A common critique of models with mistaken beliefs is that people should recognize their error after observations they thought were unlikely. This paper develops a framework for assessing when errors are likely to be discovered, in the sense that the error-maker will deem her mistaken theory implausible relative to a compelling alternative theory. The central premise of our approach is that people exhibit “subjectively rational inattention”, meaning a person may ignore or discard information her mistaken theory leads her to consider unimportant. We propose solution concepts embedding such channeled attention that predict when a mistaken theory will persist when a person attends to data if and only if it is perceived as valuable within her theory. We use our framework to study the “attentional stability” of common errors and psychological biases. While many costly errors are prone to persist, in some situations a person will recognize her mistakes via “incidental learning”: when the data she values given her mistaken theory happens to also tell her how unlikely her theory is. We investigate which combinations of errors, situations, and preferences tend to induce such incidental learning vs. factors that render erroneous beliefs stable. Applying the framework, we show, for example, how a person may never realize her self-control problems even when they lead to damaging behavior. And a person may never realize that he neglects correlation in others’ advice even when that neglect leads him to follow repetitive advice too much. Indeed, we show that for every error there exists an environment where the error persists and is costly. Uncertainty about the optimal action paves the way for incidental learning, while being dogmatic creates a barrier. So factors that are often intuited as promoting learning—increasing the stakes, decreasing the cost of information gathering, simplifying the choice, etc.—may not do so in our framework (and may even backfire) depending on how they influence the person’s perceived uncertainty about the optimal action.