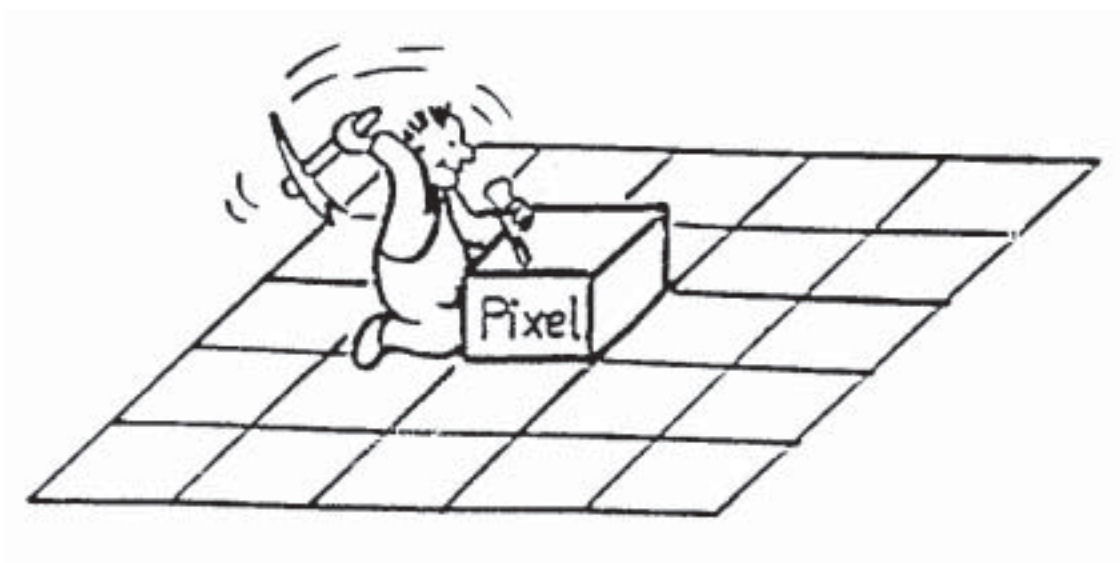
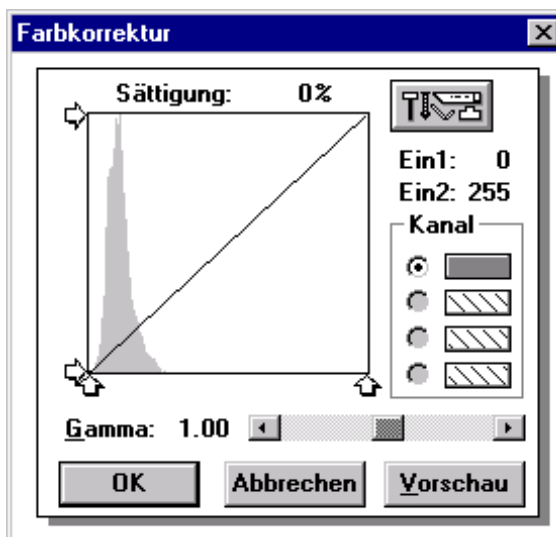
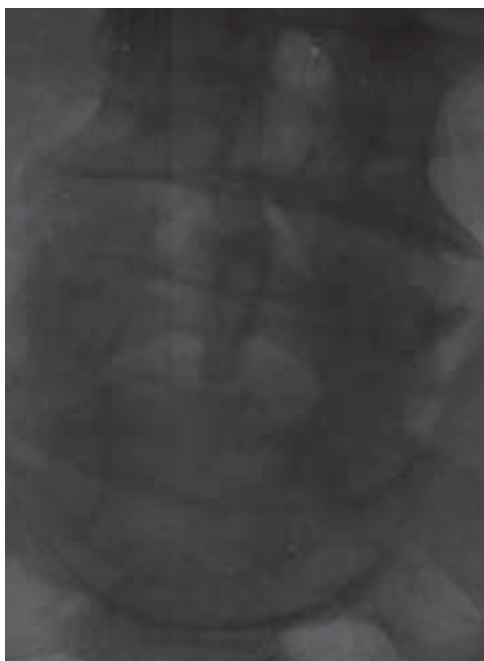




