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The life of nations no less than that of men is lived largely in the imagination.

Enoch Powell (1946)

Introduction

The consequences of wars can rarely, if ever, be predicted. Recognizing this fact, political scientists have built models to try to answer these questions: why did wars break out? What circumstances did lead to their outbreak?

There is a vast literature devoted to war, yet one can only find in it three models on which the analyses have been based. A brief survey of these models will serve as the point of departure for this chapter. Next it will be shown that the three models are not significantly different but they reflect three separate aspects of a general model of human behaviour, which is presented in the second section. In contrast to the three models, it does not start from the assumption of attributing predictable behaviour to nations. Rather, it examines individual behaviour and identifies the circumstances in which many individuals (call them "a nation") become more likely agreeing to go to war to start new alliances, or to break up old ones. The model is not deterministic: it shows that in all circumstances there is an unpredictable element -- the ideas of an individual (who becomes "the" political leader) -- that will have an effect on whether or not the nation will gamble on peaceful or other solutions. In the third section it is shown
how the model explains the phenomena of Davids and Goliaths and of the "Phoenix Factor", that is the phenomenon of quick recovery of losers from the ashes. In section four a summary of both statistical and non-statistical evidence is presented. Then the question of how can the incidence of wars be diminished is examined. In the concluding section the methodology for examining the implications of the model is discussed.

I- Three Models for Analyzing the Outbreak of Wars

Political scientists have offered three basic models that try to explain why nations decide to fight: "the balance-of-power", "the collective security" and "the power transition" models. The features of these models are briefly summarized below.

The Balance-of-Power

The balance-of-power model suggests that there will be peace when power is approximately equally distributed among members of major alliances. And the contrary: the probability that there will be an outbreak of wars is greater when there are significant differences in the distribution of power. According to this view of the world, the relatively powerful country, whose power is increasing, will attack the weaker adversaries. Organski (1968) summarizes the mechanism of this model:

"Given large numbers of nations with varying amounts of power each one striving to maximize its own power, there is a tendency of the entire system to be in balance. That is to say the various nations group themselves together in such a way that no single nation or group of nations is strong enough to overwhelm the others, for its power is
balanced by that of some opposing group. As long as the balance can be maintained, there is peace and the independence of small nations is maintained" (p. 274).

The implicit assumption behind this mechanism is that nations are motivated by their desire to maximize their power. The recognition of every nation that this is the goal of every other nation leads the ones endowed with less resources to enter into alliances in order to give a signal to the relatively stronger to avoid starting a war. The balance-of-power is thus maintained by the strategy of forming and cancelling alliances.

There have been several criticisms drawn on this model; Organski and Kugler (1980) summarize them:

"If the equilibrium is disturbed, the system favors adjustments that will return it to equilibrium. But if this jockeying process ... cannot reallocate the power loads sufficiently to obtain a roughly equal distribution among the major actors in the system, then one nation possessing decisive strength and uninvolved in existing coalitions will step in on the weaker side and redress the balance, thus rendering the system unstable... Those who espouse the balance-of-power model do not clearly explain why one nation should be exempt from the otherwise universal rule of wanting to take advantage of its superiority to expand its power at the expense of others... [and] Do all nations really wish to maximize their power? One cannot help noticing variations over time in the degree to which they have wished to do so". (pp. 16-17, italics in original)

The model presented in the second section will explain both these variations and the fact that one, the most powerful nation, while motivated by the same universal rule as the other nations, will act differently.
Collective Security

According to the "collective security" model the world is divided into aggressors and peace loving nations. The latter, if they form a coalition are assumed to be stronger than the agressor. However, if some of these nations defect either because of greediness or fear, the chances of war increase.

This model makes the following assumptions: that aside from the agressor all other nations love peace; that there is an agreement on who the agressor is; that, like in the previous model, changes in alliances have an effect on the probability of whether or not wars become more or less likely; and that collective security provides "security" rather than "peace".

These assumptions have been criticized on the grounds that there rarely seems to be an agreement on who "the aggressors" are (recently the Falklands and the Middle East are cases in point), and that the assumption that one nation is the constant agressor is arbitrary.

The model in the second section will show how the goal of "security" is compatible with the goal of "maximization", and why aggressors may turn into peace-loving nations, and the contrary.

The Power Transition

According to the "power transition" model, developed in the fifties, peace is viewed as being preserved when there is an imbalance of national capabilities between disadvantaged and advantaged nations,
the agressor will come from a group of dissatisfied strong countries, and it is the weaker that is more likely to be the agressor. The mechanism of this model is summarized by Organski (1967):

"At the very apex of the pyramid is the most powerful nation in the world, currently the United States, previously England, perhaps tomorrow Russia or China... Just below the apex of the pyramid are the great powers. The difference between them and the dominant nation is to be found not only in their different abilities to influence the behavior of others, but also in the differential benefits they receive from the international order to which they belong. Great powers are, as their name indicates, very powerful nations, but they are less powerful than the dominant nation... As we have seen...the powerful and dissatisfied nations are usually those that have grown to full power after the existing international order was fully established and the benefits already allocated. These parvenus had no share in the creation of the international order, and the dominant nation and its supporters are not usually willing to grant the newcomers more than a small part of the advantages they receive... The challengers, for their part, are seeking to establish a new place for themselves in international society, a place to which they feel their increasing power entitles them. Often these nations have grown rapidly in power and expect to continue to grow. They have reason to believe that they can rival or surpass in power the dominant nation, and they are unwilling to accept a subordinate position in international affairs when dominance would give them much greater benefits and privileges" (pp. 364-67).

According to this model the source of war is to be found in the differences in size and rates of growth of the members of the international
system. The rate of growth matters because it is assumed that if development is slow, the problem arising from one nation's catching up with the dominant one, may have a greater chance of being resolved. The model in section II will show that the goal of maximization leads the relatively weaker to gamble on aggressive strategies and the relatively stronger to look for security.

Comments

While the models presented above differ, they also share a number of features. The three models seem to ascribe predictable behaviour to "nations". In the balance-of-power model, the leaders of a nation seek to maximize power, while in the collective security model, they try to prevent aggression, and in both cases it seems to be implicitly assumed that the population shares their leaders' views. The third model too makes a prediction on the behaviour of nations, namely that when there is a significant change in the power structure, then a "nation" may gamble on an aggressive strategy.

But one may ask several questions: "nations" are an abstract concept. "Nations" are composed of individuals. So what assumptions on individual behaviour could lead to these predictions? Why would one leader act in one way and another in a different way? The model presented in the next section attempts to answer these questions: it shows that by starting from a simple set of assumptions on the behaviour of every individual, one can understand how do people make decisions, and why do they change their minds, on political strategies in particular. Since
the decisions either to start, or to try to prevent wars represent actions taken when facing risks, the basic question one must raise is what variables determine people's attitudes toward risks. The analysis in the next section examines this question.

