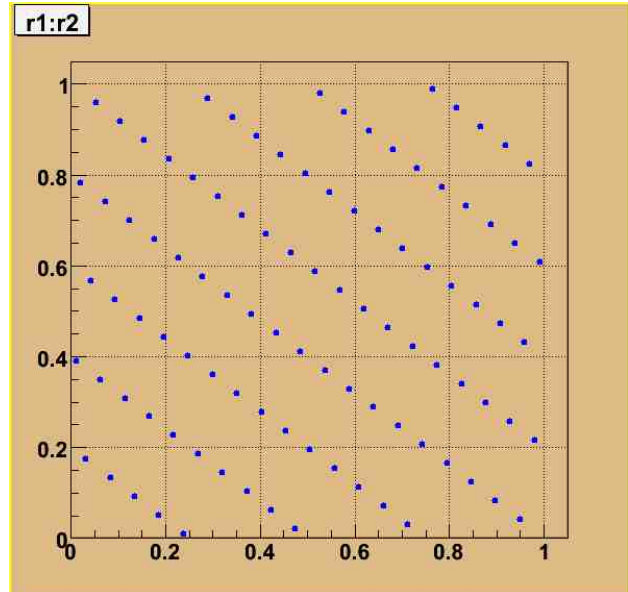
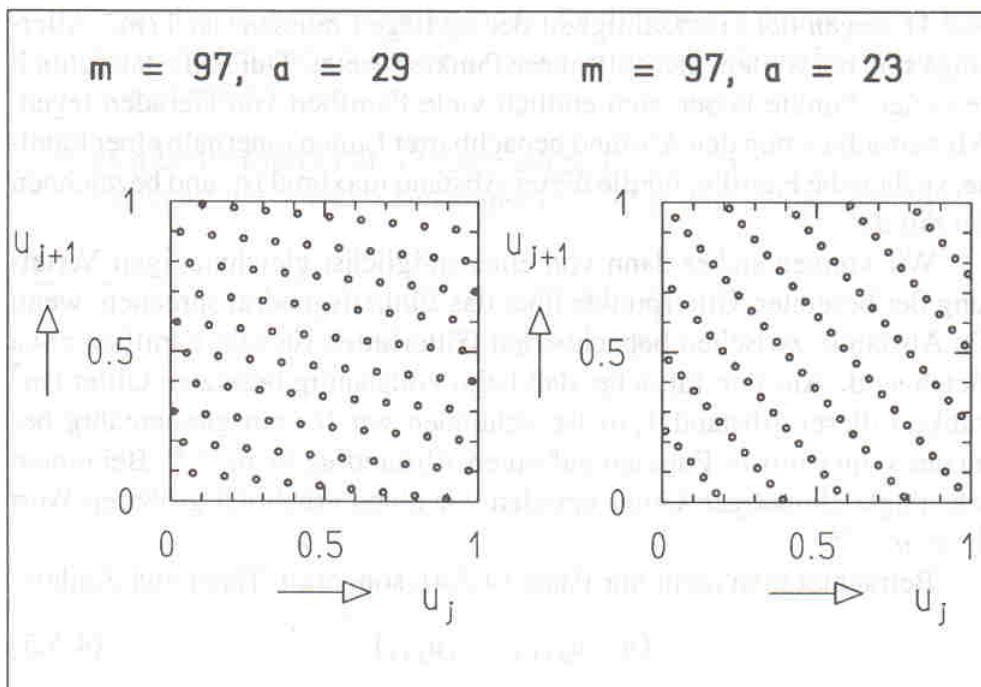


