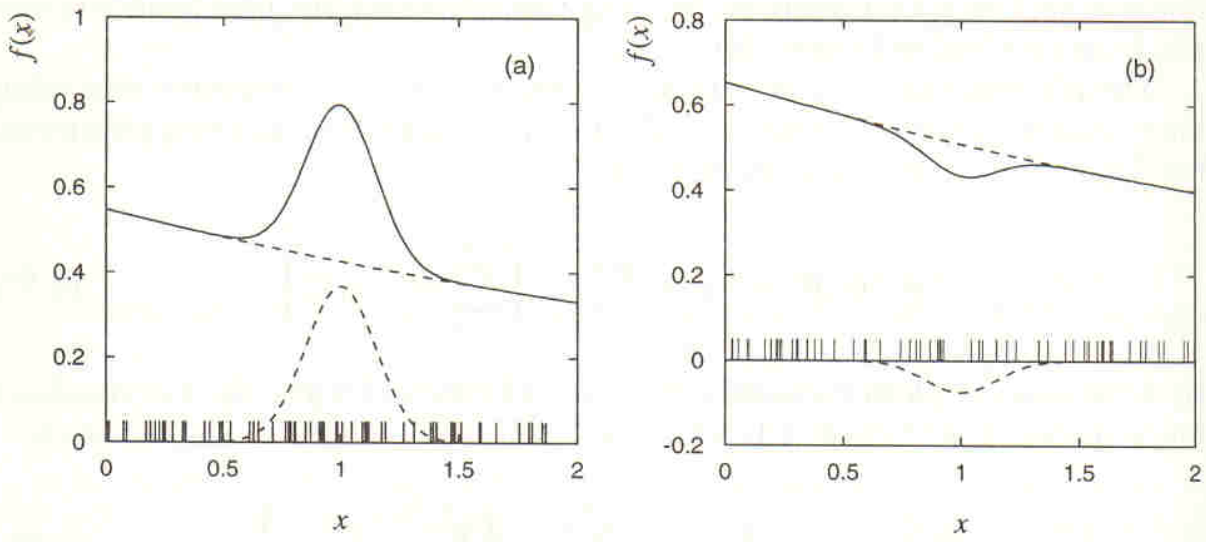

Fig. 6.8 Extended ML fits to two data samples distributed according to a superposition of Gaussian and exponential probability densities. Because of statistical fluctuations in the data, the estimated amplitude of the Gaussian component can turn out positive as in (a), or negative as in (b).

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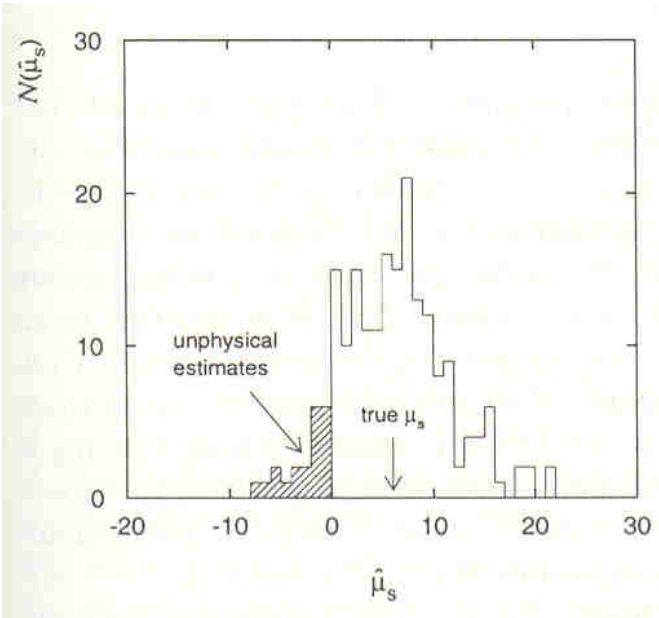

Fig. 6.9 Histogram of estimates $\hat{\mu}_s$ from 200 Monte Carlo experiments based on the true value $\mu_s = 6$. The average value of the estimates is 6.1 ± 0.4. Approximately 10% of the estimates are negative (see text).