II- Why Do People Take Risks?

The model presented below is based on Brenner (1983); its major features are summarized here. Let's assume that people's behaviour is relative, that is their utility function (or their "satisfaction"), \( U(\cdot, \cdot) \) depends both on their wealth, \( W_0 \), and the percentage of people whose wealth is greater than \( W_0 \), \( \alpha(W > W_0) \). To whom does this comparison refer? One may answer that the comparison depends on the type of decision taken: when a profession is already chosen, one may make comparisons with others in the same profession, when one lives in a relatively isolated village, one may make comparisons with one's neighbours only (as Gertrude Stein once said on a village in the Midwest "there are no "there"s there"). Or, when some international decisions are taken, the comparison will refer to the wealth of neighbouring nations; more about these comparisons will be said later. So let us denote by \( \alpha_1(W > W_0) \) the percentage of people who are richer within one nation, and let \( \alpha_2(W > W_0) \) denote the percentage of people who are richer, but who belong to other, neighbouring nations.

Assume that an individual's position in the wealth distribution, national or international, was the one expected, \( EW \). Then his utility function can be formally written as:

\[
U = U(W_0, \alpha_1(W > W_0), \alpha_2(W > W_0), |\alpha_1(\cdot), \alpha_2(\cdot))
\]
which means that an individual's behaviour is relative to his position both in the domestic and in the international wealth distribution, given that his realized position in the wealth distributions is the one expected. It is assumed that holding these wealth distributions stable, one's utility increases when wealth increases:

\[ U_1 = \frac{\partial U}{\partial W} > 0 \]

where \( U_1 \) denotes the marginal utility of wealth. It is also assumed that an increase in the percentage of people (either local, or foreign) whose wealth is greater than one's own, decreases one's utility:

\[ U_2 = \frac{\partial U}{\partial \alpha_1} < 0 \]

\[ U_3 = \frac{\partial U}{\partial \alpha_2} < 0 \]

\( U_2 \) and \( U_3 \) represent the change in one's utility when one's position in the wealth distribution changes.

The sign of \( U_1 \) represents the usual assumption of the marginal utility of wealth being positive. The meaning of the second and third assumptions is that when one's relative wealth diminishes, although one's absolute wealth stays constant, one's utility diminishes. On the level of everyday behaviour one may understand this characteristic as being due to one's envy, ambition or fear of being hindered by internal opposition. When the comparison with foreigners is made, this characteristic may reflect the fear of being hindered by a foreign power. As shown below, these characteristics of human behaviour lead people to gamble on a wide range of activities: on innovations, on going to wars,
on revolutionary ideas. At the same time, this characteristic also provides the incentives for the relatively richer to insure themselves. The fact that the model leads to the aforementioned implications led me to interpret the "utility" function as representing a probability of survival (see Brenner (1983)). In order to familiarize the reader with the mechanism of this model, the analysis starts with a very simple problem of personal initiative: the decision to gamble on a lottery and to take out an insurance. For simplicity sake, it is first assumed that such decisions are taken without reference to the wealth of foreigners (i.e. $\alpha_2(W > W_0)$ is assumed to stay constant, and is thus dropped as an explicit variable from the utility function). After presenting the simpler implications of this model, the ones concerning "foreign" affairs are discussed in details.

**Gambling**

Let us show now that from this utility function, and the assumption that the individual seeks to maximize his expected utility (i.e. make the best for his self-preservation), it is possible to derive testable implications on who will engage in a gamble, even if it is probabilistically unfair, without making strong assumptions on the shape of the utility function: the utility function may be linear in its two components.

Suppose that the individual has a wealth $W_0$: it represents the amount one expects to obtain from the existing financial and labor markets during one's lifetime. The percentage of the population whose wealth is greater than one's own is now simply denoted by $\alpha(W > W_0)$. Assume that the individual is faced with a gamble in which he has a probability $p$ of winning a large amount of money $H$, and a probability $(1-p)$,
of losing a smaller amount of money, \( h \), the price of the lottery ticket. What is meant by "large" amount of money is a sum which is large enough to change the individual's place in the distribution of wealth.

If the consumer wins the gamble, his utility will be 
\[ U(W_0 + H, \alpha(W > W_0 + H)) \]. If he loses, his utility will be 
\[ U(W_0 - h, \alpha(W > W_0 - h)) \]. The individual engages in the gamble if current utility is less than the expected utility he would have if he gambled. Formally this statement means that:

\[
(4) \quad p \cdot U(W_0 + H, \alpha(W > W_0 + H)) + (1-p) \cdot U(W_0 - h, \alpha(W > W_0 - h)) > U(W_0, \alpha(W > W_0))
\]

In order to simplify the notation, I have omitted the conditional statements. Assume that \( U(\cdot, \cdot) \) is linear in both of its components, that is:

\[
(5) \quad U = aW + b\alpha(W > W_0)
\]

Then from (4) one obtains:

\[
(6) \quad paW_0 + paH + pb\alpha(W > W_0 + H) + (1-p)aW_0 - (1-p)ah + (1-p)b\alpha(W > W_0 - h) > aW_0 + b\alpha(W > W_0)
\]

Assume that the gamble is fair, i.e. \( pH = (1-p)h \). Then from (6) one obtains that in order for an individual to participate in a gamble:

\[
(7) \quad pb\alpha(W > W_0 + H) + (1-p)b\alpha(W > W_0 - h) > b\alpha(W > W_0)
\]

Since \( b < 0 \), one obtains:

\[
(8) \quad p\alpha(W > W_0 + H) + (1-p)\alpha(W > W_0 - h) < \alpha(W > W_0)
\]
If $h$, the price of the lottery ticket, is small relative to $W_0$, so that losing it does not change one's position in the wealth distribution (a $5$ ticket could hardly do that when there are 200 million people in the economy), then $\alpha(W > W_0 - h) = \alpha(W > W_0)$, and from (8) one obtains:

\begin{equation}
\alpha(W > W_0 + H) < \alpha(W > W_0)
\end{equation}

which only implies that the prize $H$ must be significant enough, so that the percentage of people who own wealth more than $W_0 + H$ is less than those who owned more wealth than $W_0$.

