

Visibility diagrams for corner transitions

The diagrams below illustrate the FC and SFC corner transitions referred to in (3.2)(6), figure 3, (4.1)(4), (4.3) and figure 17 of the article *Local image features resulting from 3-dimensional geometric features, illumination and movement: II*. The diagrams include indications of visibility of the contours, features and cast shadows. For the 'type' notation, see (3.1) of the cited article.

1 Corner transitions by type and visibility, without cast shadows

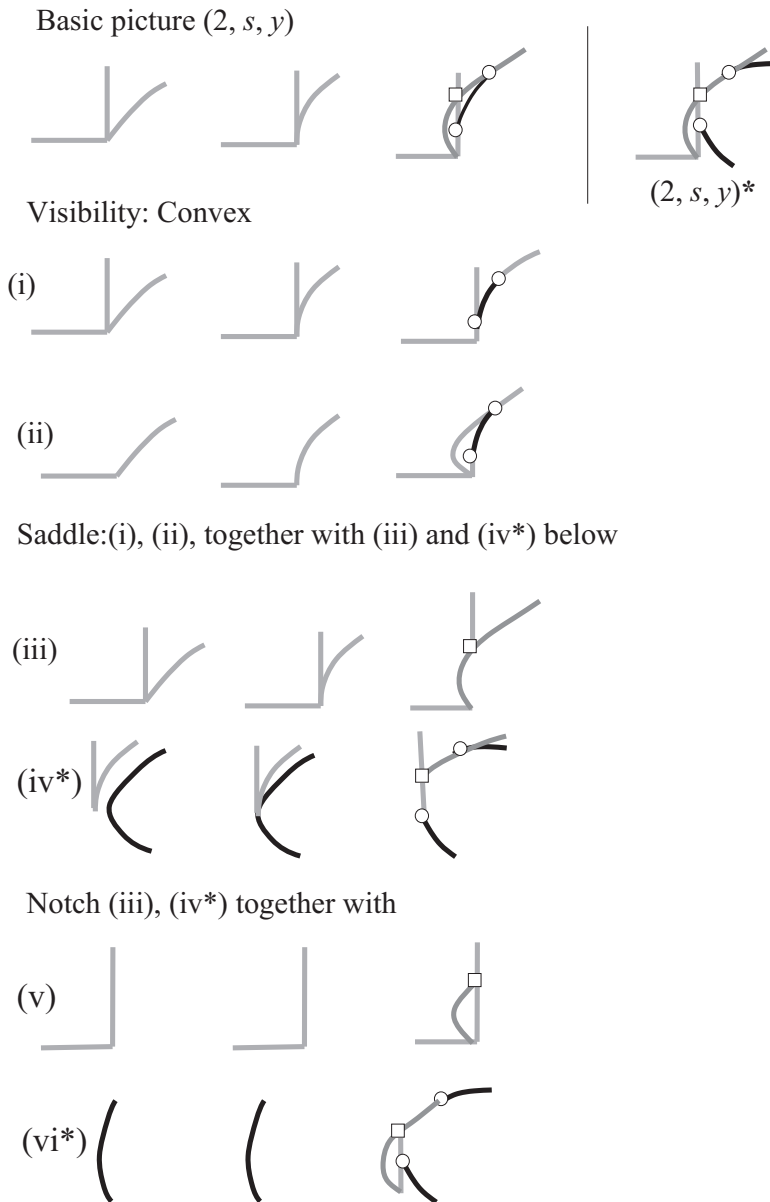


Figure 1: Transitions on corners of type $(2, s, y)$

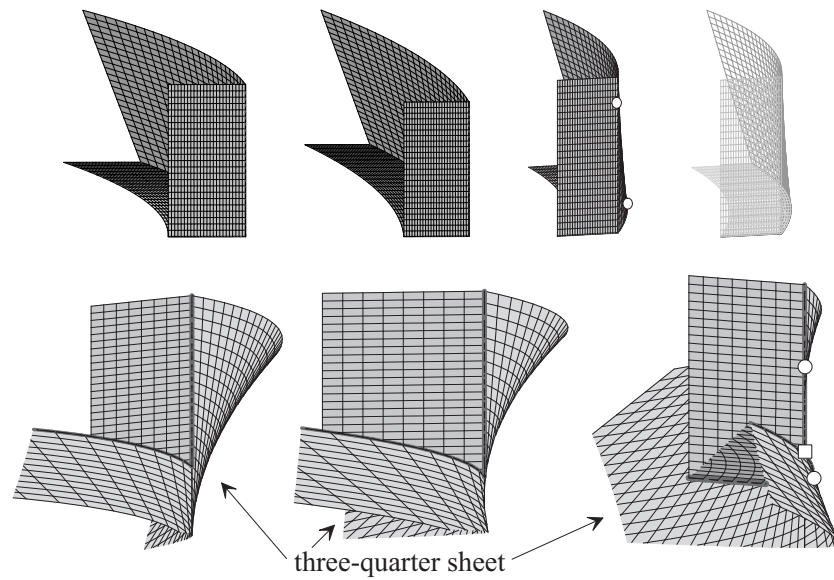


Figure 2: Top row: a transition on a convex corner of type $(2, s, y)(ii)$. Note that it is the arrangement of crease edges and contour which is important, not their shapes, when comparing actual examples with the schematic diagrams. The right-hand figure is a wireframe view of the figure to its left, showing the occluded self-intersection of creases in the image. Bottom row: transition on a notch corner of type $(2, s, y)(iv^*)$.

