Time flow distortions in EVP experiments

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Summary. *When using the "live voice" method for capturing Electronic Voice Phenomena (EVP), unintelligible "reference" audio is played and simultaneously re-recorded as "test" audio. A spirit entity is expected to produce intelligible EVP by transforming the reference audio while it is being re-recorded. In a series of experiments of this nature, the test audio produced was about 10 percent longer in duration than the reference audio. Further, the evidence indicates that the added audio samples were not buffered physically somehow prior to being recorded. When the sound of a ticking clock accompanied the reference audio, the rate of time flow associated with the recorded clock ticks appeared to be independent of the rate for the other test audio content. This suggests that audio gestalts were handled separately as discrete audio objects. Conventional cause and effect cannot explain these observations. Therefore, an hypothesis was proposed based on a cosmology in which all physical objects are tightly coupled to etheric templates that define the properties of the objects. Spirits produce physical phenomena like EVP by manipulating these etheric templates with the power of their intentions. The physical objects conform instantly to the modified templates. Since such creative acts are subjective, the apparent rate of time flow for audio objects like a sequence of clock ticks may be expected to vary.*

1. Introduction

Electronic Voice Phenomena (EVP) are communications presumed to originate from spirit beings. They are obtained using a number of different methods employing some kind of audio technology. Voices are sometimes heard from devices such as radios and telephones, as well as special purpose devices designed with the hope of providing opportunities for spirits to communicate. Sometimes a random noise source is made available, and the noise appears to be transformed by a spirit being to produce speech. The noise may be a random mixture of speech sounds, and this "live voice" method was used to good effect by Alison Kirkbride (AK) in England. Samples of presumed communications from spirit are displayed on her website. An earlier article describes some of our initial exploratory research using this approach.

In AK's variation of the method, a reference audio file containing unintelligible sounds is played, and spirit technicians are asked to transform the audio into intelligible speech. This reference audio is often a recording of a voice speaking a foreign language such as Latvian or Bulgarian, but reversed so that the speech is even less likely to sound like English words. During an experiment, the reference file is simultaneously re-recorded while it is played, and transformations often appear in the re-recorded test file. The transformations vary from unintelligible to clearly intelligible speech. In our research, intelligibility takes a back seat to transformation. The physical signal contained in the test file is compared in an audio editor to the signal in the reference file. Any differences are easily observed by visual and aural comparisons of successive short segments of audio. Interpretations as English speech are attempted only where transformations are found in this way.

This research is concerned with how transformations are made, so the analysis is based on physical attributes rather than psychological properties like meaning. It is sufficient for our purpose that the reference audio is transformed. Experimental hypotheses are tested by changing the properties of the reference file and observing whether predicted effects occur in the test file.

It is important to recognize that the channel for this kind of communication includes both a spirit being, a human being, and possibly a particular environment. The required channel properties are therefore hard to define, and our research may be difficult for others to replicate. It is our hope, nevertheless, that the analyses will lead to an understanding of useful general principles to help others communicate in this way.

This article is concerned with a novel effect that was serendipitously discovered while testing a new type of reference audio file. Specifically, the test file that resulted was consistently observed to be longer in duration than the reference file. The increase was typically about 10 percent and appeared to be distributed along the length of the audio data. This discovery was facilitated by the particular nature of the audio data which encouraged easy identification of multiple audio features.

The top and bottom parts of Figure 1 show an example of the reference and test data, respectively, copied from an audio editor display.

