heard in the recording saying simultaneously with Ingrid's interjections and as if coming from behind her voice: "Geisler!". It has an amplitude peak of -31db (file '441\_13') while the operators' voices vary between -25db and -34db in the same file. The formal experiment started at 02':11" of the same file.

AC's limited knowledge of German did not allow her to decide about the meaning of "Geisler", quite an unusual word. According to the dictionary, it can mean different things as found out by UH who was also puzzled by it: "spartan man / ascetic / fakir/ hostage/ brotherhood whose members used to flagellate themselves singing the "Geißlerlieder" in the 13<sup>th</sup>-14<sup>th</sup> century/ slaughterer of little animals". In view of this, it was decided to ask Professor Ernst Senkowski if he had a hint of what this word, interspersed in-between a conversation about him, could mean. Quote from his reply to this author:

**"De:** Dr. Ernst Senkowski  
[mailto:ernst.senkowski@t-online.de]  
**Enviado el:** martes, 21 de diciembre de 2010 12:28  
**Para:** Anabela Cardoso  
**Asunto:** Re: interview

Dear -a-

.....  
The case **GEISLER** is a wonderful 100%  
transpersonal hit !!!!

1. **GERT GEISLER** was a long time chief editor of the magazine **ESOTERA** in Freiburg. I am not sure whether I was once in personal contact with him. But **DETERMAYER** must have been because he published at least two articles on ITC [EVP] in that journal, in 1979 and 1980.

2. Remarkably the name **GEISLER** manifested when you spoke about **SENKOWSKI**.

3. Senkowskis just now answering your interview questions about the **HARSCH** [Harsch-Fischbach couple] and asked himself whether he should implement the case of the computer graphic that appeared in black-and-white in Luxembourg, Dec. 4, 1988 for 70 sec. After the Harsch had somehow published it, **DELAVRE** found it more or less by chance in June 1989 as a coloured picture in **ESOTERA**, 3/1987...".

An exceptional synchronicity seems to have manifested in this case. Neither AC nor the German operators perceived this intruding voice during their careful listening in 2009 to the materials recorded in the experiments, either together or separately. AC heard it for the first time when she communicated the fact to UH and IH and to Professor Senkowski that is, around the 18<sup>th</sup> of December 2010, while simultaneously working on the present report and on an interview with Dr. Senkowski about events that prominently included the case of an anomalous image received by experimenters Maggy and Jules Harsch-Fischbach, very similar to the image published by the magazine *Esotera* (Cardoso 2010), of which Gert Geisler was the chief editor. Ernst Senkowski was also working on the questions he had received from AC and thinking about that specific case, at the precise moment he received AC's E-mail asking about "Geisler". To this date, and despite the many enquiries realised, it was not possible to find the whereabouts of Gert Geisler or if he is deceased or alive.

### **Experiment with Human Phonemes as Background Acoustic Support**

In the formal experiments with the EVP-maker as source of explicit noise, no additional voices could be detected. However, some clear voices appeared recorded on the computer hard disc during the test recordings done before the start of the EVP-maker formal experiments.

One of the most interesting ones was the word "Uwe" (the forename of one



experimenter) recorded at 01':31" in the files indicated below. Although very low in amplitude (-45dB), it is thoroughly clear. It occurred during a pause in the conversation between UH and AC, when no additional background noise of any kind was being played. Uwe and Anabela were discussing the setting up and testing the equipment. The EVP-maker software was not yet playing. Before the voice two very low metallic clicks of undetermined origin occurred in the recording. No other sound can be heard in the recording when this voice was registered and therefore, in spite of its low amplitude, the word "Uwe" (with accent in the last syllable) is clearly audible and understandable to anybody with normal hearing ability. The utterance has the intonation typical of an old lady's voice. UH and IH thought it was reminiscent of UH's deceased grandmother's voice. The recording was saved purely by chance because it occurred without any experiment.

The next apparently anomalous voice recorded was the Portuguese sentence "Há record" (There is record). The English word "record" is pronounced with a typical Portuguese accent (recór). It happened one second after UH started the EVP-maker babble at 02':21" and it is preceded by two loud clicks which could have been produced by the computer mouse. Again, it is of interest that the apparently anomalous voice comes immediately after the clicks (independently of their nature). The occurrence of clicks and metallic noises, some of undetermined origin, immediately preceding the appearance of the supposed anomalous voices, happened in many of the experiments carried out in the scope of the present research project. The feminine voice is different from AC's reversed voice used by the EVP-maker software and it seems to have a different spatial positioning; it can be heard in the background of AC's reversed and chopped talk. Although clearly audible and understandable, it is softer than the babble. It is pertinent to the situation since the formal recording was going to start.

