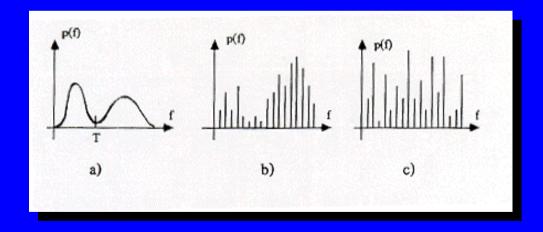
# HISTOGRAM THRESHOLDING



## Global thresholding



Original image

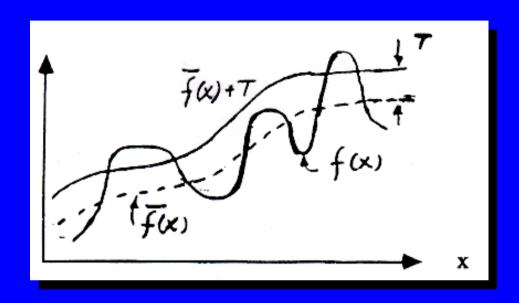


B 1699

Histogram

Thresholded image

## Local thresholding



$$g(x) = 1$$
 if  $f(x, y) \ge \overline{f}(x, y) + T$  equivalent to:

$$\underbrace{f(x,y) - \overline{f}(x,y)}_{\text{Laplace operator}} \geq T$$

$$\underbrace{f(x,y) - \overline{f}(x,y)}_{\text{Haplace operator}} \geq T$$

$$\underbrace{f(x,y) - \overline{f}(x,y)}_{\text{Haplace operator}} \geq T$$

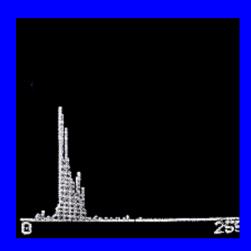
## Local thresholding



#### Original image



Global threshold

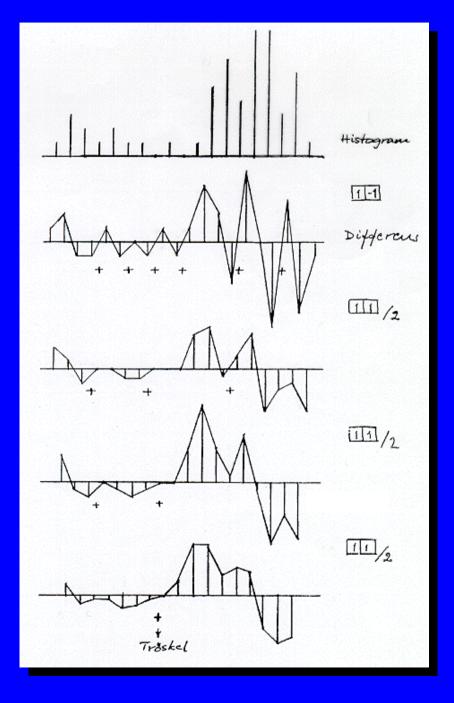


Histogram

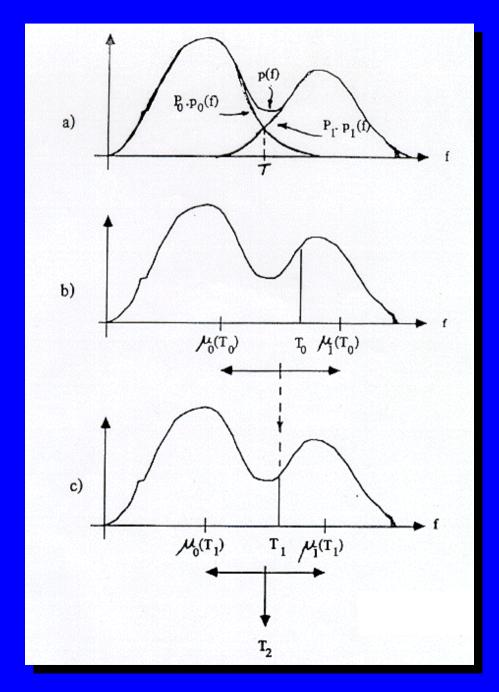
DIMAGE PROCESSING
AND PATTERN RECOGTION
A HISTOGRAM OF GREY
LEVEL CONTENT PROVIDES A GLOBAL DESCRIPTION OF THE

Local threshold

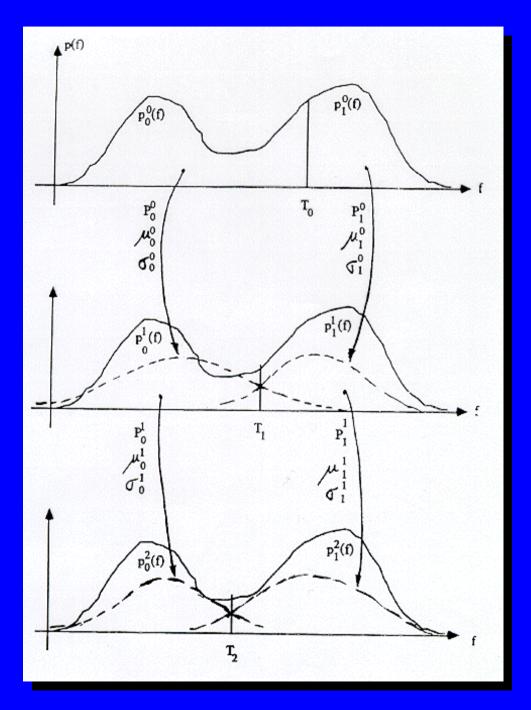
## Histogram smoothing

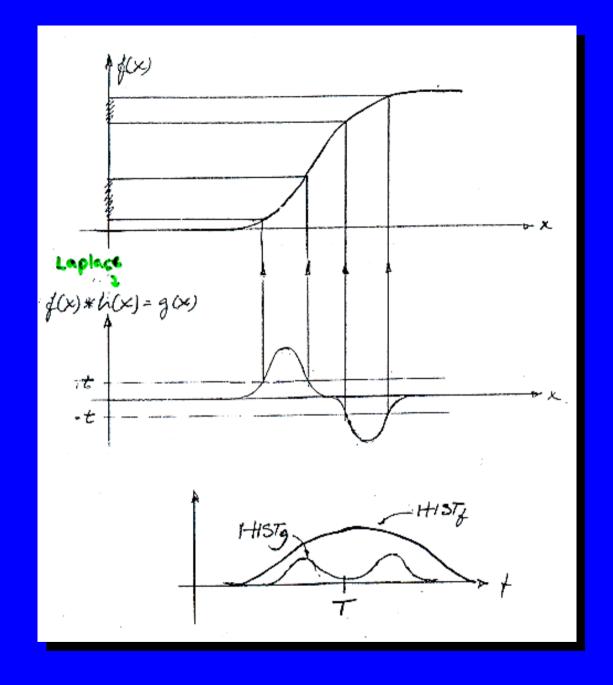


# Midpoint method



### Minimum error method





The thresholded g(x) is used as a mask applied to f(x). The masked pixels hopefully create a bimodal histogram  $Hist_g$