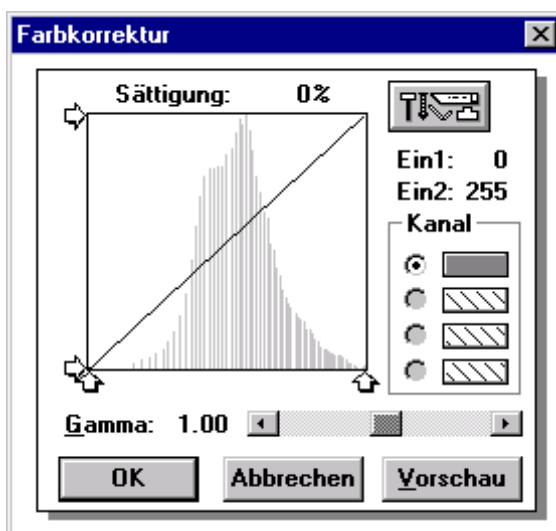
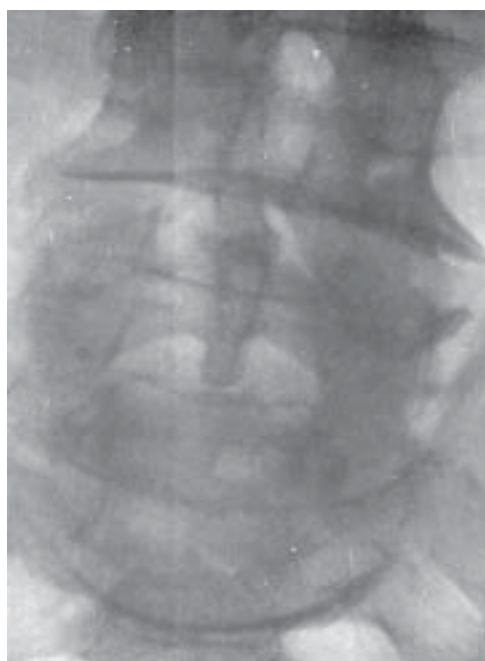
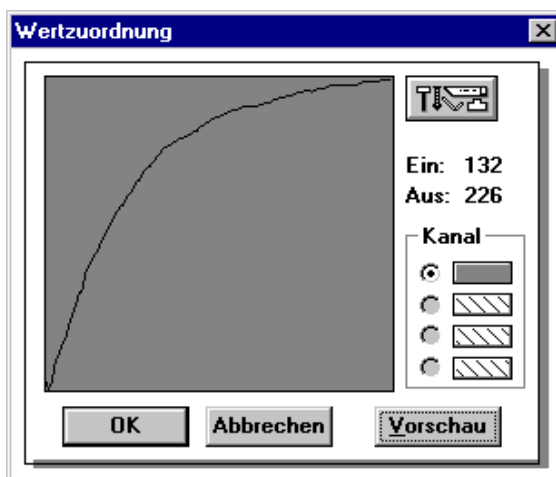
## Digitale Bildverarbeitung

1. Einführung
2. Digitalisierung
3. Technische Komponenten
4. Grauwertstatistik
5. Punktoperatoren
6. Lokale Operatoren
7. Globale Operatoren
8. Merkmalsextraktion
9. Klassifikation
10. Codierung