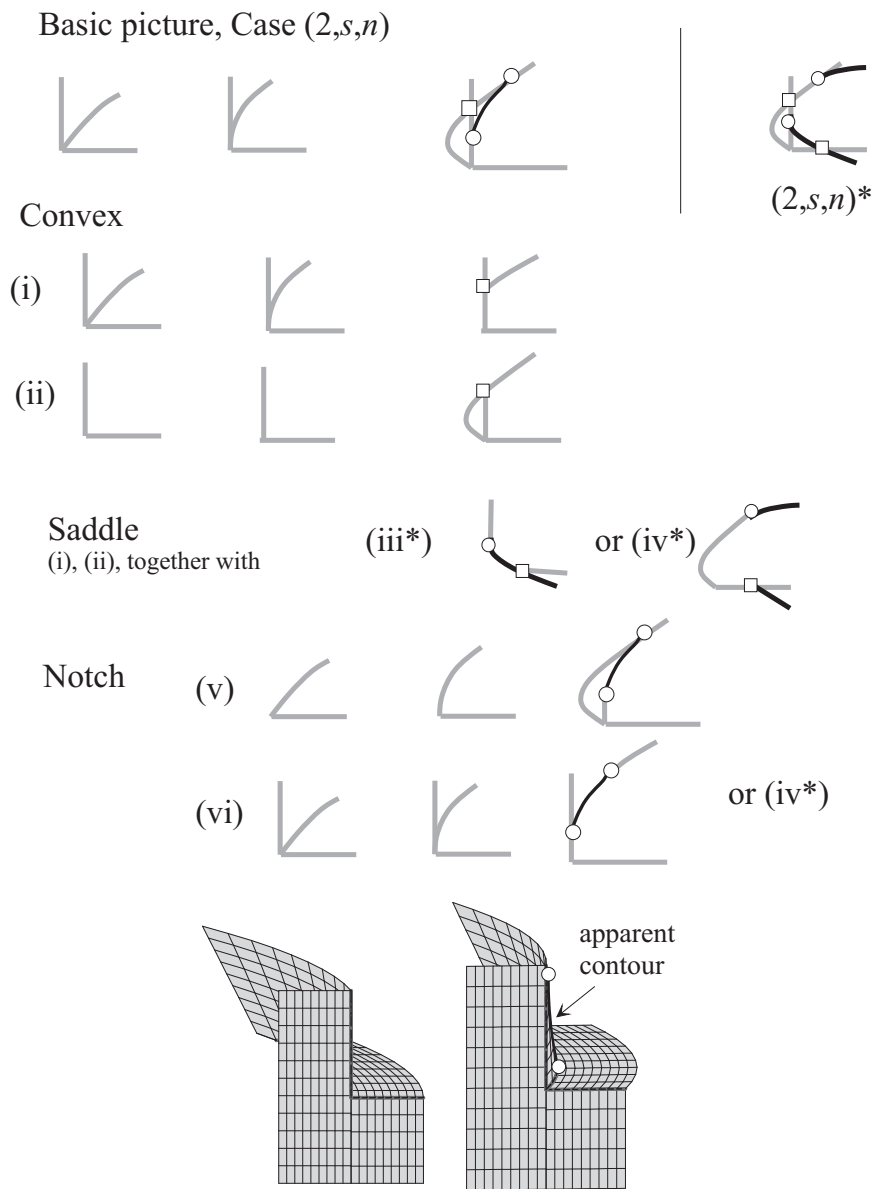


Figure 3: Transitions on corners of type $(2, s, n)$; bottom row: type $(2, s, n)(v)$

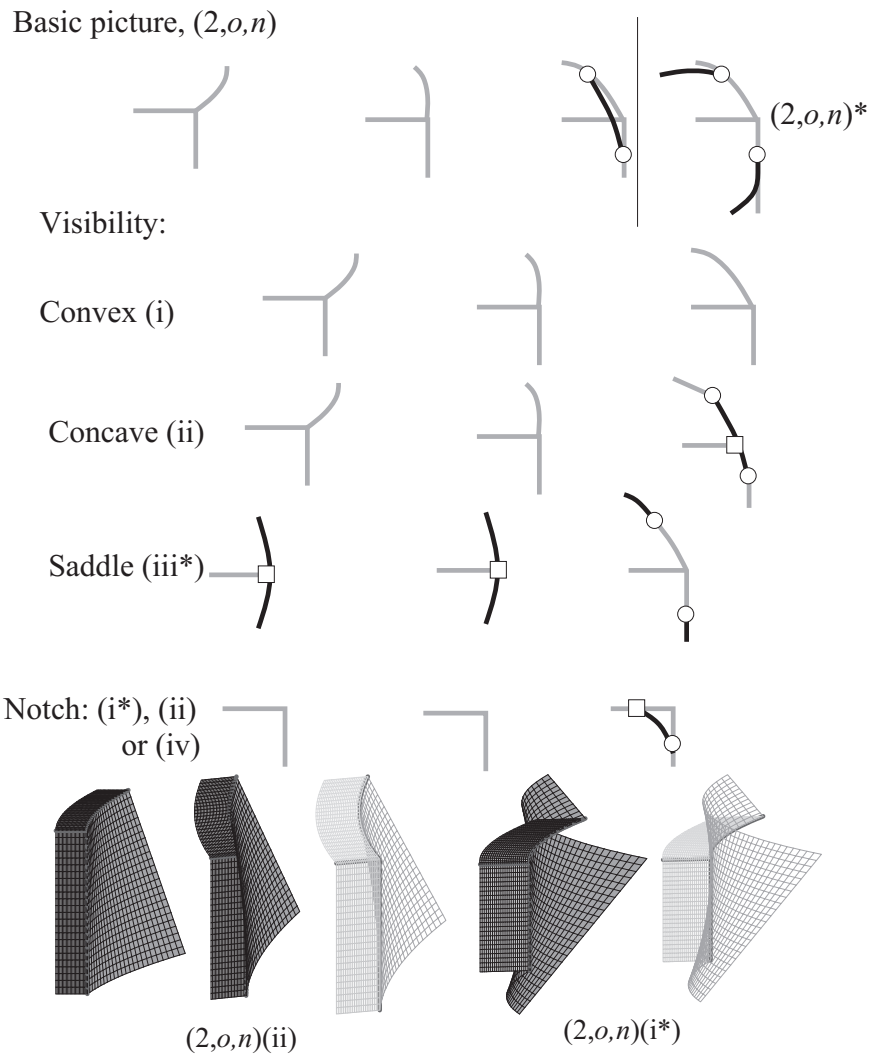


Figure 4: Transitions on corners of type $(2, o, n)$. Bottom row: the first three figures are concave type $(2, o, n)(ii)$ with the third a wireframe view of the figure to its left. The fourth figure is a notch of type $(2, o, n)(i^*)$ where the contour is completely hidden, but shown in the wireframe figure to its right.