Would people gamble if there was an equal distribution of wealth in a society, and customs or tax laws existed which were expected to maintain it equal in spite of fluctuations in the wealth of some because of different abilities or chance? If such customs exist in a society, then $\alpha(W > W_0) = 0$ and $U = aW$ only. Thus, as long as these customs are expected to be enforced, so that any variations in some people's wealth are expected to be either redistributed or compensated for, there is no rationale for the market of gambling to exist. This market emerges, in my model, only when the wealth distribution becomes unequal.

This conclusion does not imply that in more egalitarian societies people will not play games: they will. Only these games will have entertainment value, rather than value for changing one's position in the wealth distribution.
On taking out an insurance

Let us show now that individuals who may gamble may also insure themselves, and for the same reason: trying to prevent changing their position in the wealth distribution. The type of insurance my model can deal with refers to amounts that can significantly change one's (or one's offspring's) position in the wealth distribution: like life insurance, home insurance, insurance against fires and so forth.

Assume that there is a small probability, \( p \), of losing a large amount \( H \) (due to fire, for example) and a great probability \( (1-p) \), of staying with the initial wealth (if fire does not occur). The consideration for taking out a fair or an unfair insurance at a price \( h \), which compensates the individual if the unfortunate event happens is similar to the condition for the participation in a fair or an unfair gamble (the "unfairness" representing now the insurance premium):

\[
U(W_0 - h, \alpha(W > W_0 - h)) > pU(W_0 - H, \alpha(W > W_0 - H))
+ (1-p) U(W_0, \alpha(W > W_0))
\]

from which it follows that the same individuals who gamble also insure themselves, and they do both acts for the same reasons: either to change or to avoid changing their relative position in the distribution of wealth.

Again, one may raise the following question: when is it more likely that insurance markets will rise? The answer is that an unequal distribution of wealth leads to the emergence of these markets. For,
assume that customs exist by which people provide one to another a wide range of assurances. In a society where such customs are expected to be enforced, the insurance will simply take the form of close ties among the members of the group, rather than "formal markets".

Who is More Likely to Gamble?

Who is More Likely to Insure Himself?

When one loses the position in the wealth distribution one's incentives to gamble increase. The proof is simple: assume that when one's expected wealth was \( W_0 \) one did not gamble:

\[
U(W_0, \alpha(W > W_0)) > pU(W_0 - h, \alpha(W > W_0 - h)) + (1-p) U(W_0 + H, \alpha(W > W_0 + H))
\]

What is the necessary condition for this individual to gamble on this lottery when his wealth diminishes? Let us assume that unexpectedly one's wealth diminishes, that is \( W_1 < W_0 \). Then in order to play the same game that previously one was reluctant to, the inequality in (11) must be reversed:

\[
U(W_1, \alpha(W > W_1)|W_1 < W_0) < pU(W_1 - h, \alpha(W > W_1 - h)|W_1 < W_0) + (1-p) U(W_1 + H, \alpha(W > W_1 + H)|W_1 < W_0)
\]

(for simplicity sake the \( \alpha(\cdot) \)s are omitted from the conditional statements)

Under what assumption on the distribution of wealth in the economy will this "taste" for gambling emerge? For both (11) and (12) to hold true the following inequality must hold true:
(13) \[ U(W_0, \alpha(W > W_0)) - U(W_1, \alpha(W > W_1)) > p[U(W_0 - h, \alpha(W > W_0 - h) - U(W_1 - h, \alpha(W > W_1 - h))] + (1-p) [U(W_0 + H, \alpha(W > W_0 + H) - U(W_1 + H, \alpha(W > W_1 + H))]

Let \( \Delta W = W_0 - W_1 \) and let us continue to assume that the utility function is linear in both of its components. We obtain:

(14) \[ a \Delta W + b(\alpha(W > W_0 - h) - \alpha(W > W_1)) > p[a \Delta W + b(\alpha(W > W_0 - h) - \alpha(W > W_1 - h))] + (1-p) [a \Delta W + b(\alpha(W > W_0 + H) - \alpha(W > W_1 + H))]

assuming that the gamble is fair (that is \( ph = (1-p)H \)), and that \( h \) is relatively small and the population large enough, \( \alpha(W > W_0) = \alpha(W > W_0 - h) \), we obtain:

(15) \[ (1-p) [\alpha(W > W_0) - \alpha(W > W_1)] < (1-p) [\alpha(W > W_0 + H) - \alpha(W > W_1 + H)] \]

or

(16) \[ \alpha(W > W_1) - \alpha(W > W_0) > \alpha(W > W_1 + H) - \alpha(W > W_0 + H) \]

a condition which only requires that as wealth increases the fraction of people in each additional range of 'H' diminishes. In everyday terms this result means that there is a small "upper" class, a larger
"upper middle" class, a still larger middle class and lower middle class, and some fraction of poor, a wealth distribution pattern that seems now to characterize most countries with large populations.

The result that when one loses part of his wealth one is more likely to start gambling should be re-emphasized. This result shows how in this model individuals can "change their minds", and that the change does not require any statement about changing the "utility function" - the function (i.e. "the taste for survival") stays the same. Only one's position in the wealth distribution has been unexpectedly altered.

Gambling on Criminal Acts

To commit a crime is a risky activity: one might be caught and punished, or one might get away without punishment. The type of crimes analyzed here will be those against property, where monetary rewards are possible, or where destroying others' wealth with a significant effect on wealth distribution, is possible. I do not yet know how to deal with the subjects of murder, or rape.

Before presenting the predictions one can derive from this model as to the likelihood of people committing crimes, it is useful to say a few words on what the term "crime" means.

The word does not have a precise meaning: Robin Hood was viewed by some as a criminal, by others as a social reformer. "Terrorists" movements speak about themselves frequently as "liberation" armies. Are they "criminals" or are they "freedom fighters"? It seems that what constitutes a crime depends on whether or not people agree
with the present distribution of wealth. When the majority accepts the channels by which wealth is redistributed (markets, governments, families and so forth), there is agreement on what the term "crime" means.

Let us assume that there exists an agreement in the society as to what constitutes a "crime". Who are the people most likely to commit crimes in such a society? Let $G$ be the value of punishment if one commits a crime, and let $H$ be the "prize" if one gets away without punishment. $W_0$ denotes one's initial wealth and $p$ the probability of being caught. The expected satisfaction from the life of crime, denoted by $EU$, is:

$$EU = pU(W_0 - G, \alpha(W > W_0 - G)) + (1-p) U(W_0 + H, \alpha(W > W_0 + H))$$

The sum on the right hand side shows the expected outcome: the first term of being caught and the second of being undetected. Assume that one did not commit this crime when one's expected wealth was $W_0$, that is:

$$U(W_0, \alpha(W > W_0)) > EU.$$ 

Now let us assume either that one's wealth diminishes to $W_1$ or one's wealth stays constant, but everybody else who enters into the definition of $\alpha(\cdot)$ becomes suddenly richer. Then the individual who became relatively poorer is more likely to commit the crime that previously he was reluctant to and the inequality in (18) may be reversed (holding probabilities, punishments and gains from stealing constant).