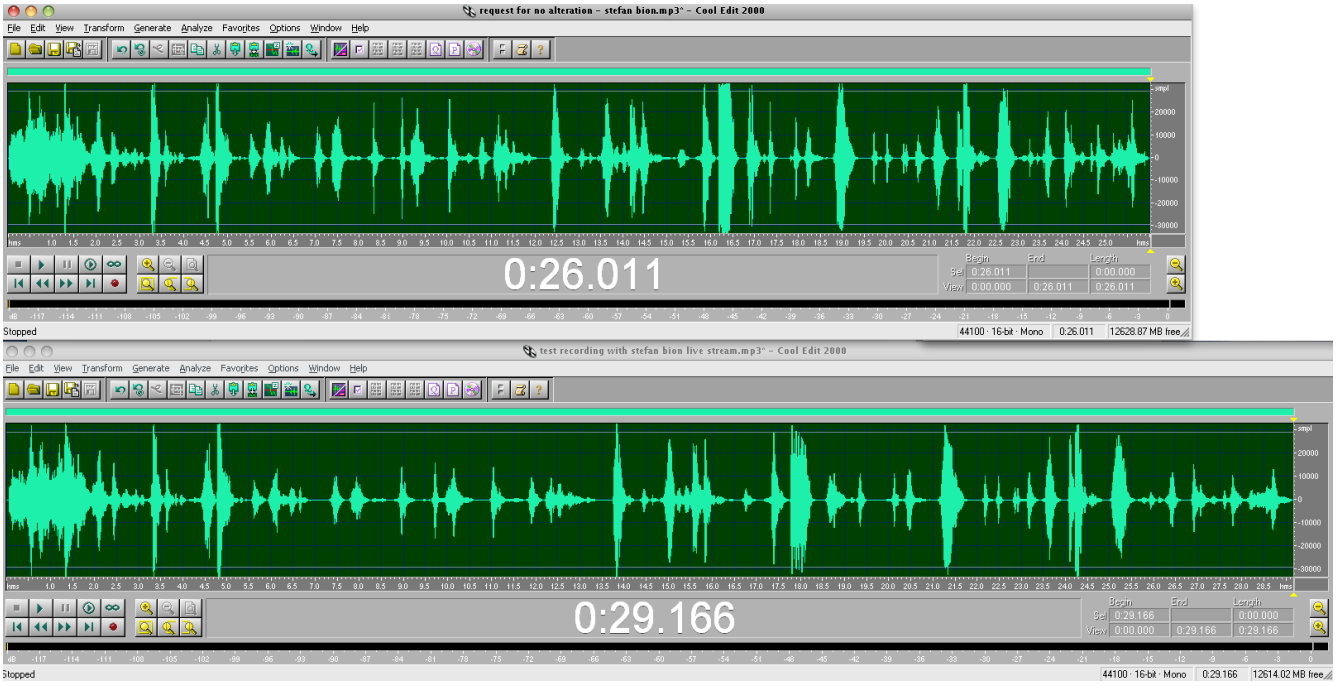

Figure 1. Top – reference audio, Bottom – test audio

Figure 2 shows the spectrum of a representative short sample of the audio. For the most part, the audio consisted of several narrow spectral peaks such as those seen in the figure. Most of the energy was within a bandwidth of 1600 Hz centred on 1600 Hz. The perception was quite tonal and definitely did not sound like speech.

