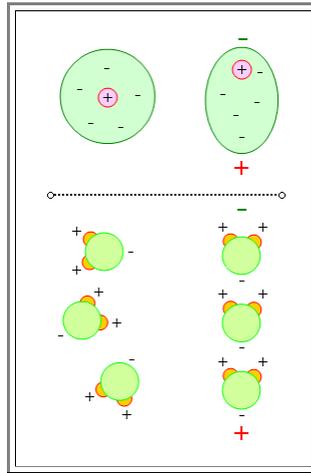


Wrong Illustrations of Orientation Polarization

Illustration

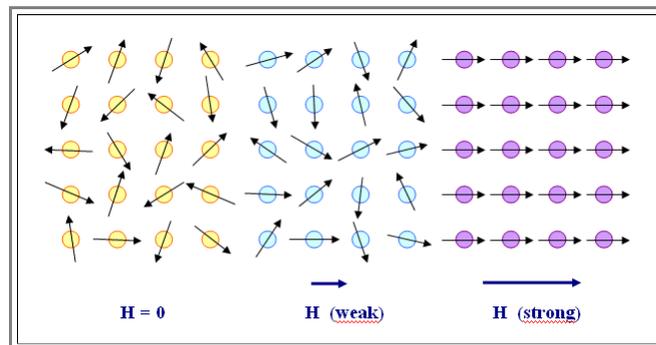
Some (undergraduate) text books like the "Atkins", "Barrett" or "Askeland" show simplified pictures to orientation polarization that are simply *wrong*.



- 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.