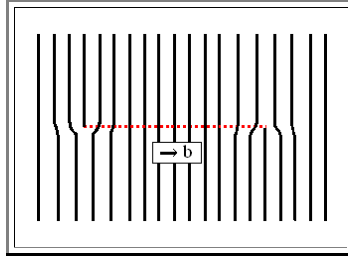


## Exercise 5.1-1

### Sign of Burgers and Line Vectors

Lets look at a dislocation loop in cross-section. After the "cut" along the red line, the lower half was moved to the right by  $b$ . Two edge dislocation are visible if we look at a cross-section taken through the middle of the loop. A Burgers circuit now would give Burgers vectors of *different* signs - *or does it?*

Illustration



- We can ask the same question in a different way: From the Volterra construction we know that the Burgers vector - including the sign - must be the same everywhere. But the dislocations shown in the cross section look "reversed" - we would certainly assign different signs just looking at the picture. How is this contradiction to be solved?



[Link to the solution](#)