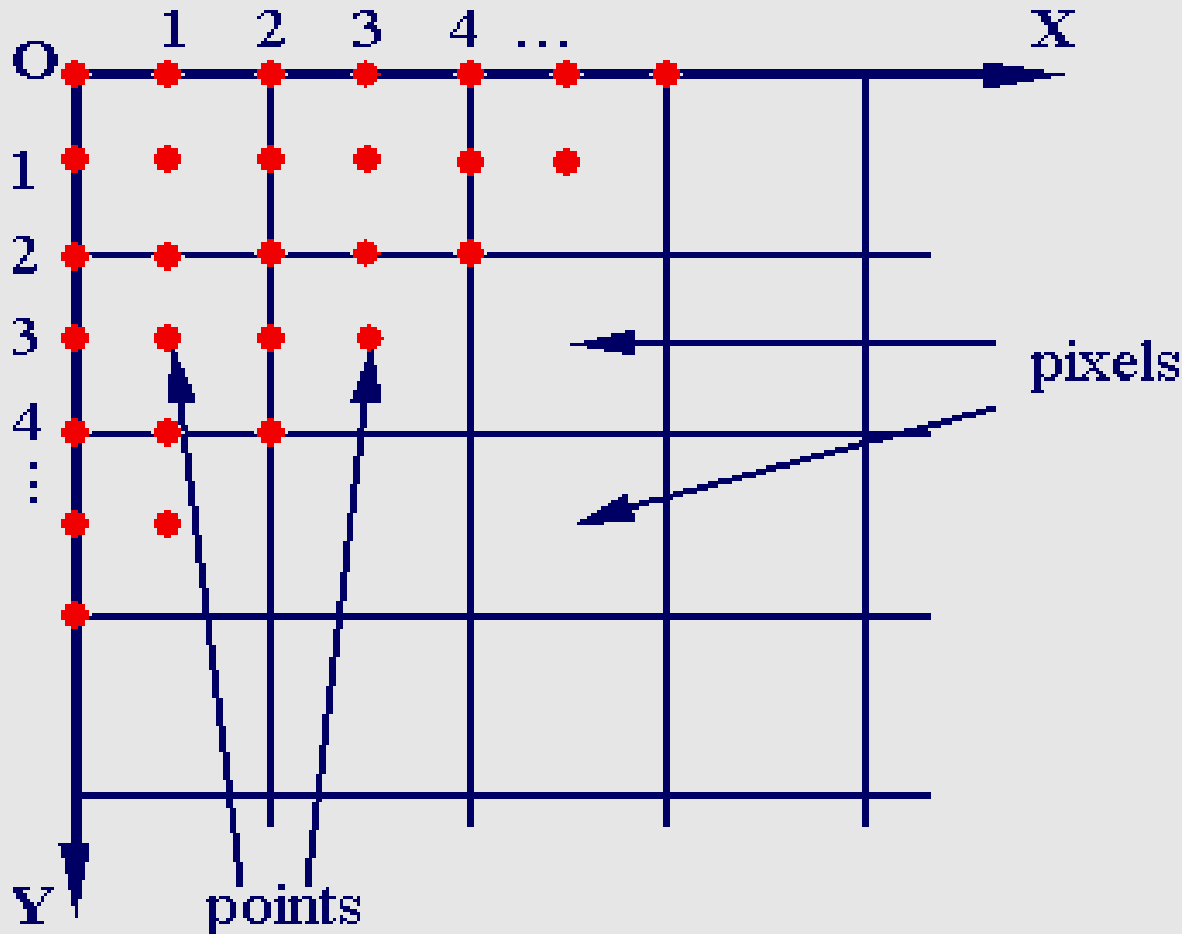


Skeleton extraction

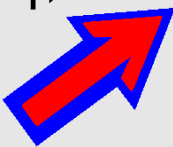
Eugene P. Kuzmin

Denis V. Ivanov