- MLCG  $a = 29$   $m = 27$   $c = 0$   
 $x_0 = 1$

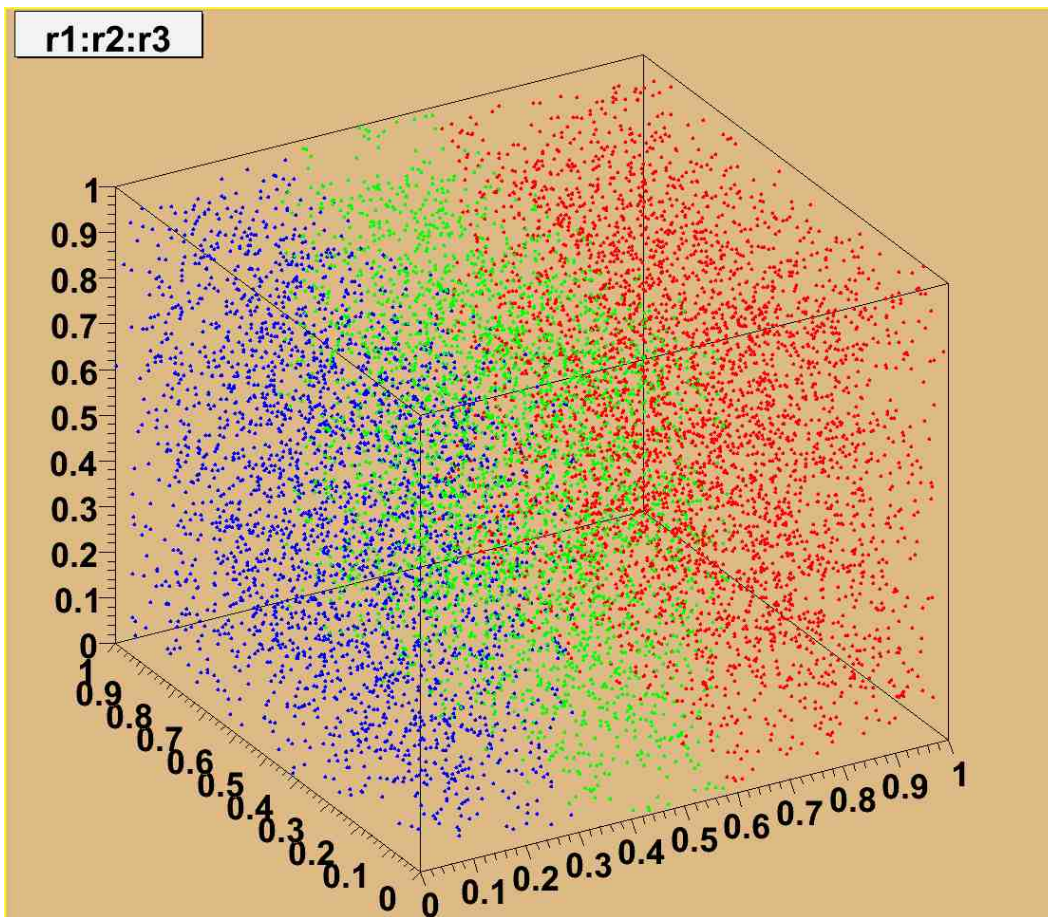


- MLCG  $a = 23$   $m = 97$   $c = 0$   
 $x_0 = 1$