For, the condition for this change of mind is (still assuming the same linear utility function as before, and making the same calculations in (14)):
(19) \( \alpha(W_0 > W > W_1) > p \alpha(W_0 + H > W > W_1 + H) + (1-p) \alpha(W_0 - G > W > W_1 - G) \)

which requires that the fraction of people within the same difference in wealth (\( \Delta W \)) diminishes quickly in the range of the outcomes of the contemplated crime. It thus follows that people most likely to commit crimes are not those who are poor, but those who became poor, or in the jargon favoured by political scientists, those who became "declassé".

**Creativity, and the Gamble on Political Ideas**

Since gambling and crime either redistribute or destroy wealth, the human trait postulated here seems to have no survival value. In order to show that it does have such value, it must be shown that the trait postulated here is also beneficial. In this section it is shown that this trait leads human beings to supply novel ideas in business, science, arts, technology or the organization of social institutions (one may call them "revolutionaries" or "politicians") and interpret causal relationships.

The increased supply of novel ideas occurs when either a group's relative wealth diminishes, or the human population's total wealth diminishes (simultaneously with a change in the distribution). This trait provides the individual's or the human race's means for survival and enables them to maintain "wealth" per capita (on average) stable, although the perception of what constitutes "wealth" changes significantly, and errors are made when interpreting causal relationships.

"Gambling" is an activity which is not strictly related to games, but to all activities where returns depend on luck, rather than on specific skills or already available information. Since this is a
characteristic of gambling, betting on an idea for which no empirical evidence yet exists also represents a gamble -- although there are differences between this "gamble" and the one that represents a lottery.

Let $P$ denote the amount invested in developing an idea, which beside the direct costs of investment in time and in other resources to develop it, also includes the resources invested in trying to estimate the potential demand for the ideas and its applications. Let $\alpha(W > W_0)$ again represent the percentage of the relevant population above one's wealth $W_0$, and let $H$ denote the increase in wealth that one expects to gain by selling an idea. If unsuccessful, with a probability $p$, the potential innovator knows that he will lose the amount $P$ (which includes losses due to diminished reputation). Translated to mathematical symbols, the conditions for an individual to become an entrepreneur, that is to "bet" on a new idea that no empirical evidence is available for testing it when he starts working on it, is similar to the conditions that leads one to gamble on a criminal act:

(20) \[ U(W_0, \alpha(W > W_0)) < pU(W_0 - P, \alpha(W > W_0 - P)) \]

\[ + (1-p) U(W_0 + H, \alpha(W > W_0 + H)) \]

Let us point out the differences between this condition and the one which defines participation in a lottery, in spite of the similarity in the mathematical formulation. Here the value of the "prize" $H$ differs among individuals: people's evaluation of the potential demand for either home computers, or the solution of open problems in
science is subjective. Also, probability represents here a subjective judgment by an individual and there is no way to prove that one is right or wrong. This in contrast to lotteries, where probabilities are defined in terms of processes than can be repeated many times, and their value will be the same for everybody who plays them. Thus, one could say whether or not one is "right" or "wrong" when assigning a value to these probabilities.

In spite of these differences between the two types of "gambling", the following conclusion can be drawn: when one's relative wealth drops, one has greater incentives to "gamble" on novel ideas. This conclusion is thus similar to the one obtained in the previous section, and the proof is exactly the same. Assume that one did not gamble on a novel idea, but just followed some customs and habits, so that the sign of the inequality in (20) is reversed. When one's wealth relatively diminishes, holding probabilities, costs, benefits and the wealth distribution constant, one is more likely to contemplate an idea that previously one was reluctant to.

The gambling on revolutionary ideas which advocate a redistribution of wealth is discussed apart, since the mathematical conditions differ from the condition that defines the gambling on other new ideas.

Let $W_0$ be one's initial wealth, when one was reluctant to contemplate to gamble on a revolutionary idea:

$$
(21) \quad a W_0 + b\alpha(W > W_0) > pa(W_0 - P) + pb\alpha(W > W_0 - P) + (1-p) a W_R + (1-p) b\alpha(W > W_R)
$$
where \( P \) denotes the punishment and costs of investing in the revolutionary act, and \( W_R \) denotes the expected wealth if the revolution succeeds. 'p' denotes the subjective probability given to the revolution's lack of success in catching fire.

Assume that one's wealth diminishes, but that the wealth distribution in the society did not change. Then, the condition one obtains for the gamble is similar to the one on gambling on any new idea. However, if a significant percentage of the population has lost its wealth (who may belong to an organized group), the probability that many people are ready to change their minds increases. For the change in mind to take place, the inequality in (21) must be reversed. Let \( 1-p_1 \), denote the subjective probability given to the revolution's success, where \( p_1 < p \) and we obtain:

\[
(22) \quad aW_1 + b\alpha(W > W_1) < p_1a(W_1 - P) + p_1b\alpha(W > W_1 - P) \\
+ (1-p_1)aW_R + (1-p_1)b\alpha(W > W_R)
\]

For both (21) and (22) to be fulfilled one obtains:

\[
(23) \quad a(W_0 - W_1) - b\alpha(W_0 > W > W_1) > \\
> a(pW_0 - p_1W_1) + a(p_1 - p)P + \\
+ b[p\alpha(W > W_0 - P) - p_1\alpha(W > W_1 - P)] \\
+ (p_1 - p) [aW_R + b\alpha(W > W_R)]
\]
where \((p_1 - p)\) is negative. Since the last term in brackets denotes the expected satisfaction if the revolution succeeds, and \((p_1 - p)\) is negative, the whole last term is negative. Thus a revolutionary idea which advocates a redistribution of wealth in favor of the déclassé's group (i.e. diminished \(\alpha(W > W_R)\)) has always a greater appeal where a group's position is disproportionately worsened. For, the probability that the inequality in (23) is reversed, increases.

**Political Ideas and Foreign Affairs**

Until now, for simplicity sake, it has been assumed that only changes in the internal wealth distribution matter. However, exactly the same results can be obtained if instead of assuming that the internal wealth distribution has changed and the external stayed constant, one assumes that the internal stayed constant and the external one has changed.

Suppose that there has been a change in the wealth distribution among some countries. For example, the U.N. might have voted for changing the borders between two countries, or one country has occupied another one, or one country became suddenly stronger than its neighbours (because somebody there invented a more sophisticated weapon). What will people do in the country whose relative position in the wealth distribution has suddenly diminished?