Another apparently anomalous voice, clear, loud and highly pertinent to the context says "Certamente assim" ("Certainly so"). The voice can be heard at 04':13" when AC finishes a brief talk with IH about the inconvenience of the EVP-maker software, saying: "...it is very easy to understand things there [in the EVP-maker babble] which are not there", meaning,

naturally, pareidolia. The fact that the youngish, feminine voice has a Brazilian accent and its content corroborates AC's statement about the inappropriateness of the EVP-maker for serious tests is understandably a factor of great importance when pondering the anomalous nature of this sentence.

Other inclusions, also possibly anomalous, were found during playback. One of those, at 03':17", sounded like "Sprachen!" (German: "talked" or "spoke"); it appeared immediately after AC asked "What do we do?" The EVP-maker program had been fed with a reversed file in Portuguese and the word sounds like German. Another inclusion, albeit less clear, was found when the experiment finished and UH told the sound technician loudly "Stop it! [the recording]". A masculine voice, apparently different from UH's, which had been used in the EVP-maker babble, can be heard in the recordings saying "they stop it" (at 11':56, 58").

No extra voices were detected in the formal experiment, which used the EVP-maker babble as acoustic support and only started at 04':37".

With the exception of the word "Uwe", formed when there was no other noise, the important question in regard to the other voices abovementioned is whether these are indeed anomalous inclusions or, on the other hand, combinations of phonemes randomly arranged by the EVP-maker software, which happen to be relevant to the question/situation. It is extremely difficult to know for sure because of the high degree of uncertainty introduced by this method; the voices are included in the report because of their pertinence to the context and, mainly, the Brazilian accent of one of them, but they should be viewed from this perspective. All three feminine voices presumably anomalous - "Há record", "Certamente assim" and "Sprachen!" - sound different from each other. The voices can be heard in all three recordings - Files 441\_14, 414\_13 and fig 8\_14, albeit at different amplitudes.

As previously emphasized in regard to the other experiments, a remarkable feature of the unexplained voices recorded at the Acoustics Laboratory before the start of the formal experiments, is that they occurred in a somewhat confused recording situation involuntarily created by sound technician ML.



He did not know the Laboratory of Acoustics and had to set up, adjust and test the equipment several times. Testing and several preliminary recordings done with different sophisticated microphones lasted for a couple of hours.

### Measurements

During the occurrence of the voices no changes of the measured E/M fields were detectable. The measured E/M field was constant in all measured dimensions during all recordings in the ranges:

$E_x$  1,3 .. 2,0 V/m,  $E_y$  19,6 .. 20,7 V/m,  $E_z$  25,0 .. 29,2 V/m

$H_x$  8 .. 9 nT,  $H_y$  7 .. 8 nT,  $H_z$  7 .. 8 nT

During the measurements the temperature was constant, 23° C (because of the air-conditioning); the humidity was 56% and the air pressure 957 hpa.

### B. EXPERIMENTS AT THE METROPOLIS

Another set of experiments was carried out at the Metropolis in Vigo on 26.07.2009 from 21.00H to 23.30H. The moon was waxing. Participants were Dr. Anabela Cardoso, Dr. Ingrid Hartmann, Prof. Uwe Hartmann, José Ignacio Carmona (Iñaki) and Sound Technician Alfonso Garcia Agulla (Esky).

### Room and Equipment of the Experiment

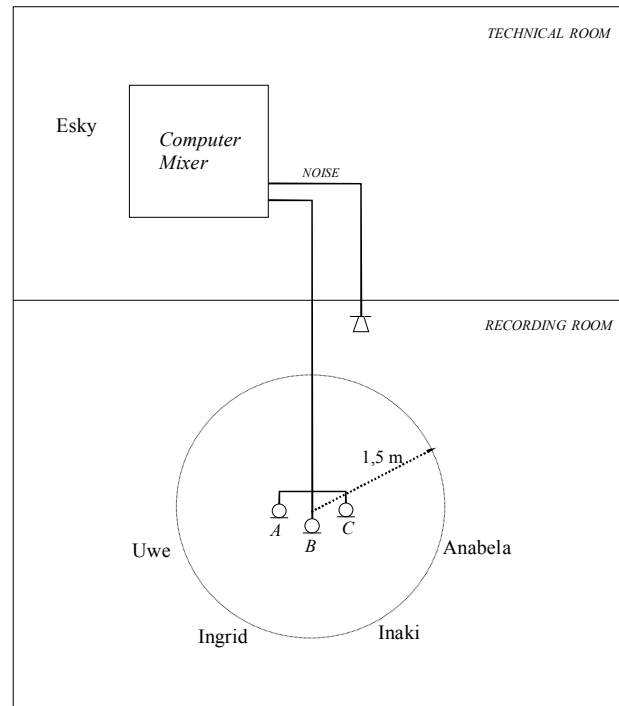
During the experiments AC, IH, UH and Iñaki took place in the recording room whereas Esky and two technicians of the studio were in the technical room managing the recording (see sketch below).<sup>8</sup> There was visual contact between the operators and the technicians through the double-glass window for giving instructions. The following devices were used:

