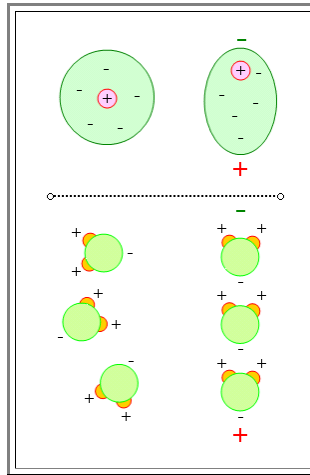


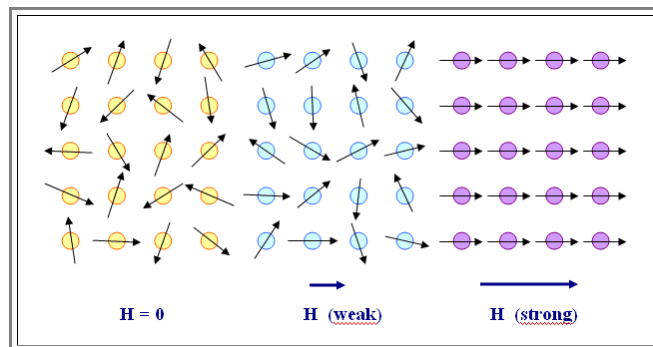
Wrong Illustrations of Orientation Polarization

Illustration

Some (undergraduate) text books like the "Atkins", "Barrett" or "Askeland" show simplified pictures to orientation polarization that are simply *wrong*.



- This figure reproduces roughly a picture from the (otherwise very good) "[Askeland: The Science and Engineering of Materials](#)". In the bottom part it is supposed to show water molecules without (left) and with (right) an electrical field.
- Well - it is simply wrong. However, considering that this book only spends two pages on polarization mechanisms and dielectric constants, there simply is no room for the author to describe "details".
- The same is true for the magnetic equivalent of orientation polarization: [paramagnetism](#).
- Here is a picture drawn after an illustration in the "[Barrett](#)"



- It is just as wrong as the picture above. However, the same "excuse" applies: This is Undergraduate stuff, much simplified, and without a discussion of the statistical nature of the orientation.