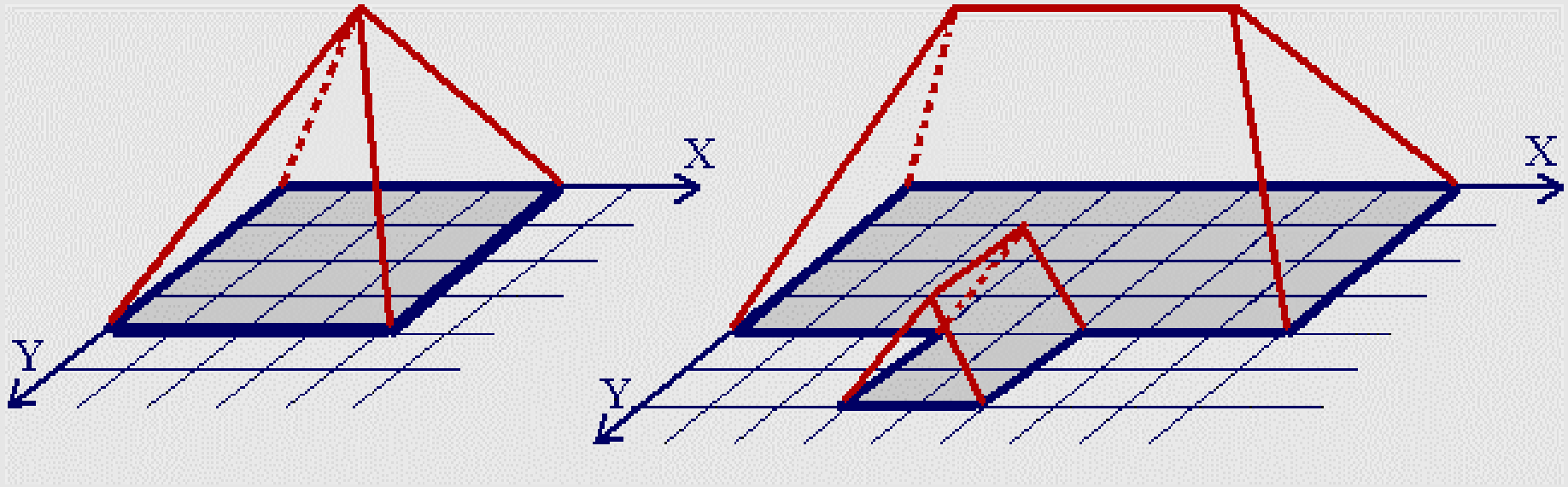
Discrete metric space on raster



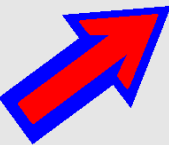
$$L_{\infty}^2 : \rho(P, Q) = \max(|Px - Qx|, |Py - Qy|)$$



