

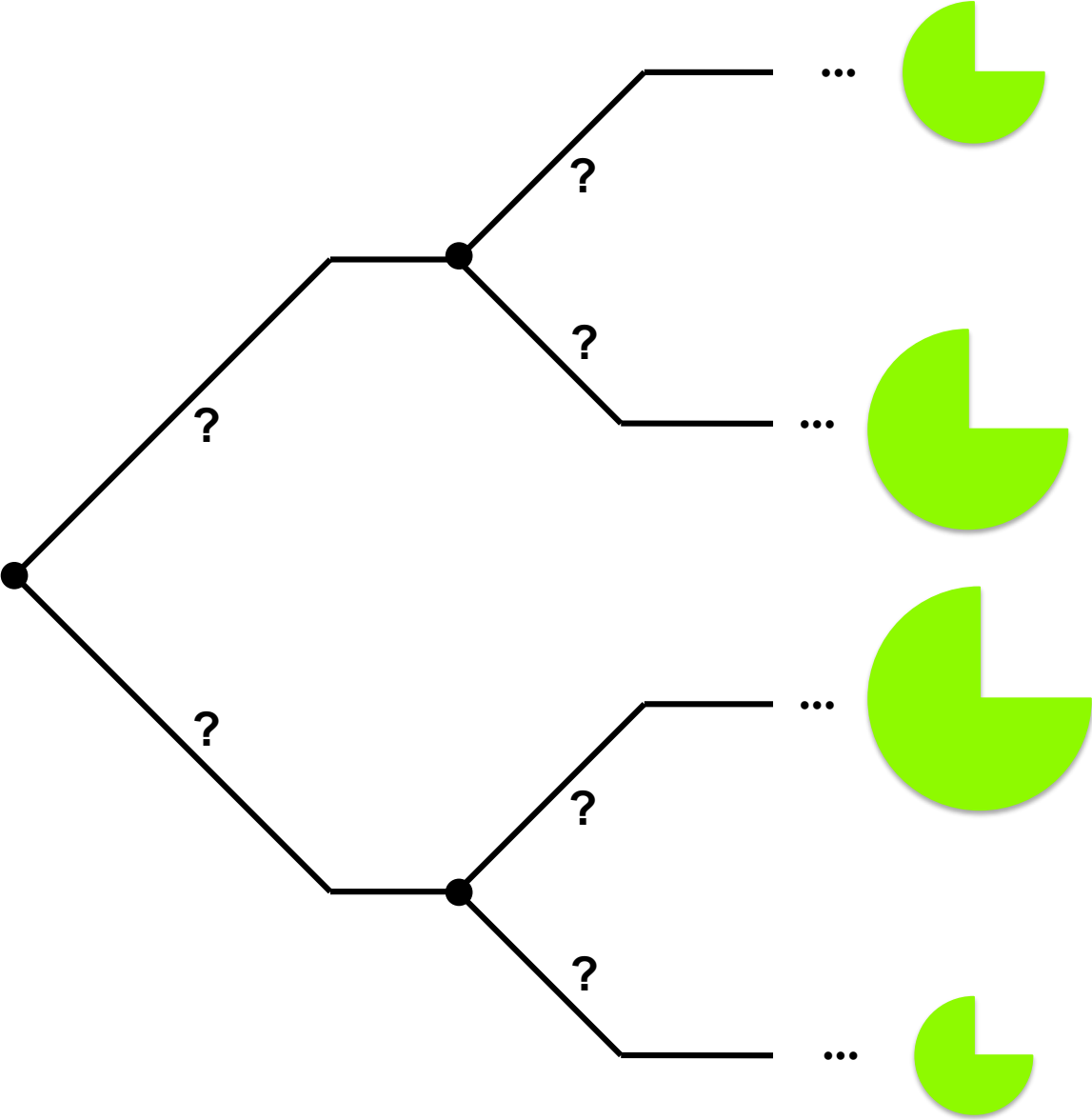
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1

A Definition of Strategy

Adam Brandenburger

**Moves Affect
the Size and
Division of the
Pie**



From: Brandenburger, A., and H. Stuart, "Biform Games," *Management Science*, 53, 2007, 537-549