Sennheiser MD 441 hyper cardioid microphone (used without the preamplifier), property of UH.

Neumann U87 condenser microphone in omni-directional mode, property of Metropolis.

Shure SM58 dynamic microphone, property of Metropolis.

The Mac Computer of the Metropolis equipped with the ProTools professional software was connected to a Mixer in the technical room.



A - Sennheiser MD441  
B - Neumann U87  
C - Shure SM58

### Noise Source

The additional pink noise was directly created on the Mac computer of the studio and transmitted online from the technical room to a loudspeaker in the recording room. Pink noise instead of white noise was taken because of the softer sound.

### Procedure

The temperature was 20°C (constant because of the air-conditioning). Two recordings were carried out:

- a recording of the conversation between AC, IH, UH and Iñaki without any additional noise (duration: 20 min 30 sec).
- a recording of talk and questions by AC, IH, UH and Iñaki with additional pink noise.

In the second test, the operators were particularly attentive to using clear, loud and emphasized speech. Unnecessary sounds were avoided during all the recordings. Speech and breaks were clearly separated. The operators'

<sup>8</sup> The sketch displays the Metropolis technical facilities. Only the devices, the number and identities of the operators varied throughout the experiments.



talk (a short speech) was followed by a long pause. A relaxed atmosphere prevailed.

## Results

The first experiment consisted of an informal conversation between the operators without explicit background noise. An apparently anomalous voice was recorded. A soft feminine voice, very melodious and beautiful, utters what is easily perceived as “*altus*”. This is clearly audible but no meaning or context could be found for “*altus*”. However, since the voice seems to have a foreign accent, could this be the beginning of “*altered state*”? Furthermore, the voice seems to continue softly but it is ‘buried’ under AC’s loud comment that immediately follows. The voice appeared recorded in the context of a conversation about altered states of consciousness, after Iñaki described in Spanish (he does not speak English) his usual EVP experimentation, affirming that he gets better results late at night, when he is extremely tired and falls into a kind of semi-altered state of consciousness. AC was ready to translate for the Hartmanns but made a pause and said a couple of words in Spanish before proceeding to the English. The voice appeared recorded in-between AC’s words in Spanish and the continuation in English, while UH asked for the translation. The meaning of this voice must remain open.

The voice has a peak of around half the amplitude of the experimenter’s voice. It is loudest in the U87 condenser microphone recording (the amplitude of the operator’s voice is -14dB and the anomalous voice is -25, 5 dB in the U87 recording). (Files U-87\_01, md 441\_01 and sm 58\_01 at 19:13”).

No voices were detected in the experiment consisting of questions with additional pink noise.

## Uncontrolled experiment held at an idyllic site by the brook “Além” near the town of Mondariz in Galicia, Spain on July 25.

An informal experiment was carried out during an excursion to the location above mentioned. The day was hot and the three operators, AC, IH and UH, sat beside a beautiful creek, chatted and asked questions to the communicators in a pleasant and tranquil atmosphere. The soft sound of running water was used as acoustic background. The atmosphere was friendly and relaxed. The

moon was waxing. No proper extra voices were recorded. A couple of whispers can be perceived but those have not been considered in the scope of the present investigation because their low amplitude and mingling with the water sounds prevent any reliable interpretation and classification since pareidolia could easily occur. Mention is made of this experiment with the purpose of comparing the operators’ psychological state of mind with the one prevailing during the other experiments and preceding arrangements when tension and tiredness were certainly greater.

## Conclusions

The reality of the apparently anomalous electronic voices was confirmed in acoustically controlled environments with different operators.