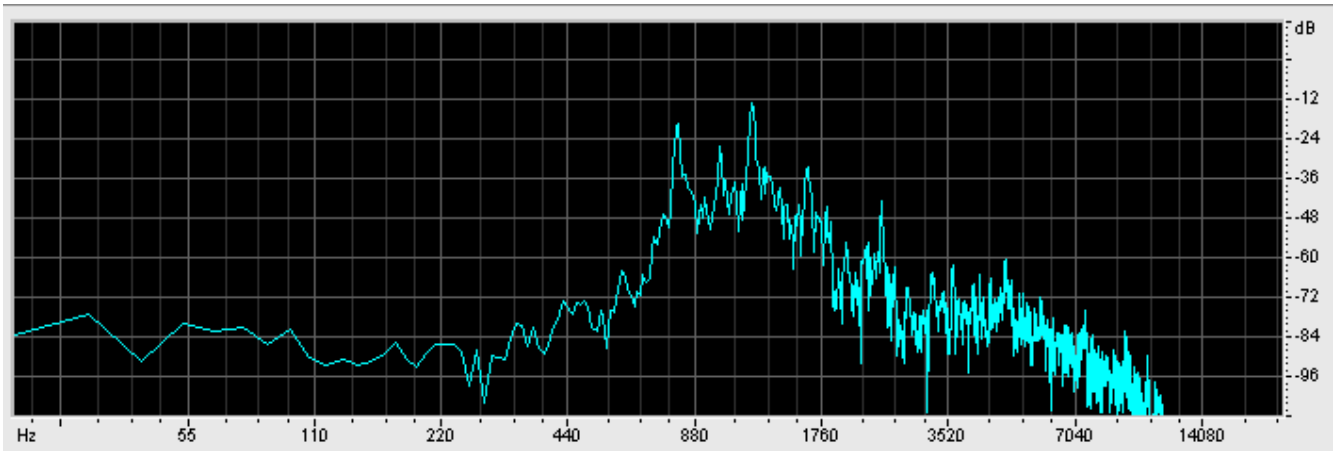

Figure 2. The spectrum of a representative sample of the reference audio

2. Temporal distortions

2.1 Experiment 1

The top part of Figure 1 shows the reference data which, in this case, was re-recorded with the request to the spirits that no changes be made. This was done to include the effect of the re-recording channel characteristics which add some distortion. The bottom part is the test audio for this experiment which shows the re-recorded reference data plus any requested changes made by the spirit technicians. The abscissae of the two displays are time-aligned, and it is clear that the test audio has a longer duration than the reference audio. There are also some minor changes in the amplitude of some of the peaks in the test audio.

The times for obvious but arbitrary audio features common to both files were recorded and compared. Figure 3 shows the expected strong linear relationship between the times as indicated by the R-squared value of 0.9992. However, the slope of the regression line is 1.1122, and this indicates that the times for the features in the test file are about 11 percent greater than the times for the same features in the reference file. This added time appears to be evenly distributed over the whole file and, by inspection, was as likely to occur in intervals of silence and non-silence. We could say that the time dimension was stretched like an elastic while recording the test file. Yet, the pitch of the audio content did not appear to change. Perhaps an 11 percent increase in length could be achieved without noticeably affecting pitch by periodically duplicating samples in the reference file. But how could this be possible when the player and recorder sample rate is fixed?

The changes in relative amplitude of some features seen in Figure 1, and the stretched time base indicated in Figure 3 are both suggestive of actions taken by the spirit technicians.

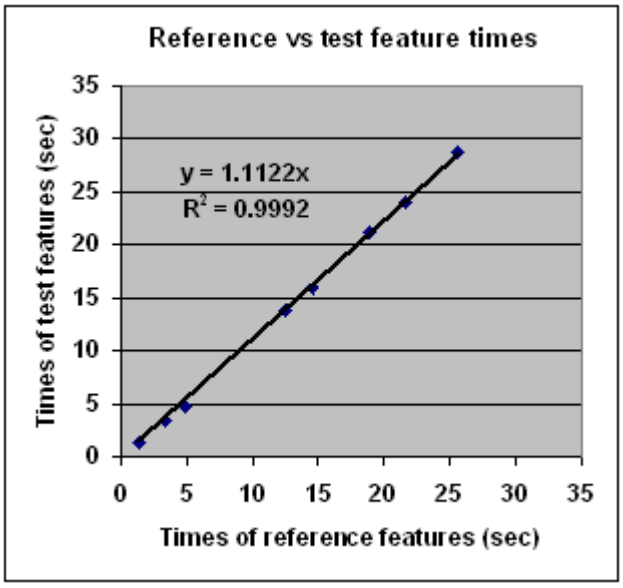

Figure 3. Relation between reference audio feature times and test feature times (Expt 1)

The second and third experiments attempted to identify a physical locus for the change in the time base. A second source of sound was included that was independent of the played reference file. A travel alarm clock that ticked loudly every second was placed next to the player's speaker in Experiment 2, and next to the recorder microphone in Experiment 3. If the time base for the clock were affected when near the microphone but not when near the speaker, then we could say that the time stretching occurs somewhere between the speaker and microphone. If the time base were affected independent of location, then the time stretching may occur in the player apparatus. This argument assumes that the change in time base has a physical location somewhere in the re-recording apparatus.

2.2 Experiment 2

In this experiment, the ticking clock was placed near the location of the player's speaker. A reference recording that included the ticking of the clock was made after a request to the spirits to not modify the recording. A test recording including the ticking clock was made after asking the spirits to modify the recording. As before, the temporal locations of corresponding reference and test audio features were identified, and these are plotted in the left panel of Figure 4. The slope of the regression line (1.1028) indicates that the time base was again stretched by about 10 percent.

Treatment of the clock ticks was not as straightforward. Since one tick looked and sounded the same as another, a time base stretched by more than half a second created an ambiguity. Should a test tick be paired with an earlier or later reference tick? The conservative assumption was made that only time stretching had occurred, so a test tick was never paired with a later reference tick. This works against a possible outcome in which time stretching occurs for one audio source and time compression for another. The right panel of Figure 4 shows that the time base for ticks stretched by about 10 percent, the same as for the audio features for which there was no similar ambiguity.