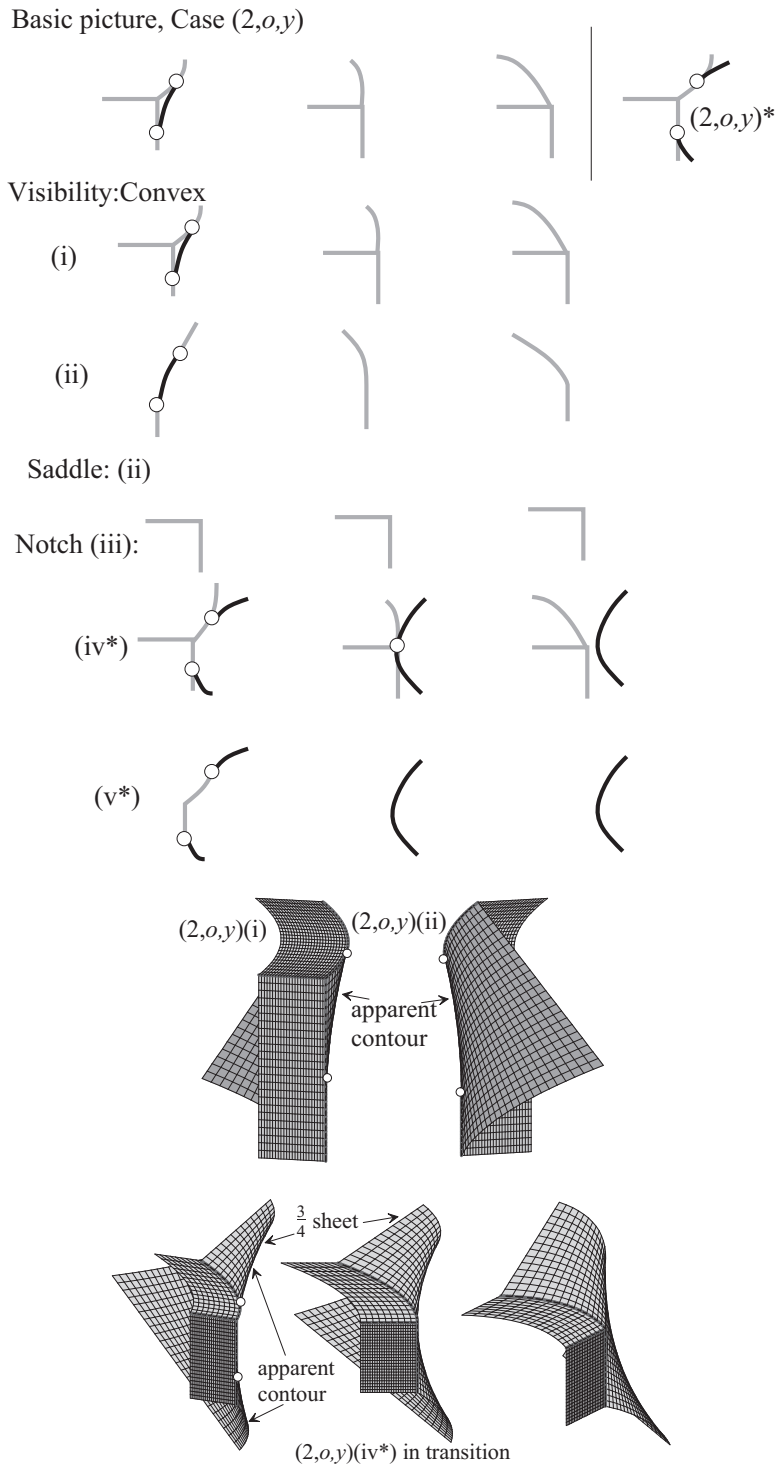


Figure 5: Transitions on corners of type $(2, 0, y)$

Basic picture, $(1, s, y)$



Visibility: Convex

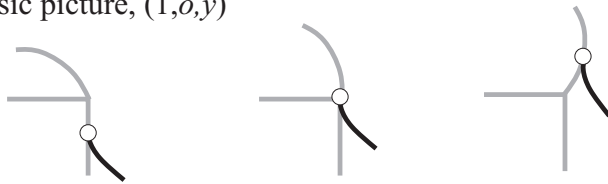


Saddle: (i), (ii)