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8. Parameterschätzung mit der Maximum-Likelihood-Methode

8.1 Die Maximum-Likelihood-Methode

8.2 Eigenschaften der Maximum-Likelihood-Methode

8.3 Fehler auf Maximum-Likelihood-Schätzwert

8.4 Maximum-Likelihood-Methode mit mehreren' Parametern

8.5 Extended Maximum-Likelihood-Methode

8.6 Maximum-Likelihood-Methode mit gebinnten Daten

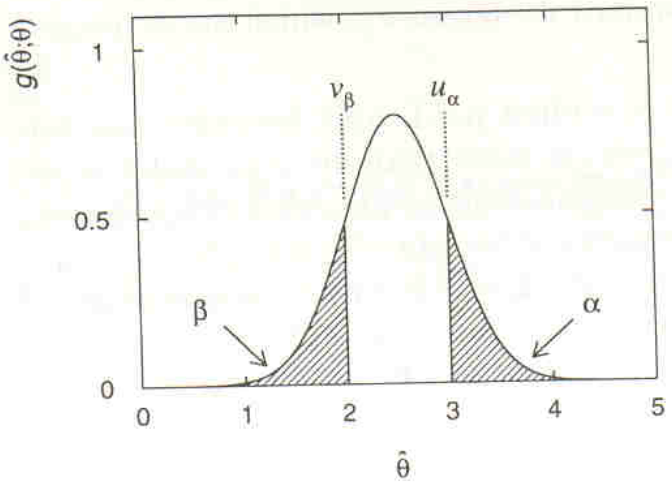

Fig. 9.1 A p.d.f. $g(\hat{\theta};\theta)$ for an estimator $\hat{\theta}$ for a given value of the true parameter θ. The two shaded regions indicate the values of $\hat{\theta} \leq v_\beta$, which has a probability β, and $\hat{\theta} \geq u_\alpha$, which has a probability α.

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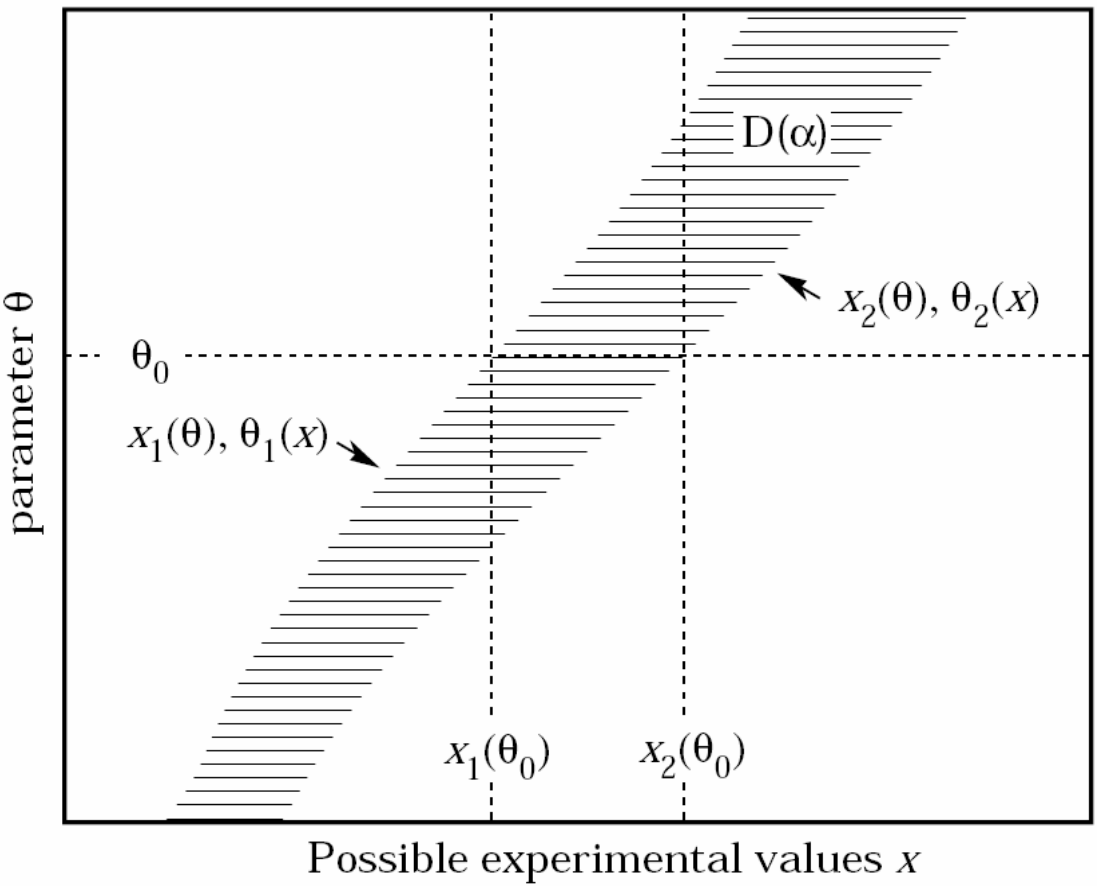

