The Proposal of **The synthesis of Human Voice**

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Sounds produced by biological systems generally results from the vibration of certain types of biomaterial. These vibrations create a source of oscillating air pressure that acoustically encodes information pertaining to the vibratory character of the tissue. Vocal signal can be described as a source with filter model, the source being the vocal cords and the filter being the vocal tract. (fig. 1)

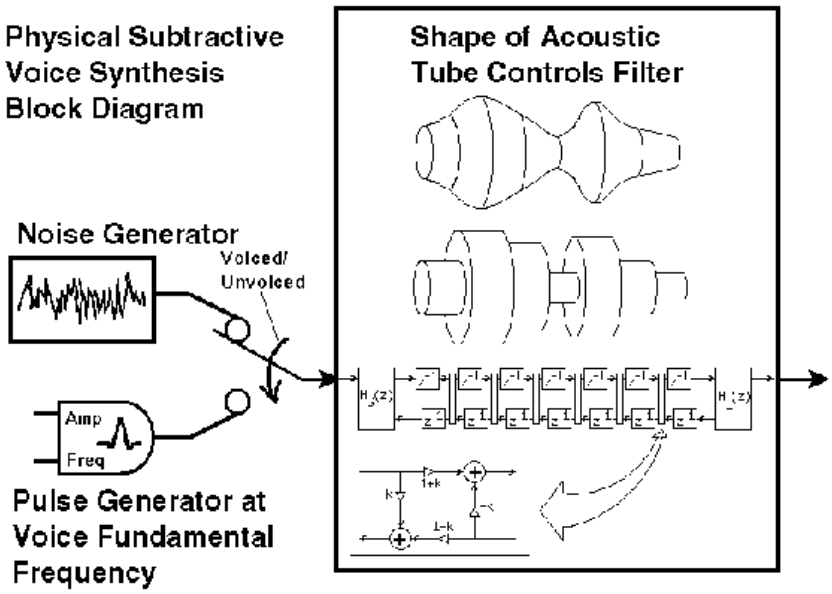

Fig.1 Physical Subtractive voice synthesis block diagram and shape of acoustic tube controls filter

The idea of physical modeling is to analyze the input signal that could help to separate the glottal information from the vocal tract information. There are two common types of physically based models. One is for simulating the vibration of the vocal folds and the other one is for representing the vocal tract shape. In our research, we will discuss the usage of these two models and explore specific examples that show how it is executed. We are interested in understanding the physical modeling of the voice, which would allow us to investigate qualities of the voice and may be helpful for speech recognition. Moreover, we could also use this information to

transform different voice character by changing the characteristic of the model. These include, breathiness, pitch effect, etc.

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