Bootstrapping the Student t-statistic

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Let $X_1, \ldots, X_n, n \geq 1$, be independent, identically distributed random variables and consider the Student t-statistic T_n based upon these random variables. Giné, Götze and Mason (1997) proved that T_n converges in distribution to a standard normal random variable if and only if X is in the domain of attraction of a normal random variable and $EX = 0$. We shall show that roughly the same holds true for the bootstrapped Student t-statistic T_n^* . In the process we shall disclose all the possible subsequential limiting laws of T_n^*. The proofs introduce a number of amusing tricks that may be of independent interest. This joint work with Qi-man Shao.