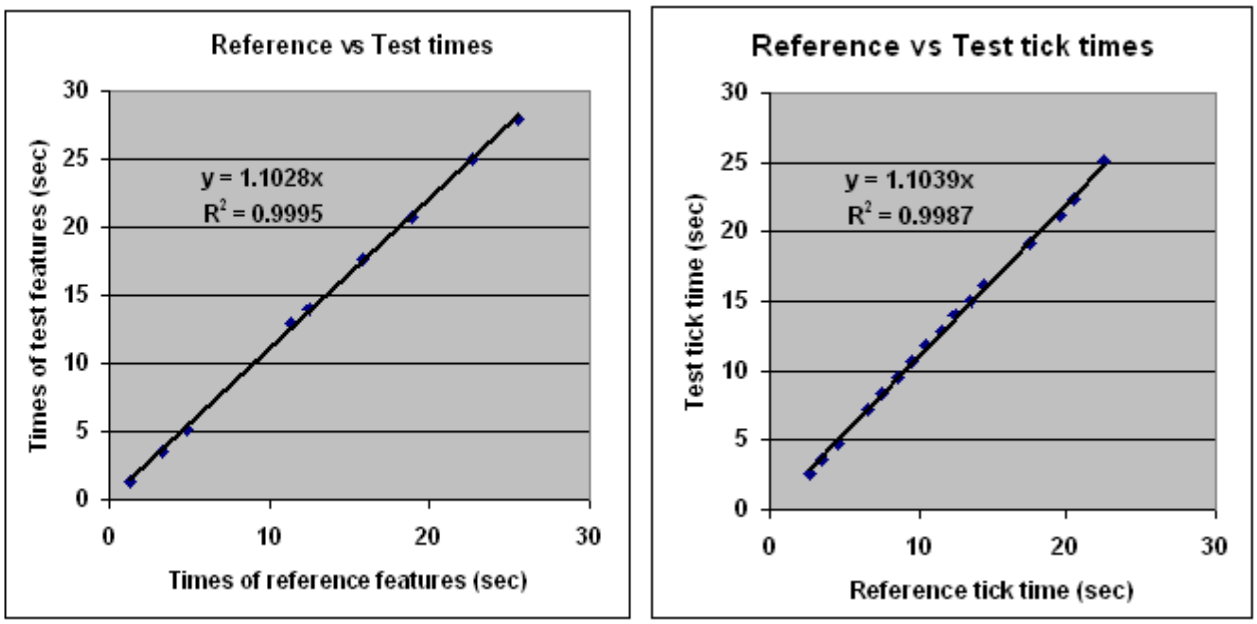

Figure 4. Relation between reference times and test times (Expt 2)
Left – audio features, Right – clock ticks

Although the fit of the data in Figure 4 to the regression line is very tight, there are small deviations that may be of interest. Figure 5 shows the deviations of the test times from the measured reference times. The left and right panels show the deviations for the audio features and the clock ticks, respectively. There are some small differences.