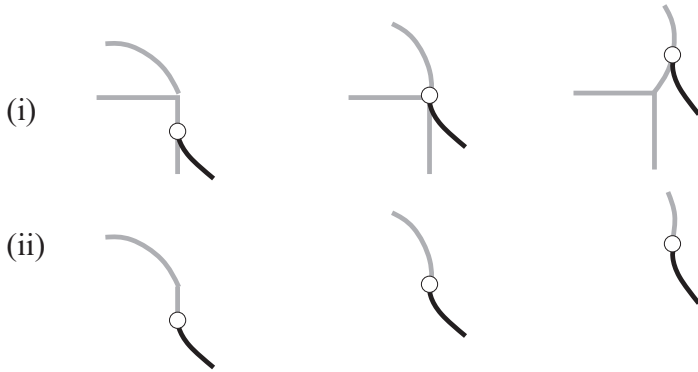


Figure 6: Transitions on corners of type $(1, s, y)$

Basic picture, $(1, o, y)$



Visibility: Convex



Saddle: (ii)

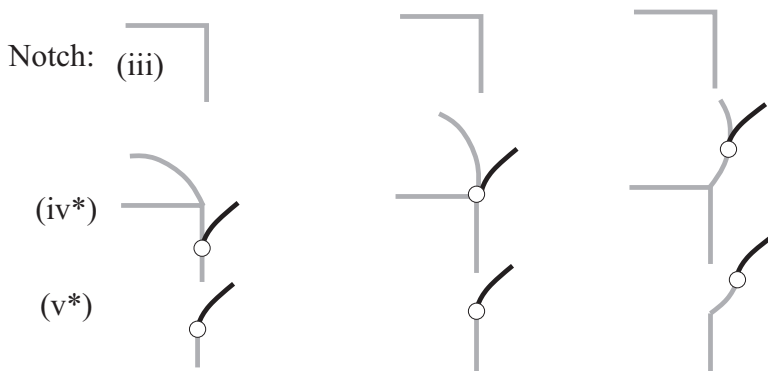


Figure 7: Transitions on corners of type $(1, o, y)$. Note that in this case there is in fact no qualitative distinction between the starred and unstarred cases.

Basic picture, $(1, o, n)$

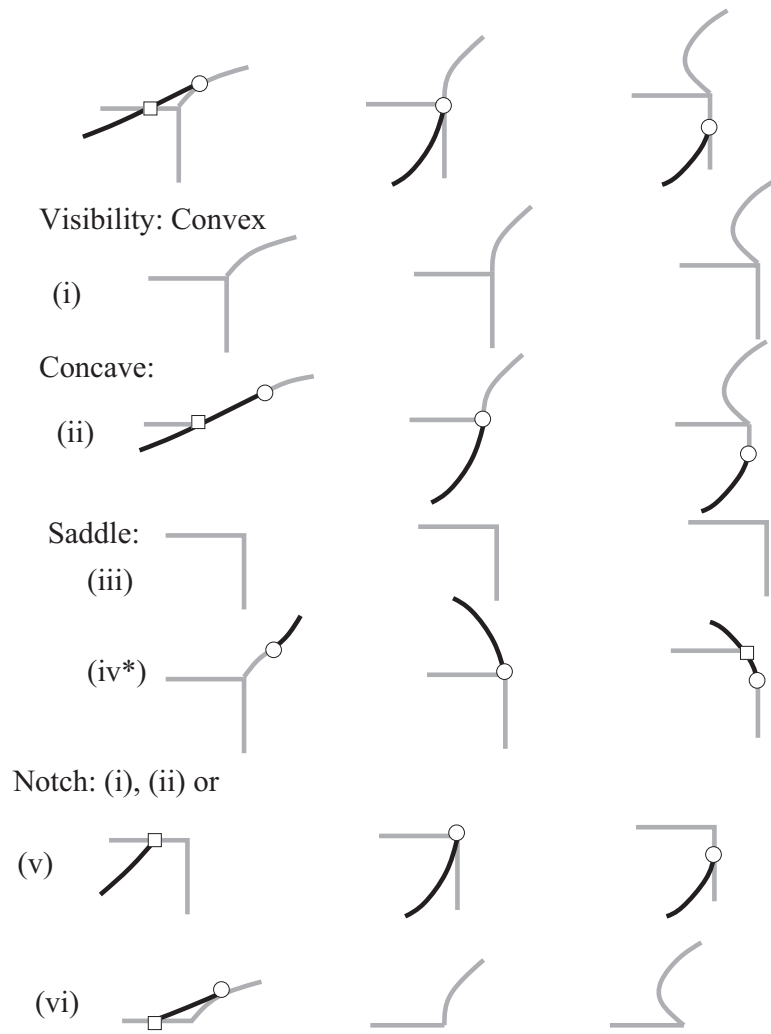
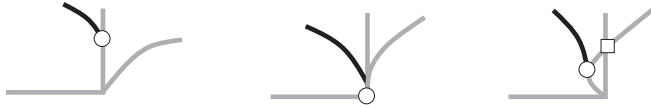