According to the arguments presented in the previous section, it is likely that an individual -- call him a political leader -- will come up with some ideas which disagrees with the new reallocation of
wealth and advocates a redistribution; these are ideas that the rest of the population has now greater incentives to gamble on. The ideas may take many forms: advocating peaceful negotiations for compensations, justifying terrorist acts against the country that became richer, advocating new alliances as threats against the now richer country, or advocating a strategy of war. The model does not enable to make a prediction on the type of the strategy chosen: it only identifies the circumstances which can more likely lead to gamble on any of these strategies including the strategy of war. These circumstances seem to be the same as those postulated by the "power transition" model: when sudden, significant changes in the wealth distribution among countries occur, the probability of an outbreak of war increases, because many people in the country whose position in the wealth distribution has worsened, are likelier to change their minds.

These arguments and the model presented in the previous section also show how can a "nation" have a predictable behaviour: when its wealth relatively diminishes, "the right man at the right time" may come up with a political slogan (a "lucky hit") that the rest of the population may gamble on; in this sense one can speak about a "nation's" behaviour. Or, to paraphrase Orwell's (1945) more poetic language on the behaviour of nationalists, one could say that the leader secures more power and more prestige, not for himself, but for the nation in which he has chosen to sink his own individuality (where remember that Orwell's definition of a nationalist leader was the following: "a nationalist is one who thinks solely, or mainly in terms of competitive prestige" (p. 157)).
A nation's behaviour can also be predicted when its wealth suddenly increases (because of a discovery of gold or oil, for example). This nation has now greater incentives to insure itself, rather than to gamble. The political ideas that may become popular in the richer countries are to provide help to other countries, or to serve as "policemen" in some regions and thus try to maintain stability; this is exactly how wars can be prevented. The richer country's different behaviour is not due to the fact that its people's motivation is different from that of the poorer's country because of differences in "tastes". Rather, understanding the incentives that motivate people (even if the incentives have not been articulated), the people in the richer country may realize that they face greater risks of being attached. In order to diminish this risk, the richer people may either spend more on weapons, or transfer wealth to the poorer country.

These arguments show that the "collective-security" model too is thus consistent with the implications of the model presented here, and one does not have to start from another set of assumptions in order to explain facts that the "collective-security" model was built to shed light on. The different attitude toward wars stems from some nations' different and changing position in the international wealth distribution.

III- On Davids and Goliaths

(or What is "Wealth" and What is "Power"?)

The story of David and Goliath is well known, and history books are filled with exciting stories of small armies winning against great powers. If the human behaviour articulated here is accurate, the phenomena is not so strange as it may seem at first sight.
While the outcomes of wars cannot be predicted from the model presented here, what can be predicted is that the people who became relatively weaker have greater incentives to become entrepreneurs and gamble on new ideas -- on a surprising arm in David's case (if one wants to take that story literally, rather than as a good allegory of human behaviour). At the same time the model also predicts that Goliaths (or the relatively stronger) have smaller incentives to gamble on new ideas; instead they have greater incentives to insure themselves.

So what is "power" and what is "wealth"? The somewhat surprising, and what for some may be an uncomfortable, answer is that we really do not and cannot know precisely what these terms mean. In the three models used in political science (described in the first section), only the term "power" is used. Yet, the term is never defined precisely. When attempts have been made to examine rigorously the three theories (in Organski and Kluger (1980), for example), the measures that have been used in order to translate the abstract notion of "power" to a concrete notion of everyday life, the measures that have been used, have been a country's population size and its GNP or the ability to raise taxes, measures that in standard economic analysis are used as indicators of "wealth".

Yet when used to estimate a nation's ability to win wars, the concept of wealth is not very useful as a measure of "power". The model presented here shows why: if a nation gambles on an individual's political ideas, and thus stands behind him, that country may be "wealthier" than another where the population is split in its political beliefs. In
the first country, people will make greater efforts, since they gamble more frequently on innovative ideas. In the second country, only a fraction of the population might follow this behaviour pattern. Thus, the first country may be more powerful in times of wars even if both its population and its GNP are smaller than the other country's, and ex-post measures of GNP and population size might turn out to be inaccurate estimators for the probability of winning wars. The important concept, if the arguments in the preceding sections are valid, is not the static notion of wealth, but rather the change in wealth -- a dynamic concept.

Concerning the notions of "power" and "wealth" one may also raise the following question: in the model, changes in the wealth distribution provide the motivation for changes in behaviour, while here it has been argued that "wealth" cannot be measured -- so how can the model serve as a positive framework for the analysis of wars? The answer is that: since the only things that one can ever examine are the effects of changes in wealth and its distribution, one might make comparisons between two situations and make predictions even if wealth is not measured properly. But when one observes such changes one can tell whose wealth diminished and whose has increased, even if one does not have good measures of wealth. One must only assume that the individuals' perception of what constitutes "wealth" was rather similar in the two countries.

Internal Turmoil and External Adventure

One of the most frequent charges that can be encountered in history textbooks is that internal turmoil may lead political leaders to gamble on a strategy of war. It is a straightforward exercise to show why this argument holds true in this model.
The precise definition given to the term "internal turmoil" in the terms of this model is that of both more criminal acts and more frequent gambles on political ideas, revolutionary in particular, being committed. These acts occur with greater frequency when significant changes in the wealth distribution occur and they decrease the stability of a society. Suppose that a significant group in the population became "déclassé" (because of an unexpected hyperinflation, for example) and thus became more likely to gamble on a political idea that leads to expectations for increased wealth. Since this group's wealth has also diminished relatively to a neighbouring country's wealth, one political idea that this group may gamble on is that of a strategy of war against the neighbouring country. How did Hitler's propaganda put it: "The proportions between space and people have been reversed. The problem of how to feed a great people in a narrow space [i.e. the Germans] has changed into that of the best way of exploiting the conquered spaces with the limited number of people available" (Die Wirtschaftskurve, No. 4, Nov. 1941, p. 272) -- and the Germans did gamble on Hitler's idea of finding new spaces for them, spaces that belonged to "Subhuman" Slavic people.

What Happens After the War?