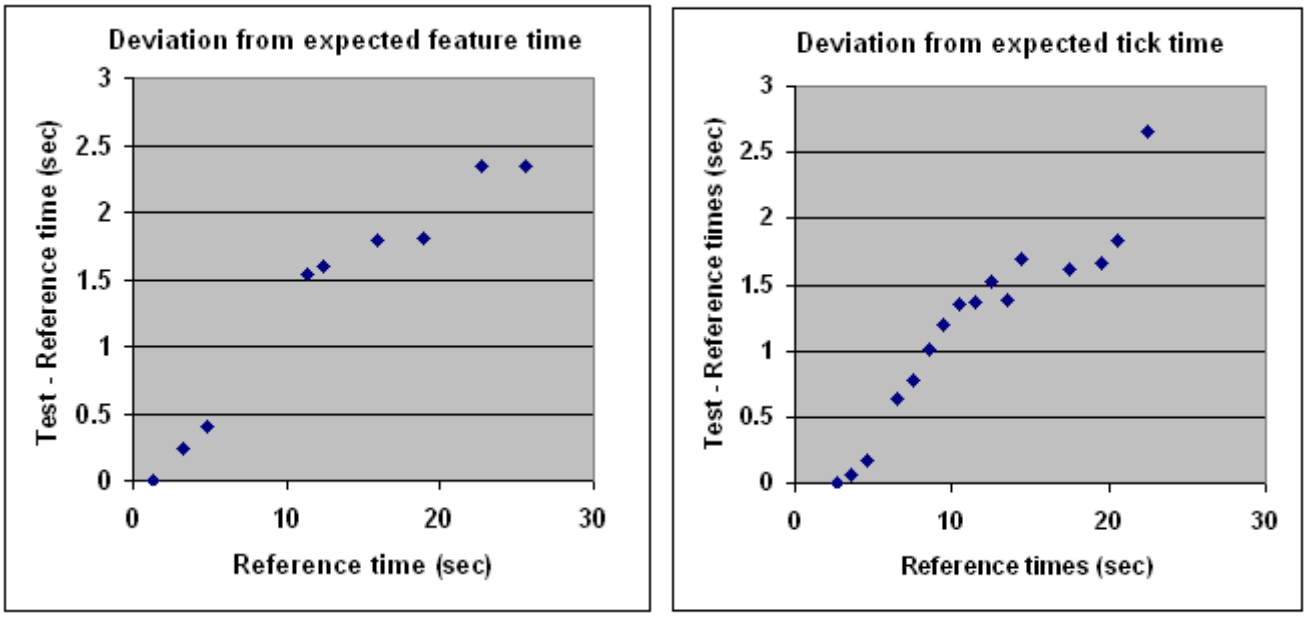

Figure 5. Relation between reference times and test deviations (Expt 2)
Left – audio features, Right – clock ticks

This experiment found stretching of the time base similar to that found in Experiment 1. Further, there were similar deviations from expected feature times and expected clock tick times in the test audio. The small differences that are apparent in Figure 5 are probably not due to measurement error and should be investigated further.

2.3 Experiment 3

This experiment differed from Experiment 2 only in that the clock was located next to the microphone instead of the speaker. New reference and test files were created that included the ticks from the repositioned clock. The temporal locations of corresponding reference and test audio features were again identified, and these are plotted in the left panel of Figure 6. The slope of the regression line (1.0524) indicates that the time base was stretched by about 5.2 percent, about half of what was observed in the previous experiments.

