

### **Axelrod: The Rational Timing of Surprise**

Axelrod discusses when a resource for surprise should be exploited in international relations. There are 4 things to be kept in mind:

the stakes vary: the stakes always vary over time so however great they are now they may be greater later.

there are costs to maintaining a resource: if a resource is not used today, a cost is usually borne to preserve it for tomorrow.

exploitation of the resource risks exposure.

value of the resource is discounted over time: the resource may disappear if not used or a gain today may accumulate its impact on future events.

Axelrod sets up a game theoretic model using dice to illustrate the basic problem in the rational timing of surprise—a die is rolled and we have two choices. The first choice is to pay the face value of the die in dollars and continue. The other choice is to collect twice the face value of the die and end the game. The question is when is it optimum to exploit the resource and when should we be willing to pay to maintain it into the future. The conclusion is that it pays to wait for the largest or next-to-largest stakes.

There are 10 policy implications of his model: 1) when rare events have very high stakes, the best strategy may be to wait for these rare events before exploiting a resource for surprise. 2) since the optimal strategy will often require long waits, bureaucratic incentives may not actually reflect the national interest since they are subject to job transfers. 3) many resources may decline utility thanks to the wait. 4) it is a mistake to evaluate the opponent's resources for surprise by what you have seen when the stakes were low or moderate. 5) when stakes get very large, a great deal of surprise can be expected. 6) there are occasions when one may expect surprise less. 7) the model has implications for the use of current information in the updating of prior beliefs. 8) in making predictions when stakes are high, one should try to use data that are unlikely to be a resource for surprise by the other side. 9) for those situations in which speed is of the utmost importance, rules for the exploitation of surprise can be developed in advance. 10) as observational technology improves, the potential for surprise and deception does not necessarily become less.