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Arrangement

Duality: Preservation

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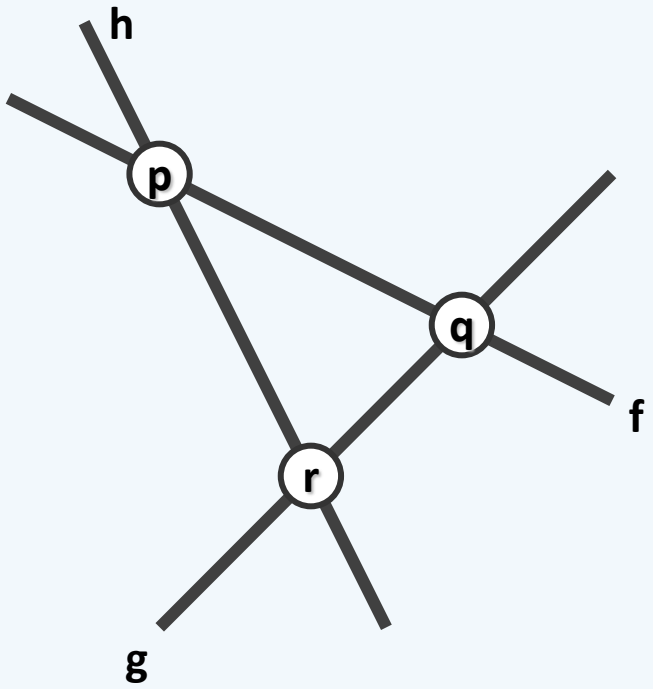
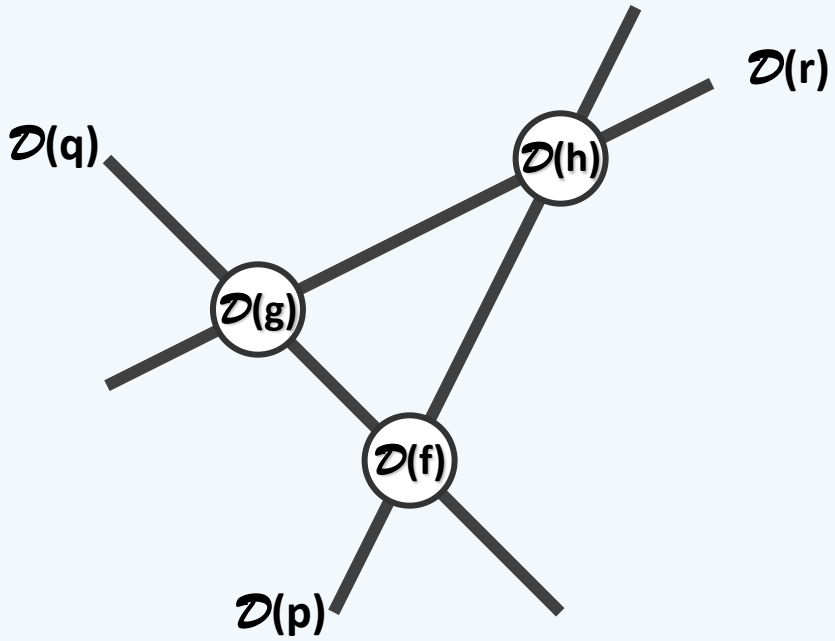
Incidence & Order Preservation

- Let p be a point and h be a non-vertical hyperplane in $\mathcal{E}^d$
- Then $p \in h^+$ iff $\mathcal{D}(h) \in \mathcal{D}(p)^+$