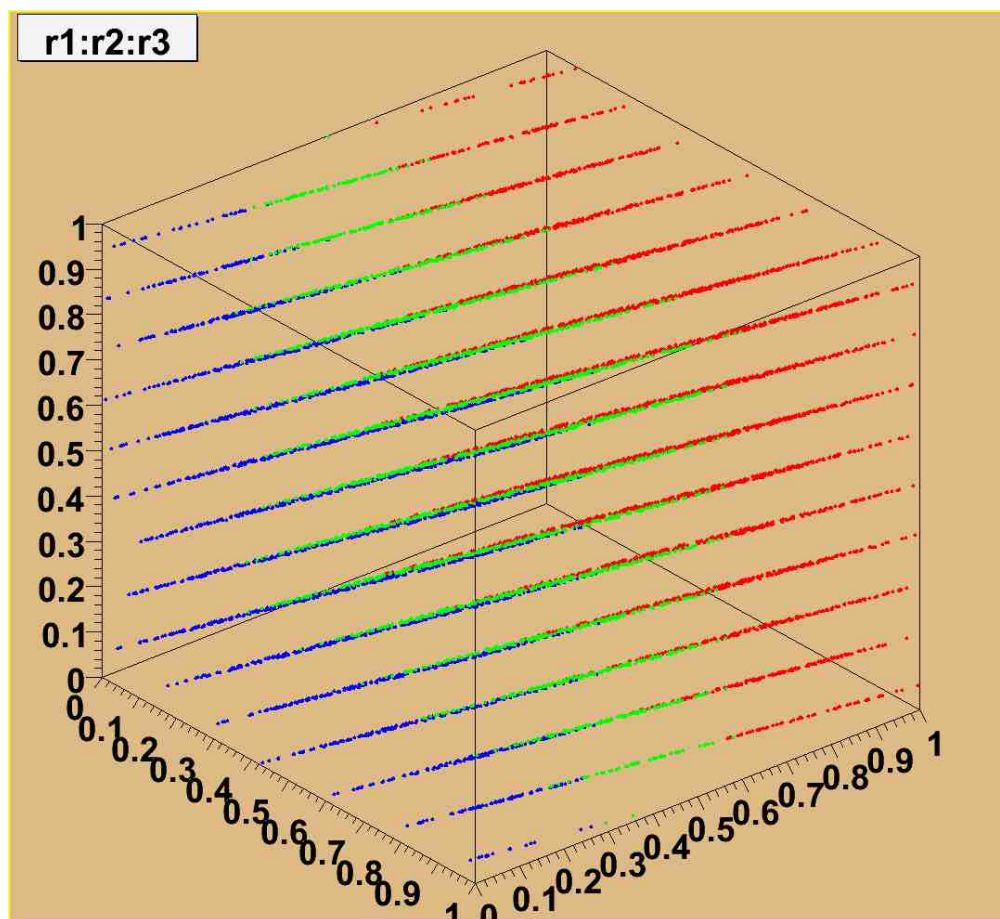


**Bild 4.2:** Diagramm von Zahlenpaaren (4.5.4) für verschiedene kleine Werte von  $a$  und  $m$ .

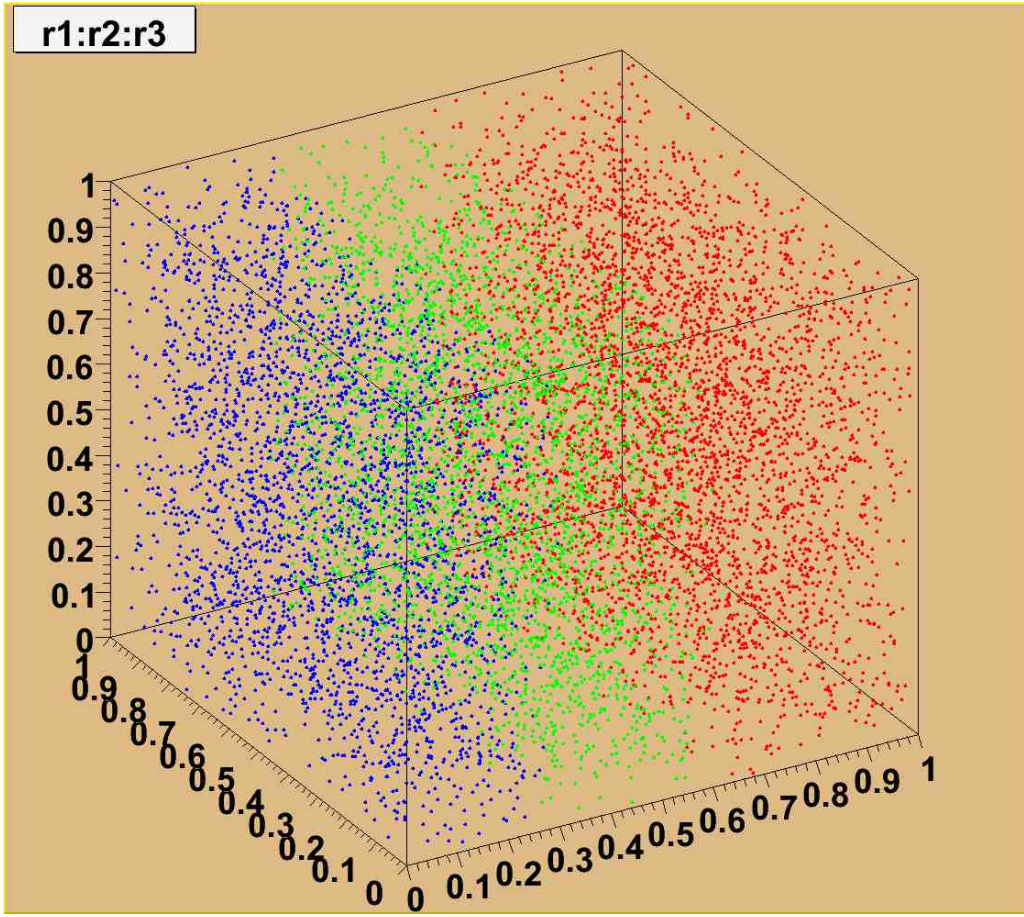