There seem to be several opinions as to what might happen in countries that fought a war. Organski and Kugler (1980) summarize three of them:
"The first proposition asserts that in the short run, at the ends of wars, the movement of power between winners and losers creates a pattern much like the gradual opening of a pair of scissors. J.M. Keynes was a most influential proponent of this view. He maintained that the gap which developed between winners and losers as a result of war would continue to increase for a short time in the future and that the losers would fall behind at an ever growing rate. A second view suggests that, as a result of war, all nations lose some capabilities that make for national power, but that winners lose less than losers and that the gap thus created between victors and defeated nations continues for a lengthy period of time. Again, this is the short-run estimate. But there are those who believe that what can be called the ongoing gap continues beyond the period immediately following a war and can be observed for a long time thereafter. Norman Angell was a supporter of this notion. A third proposition, very unorthodox, has been advanced for some years by A.F.K. Organski. He has asserted that while it is indisputable that losers suffer a good deal more than winners and are in a much worse position immediately after conflicts, in the long run they catch up with winners in terms of power capabilities. Moreover, levels of power distribution return reasonably soon to the patterns they would have followed had no war taken place. The mechanics of the change work in approximately the following way. After their defeat (and the plummeting of their capabilities), losers accelerate their recovery. Winners, in the wake of victory, show a rate of recovery in capabilities depleted by war which is substantially slower than that of losers..." (pp. 106-7)
T.W. Schultz (1961) offered another opinion. When most economists have been pessimistic about the recovery of Western Europe after the Second World War, Schultz was optimistic. He argued that while much physical capital has been destroyed, "human capital", (i.e. the knowledge embodied in human beings) has not been, and thus recovery might be swift. However, Schultz did not offer a hypothesis which could have explained the differential rate of recovery of winners and losers whose populations had similar levels of education (a point recently raised by Mancur Olson (1978, 1982)).

When Organski and Kugler (1980) summarize their evidence they write:

"Most unexpected and interesting is the discovery that, after wars, the active losers catch up with winners in comparatively short order, and that the system of international power begins to behave as one would have anticipated had no war occurred. We cannot explain the phenomenon; we do not know why losers rise from the ashes as they appear to do" (p. 142).

They called this unexplained phenomenon "the Phoenix Factor".

The model presented here suggests one answer. Suppose that while both losers and winners have lost part of their wealth, the losers lost more. According to the hypothesis made here on human behaviour, (as defined by the expressions (1) and (20)), when people's realized position in the wealth distribution is less than the one expected, national or international, they are more likely to continue to
make greater efforts and engage more frequently in entrepreneurial acts (relatively to other people whose position in the wealth distribution has unexpectedly increased) until their wealth is restored to its expected level. Thus, one would expect a faster recovery in countries who lost wars relatively to others who won them, and who may have stayed closer to their expected position in the international wealth distribution.

Without providing a rigorous theoretical background for his arguments, Olson (1982) explained the differential recovery of European countries after the Second World War in the following way:

"...stable societies with unchanged boundaries will accumulate more organizations and collusions for collective action over time. The reason is that, as time passes, more of those groups that can organize will have enjoyed the fortunate circumstances and able political entrepreneurship that is needed for organization, whereas the interest of organizational leaders in maintaining their position insures that organizations with selective incentives will not disappear unless destroyed by upheaval or war...[these] distributional coalitions slow down a society's capacity to adopt new technologies and establish barriers to entry that reduce a society's capacity to reallocate resources quickly in response to changing conditions, and thereby reduce the rate of economic growth" (pp. 144-45).

These arguments are consistent with the model presented in the first part of this study. It has been predicted there that when wealth diminishes relatively to the expected one and the wealth distribution
changes, people become more likely either to gamble on individual effort to restore their wealth, or, if they happen to be part of a group, they may engage in political pressures to redistribute wealth in their favor. Since such interest groups are in general destroyed in countries that have lost a war, it becomes more likely that after wars individuals will gamble on individual effort to restore their wealth. In contrast, in the winning countries the interest groups may not have been destroyed, and if a fraction of the population lost its wealth, it still may use the political mechanism to redistribute wealth in its favor. Thus, one would expect a quicker recovery in the losing rather than in the winning country. The quicker recovery will continue until individuals in the losing country will gamble on new political ideas around which new interest groups could be organized that could maintain the wealth distribution stable.

So winners lose, and losers win: "winning" and "losing" seem, in a historical perspective, illusions for a fleeting moment -- just as the myth of the death and the rebirth of the Phoenix suggests.

IV- A Summary of Non-Statistical and Statistical Evidence

The idea that changes in relative positions in the international wealth distribution (or status-quo) might be the cause of wars is not novel. Thucydides, in his History of the Peloponnesian War implied it when he wrote that "the growth of the Athenian power ... terrified the Lacedaemonians, and forced them into war" (Book I, paragraph 23).
He thus explained Tissaphernes', the Persian King's policy of trying to balance between the two powers.

Later, Polybius in *The Histories* relies on a similar argument to explain Hiero's policies. First, Hiero made alliance with the Romans against Carthage. But a few years later he became worried of the Roman's success and sent assistance to Carthage. Polybius explains:

"...it was in his own interest for securing both his Sicilian dominions and his friendship with the Romans that Carthage should be preserved, and that the stronger power should not be able to attain its ultimate object entirely without effort" (as quoted in Waltz (1954), p. 199).

In a recent book Organski and Kugler (1980) make a first attempt to analyze by statistical methods the "causes" of wars. Their data refer to four periods: the Franco-Russian War (1870), Russo-Japanese (1904), World War I (1913) and World War II (1939). With this very limited data set available, they tried to analyze which of the three models ("balance-of-power", "collective security", "power-transition") seems most consistent with the evidence, that is which one seems to make a better prediction of coming wars. Their result was unambiguous:

"The mechanisms that make for major wars can be simply summed up. The fundamental problem that sets the whole system sliding almost irrevocably toward war is the differences in rates of growth among the great powers and, of particular importance, the differences in rates between the dominant nation and the challengers that permit the latter to overtake the former in power. It is this leapfrogging that destabilizes the system" (p. 61).
This result is consistent with the prediction made by the model: only significant changes in the international wealth distribution lead to a change in behaviour and to an increased probability of gambling on an act of war. When the wealth distribution is stable (even if unequal), one cannot make any prediction: indeed this was Organski and Kugler's second and final conclusion:

"Wars seem to occur both when adversaries are equal and unequal in power. In this initial step, then, power distributions are obviously not a predictor of the coming war. The introduction of the concept of one nation surpassing another in power as the independent variable [in explaining the probability of the outbreak of hostilities] brings us an important new piece of information" (p. 49)