With the exception of the June 17, 2008 radio voices, none of the voices or whispers described in the present report were heard live during the tests. Extra voices, originating from undetectable sources, were identified in the following situations:

1. Under controlled speech and controlled acoustic environment - AC as sole operator at the Metropolis and at the University of Vigo; Iñaki at the University of Vigo and at the Metropolis.
2. Under controlled acoustic environment and uncontrolled speech - AC, Portuguese operators and participants (PN and Francisco) at the Metropolis; AC, IH and UH at University of Vigo; the same and Iñaki at the Metropolis.
3. Under uncontrolled speech and uncontrolled acoustic environment - AC and the Portuguese operators outside the Acoustics chamber of the Superior School of Engineering; AC and Iñaki at the same place.

The voices seemed to benefit from the presence of noise in the environment (particularly human speech and metallic clicks). The very few voices recorded without any explicit noise had quite lower amplitude than the voices registered with a background of explicit noise. The amplitude of the voices seems to be related to the level of background



environmental noise extant in the room when the voices appear recorded. Probably to other variables, too but those remain undefined and need further research.

The voices were louder, clearer, more abundant and flowing when uncontrolled direct human speech by two or more people prevailed, independently of an acoustically controlled or uncontrolled environment. Above all, they seemed to benefit from a situation where the operators' frame of mind was lively and energetic, and perhaps also from a relaxed and friendly atmosphere. On the other hand, they seemed to be negatively affected if the operators were focused on the experiment.

The voices seemed to benefit from a slightly chaotic situation - AC, Portuguese operators, PN and Francisco at the Metropolis; AC, IH, UH and Sound Technician ML at the Laboratory of Acoustics.

The voices did not seem to be significantly more abundant when an artificial basis of human speech was used (Psychophone and EVP-maker) as acoustic background source.

Methods, the Psychophone and the EVP-maker software, proved to be highly unreliable not because they are particularly bad acoustic backgrounds for the production of the voices but because they are undoubtedly a source of uncertainty and ambiguity in the analysis of the results. They can very easily originate pareidolia and/or projection of meaning based upon expectation. Very particularly with the EVP-maker software, it is easy to find 'results' in recording-sessions where they do not exist. In addition, an erroneous interpretation of the content of possibly anomalous utterances found in the recording is very likely. Most of the EVP 'results', published in the Internet, fall into one of these categories.

The equipment and location of the experiments did not seem to weigh on the formation of the voices but the highly sensitive

microphone Bruel & Kjaer used at some of the University experiments appeared to capture more voices than the other microphones.

The content of all the voices recorded in the tests, with the possible exception of "altus", were pertinent to the situation and/or to the operator/s.

From the results of the present research, this author fully corroborates Professor Alex Schneider, the Swiss physicist from St. Gallen who closely followed, studied and replicated some of Raudive's work, when he declares in his Appendix to *Breakthrough*:

"Other investigators choose the moment when a transmitter starts to beam out the carrier wave just before beginning to transmit a programme or else they select a slow-speaking lecture programme in which the pauses between groups of words are so considerable that call signs can be interspersed. A carrier appears to be necessary, or, at any rate, desirable... a number of voices sound as though they were constituted from the homogeneous noise-spectrum by some physically unexplained process of selection" (ibid, pp.340-341).

Moreover, in view of the results, a pertinent question is to find out if there are parallels between the allegedly anomalous electronic voice phenomena and so-called paranormal events of a different nature. Apparently, one of the distinctive characteristics of paranormal events is their occurrence in situations when they cannot be easily controlled. Prof. Hans Bender is quoted as saying (translation):

"If we tentatively admit the still questionable factuality of 'spooks', then [the attempt] to keep hold of it by photographing, filming or by recording acoustical phenomena will have to face the difficulty that the phenomena apparently elude a critical grasp. The impression almost suggests that the intelligent forces mock the observer and produce a phenomenon just there where one cannot get hold of it" (Bender, 1979).



### Recorded Voices

Date/Place	Execution	Additional	Voices	Rating		Semantic reference
Operators <sup>9</sup>		noise	(translation)	Loudness	Intelligibility	
<b>17.06.2008</b> <b>Metropolis</b> <b>AC</b>	controlled environment controlled speech	Sony radio hiss	"Está no estúdio" ("He is in the studio")	sufficient	sufficient	yes (reply to AC's question if Konstantin Raudive could hear her)
			"falamos p' ra ..." ("We speak for...")	deficient	deficient	
<b>27.06.2008</b> <b>Metropolis</b> <b>AC</b> <b>PN</b>	controlled environment controlled speech	Sony radio hiss	"Somos nós (Luis)" ("It is us (Luis)")	good	good	yes (confirmation of communicators' identity when AC addressed Rio do Tempo)
<b>26.07.2008</b> <b>Metropolis AC,</b> <b>Luisa, Maria</b> <b>Anjos,</b> <b>PN, Francisco</b>	(no experiment) controlled environment uncontrolled speech	No; animated conversation between operators/ participants	"e um pouco envergonhado" ("and a little ashamed [timid]") "já estou a ficar nervosa" ("I am already getting nervous") "this is hot!"	very good	excellent	yes (possible anticipated comments about a dialogue between AC and PN that followed)
	controlled environment controlled speech	reversed operators' and participants' voices used as acoustic background	"Felipe", "Felipe da Silva"	good	good	yes (reply to operator Maria Anjos' question)