- aus S. Brandt Datenanalyse



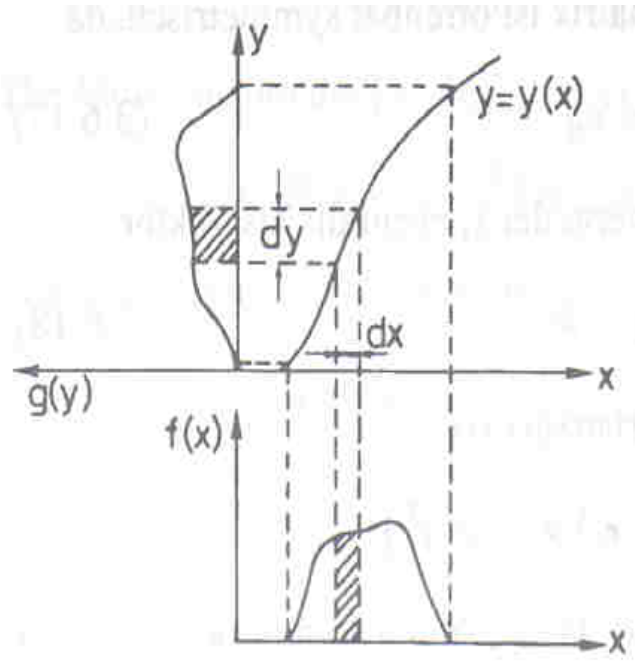
- LCG  $a = 65539$   $m = 2147483648 (= 2^{31})$   $c = 123456789$