Contingency

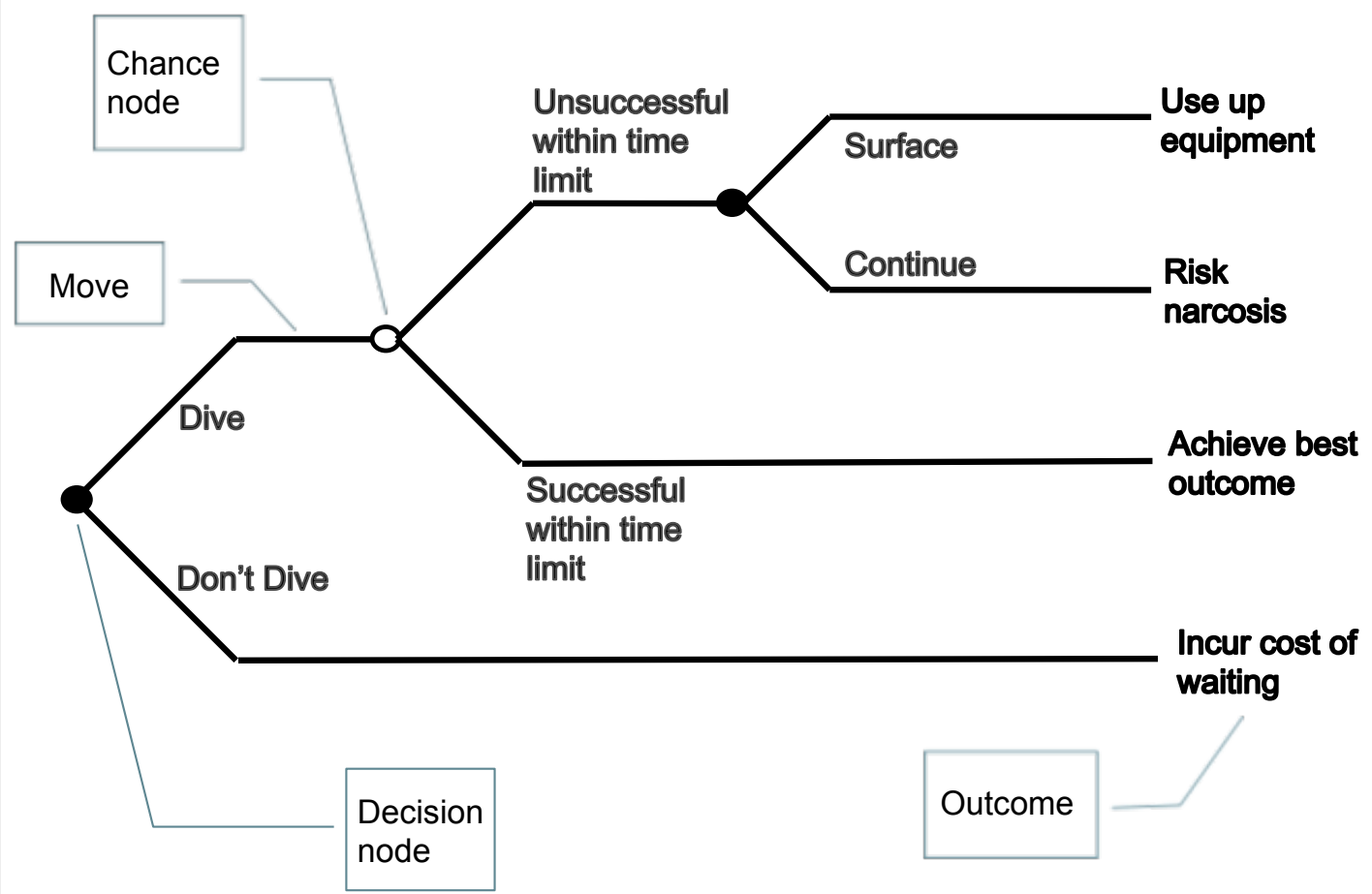
“An excellent diver boards the boat with a plan. For days, maybe weeks before the trip, he contemplates the wreck, studies its deck plans, memorizes its contours, decides on a work area, sets reasonable goals, then constructs a strategy to accomplish those goals.... Days in advance, he knows what he is supposed to do and where he is supposed to go, and for that reason he will adapt to contingencies; and in the deep Atlantic everything is contingency.”

--*Shadow Divers: The True Adventure of Two Americans Who Risked Everything to Solve One of the Last Mysteries of World War II*, by Robert Kurson, Random House, 2005, pp.26-27

“The most dangerous aspects of narcosis are the loss of decision-making ability and focus.... When more serious, the diver may begin to feel invulnerable, disregarding normal safe diving practices.”