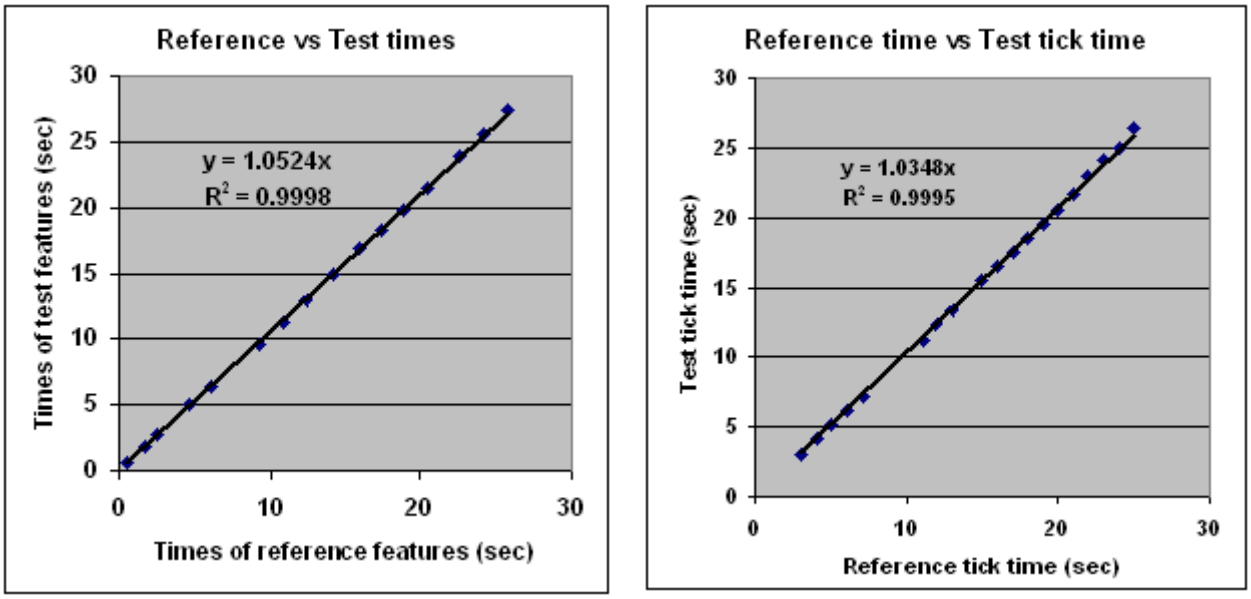

Figure 6. Relation between reference times and test times (Expt 3)
Left – audio features, Right – clock ticks

As indicated in the right panel of Figure 6, the time base for the clock ticks was stretched by about 3.5 percent. Although smaller, this change was still easily measured. A possible advantage of the smaller differences between reference and test tick positions is that pairing them was less ambiguous. Figure 7 shows the deviations from the expected test times. The left and right panels show the deviations for the audio features and the clock ticks, respectively.

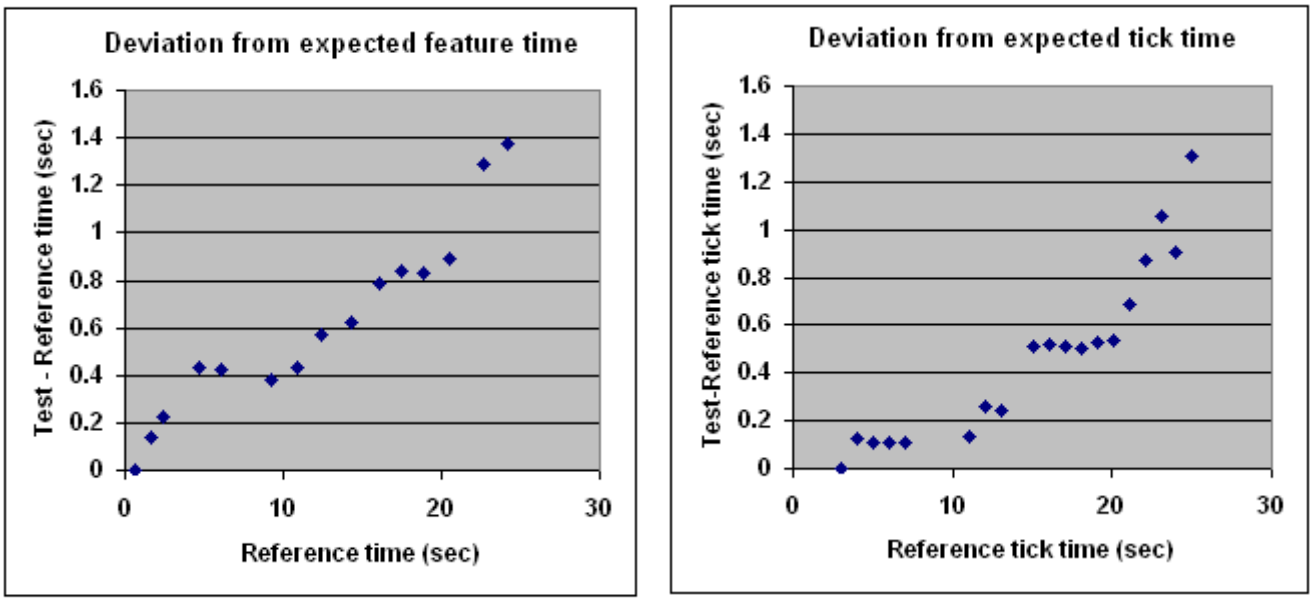

Figure 7. Relation between reference times and test deviations (Expt 3)
Left – audio features, Right – clock ticks

Figure 7 shows that the variations in the time base for the audio features do not parallel those for the clock ticks. For example, at 10 sec into the reference audio, the left panel shows that corresponding test audio features are about 0.4 sec further along than expected. But the right panel shows that the clock ticks at the same time in the reference audio are only approximately 0.15 sec ahead in the test audio. It is as if the time bases for the two audio objects were unrelated. This is an impossibility of course, given that the audio stream from the player and the sequence of ticks from the clock were never handled separately during the recording process.