Figure 8: Transitions on corners of type $(1, o, n)$. Note that in this case there is in fact no qualitative distinction between the starred and unstarred cases.

Basic picture, $(1, s, n)$



Visibility: Convex:



Saddle: (i), (ii) or



Notch:



Figure 9: Transitions on corners of type $(1, s, n)$

2 Corners and cast shadows: notch cases

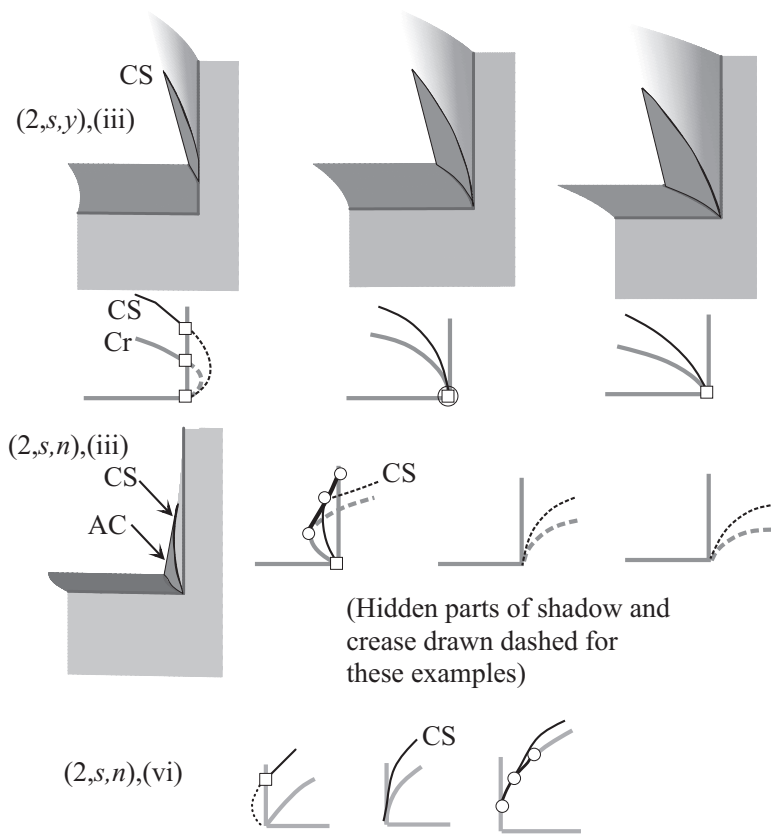


Figure 10: Two examples of notch corners with cast shadow transitions and a schematic picture.
 CS = cast shadow of a crease

