Live Recording Reading Report

In *Mic Techniques Pt. 1*, it was cool to learn the different ways to achieve stereo sound. You could use 2 spaced mics, use 2 mics and use one for each channel, or send different parts of the mic pickups to different channels. I learned the 1st stereo mic system was debuted in the Electrical Exhibition in Paris 1881, which I thought was interesting. I also learned that ambisonic recording includes height in its surround sound.

In *Mic Techniques Pt. 2*, I was grateful to learn about the "Wall of Sound" and how it has since been simplified to 3 mics and 3 loudspeakers. I learned about the binaural mic technique and how it replicates how our ears capture sound. It was also important to note that spaced mics cannot be put into mono due to phase issues.

*Intro to M/S Recording* taught me how M/S mics are always vertically on top of each other. Something to note was to be careful when attaching them, making sure to put heavier mics on the bottom. I also learned about the 2 channels of M/S and how one has the similarities of the left and right, while the other has the differences of the left and right. Another great thing to know is that the M/S recording technique does not need matched mics.

One of the things I was reminded of in *Introduction to Recording Ensembles* was how our brains filter out room ambience. This is especially important to know when finding a good mic placement in a a room. I learned that reverb radius is where the direct and ambient sound are equal in a space. It was also good to be reminded that mics should be placed above the conductor's head because it limits obstructions to the sound and the ensemble.

*Using Mic Polar Patterns Effectively* taught me about how omni mics are sometimes called "pressure mics" because they measure sound pressure. Figure-8s on the other hand are 'pressure gradient because they respond to the difference in pressure from front to back. I also learned that by mixing these two main types of mics, we create other patterns such as hyper or super cardioid.

In *Adding Omnis to Arrays,* it explained that adding omnis to an array can get a LF extension, which can be very useful. It’s nice to know omnis support lower octaves, highlighting lower instruments or parts of instruments. Omnis can also add spaciousness in a stereo recording.

*Guidelines for Recording Symphony Orchestra* described how more than 4 meters between mics will create a delay in sound. It’s also important to ensure all sections of the orchestra are balanced and blend well together in the recording. A-B stereo is a good recording technique for orchestra recordings because of the spatial depth it provides.

In the *Spot Mic Phase Problems* article, it had a diagram with a good and bad placement for a speaker with a podium. Having a mic at mouth height rather than down prevents first reflections when the speaker does not have to look down to speak. Another thing to note was the closer a singer is to a mic the more you reduce the first reflections distance, which will add delay and therefore create phase issues. Ensuring your spot mic is aligned well with your main mic will also avoid phase problems.

The articles talked about the phase issues spaced mics have when incorrectly timed with each other, a problem fixed either with delay or correct spacing. A lot of the readings mentioned filling space with spot mics, saying how these mics fill the hole in the middle or highlight soloists. Although you do not want to draw too much attention to the spot mic in the overall mix. The readings also describe placing mics above the conductor’s head when recording large ensemble because of its ideal location away from obstructing objects.

 One of the articles solved phase issues by simply moving the mics closer together. Having closer mics reduces distance so therefore reduces phase issues. Another article instead talked about moving the mics to be the same distance from the sound source, rather than moving them closer. This would also solve the problem, but would take more careful planning and placing.

An essential to recording is to remind what and where you record greatly dictates what mic placement technique to use. Remembering spaced mics cause phase issues along with comb filtering when placed wrong. Directional mics are also important and can reduce phase issues and noise problems. Knowing there are two main types of directional mics, omni and figure 8s, along with many more combinations of the two. Having a balance of direct and room ambience remains an essential to a good recording as well.

The textbook talked about the possibility of leakage sound when using a close mic and how directional mics usually solve this problem. One of the articles talked about the uncommon binaural sound technique, where you try to replicate how our ears hear sound. I found this technique a bit strange, but also a somewhat logical way of thinking about recording sound.