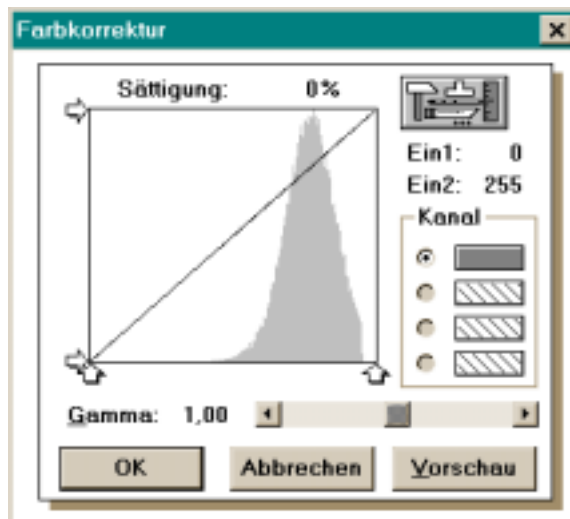




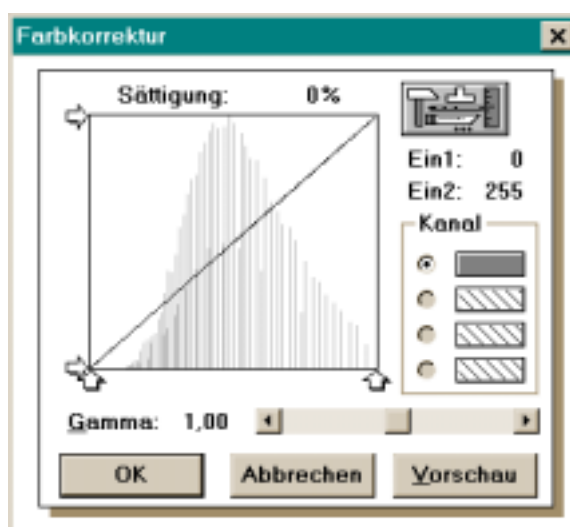
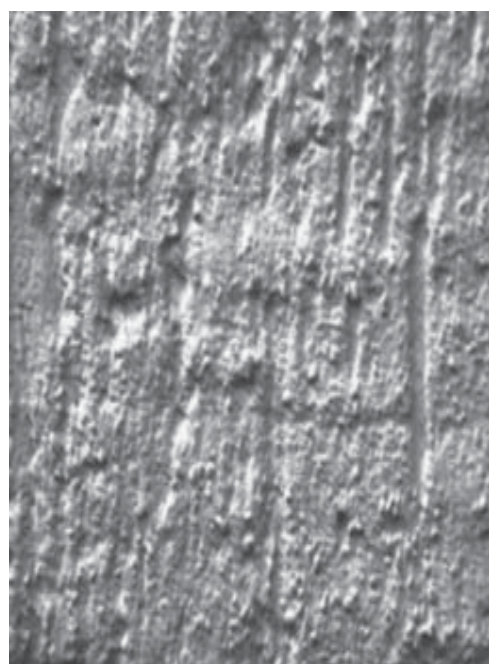
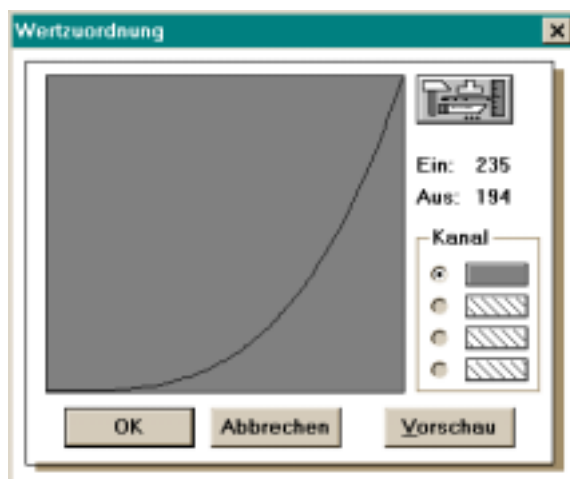
$$g_{j,k} = \sqrt{G_{\max-1} \cdot f_{j,k}}$$



