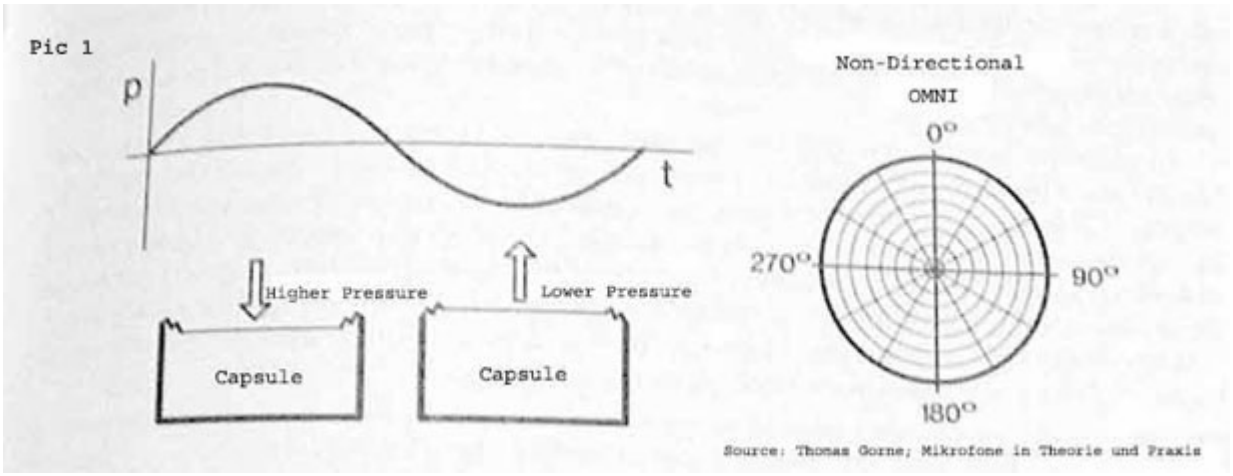
Capsules of Microphones, how do they work.

Pressure Transducers

A pressure transducer is a closed capsule with a membrane that driven by airpressure. (pic 1) Because a low/high pressure weatherfront could let the membrane move, there is a little hole so that can be compensated, but that also determines the capsules lower frequency. Bécause it reacts to pressure, a pressure transucer is by definition non-directional, or as we know it; it has omni-characteristic. And backwards; an omni is per definition a pressure transducer. (a remark has to be made about de double-capsules, but i'll talk about that later)



Pressure Gradient Transducers

A pressure gradient is an semi-open capsule with a membrane that is driven by the pressure gradient, in simpler words the relative phase-difference of a signal. (pic 2) Because of this, a pressure gradient capsule is by definition directional. Cardiod, figure-eight, super-cardoid etc. characteristics as we know them. And backwards; a directional microphone is by definition a pressure gradient type.