# Doing A Loop: OODA In The Cockpit

The field of military theory probably isn't the first place we turn when making in-cockpit decisions. But it's a good place to start in explaining at least how pilots might want to make the choices affecting a flight's outcome. Enter the OODA Loop, diagrammed at right.

The Loop was first developed by USAF Col. John Boyd to explain optimal ways in which to make decisions. Perhaps ironically for our purposes, Boyd's theories grew from his experience as an F-86 Sabre fighter pilot during the Korean War and later at the USAF Weapons School, where he taught aerial combat maneuvering. Later, while serving at the Pentagon, he developed the OODA Loop, which describes how people and organizations respond to events. Entire books have been written about Boyd and the OODA Loop, but for our purposes the box at right presents a quick summary of how it works.

Key to understanding and implementing the OODA Loop, according to Boyd, was the accuracy and rate with which we step through the decision-making process. If we fail to accurately assess our environment, we can't make effective decisions. If we fail to make those decisions quickly enough, external events will overtake us and also result in poor decisions.

Among other things, Boyd's OODA Loop has been credited with the overwhelming success of coalition ground operations during 1991's Operation Desert Storm.
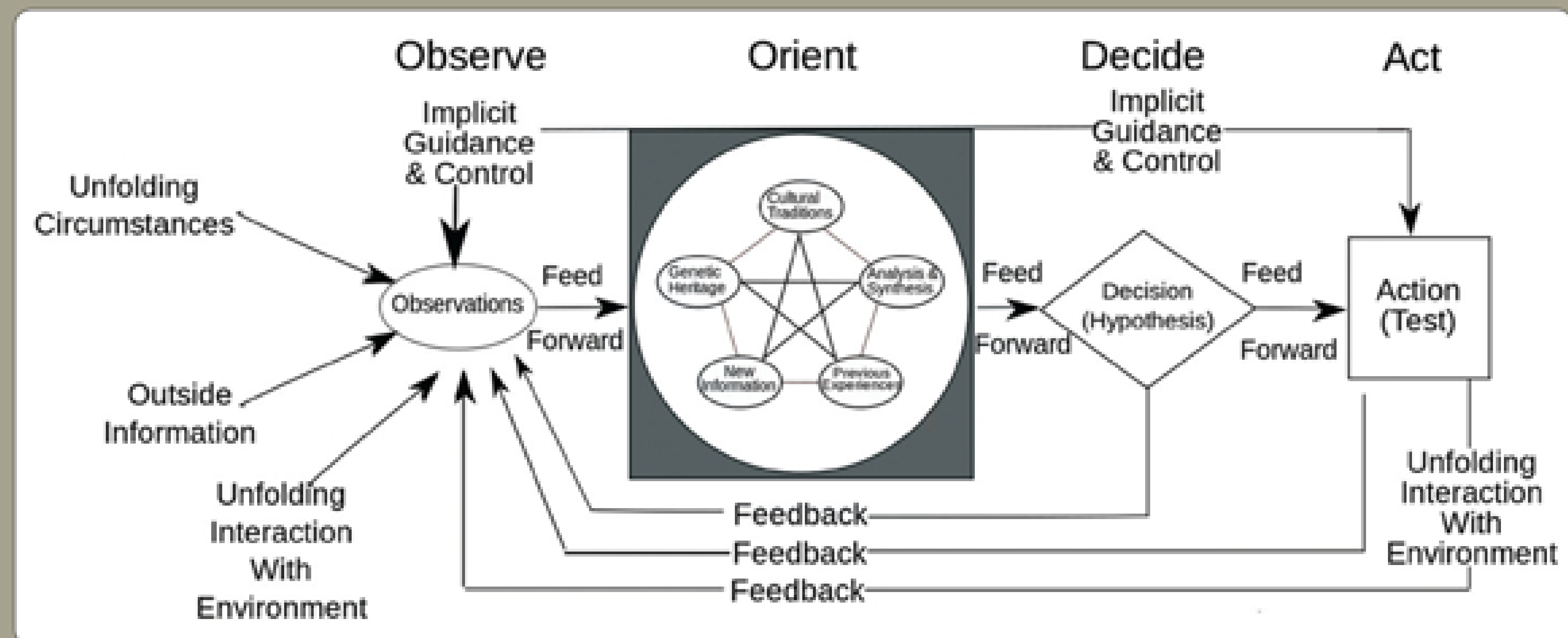
OBSERVATION
In this phase of the decision-making process, we collect information by observing the environment in which we're operating.

ORIENTATION
Once we've collected data about the environment in which we're operating, we analyze and synthesize it to develop a mental picture of where we are in relation to the problem.

DECISION
With the data obtained through observation and our understanding of our position relative to the problem, we decide whether and how to act.

ACTION
In this phase, we implement the decision(s) we've made. But we're not finished. Because it's a loop, we then start again by observing how our action has affected the environment in which we're acting, and continue this iterative process until we're satisfied with the outcome.