There are two caskets; one is gold and one is silver. In one casket there is a million dollars, and in the other casket there is a lump of coal. On the gold casket there is an inscription: the money is not in here. On the silver casket there is an inscription: exactly one of these inscriptions is true. Each inscription is either true or false (not both). On the basis of the inscriptions, choose a casket.

To formalize the problem, we can introduce binary expressions $G$, $g$, and $s$ with the following meanings.

$G$ means that the money is in the gold casket and the coal is in the silver casket.

$g$ means that the inscription on the gold casket is true.

$s$ means that the inscription on the silver casket is true.

We can now express all the given information as axioms about $G$, $g$, and $s$. The inscription on the gold casket is true ($g$) if and only if ($\iff$) the money is not in the gold casket ($\neg G$). And the inscription on the silver casket is true ($s$) if and only if ($\iff$) exactly one of the inscriptions is true ($s \oplus g$). So we have

$$
\begin{align*}
g &= \neg G \land s = (s \oplus g) \\
\iff g &= \neg G \land (s = s) \oplus g \\
\iff g &= \neg G \land T \oplus g \\
\iff g &= \neg G \land T = \neg g \\
\iff \neg g &= G \land \neg g \\
\iff \neg g &= G \land \neg g \\
\iff G \land \neg g
\end{align*}
$$

Since the first line was given, the last line is a theorem, so choose the gold casket to get the money.

If you have two caskets with inscriptions on them, and you are told there's money in one of them, the money could be in either casket, regardless of what the inscriptions say. But we are told something more. We are not told whether the inscriptions are true or false, but we are told that the inscriptions are consistent. If the money is in the silver casket, then the inscription on the gold casket is true. Now, if the inscription on the silver casket is true, then it's false, and if it's false, then it's true. That's inconsistent. So the money has to be in the gold casket.