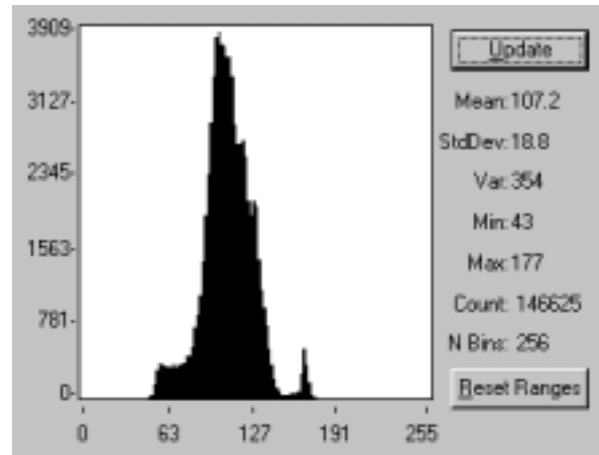
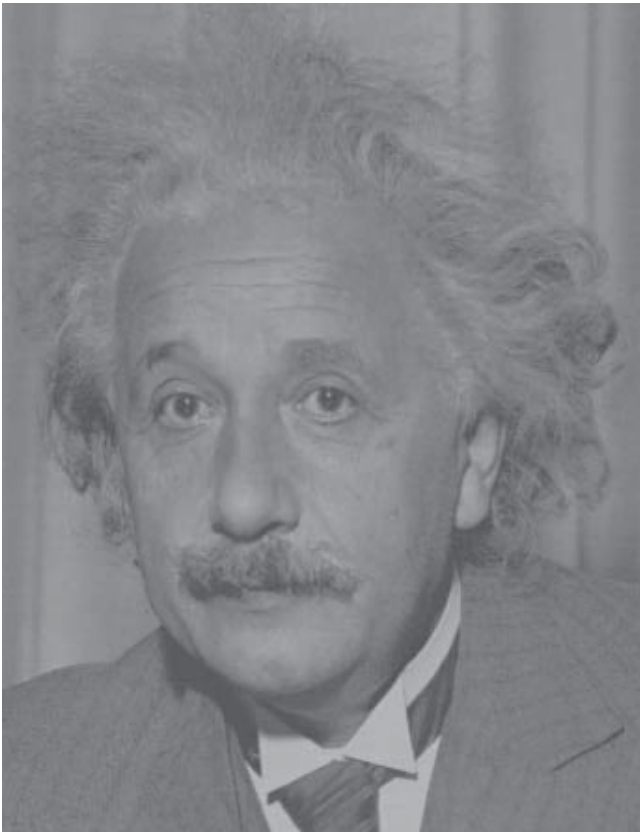
**Punktoperatoren:** Wurzel-Kennlinie



