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SPE-29 - Voice & Articulation (Advanced assignment)

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SPE 29 - Voice & Articulation (advanced assignment)

Learning to read spectrograms

Part 1. Each of the pictures below represents a day of the week, as spoken in standard English. Which is which?

Part 2. Add a PICTURE of a spectrogram with its associated waveform, to Module 5 of our course database, in the folder titled "Mystery Spectrograms". Your picture should depict a short utterance (one or more words, no longer than 1 second total). For your entry, include a short README document including a brief explanation of what your spectrogram contains (e.g. movie title, 2 words, 5 syllables; type of cute animal, 1 word, 4 syllables, etc.). Make sure to use your course ID (the 4-character letter-number combination you agreed to use in order to make your entry anonymous yet recognizable by me for the purpose of grading) as the name of the file you will be submitting. We are going to use this database for a subsequent assignment asking you to decipher 3 of these mystery spectrograms (excluding your own contribution).

Part 1: detailed info

This assignment is asking you to step out of your comfort zone and become a detective. You have received 7 different messages, and you KNOW each of them represents a day of the week (as it is PRONOUNCED, not SPELLED in orthography). Your job is to determine which picture corresponds to which day, using any available means. Submit a list of which picture corresponds to each week day, providing THREE DIFFERENT CLUES that have helped you arrive at that conclusion. Using arrows and text annotations, show the relevant portions in the picture with a written explanation of how you interpreted them. Here are some strategies you might pursue:

- **Research research research.** Go to all of the websites online that explain what spectrograms are and how to read them. You will want to learn about the acoustic properties of various sounds, and what they would look like in waveforms and spectrograms (each picture you received is divided into two halves, the one on top representing a waveform of the speech and the one on the bottom representing a spectrogram - both are ways of visualizing sound). Here is a good website that might get you started:

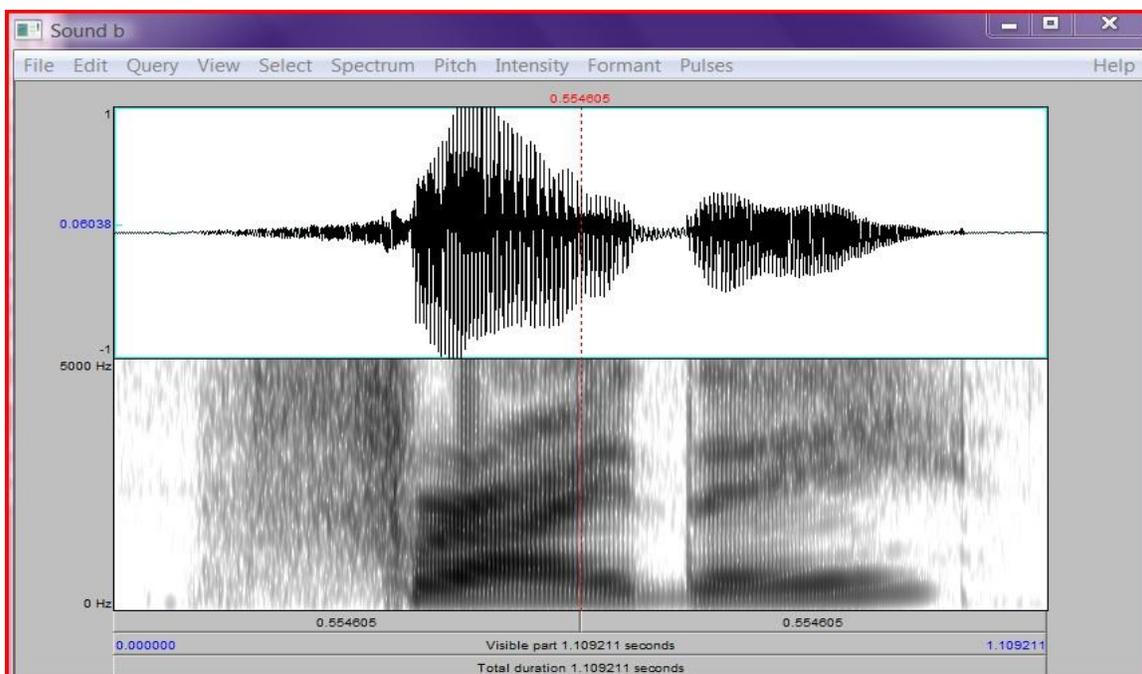
<https://home.cc.umanitoba.ca/~robh/howto.html>