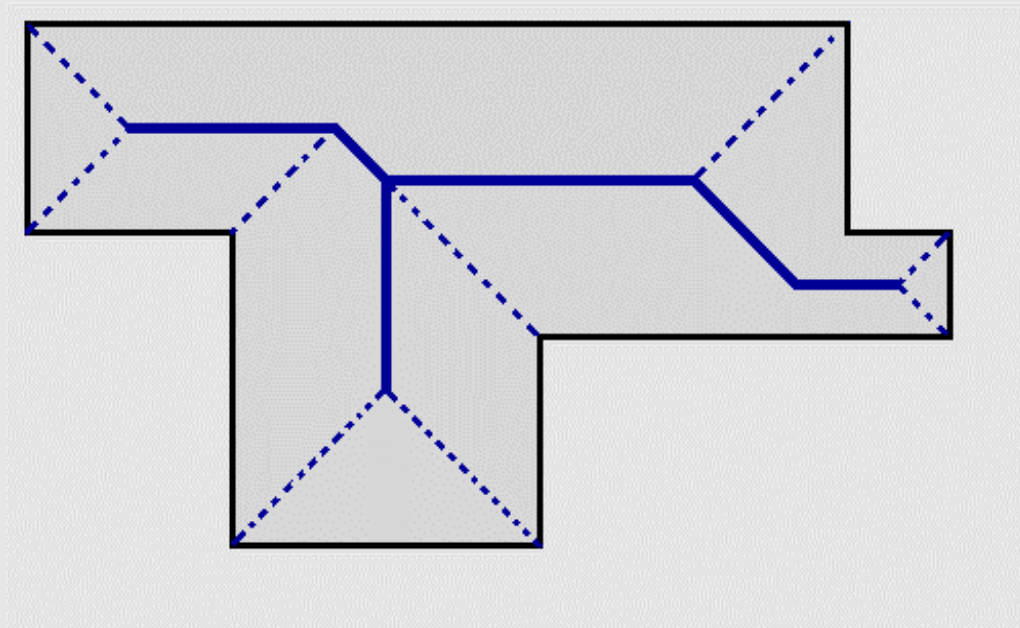
Shape surface examples



$$R(x, y) = \rho(P(x, y), \partial\Omega)$$



Set of ridges example

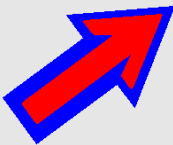
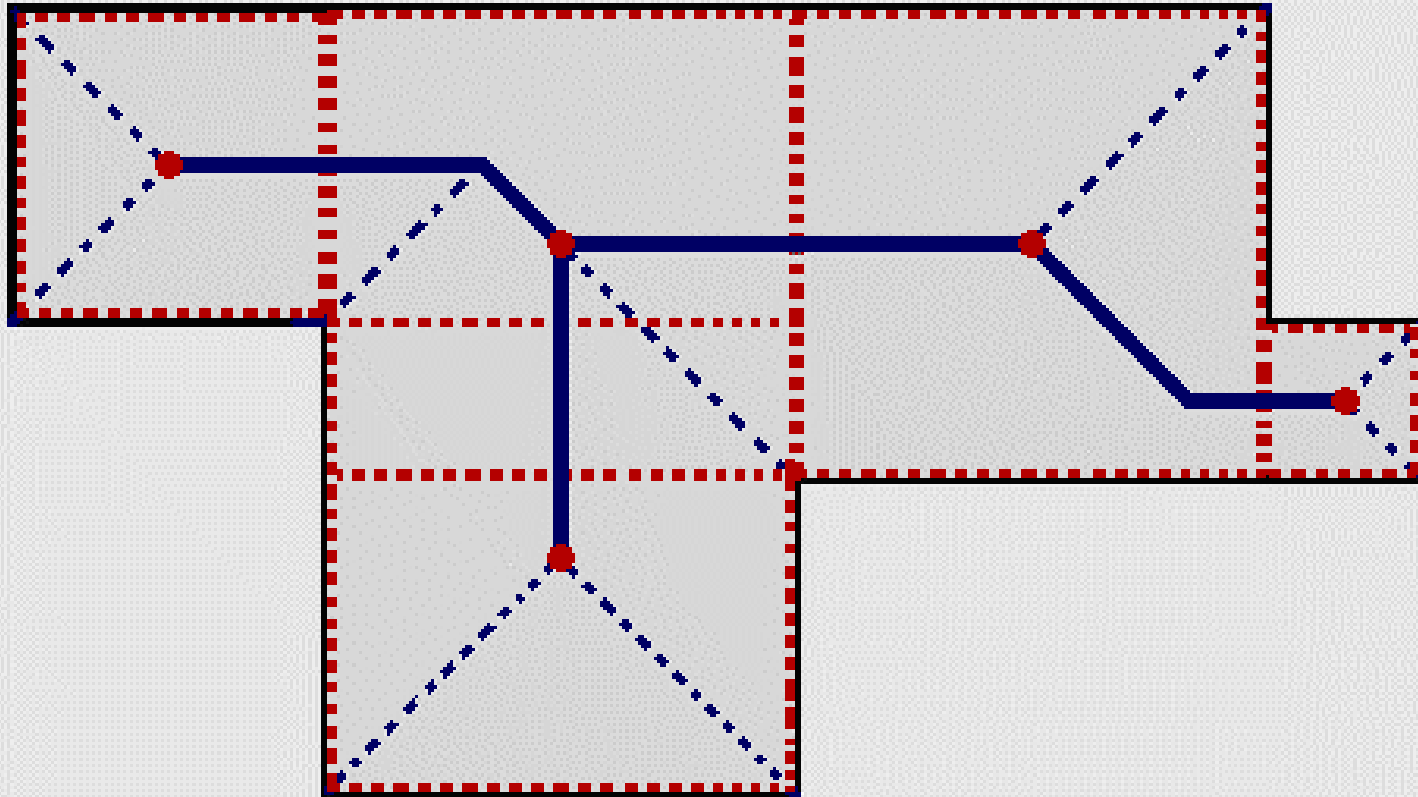


