ABDOMEN: Percussion-Sounds of.

Conditions producing resonance—Area of abdominal resonance—Hyperresonance due to meteorism or free gas in the abdominal cavity—Loss of liver dulness—Diminished resonance, due to inanition, fluid free in abdomen, or encapsuled, and solid tumours—Situation of the dulness in ascites, in tumours of the spleen, kidneys, etc.

The general principles of percussion-sounds are discussed at p. 279, and their application to the examination of the chest are considered at p. 450. As stated in those pages, the stroke delivered by the fingers or other instrument produces a sound which varies in tone and pitch according to the elasticity or resounding quality of the adjacent structures. The best resounding medium is an air-containing space, the air being at a moderate pressure. The tympanitic or drum-like quality of the note is best heard when the collection of air is of considerable bulk; thus it is more resonant, of lower pitch and of longer duration when the surface over the stomach is percussed than when the intestine is the resounding medium. Substances which contain no free air or which are inelastic cause the percussion sound to have a dull, unmusical quality, void of resonance.

On percussing over the abdomen a variety of sounds are elicited in health. All the surface below the level of the diaphragm, with the exception of that over the liver and spleen, is tympanitic. The resonance differs, as just stated, in pitch and quality in accordance with the volume of gas in the subjacent viscus. It may thus be possible to distinguish the stomach, colon, and small intestine by their respective notes, though at times this is impossible, owing to the variable amount of gas which may happen to be present in one or other of the organs.

Exaggeration of the normal tympanitic resonance (**hyperresonance**) is found in meteorism (see p. 7). In this condition the tension is sometimes so great as to displace upwards the liver, spleen, and heart. The dull areas due to the presence of these viscera may be not only displaced, but may be diminished in size. In the case of the liver this is probably due in part to a rotation of the organ on a transverse axis, so that a smaller portion of its convex surface is in contact with the anterior thoracic wall, and the liver dulness in some such cases may be quite lost.

Less frequently hyperresonance of the abdomen results from