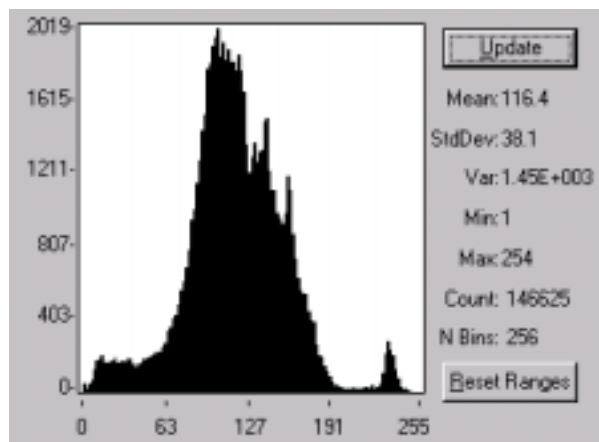
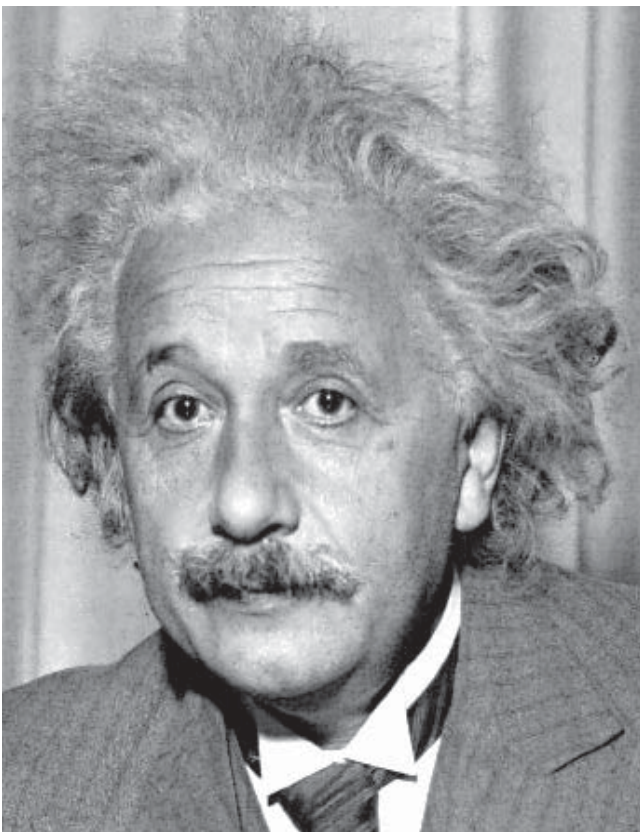
$$g_{j,k} = \frac{f_{j,k}^2}{G_{\max}-1}$$



**Punktoperatoren: Quadrat-Kennlinie**



a) Original



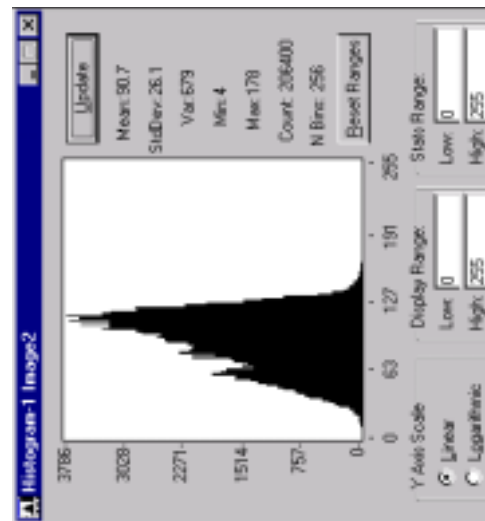
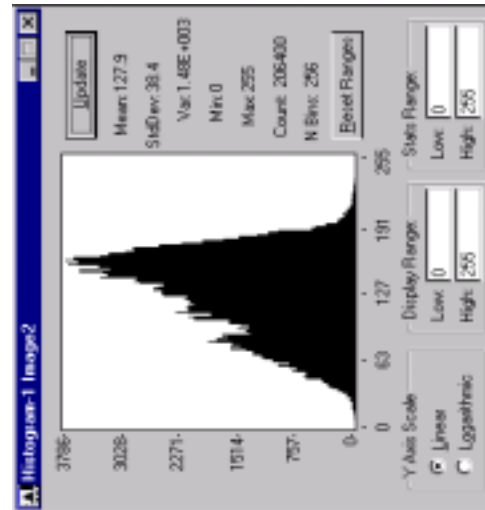
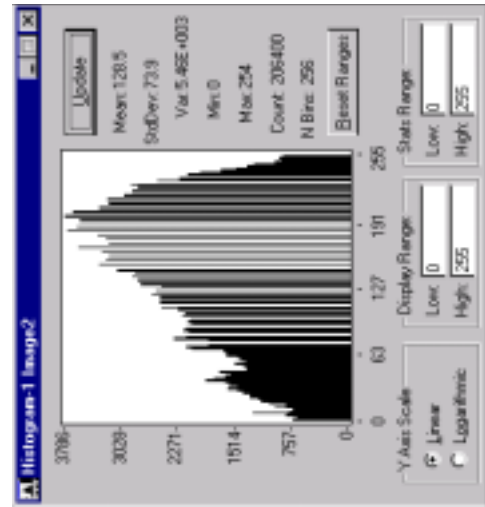
b) Clipping