- LCG  $a = 65539$   $m = 2147483648 (= 2^{31})$   $c = 123456789$

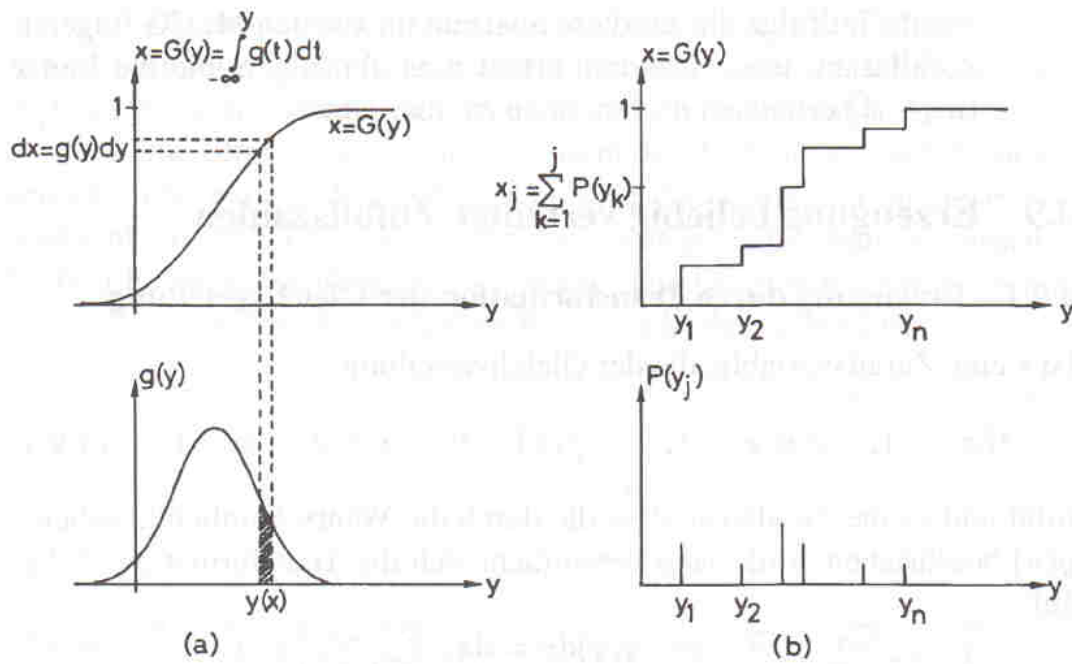


- LCG  $a = 69069$   $m = 1073741824$   $c = 123456789$



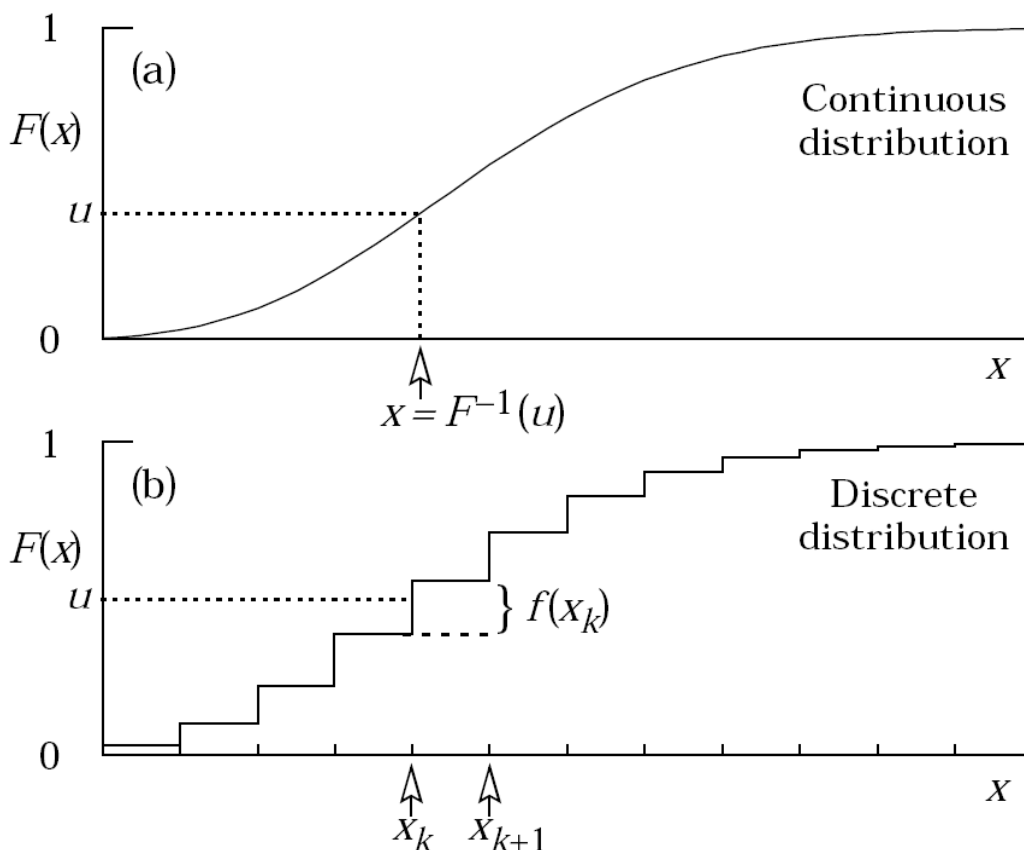
**Bild 3.8:** Variablentransformation einer Wahrscheinlichkeitsdichte von  $x$  auf  $y$ .

