Example 4. The corollary to Schwartz' Theorem, presented in http://arxiv.org/abs/1411.3984, gives sufficient conditions such that, if the data generating distribution is $\mu = P(\theta^*)$, where P is the model, and if the prior π attributes positive mass to every Kullback-Leibler neighborhood of $\theta^* \in \Theta$, then the posterior distribution (on the parameter space) converges towards δ_{θ^*} as $n \to \infty$. The assumption that π attributes

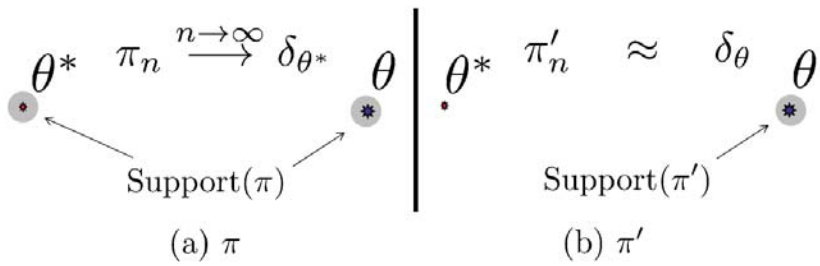

Figure 2: Primary non-robustness mechanism

positive mass to every Kullback-Leibler neighborhood of $\theta^* \in \Theta$ does not require π to place a significant amount of mass around θ^*, but instead can be satisfied with an arbitrarily small amount. Therefore, if, as in Figure 2, π is a prior distribution with support centered around $\theta \neq \theta^*$, but with a very small amount of mass about θ^*, so that it satisfies the assumptions for consistency at θ^*, then π can be slightly perturbed into a π' with support also centered around $\theta \neq \theta^*$, but with no mass about θ^*. In this situation, although π and π' can be made arbitrarily close in total variation distance, the posterior distribution of π converges towards δ_{θ^*} as $n \to \infty$, whereas that of π' remains close to δ_θ.