--wikipedia.org: nitrogen narcosis

A Decision Tree

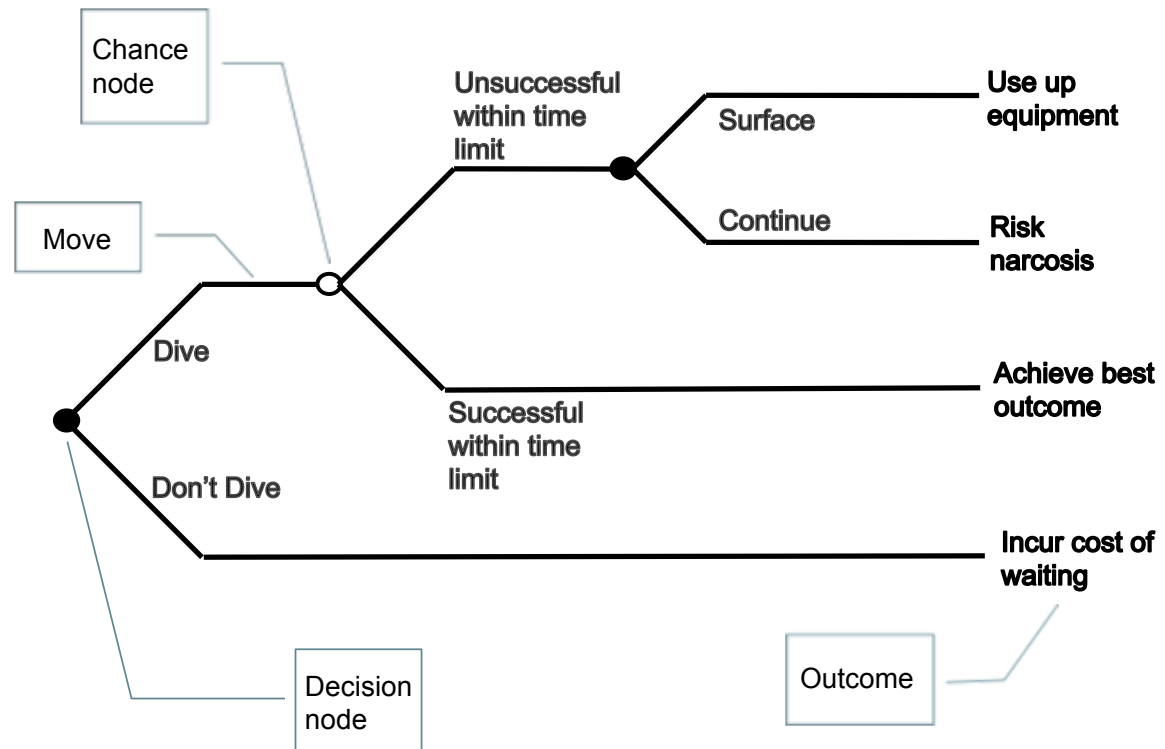


Definition of a Strategy

A **strategy** for a decision maker specifies a move at every decision node

... excluding nodes that the decision maker precludes by earlier moves

... including nodes the decision maker thinks will not be reached



What are the decision maker's strategies in this tree?

Military Strategy

“A plan, like a tree, must have branches --- if it is to bear fruit.... Your plan should foresee and provide for a next step in case of success or failure, or partial success --- which is the most common case in war.”

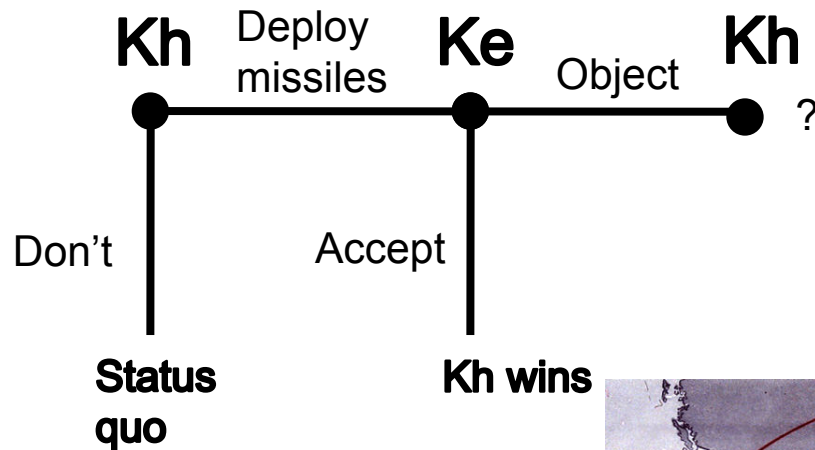
--*Strategy*, by B.H. Liddell Hart, 2nd revised edition, Meridian, 1991, p.330 and p.336



Picture: Wikipedia

“One Minute to Midnight” *

Just as Khrushchev himself had previously accepted the deployment of U.S. missiles in Turkey and Italy (in March 1962), Kennedy would accept Soviet missiles in Cuba



“You don’t have to worry; there will be no big reaction from the U.S. And if there is a problem, we will send the Baltic fleet.”