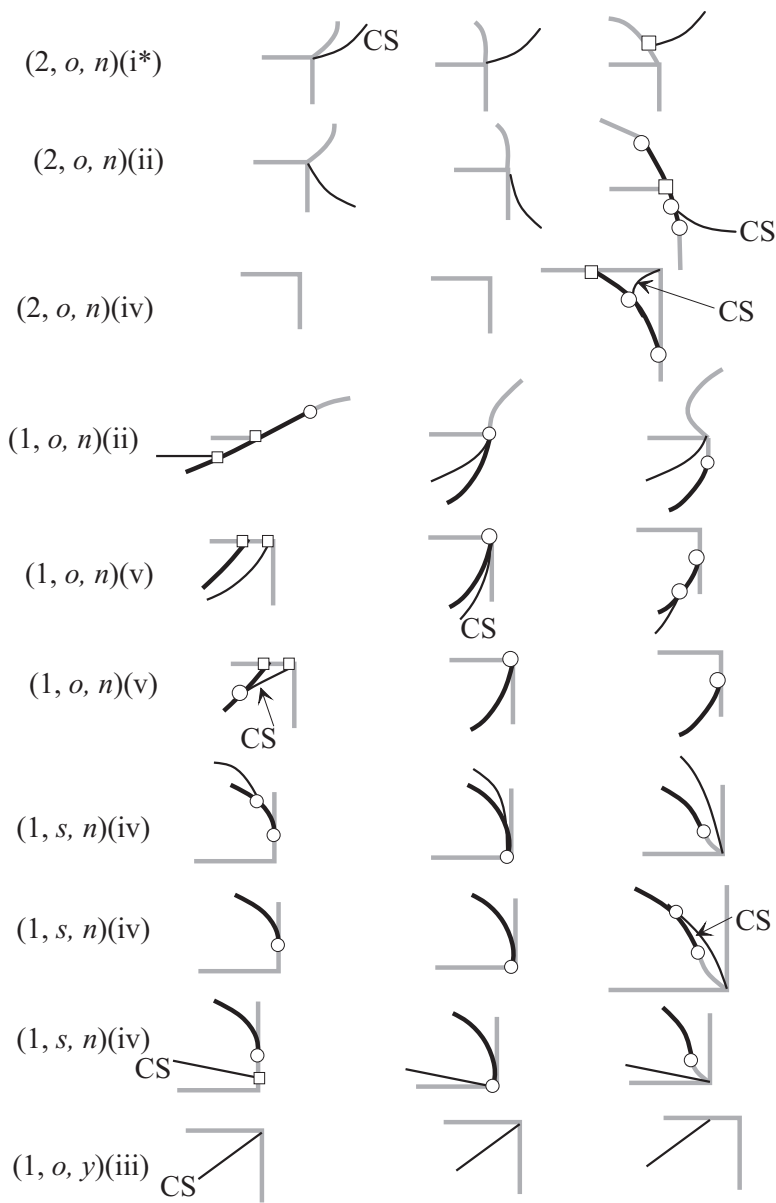


Figure 11: Schematic pictures of the remaining notch corners with cast shadow transitions. CS = cast shadow of a crease

3 Corners and cast shadows: saddle cases. CS = cast shadow of a crease

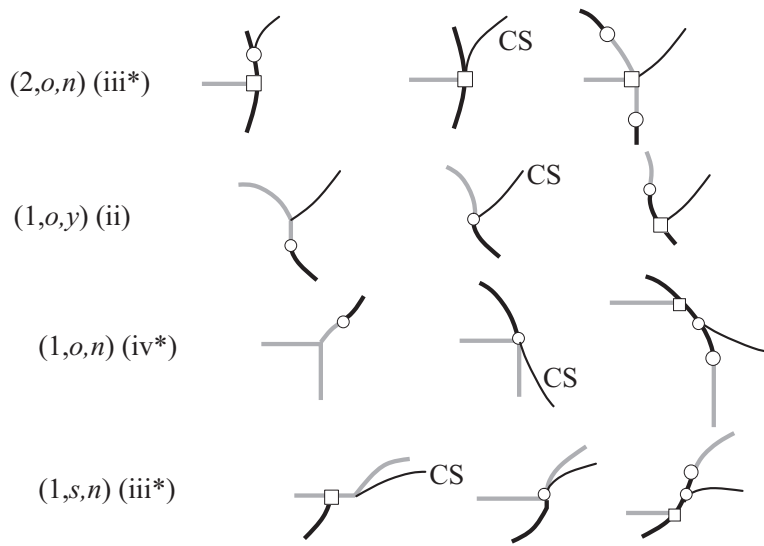


Figure 12: Schematic pictures of saddle corners with cast shadow transitions