Another writer whose views do seem consistent with mine is Margaret Mead, who, in her essay on "Warfare is Only an Invention - Not a Biological Necessity", wrote that warfare, like duel is just an invention known to the majority of societies by which they permit their young men either to accumulate prestige or avenge their honor. "Honor" and "prestige" are words which indicate one's relative position in the wealth distribution, and the word "invention" refers to an idea. The fact that customs permit duels to take place (in some societies), when one "avenges his honor", suggests that the honor was previously unexpectedly blemished. Since honor is part of one's reputation, and reputation is part of one's wealth, this observation is consistent too with the implications of the model, since it implies that one's gamble on warfare is permitted when one unexpectedly lost part of his wealth.
What are the alternative ideas that people may gamble on instead of that of starting a war? The ideas are numerous: "universal brotherhood", for one. This idea, however, requires trust among nations that may take too long to be built. Compensating the nation who fell behind, may be another idea, and as the example below suggests, such an idea can work and can maintain stability for long periods of time. Herskovits (1940) describes the following customs among tribes in the Nilgiri hills of India:

"The members of this tribe were musicians and artists for the three neighbouring folk of their area, the pastoral Toda, the jungle dwelling Kurumba, and the agricultural Badaga. Each tribe had clearly defined and ritually regulated obligations and prerogatives with respect to all the others. The Toda provided the Kota with ghee for certain ceremonies and with buffaloes for sacrifices at their funerals. The Kota furnished the Toda with the pots and knives they needed in their everyday life and made the music essential to Toda's ceremonies. The Kota provided the Bagada with similar goods and services, received grain in return. They stood in the same exchange relationship with the forest Kurumba, but these latter, who could only provide meagre material compensation...were able to afford the Kota supernatural protection, since the Kurumba were dreaded sorcerers, so feared that every Kota family must have their own Kurumba protector against the magic which others of this tribe might work against them" (p. 157).

What was the cause of the Kota's belief? How could it emerge and become a custom?
In terms of my arguments the emergence of this belief can be explained in the following way: since the Kurumba were, or became the relatively poor, they were the ones more likely to start a war. Realizing the threat, the Kota, in an attempt to diminish this probability gambled on the egalitarian idea of transferring them payments. The Kurumba's threat (which means a diminished wealth for the Kota) might have been the source of the custom and the cause for the emergence of the belief that the Kurumba were "dreaded sorcerers", an idea that both the Kota and the Kurumba had the incentives to gamble on. Indeed, as the motto of this chapter says, the life of nations is lived in the imagination.

This example is disquieting: for very long periods of time, the tribes mentioned above have lived with these customs of compensating potential "aggressors", and they did not gamble on the idea of teaching the aggressors that gambling on another set of ideas may be more beneficial for all parties concerned. So can one be hopeful that nations today will be different from these "primitive" tribes? Can the current international situation be stabilized by continuously subsidizing poorly endorsed nations? The concluding chapter discusses this issue.

And from the evidence on the causes of wars to evidence on the "Phoenix effect". The observation that winners of the past turn to losers has been made by many historians. Here is how Cipolla (1976) summarizes the decline of Spain:
"The decline of Spain in the seventeenth century is not difficult to understand... Spain, as a whole... became considerably richer than... during the sixteenth century... The riches of the Americas provided Spain with purchasing power but ultimately they stimulated the development of Holland, England, France, and other European countries... At the end of the sixteenth century, Spain was much richer than a century earlier, but she was not more developed - "like an heir endowed by the accident of an eccentric will"... In the meanwhile... a century of artificial prosperity has induced many to abandon the land' schools had multiplied, but they have served mostly to produce a half educated intellectual proletariat who scorned productive industry and manual labour and found positions in the bloated state bureaucracy which served above all to disguise unemployment. Spain in the seventeenth century lacked entrepreneurs and artisans..." (C. Cipolla (1976) pp. 233-35).

The similarity between this description and the predictions of the model are rather startling.

In contrast to the decline of Spain, here is the rise of entrepreneurial activity in Persia, as described by Toynbee (1966):

"...the classical Persian poetry had been written in the course of the half-millennium between the break-up of the Abbasid empire and the political reunification of Iran in the Safari Empire. During this period, ... in spite of the consequent insecurity of life and destruction of wealth, a fractured Iran, like a fractured Greece and Italy, excelled in the arts" (p. 93).
only notice that according to my hypothesis it is not "in spite of diminished wealth", but rather because of it that arts have excelled. And McNeill (1963) wrote:

"The first notable tremor in the balance between China's commercial and landed interests occurred after the Sung emperors lost north China to Jurchen invaders (1127). Thrown back upon...resources of the south, China in the later Sung period saw a notable development of riverine and maritime trade. Great cities arose on the south China coast and along the Yangtze; and growing numbers of merchant vessels set sail for southeast Asia and the Indian Ocean" (p. 525).

As to more precise evidence: Organski and Kugler (1910) have also rigorously examined the effects of wars, and as mentioned earlier, their "most unexpected and interesting ... discovery [is] that, after wars, the active losers catch up with winners in comparatively short order" (p. 142). Moreover, they obtain that aids to the losers had negative rather than positive effects on the rate of recovery:

"Had there been a direct relationship between aid and recovery, and if one controlled for population, growth rates would show increases as a result of aid. Had aid intensity been a factor, one would also expect that growth rates would show strong gains after those years when recipients received particularly large gifts... [But] such relationship as may exist is negative: the countries that received most of the aid for the longest period performed worst. The United Kingdom received much more aid, on a total and per capita basis, than France; France received much more than Italy, Italy much more than Germany, and Germany much more than Japan. Yet it was Japan that enjoyed the most rapid rate of recovery,
followed by Germany, Italy and France, with the United Kingdom bringing up the rear. It is, therefore, very hard to credit the conviction that foreign assistance and recovery are closely associated" (pp. 143-44).

Thus, the recovery from the ashes cannot be attributed to aids but to an alternative mechanism. The arguments presented in this study suggest such a mechanism.

V- Can the Incidence of Wars be Diminished?

Let us turn now to the most important question: does the viewpoint presented here suggest a strategy for eliminating wars, or at least diminishing their incidence? The answer seems simple (although practicing it may be difficult): governments should try to avoid changes in the wealth distribution, either internal or external. However, even if governments achieve this goal, that will not imply that wars will be totally eliminated. The government's policies will only lead to a situation where the incidence of wars will be diminished. There are many events that changed in the past and can change in the future both the internal and the external wealth distribution, events that are beyond human control (for example unexpected increases and decreases in population -- see Brenner (1983)). Also, there are events that, while being under human control, their effects are unpredictable. For example, the invention of quicker methods of communication (radio, T.V. etc.) in one country may change the perceptions of the wealth distributions in another. In this case effects turn into causes and the increased gambling activity may start. Thus, even if at some time in
the future people will succeed in finding methods of preventing changes in
the wealth distribution, that will not imply that such changes might not
occur and increase the incidence of wars; as an old proverb in Malay says:
even if the river is quiet, it does not mean that the crocodiles have left.