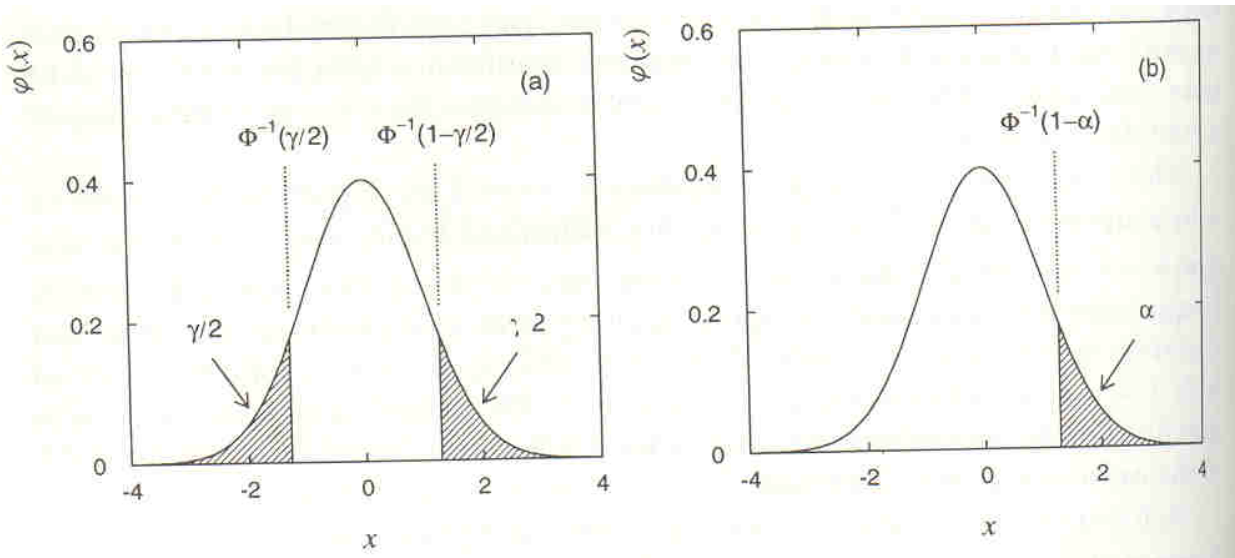

Fig. 9.4 The standard Gaussian p.d.f. $\varphi(x)$ showing the relationship between the quantiles Φ^{-1} and the confidence level for (a) a central confidence interval and (b) a one-sided confidence interval.

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