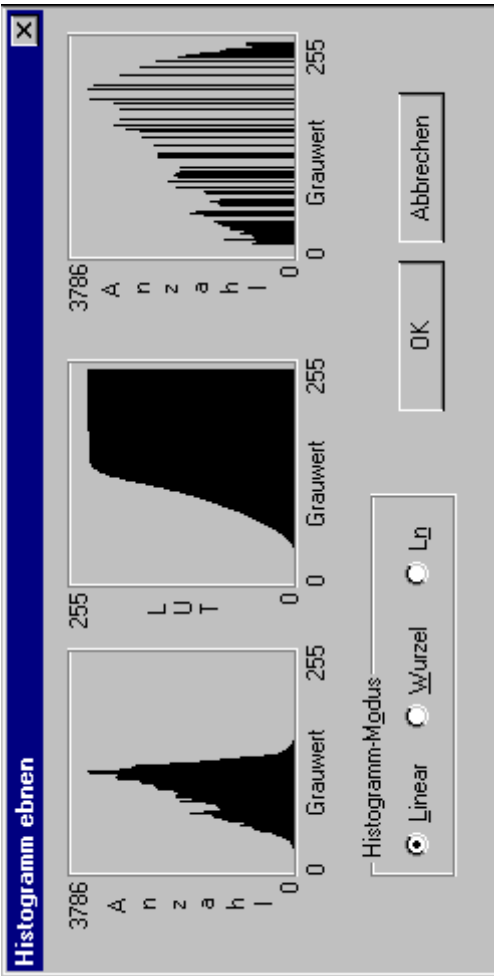
## Punktoperatoren



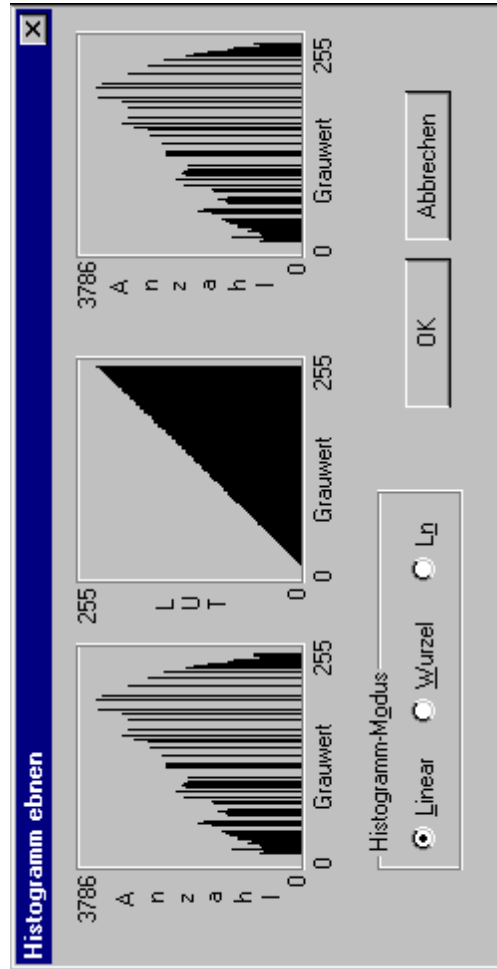


**Punktoperatoren:**  
 Skulptur  
 Original, Clipping, GW-Äqualisierung  
 Beachte: Mean, StdDev, Varianz





Histogr.  $p(g)$  vorher, Summenfunktion  $F(g) * 255$ , Histogr.  $p(g)$  nachher



Histogr.  $p(g)$  vorher, Summenfunktion  $F(g) * 255$ , Histogr.  $p(g)$  nachher

Grauwertäqualisierung  
(Histogrammebnen)