Picture: Wikimedia Commons

**One Minute to Midnight: Kennedy, Khrushchev, and Castro on the Brink of Nuclear War*, by Michael Dobbs, Vintage, 2008, pp. 21, 113, 216

Khrushchev on Khrushchev

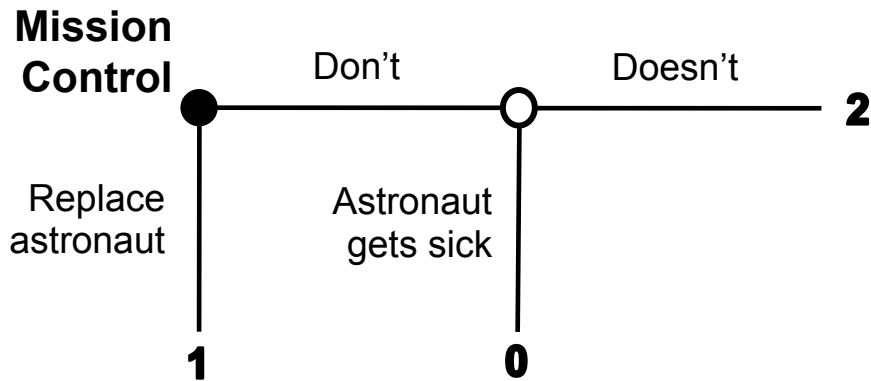
Khrushchev seemed to love what he called “a game that is being played at very high speed, in which everyone has to act quickly without being able to judge what the other players are going to do. It is like playing chess in the dark.”

--In *Nikita S. Khrushchev: krizisy i rakety*, by Sergei N. Khrushchev, Novosti, 1991, Vol. 1, p.396; quoted in *Khrushchev: The Man and His Era*, by William Taubman, W.W. Norton, 2003, p.402

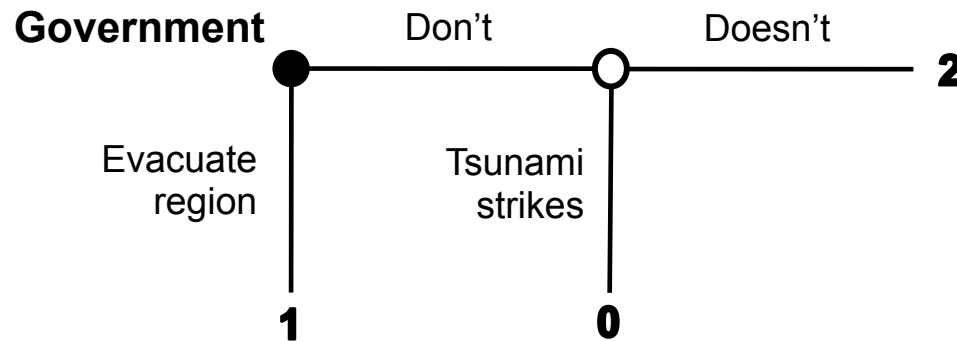


Picture: Wikipedia

Maximin Decision Rule



A strategy for the decision maker is **maximin** if the minimum payoff under that strategy is at least as high as the minimum payoff under any other strategy



The first example is taken from "Rational Decisions in Non-Probabilistic Settings," by Sergei Artemov, October 2009; on the second example, see "Model Response to Chile Quake?" by Quirin Schiermeier, *Nature*, March 4, 2010, pp.14-15

And ... No Strategy?

“[W]hen we met here last year it was impossible to state any definite method by which we could come out victorious, except our confidence that that would be the end.... He would have been a bold man ... who in those days would have put down in black and white exactly how we were going to win. But, as has happened before in our island history, by remaining steadfast and unyielding --- stubborn, if you will --- against a Continental tyrant, we reached a moment when that tyrant made a fatal blunder. Dictators, as well as democracies and parliamentary governments, make mistakes sometimes.”

-- Winston Churchill (from *Winston S. Churchill: His Complete Speeches, 1897-1963*, Chelsea House, 1974, pp.6605, 6630)



Picture: Wikimedia Commons