- aus S. Brandt Datenanalyse

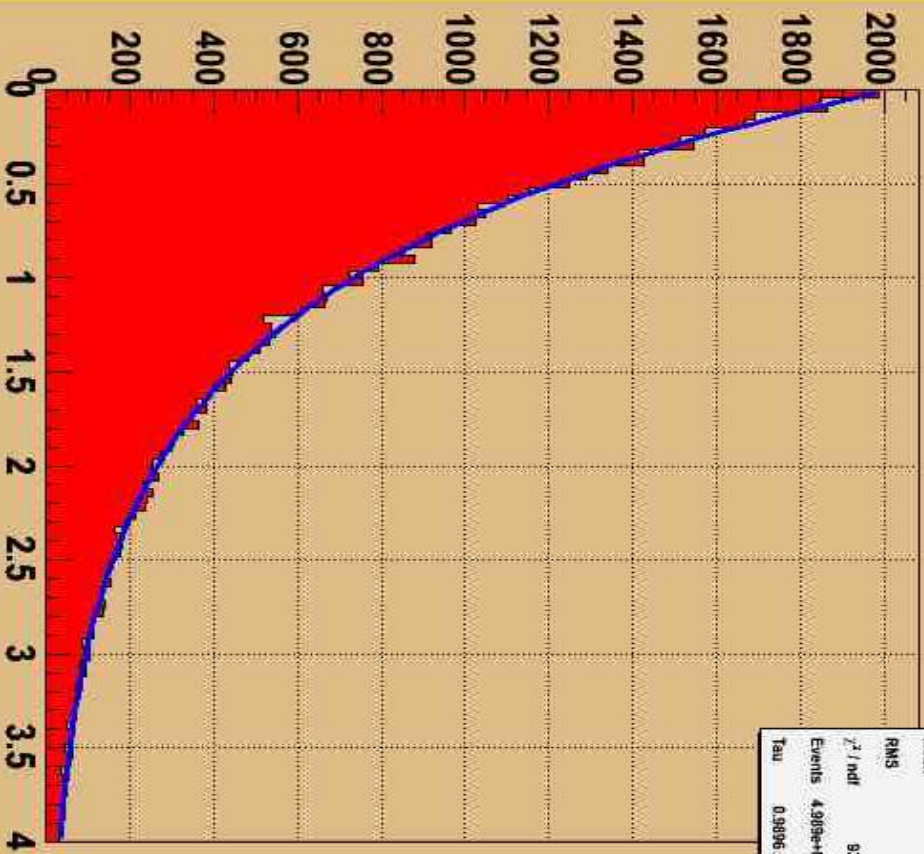


**Bild 4.4:** Transformation von einer gleichverteilten Variablen  $x$  in eine Variable  $y$  mit der Verteilungsfunktion  $G(y)$ . Die Variable  $y$  kann kontinuierlich (a) oder diskret (b) sein.