$$S = \bigcup_{i=1}^n R_i =$$

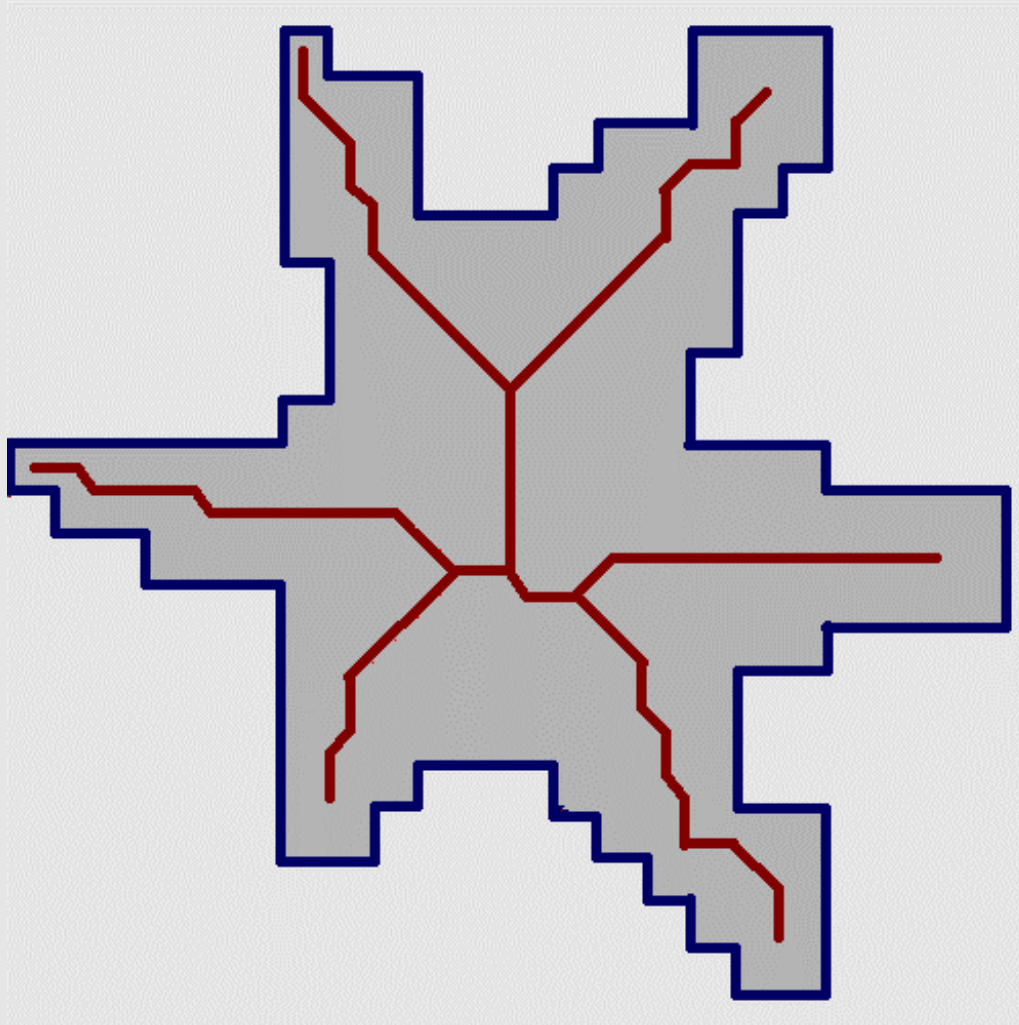
$$\left\{ X \in \Sigma \mid \exists P, Q \in \partial\Omega : P \neq Q \wedge \rho(P, \text{Pr}(X)) = \rho(Q, \text{Pr}(X)) \right\}$$