2.4 Experiment 4

In all the preceding experiments, audio data was recorded while being played by a separate player. How is it possible for the recorded audio data to be a few seconds longer than the audio that was played? If extra samples were being inserted into the played audio stream every second or so, this extra data must accumulate in a buffer somewhere. The buffer must then be emptied into the recorder at the end of the process so that the last few seconds of the played data is recorded. Clearly, if the recorder were stopped as soon as the player finished playing, the buffer would not be emptied into the recorder and the recorded data should be truncated compared to the reference audio.

This experiment investigated the possible existence of a data buffer to accommodate the assumed additional input to the recorder. The phrase “end recording” was appended to the reference audio as a cue for AK to stop the recorder. The recording of the test file was stopped when prompted by the cue, but the recorded audio data was still 2.8 sec longer than the original played audio data. Further, the last couple of seconds of played audio that included the phrase “end recording” was found at the end of the recorded test file. Clearly, the test audio data had not been truncated, indicating that the hypothesized input buffer did not exist.

Figure 8 summarizes the results of the analysis for comparison with the previous experiments.

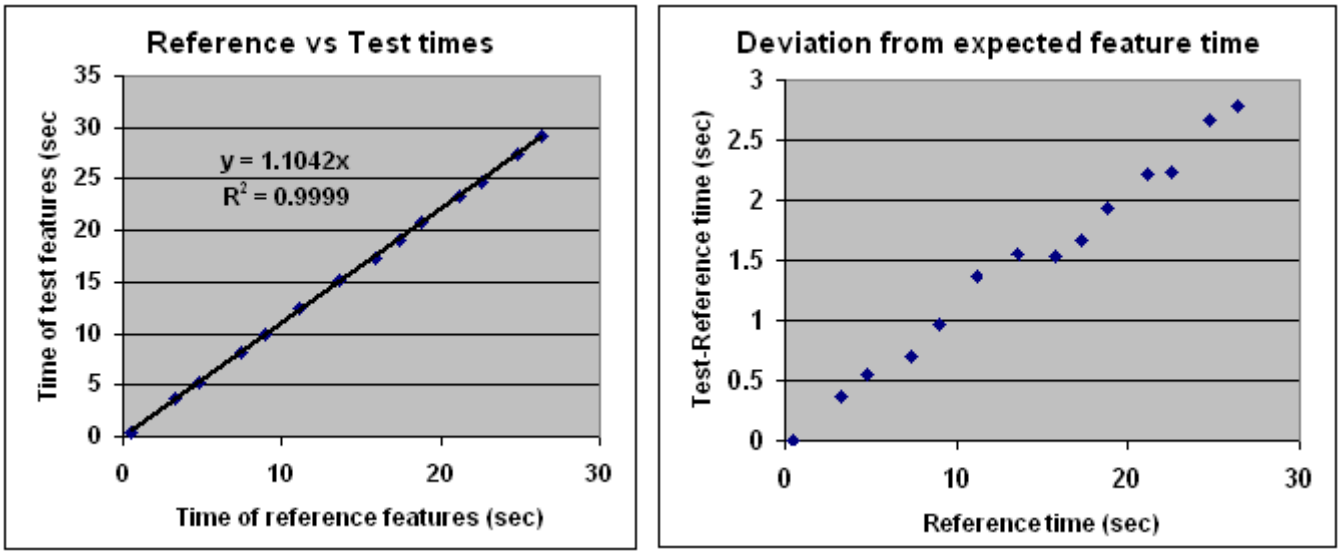

Figure 8. Left panel - relation between reference times and test times,
Right panel - relation between reference times and test deviations (Expt 4)

The left panel of Figure 8 shows the regression line relating the reference feature times to the test feature times. The slope of 1.1042 indicates that the time base in the test file was stretched by about 10 percent. This is about the same amount observed in the first two experiments. The steady increase in the deviations of test feature times from their expected times in the right panel means that the increased length was evenly distributed along the whole file. Note, however, that a period of constant difference occurred at a point midway through the data set for about four seconds. Such intervals where time passed at the same rate for both reference and test audio data were also seen in Figure 5 and Figure 7.

3. Discussion

In our earlier research investigating the ability of presumed spirit technicians to generate new speech from unintelligible voiced sounds, an explanation of the experimental results was proposed that included a model of human speech generation. That is, the technicians would have available to them a simulated vocal tract filter to form any desired phoneme. As well, they would have the means to extract an excitation signal and its harmonics from the voiced speech provided. These would be used to model the complex glottal pulses required to supply pulsed energy to the vocal tract filter and generate any desired speech sounds.