- aus S. Brandt Datenanalyse



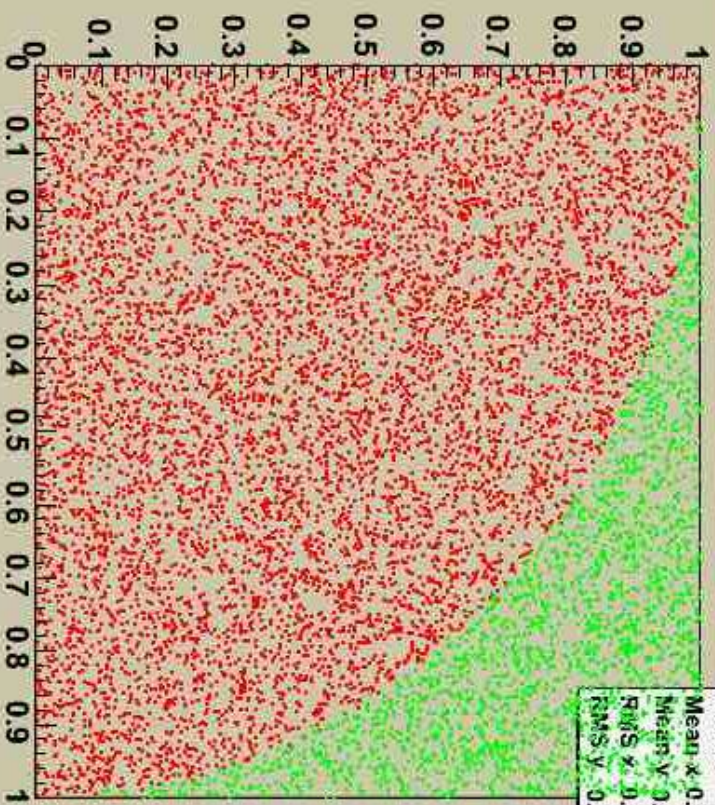
## Exp. Random Numbers



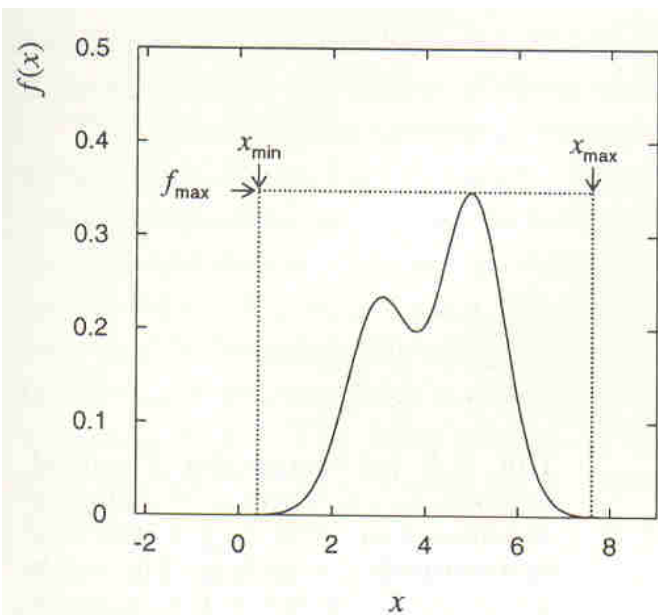
h1f	
Entries	50000
Mean	0.92
RMS	0.827
$\chi^2 / \text{ndf}$	93.57 / 98
Events	4.909e+04 ± 226
Tau	0.9896 ± 0.0053

# PI = 3.127113

## Circle accepted random numbers

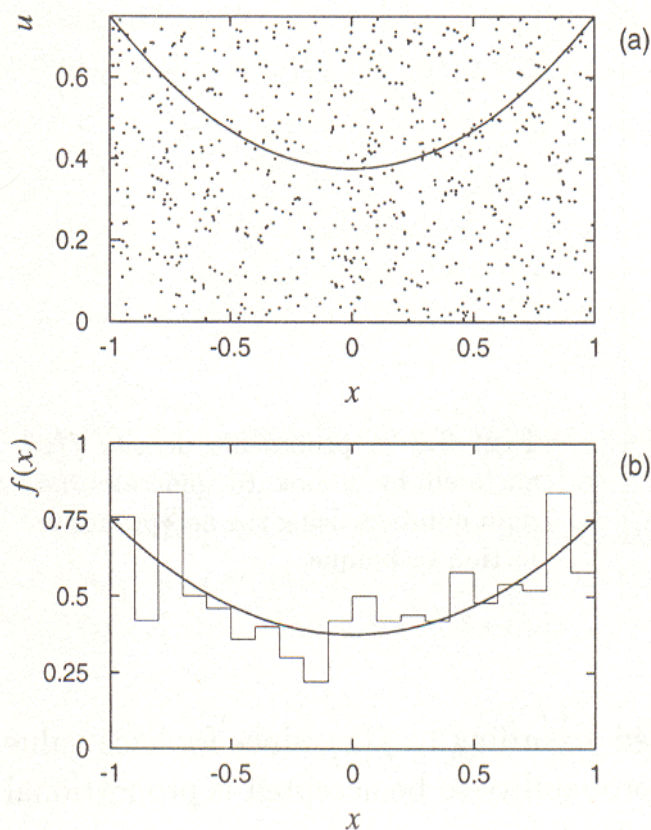


h2fPiac	
Entries	7817
Mean X	0.4259
Mean Y	0.4231
RMS X	0.2636
RMS Y	0.2641



**Fig. 3.1** A probability density  $f(x)$  enclosed by a box to generate random numbers using the acceptance-rejection technique.

- aus G. Cowan Statistical Data Analysis



**Fig. 3.2** (a) Scatter plot of pairs of numbers  $(u, x)$ , where  $x$  is uniformly distributed in  $-1 \leq x \leq 1$ , and  $u$  is uniform in  $0 \leq u \leq f_{\max}$ . The  $x$  values of the points below the curve are accepted. (b) Normalized histogram of the accepted  $x$  values with the corresponding p.d.f.

- aus G. Cowan Statistical Data Analysis