- **Develop your own system.** Record yourself in Praat saying various utterances, then view & edit them to access their waveforms and spectrograms. Compare the different sounds in them in order to better understand the characteristics of each. For example, if you are interested in the sound [f], record yourself in Praat saying 'ffff' several times, but also 'fa', 'af', 'afa'. For all of these recordings, view & edit

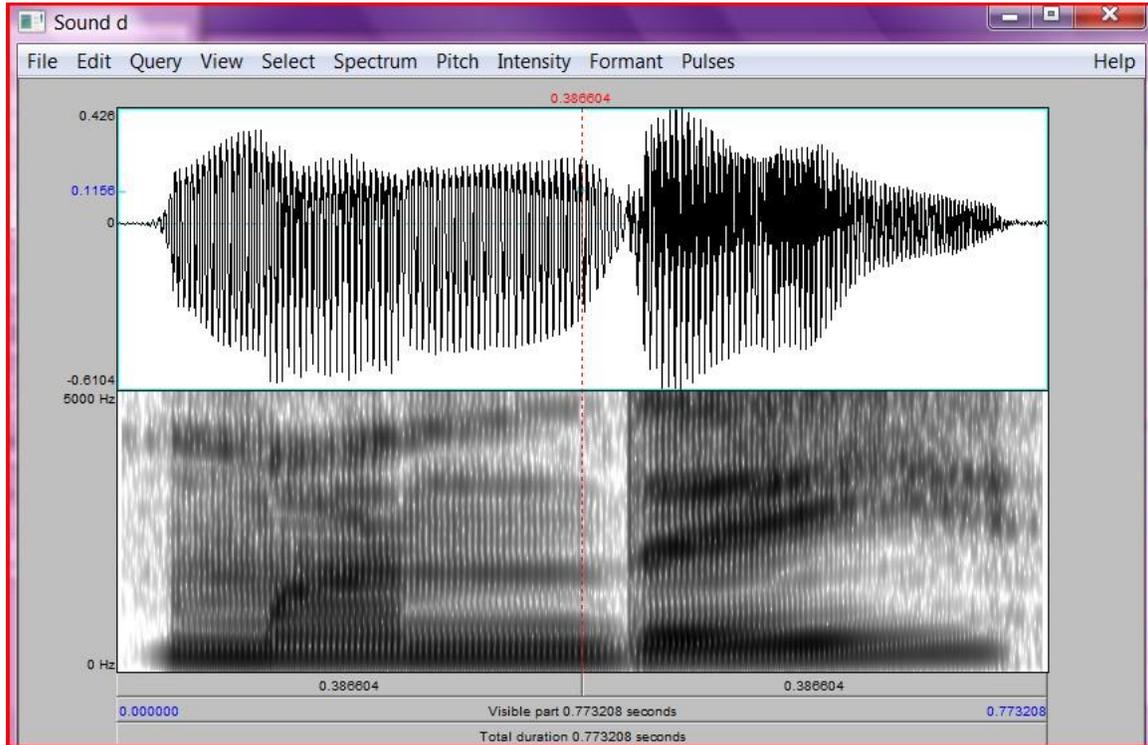
them, trying to understand how each repetition of the sound you are interested in is similar to all of the other repetitions of it. In detective terms, you are looking for a suspect, someone that other people have seen at various locations and whose physical characteristics they are describing to you. By listening to everyone, you will be able to narrow down the description until you reach the one and only fit for your suspect. Every sound of speech is a suspect here, and in particular the ones used in pronouncing the different days of the week. With consistency, repetition, and a system you can successfully accomplish this work, just like other generations of SPE29 students before you have done (and they all confessed feeling utterly lost in the beginning).