A speech generation model such as this was proposed to explain the function of the energy voice method used by spirits in séances of the Scole experiment (Foy, 2008). The method allowed spirits to speak from any location in the room. A spirit disclosed that the voice was activated by thought and was produced "*via the spiritual counterpart of a set of human vocal chords ... built by the spirit team from the available creative energy*". A more detailed discussion of "energy voice" may be found in Treurniet's review of Foy's book (Section 3.8).

The experiments discussed in Section 2 of this article were performed using a tonal reference signal with a

harmonic structure that appeared to have a bandwidth of 1600 Hz centred at 1600 Hz. According to the speech generation model, the changes in amplitude observed in the test audio would have been produced by passing the reference audio through a simulated vocal tract filter. But voiced speech would not have been generated because the reference signal did not include examples of voiced speech from which glottal pulses for driving the vocal tract filter could have been derived.

Although the reference audio was unsuitable for speech generation, its relatively simple nature likely helped to focus our attention on the differences in the lengths of the reference and test audio data. These differences cannot be explained using normal causal mechanisms. Even more mysterious is the apparent independence of the time bases underlying two different auditory objects recorded simultaneously by a single audio recording device.

We conclude the following from the experiments.

- The time base was always stretched, resulting in longer recordings.
- The *tonal audio* time base varied independently of the *clock tick* time base in the same recording.
- The additional audio and clock tick data were not buffered anywhere during recording.

These observations are incompatible with conventional explanations, but are consistent with an hypothesis that attributes the anomalies to actors in the spirit realm. The hypothesis is based on a cosmology described to us by extraterrestrial beings communicating through the medium, Paul Hamden. The extraterrestrial science is based on the premise that consciousness is fundamental to all that is. Further, we learned how consciousness is able to create using the energy of intention. The science of the energetic realm is discussed further in a book by Treurniet and Hamden. Particularly relevant are the chapters on “Creation and consciousness”, “The energetic environment”, and “A physics of materialization”.

We understand from these discussions with extraterrestrials that an audio object, like all physical objects, depends for its existence on a template in an etheric realm. The etheric realm is to us like a fourth dimension, and the projection of a physical object on that dimension is the locus of an etheric template that defines the physical properties of that object. Spirit beings have access to the etheric realm, and are thought to interact with the physical realm by manipulating etheric templates with their intentions. When a template is changed, the corresponding physical object must change accordingly.

Obvious examples of template manipulation are what we call apports. These are objects that pop into being, sometimes in mid-air, and take on a permanent physical existence. A less obvious apport might be the manipulation of the digital representation of audio data in a computer memory. The physical substrate of the memory would have an etheric template that could be modified by a spirit technician. In our collaborative experiments with such beings, processing by the simulated vocal tract and larynx would occur in the etheric or other dimensions according to a spirit's intentions, and the result communicated to our physical computer memory as an apport by modifying its etheric template.

This hypothesis can explain the anomalous observations listed above. The spirit technicians would modify the etheric template of the audio by intention, so the rate at which time flows in the resulting modification would be under conscious control and should be expected to vary. We see in Figure 5 and Figure 7 that this subjective rate varies relative to the fixed rate set by the computer. Further, different auditory gestalts are handled separately in the etheric domain. We know this because the variations in the rate of time flow for the tonal audio object were

different from those for the clock tick object (Figure 7). Perhaps separate treatment of audio gestalts is natural for a consciousness that creates via intention. Finally, there would be no need for a buffering process to hold the data added to the lengthened test audio. The processed test audio is transferred instantaneously to computer memory as an apport while the audio player is playing or when it finishes.

4. Conclusion

The results of these experiments are inexplicable in terms of our conventional understanding. However, they are consistent with the view that the physical universe is defined in a greater reality inhabited by incorporeal intelligent beings that we call spirits. In this view, the properties of physical matter are specified by so-called etheric templates existing in a higher dimension. When a template is modified by the intentions of a conscious being, the corresponding physical matter is modified accordingly. Spirits may use this technique to alter the physical environment in order to communicate messages from the etheric realm.

5. Bibliography

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