Shape reconstruction



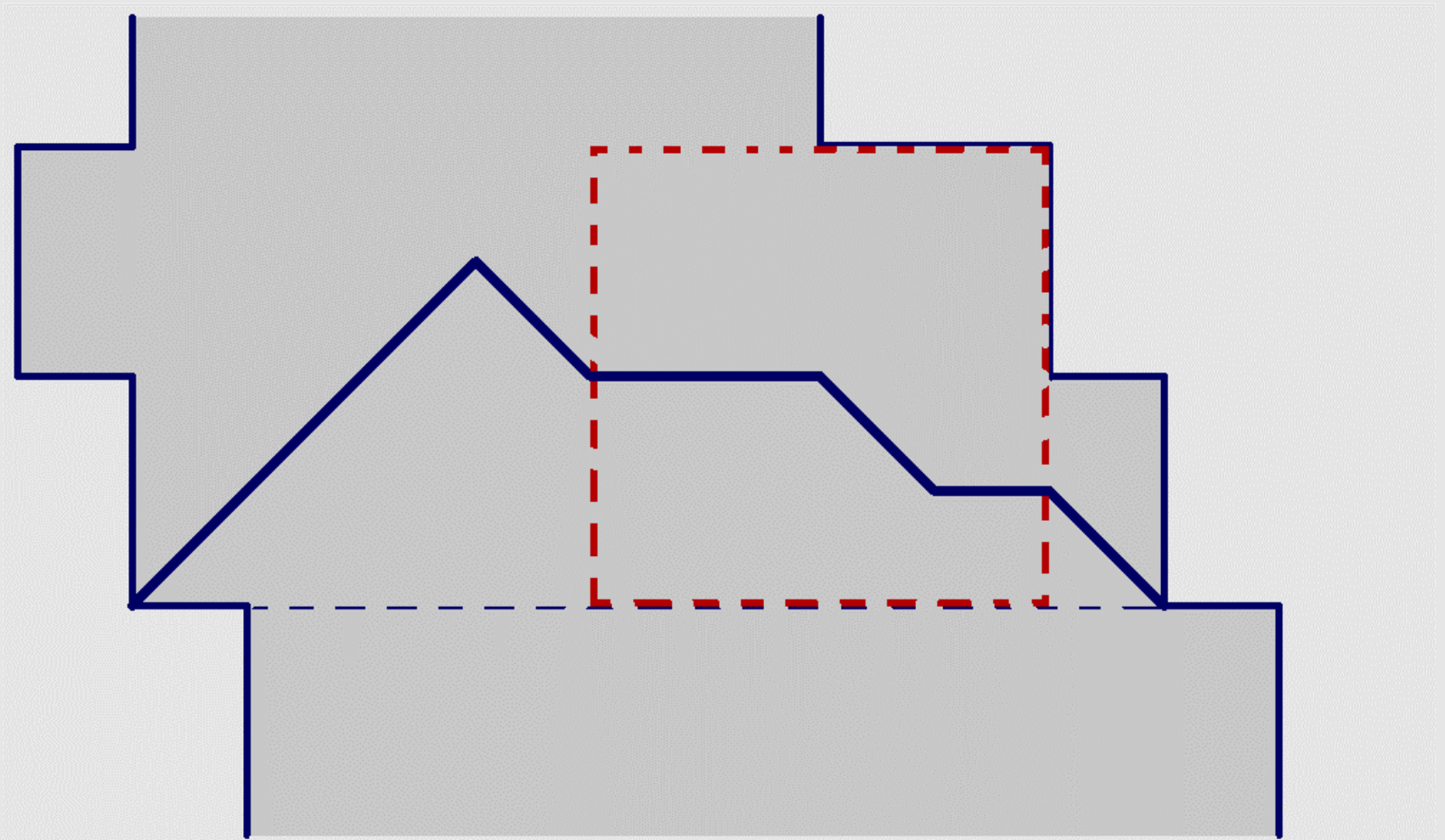
Skeleton example



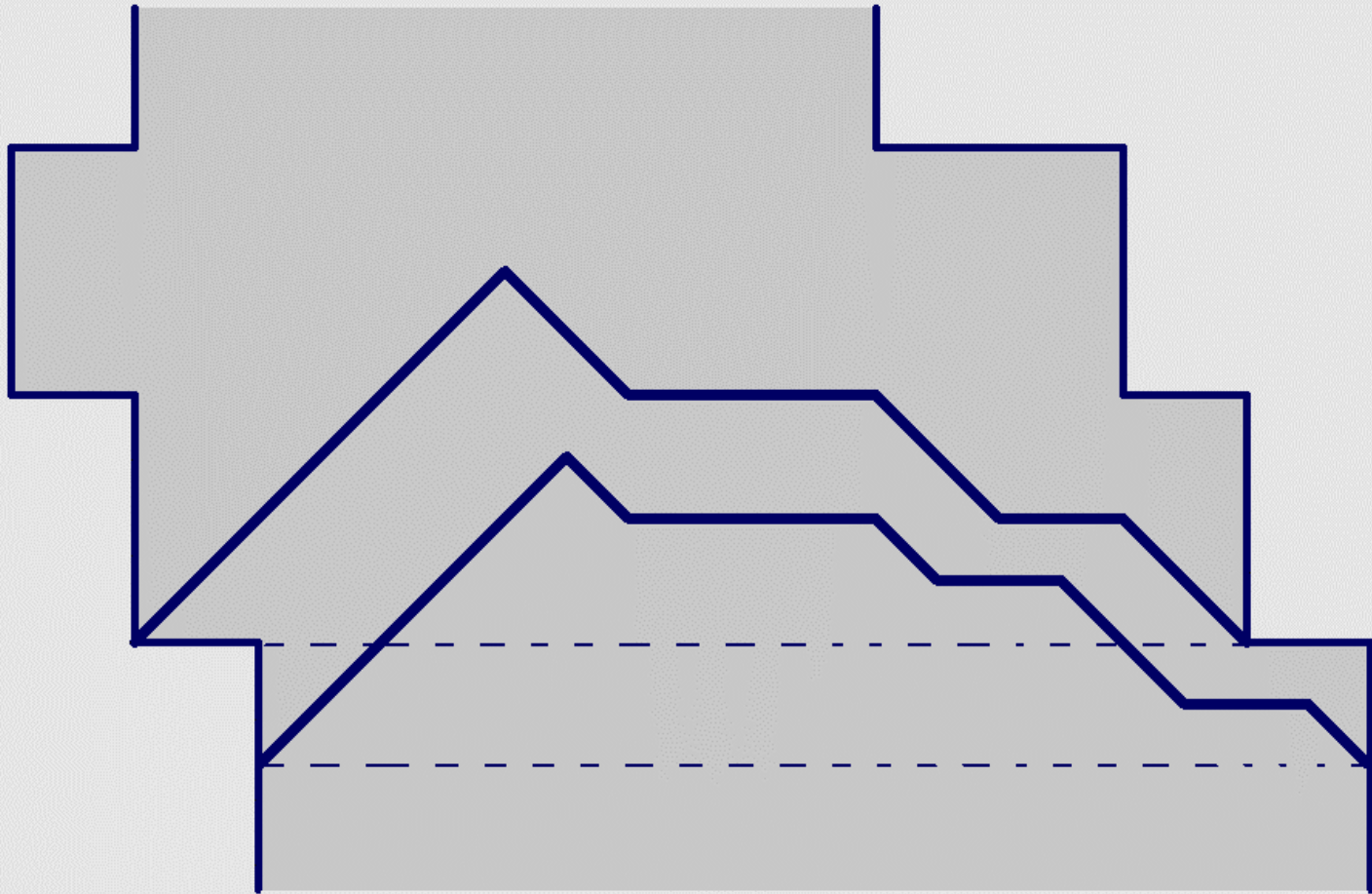
International Conference Graphicon 1998,
Moscow, Russia, <http://www.graphicon.ru/>



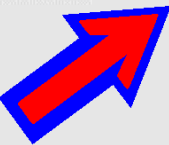
Chord example



Chord building



International Conference Graphicon 1998,
Moscow, Russia, <http://www.graphicon.ru/>



Algorithm scheme

while (*not all lines are exhausted*)

{

1. Form the new chord

2. Update the skeleton points

}