While the conclusion from the model as to how to diminish the
incidence of war seems clear, the way to carry it out in practice seems
blurred, because of our limited knowledge of human behaviour, in particu-
lar of the time required for adjusting to changes in policies and the
timing of such changes; again, more will be said on these issues in the
concluding chapter.

Let's contrast my answer with answers that others have given
to the question of how to prevent wars. Slightly superficially one can
classify these writers in two categories: some who saw that "the root
of all evil is man" and looked for the causes of war in the behaviour of
individuals, separated from the times they lived in, and others who looked
for the causes of war within the structure of states and within the state
system. St. Augustine, Spinoza, Reinhold Niebuhr, Morgenthau seem to be-
long to the first category, since they start political analysis by looking
at individual behaviour, while Rousseau, Bernard and many sociologists
(for a summary of their views see Waltz (1954)) belong to the second since
they seemed to suggest that human behaviour can better be understood by
studying society, or the society of states. The model presented here com-
bines in a straightforward way the two views and suggests that the beha-
viour of man cannot be analyzed without his history: Human behaviour can-
ot be understood unless one simultaneously looks at the individual and
at the society he lives in.
In spite of the fact that the writers mentioned above have only looked at one side of the coin, there are similarities between theirs and my views. St. Augustine had observed the importance of "self-preservation" in the hierarchy of human motivations. So did Spinoza: to him the end of every act is the self-preservation of the actor, and acts that do seem altruistic are not: regard for others is due to the recognition that mutual assistance (or, in Adam Smith's and our days' more technical words: division of labor) is necessary to one's preservation. According to St. Augustine bad things, wars in particular, happen because human reason and will are "defective", while according to Spinoza they happen because of our dual nature: the conflict between "reason" and "passion". Niebuhr and Morgenthau seem simply to suggest that man is defective and the origin of wars are in the "dark, unconscious sources in the human psyche" (using Niebuhr's words in Beyond Tragedy).

These are, of course, words and opinions and not facts. What does it mean to say that we are "defective", or that our "reason" fights with our "passions"? Would a man be a "man" if he was not "defective", or if he had only "reason" or only "passions"?

In contrast to views based on these abstract, undefined words, the view presented in this chapter suggests a way of defining human behaviour without attaching to it any normative connotation. Yes, the model does imply that people may go to wars and commit crimes. And yes, these acts can be defined as matters of "passion", if passion is defined as the reaction to unexected changes in one's status in the society. But no, no distinction can be made between "reason" and "passion", if by "reason"
one means all the beneficial inventions, discoveries and innovations that people have made (as Spinoza suggested), since the reaction to unexpected changes in their status led people to make them, and so "reason" and "passions" become synonyms.

According to Rousseau man's behaviour, which the aforementioned writers have taken as cause, is in great part determined by the society in which he lives, and "society" is a political organization. Thus, the major causes of war should stem from the state system itself. Bernard (1944), a sociologist, wrote that one needs to know what dangerous social conditions actually to correct in order to prevent wars, while Mark May (1943) wrote that in order to have peace one must learn loyalty to a larger group, and before one can learn loyalty, the "thing" to which one should be loyal must be invented (this is a rather abstract suggestion: how will people know that what one human mind will invent (or gamble on) will be "the" thing to which they now should be loyal? Remember that Hitler did offer such a "thing").

Durbin's and Bowlby's (1939) views seem closest to the model presented here since they have argued that war is due to the expression in and through group life of the transformed aggressiveness of individuals, that personal character derives from environment as well as from inherited nature and, that it may be possible to change the character of adult behaviour by changing the environment in which one unchanged hereditary element develops. In the model presented here the change in the wealth distribution lead people to become more willing to gamble on new ideas, on going to war in particular (call it "transformed aggressiveness"?), the goal of self-preservation is our "unchanged hereditary element", and behaviour can be changed if customs or taxes exist which keep
Conclusions

Two clear cut implications can be made with respect to wars. First, that the probability of a war increases when one nation "over-takes" another: such shifts have destabilizing effects. Second, there is a mechanism which induces the losers to recover quickly, and this mechanism is not because the winners help them; such help may only slow down the rate of recovery. These two predictions seem to be supported both by the statistical and the non-statistical evidence that is available.

The model also makes it clear what is the role of policy makers in situations when the probability of war increases. Recall that this probability has increased because people became more likely to gamble on ideas which could help them restore their relative position in the wealth distribution, national or international. New ideas will be offered by many people, and a priori one cannot tell whose ideas will the population find most appealing, one's who offers the strategy of war, or another's who offers the strategy of peace.

This conclusion is in contrast with Organski's and Kugler's (1980) who wrote that policy makers "along with the rest of us, are merely actors, speaking their lines on cue without being able to change the script" (p. 221). Yet this conclusion is not based either on their analyses or their findings: in their empirical analyses they have only analyzed situations in which wars did break out. Thus, they could only learn something about the relative relevance of the three traditional
models that explained wars, but not on the role of individuals. In order to learn something on their role, Organski and Kugler had also have to look at the number of times one nation "passed" another, but no war occurred. Instead peaceful solutions seemed to be found. The explanation for this difference stems exactly from the role the individual, on whose ideas the population gambles, plays.

Last, but not least, two methodological points. Wars have not been analyzed in this chapter either from an "economic", "sociological", "psychological", or the "political scientists'" approach. This methodology, of avoiding the currently popular classifications is not as unusual as it may seem at first sight. Marc Bloch, in his unfinished notes, wrote more than forty years ago: "As for homo religiosus, homo economicus, homo politicus, and all that rigmarole of Latinized men, the list of which we could string out indefinitely, there is grave danger of mistaking them for something else than they really are: phantoms which are convenient provided they do not become nuisances. The man of flesh and bone, uniting them all simultaneously, is the only real being" (p. 151). Thus, realizing that for men of "flesh and bone" wars begin in their minds (as all acts do), war has been examined by looking at the circumstances in which people may either think of (i.e. gamble on) a strategy of war, or change their mind and gamble on that of peace.

The second point: as Organski's and Kugler's (1980) study makes it clear, there is not much data available to test various hypotheses concerning wars. Thus, it may be difficult to distinguish between various theories that can explain only wars and nothing else. The
model presented here has the relative advantage that it makes numerous predictions which are not related to wars only and can be (and have been) more easily tested. Would one find that a wide range of evidence seems consistent with the predictions of the model, one could use the model with greater confidence -- the rest of the chapters in the book concentrate on presenting and discussing the evidence.