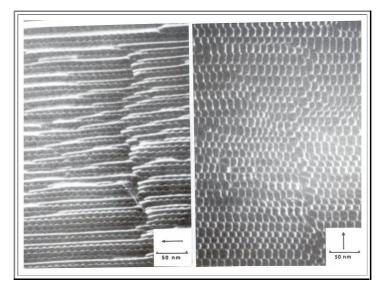
Small Angle Grain Boundary with Twist and Tilt

- On the right-hand side is the (full-size) <u>picture from the backbone</u>, on the left-hand side *the same area* is shown, but imaged with different <u>weak-beam</u> conditions.
 - It can be seen that a whole new set of dislocations lights up. They are edge dislocations accounting for a fairly large degree of (unintended) tilt in this grain boundary. They interact with the screw dislocations visible on the right hand side to form a fairly complicated network of grain-boundary dislocations.
 - The big distortion in the edge dislocation structure running from top to bottom in the right-hand side of the image is probably due to a change of the grain boundary plane: All dislocations must move "up" or "down": the structure changes.



This is another good example of the power of contrast analysis with TEM and the difficulties of extracting the information contained in the picture (just try to draw the network with all the Burgers vectors indicated).