

A more reliable method is prediction by historical analysis. History often reveals patterns. For example, the authors of the Federalist Papers cited historical examples of how independent political states were weak separately, and tended to fight among themselves. Madison, Hamilton, et al, predicted that if the colonies unified under a federalist system, they could present a strong front to aggressive European nations, as well as avoid internecine warfare among themselves.

Other examples of historical arguments used in political analysis can be found in the works of the Greek historian Thucydides, and the Italian political philosopher Machiavelli. Both thinkers looked into history for patterns that they could use to predict the outcome of the policies they recommended.

Marxism probably is the best example of historical analysis used to predict the future. Marx, and to an even greater extent Engels, developed a complex theory of revolution based on the analysis of economic and social patterns in 19th century England. They predicted that capitalism would generate class struggle, and lead to imperialism, war, and eventually the revolution of the proletariat. They further predicted that the communist revolution would bring more efficient economic systems, an end to class divisions, peace, and the eventual "withering away" of the state.

Although historical analysis sometimes can produce reliable predictions, it suffers from what philosophers call "the flaw of induction." "Induction" is the method of establishing truth by studying patterns. It's natural and easy to say that an event will be repeated in the future because it's happened in the past. Most of our decisions about how we will live are based on this assumption. A child burns his or her finger in a candle, and from that time on assumes that fire can be painful as well as attractive. We put ice cream in the refrigerator because our past experience has taught us that doing so will keep it hard. The problem is, that there's no logical reason why an event will happen in the future just because it's happened in the past. Events occur because of causes, and if the causes change, the event may not be repeated.

A third way of making predictions is by experiment. We can test a strategy to see if it "works." If it fails, we know that it was

a "bad" strategy. Probably, this is the best way to make predictions, but it depends upon our ability to survive tests. If the failure of a strategy results in our death, then we can't profit from the experience. It's irrational for us to experiment with strategies for preventing nuclear war. Their failure can destroy the human species.

The fourth way of making predictions is mathematical. There are two kinds of mathematical predictions, both of which are studied under "statistics." One involves analyzing data about the probability of past events. Its most familiar use may be in the prediction of election outcomes. Social scientists predict who will win elections by analyzing the circumstances under which past elections were won.

The second kind of mathematical prediction involves applying a mathematical formula to a situation that involves risks. The outcome of the game "Russian roulette" can be predicted this way. Since there are six chambers in most revolvers, we know that every time a player puts the barrel of the gun to his or her head and pulls the trigger, the chance of him or her being killed is one-in-six, or .167. The formula that will give us the chance of the player being shot if he or she continues the "game" then is

$$P = 1 - (1 - p)^n$$

where P is the likelihood of being shot over a number of turns, p is the probability (.167) of being shot in any one turn, and n is the number of turns that are taken.

The advantage of mathematical prediction is that it can be precise, much more precise than intuition or historical prediction. Mathematical prediction is so precise that we can "bet" on it. Insurance companies do that constantly. The accuracy of their bets is proven by the enormous profits they make. Insurance companies are some of the wealthiest businesses in the country. They become wealthy by using mathematics to accurately predict the future.

Is it possible to mathematically predict the failure probabilities of peace strategies? Yes. This is because most peace strategies are deterrence strategies. They assume some chance or "risk" of war, and involve huge electro-mechanical systems - missile arsenals. Deterrence always assumes that there's some risk of the enemy attacking. Once such a risk is assumed, the probability equation shows that an attack