- **Join forces.** Reach out to people in your study group to find out how they are doing this, what has worked for them, what their working hypotheses are (remember - to be an equal member, you too have to contribute something; you can't just show up and ask for solutions - that would mean you are trying to take advantage of them and their efforts. As a fair, equally valuable member of the group, you have to give something for everything you take. Learning how to contribute and distribute team tasks and effort will go a long way towards your team project later in the semester, and beyond. NOTE: you can collaborate on finding answers but you still have to do your own write-up. Identical or near-identical assignments will receive grades of 0 for plagiarism.
- **Ask.** If you are really stuck, ask you questions on the General Student Forum. Your professor checks it frequently and will answer you there, so everyone can see.
- **Do not give up.** This is challenging, but solving the mystery will help you grow as a thinker, a problem solver, a team member and a potential researcher (or detective).

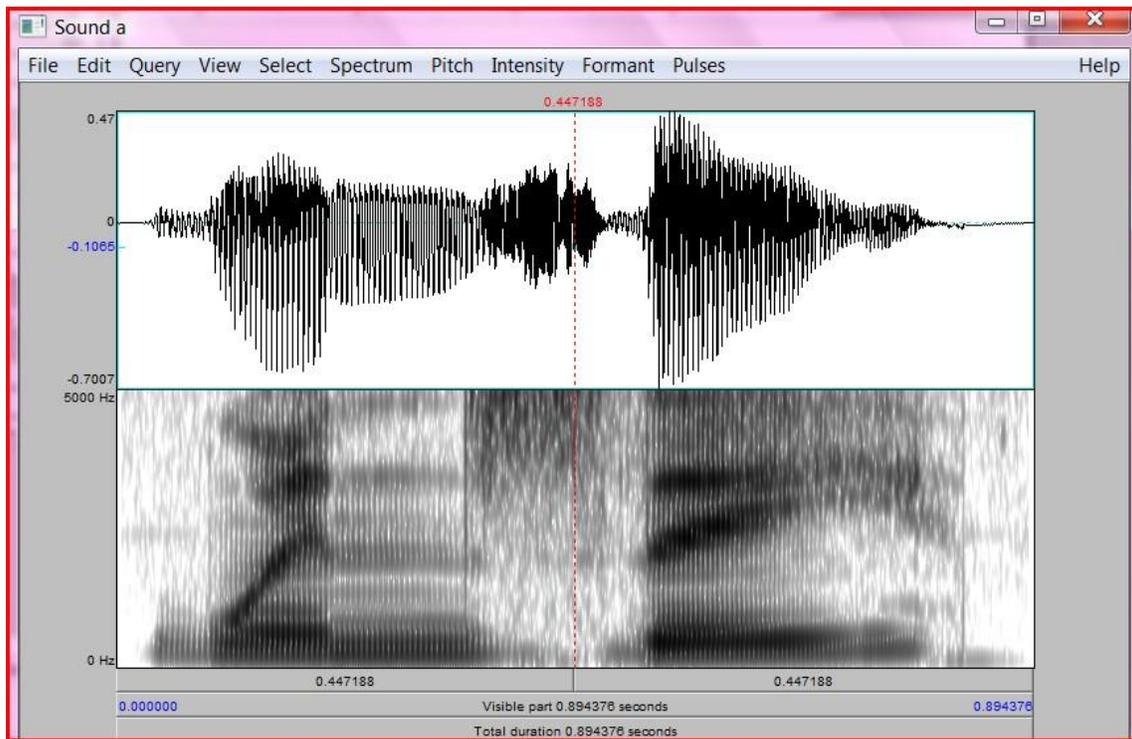
SOUND B



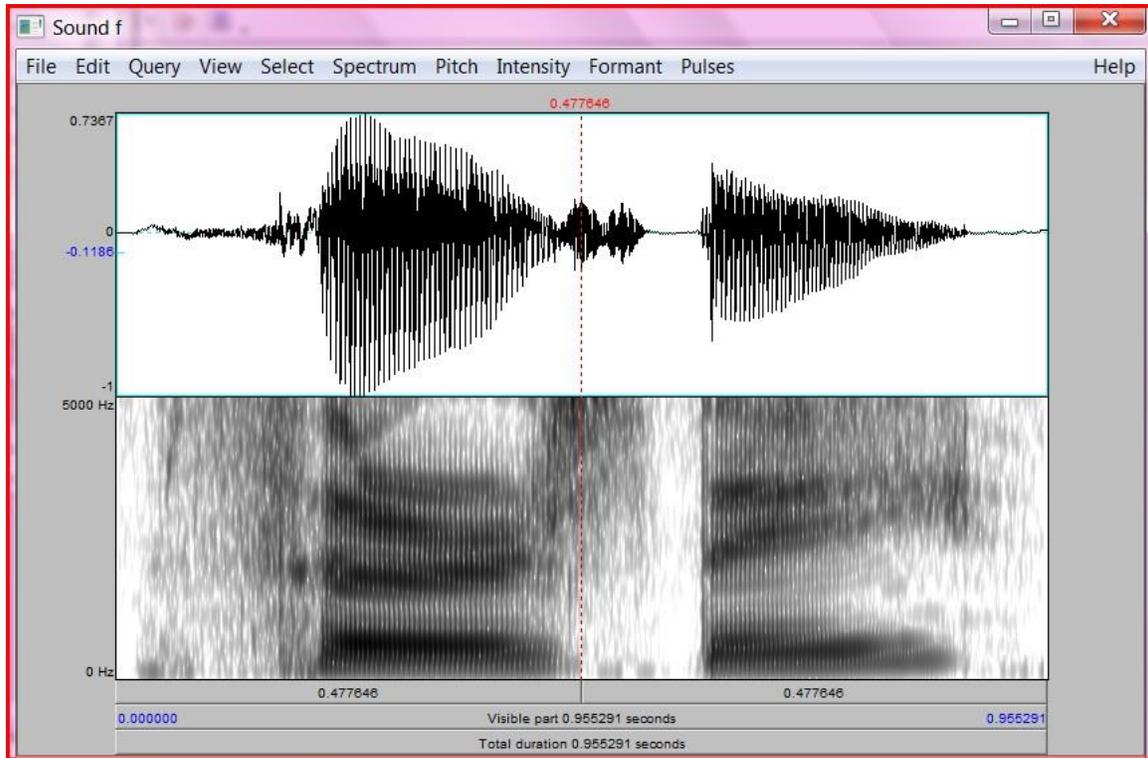
SOUND D



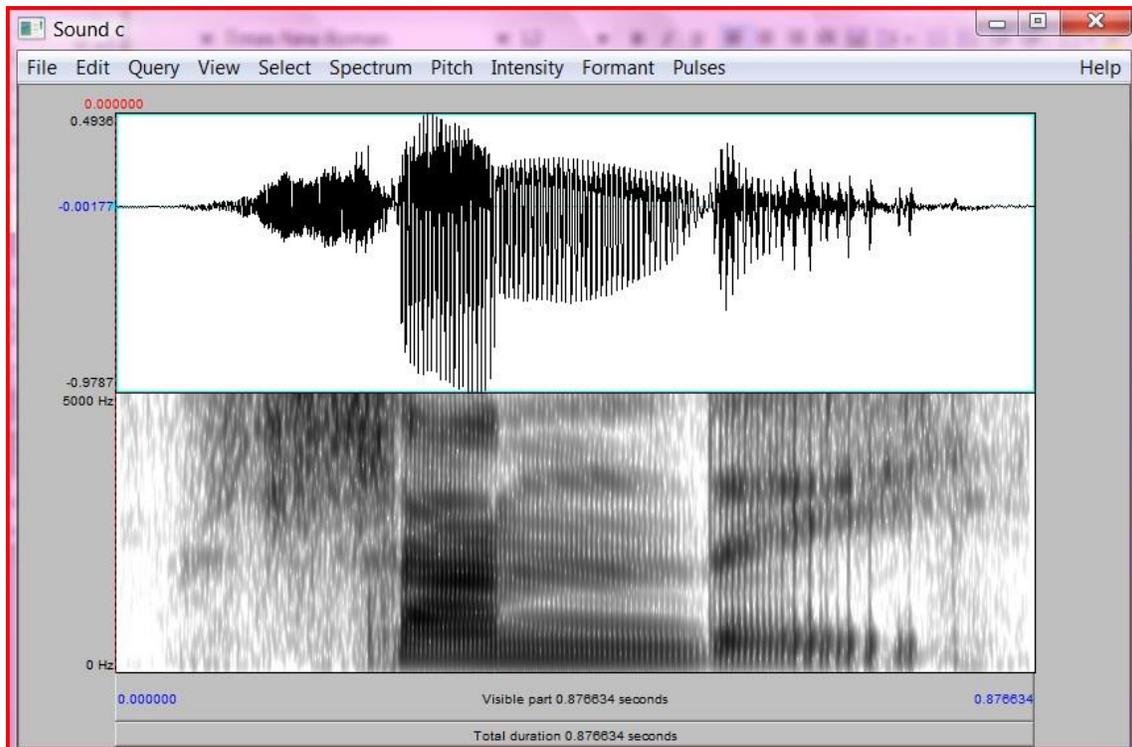
SOUND A



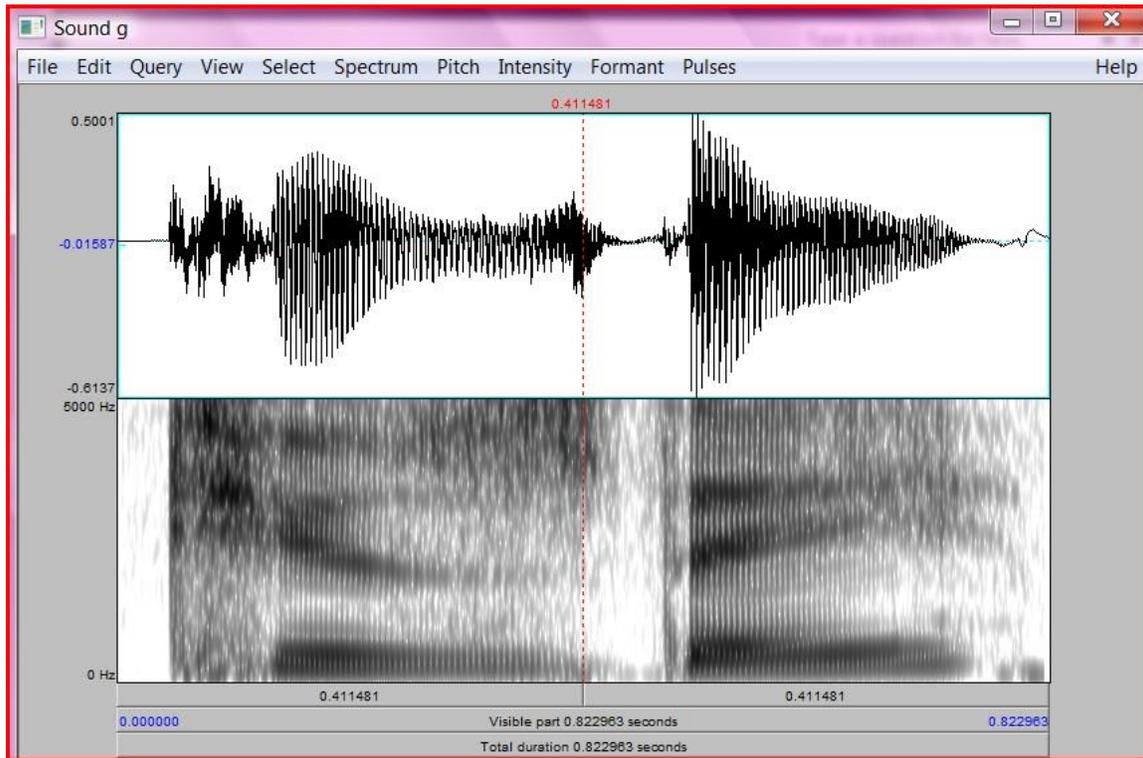
SOUND F



SOUND C



SOUND G



SOUND E