  $p \in h^-$ iff $\mathcal{D}(h) \in \mathcal{D}(p)^-$, and

  $p \in h$ iff $\mathcal{D}(h) \in \mathcal{D}(p)$



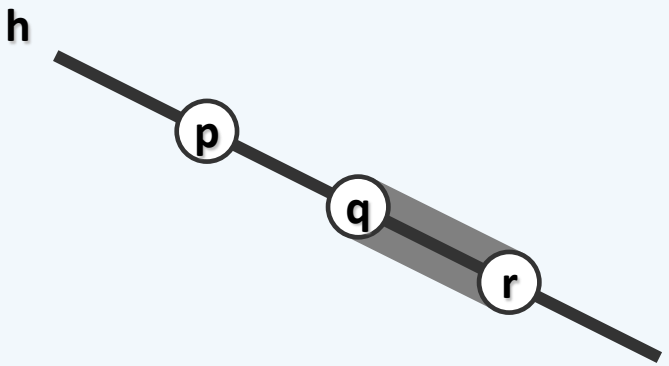


Incidence & Order Preservation

- Points in a non-vertical hyperplane h

  are mapped to

  non-vertical hyperplanes containing $\mathcal{D}(h)$

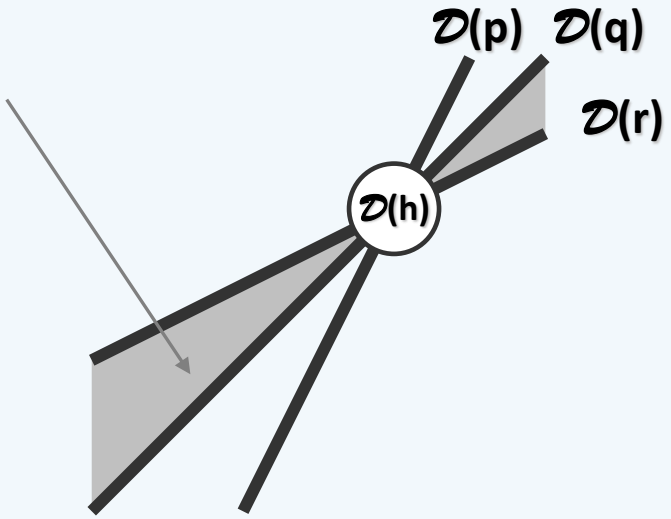


- Points in a vertical hyperplane

  are mapped to

  ...

double wedge corresponding to segment qr

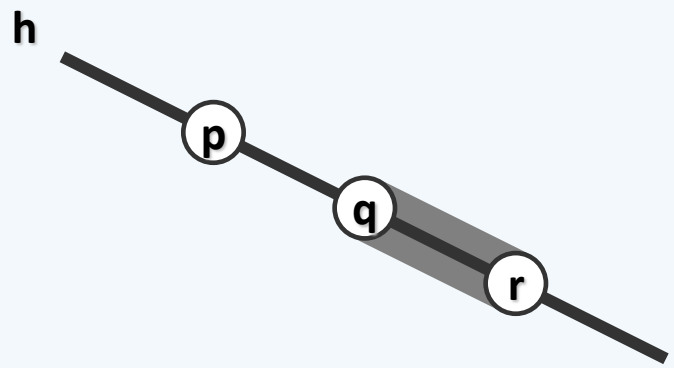


Incidence & Order Preservation

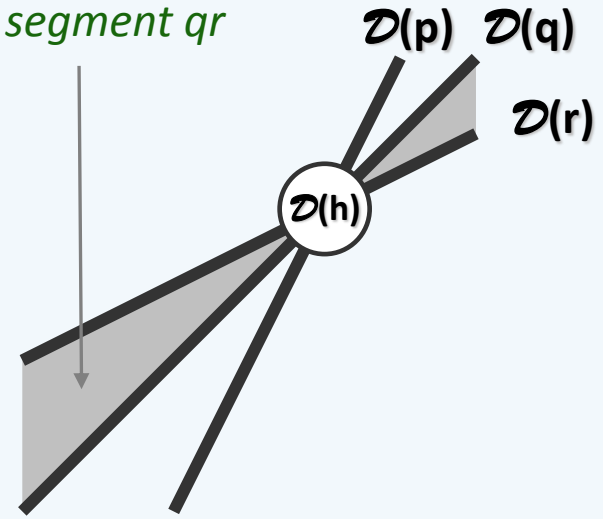
- Consider the planar arrangements
- Points in a non-vertical line h are mapped to non-vertical lines containing $\mathcal{D}(h)$

  points in a vertical line h are mapped to lines parallel to each other
- Points in a non-vertical segment are mapped to lines in a double wedge

  points in a vertical segment are mapped to parallel lines in a strip
- Points in a triangle are mapped to ...



double wedge corresponding to segment qr



The Magic of Unit Paraboloid