Date/Place	Execution	Additional	Voices	Rating		Semantic reference
Operators		noise	(translation)	Loudness	Intelligibility	
<b>28.07.2008</b> <b>U. Vigo</b> <b>AC, Luisa, Maria</b> <b>Anjos,</b> <b>PN,</b> <b>Francisco</b>	controlled environment controlled speech	University CD with white noise	"Está aqui o Cardoso" ("Cardoso is here")	sufficient	good	yes (reply to AC's question if the communicators were in the Lab)
	uncontrolled environment uncontrolled speech	No added noise but a screeching sound, possibly made by the door, can be heard in the recording	"Estamos aqui por cima" ("We are here above")	good	very good	Not directly (it can be interpreted as explanation of the communicators' situation in regard to the operators)
<b>06.08.2008</b> <b>U. Vigo</b> <b>AC,</b> <b>Iñaki,</b> <b>PN</b>	controlled environment controlled speech	no	"Somos capazes sim" ("We are able, yes")  Dog barks	poor	poor	yes (reply to Iñaki' s question if the communicators were able to read his thought)  yes (anticipated reply to Iñaki' s request to his deceased dog for a sign)

<sup>9</sup> Operators' names are indicated firstly. The names of the technicians are in italics and the participants' names follow the latter.



Date/Place	Execution	Additional	Voices	Rating		Semantic reference
Operators		<b>noise</b>	<b>(translation)</b>	<b>Loudness</b>	<b>Intelligibility</b>	
06.08.2008 U. Vigo	uncontrolled environment	No; operators chatted casually and animatedly	"Ment[r]es paseo yo en Vigo!" ("In the meanwhile I'll wander through Vigo!")	very good	good	possible (it could be related to the context)
<b>AC, Iñaki, PN</b>	uncontrolled speech (informal experiment)					
			"Há passagem" ("There is passage")	sufficient	sufficient	possible (it could be related to the context)
			"Per[o] huye" ("But [he] runs away") "No cree!" ("[He] does not believe!")	good	very good	possible (it could be related to the context)
	controlled environment controlled speech	no	"Era o contacto" ("It was the contact...")	very deficient	deficient	yes (reply to Iñaki's request to the communicators to testify that the contact is feasible)
07.08.2008 Metropolis	controlled environment controlled speech	Audio file of music mixed with dolphin shrieks and water sounds	"Es distinto sí" ("It is distinct, yes")	deficient	deficient	yes (reply to Iñaki's comment that the communicators' time is distinct from Earth time)
<b>AC, Inaki</b>						
13.11.2008 Metropolis	controlled environment controlled speech	No: 3 micros; psychophone: 1micro	"Contacto pode fazer no rádio" ("Contact you can make in [through] the radio")	deficient	deficient	yes (reply to AC's question if the psycho-phone was a good method for EVP)
<b>AC</b>						

Date/Place	Execution	Additional	Voices	Rating		Semantic reference
Operators		<b>noise</b>	<b>(translation)</b>	<b>Loudness</b>	<b>Intelligibility</b>	
23.07.2009 U. Vigo	controlled environment uncontrolled speech	no	"Geisler"	good	good	remote
<b>AC, IH, UH ML</b>			"Uwe"	poor	excellent	yes (name of one operator present)
	controlled environment no speech	reversed EVP-maker output of a Portuguese poem	"Há record" ("There is record")	good	good	yes (the recording had just started)
	controlled environment uncontrolled speech	reversed EVP-maker output of a Portuguese poem	"Certamente assim" ("Certainly so")	good	very good	yes (reply to Anabela's comment about the inconveniences of the EVP-maker)
			"sprachen!" ("talked!" or "spoke!")	good	good	yes (possible comment about Anabela's question: "What do we do?")
			"they stop it"	sufficient	sufficient	yes (possible comment about Uwe's request: "Please stop it!")
26.07.2009 Metropolis	controlled environment uncontrolled speech	no	"altus"	sufficient	sufficient	no
<b>AC, IH, UH, Iñaki, Esky</b>						



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