War and Society
Introduction

Branislav L. Slantchev
Department of Political Science, University of California, San Diego

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1 The English vs. the Dutch and the World

The Dutch against the English. The rising naval power and resulting commercial influence of the Dutch Republic caused much concern in England, and the two states fought their first war in 1652–54, which the English won. This war was started by the Rump Parliament, continued by the Barebones Parliament, and concluded under the Protectorate. In it, the Parliaments of the fledgling (and, as it will turn out, short-lived) English Republic pursued a ruthless mercantile policy of using the power of the state (the navy in particular) to secure commercial interests of the elites. The second war, 1665-67, would not be such a one-sided affair. The Dutch Republic had not renewed the office of Stadtholder and had entered its "True Freedom" period, wherein its federal "parliament" (States-General) had embarked on a program of naval expansion financed first by customs dues but later on by taxes. England, on the other hand, had seen the restoration of the Stuart monarchy in the person of Charles II in 1660.

Despite its maritime prowess, the Dutch Republic and its fragmented bourgeois government had been regarded with contempt by monarchies (France), aristocratic republics (Venice), and even the Commonwealth (England). It was thought weak and incapable of providing for military defense because of its preoccupation with trade, commerce, and money; because its mutually jealous constituent states could not coordinate a common foreign policy when they lacked a common enemy (like Spain had been); because its internal divisions into those that supported the Orangist cause and those that opposed it would create a deadlock at the federal level of decision-making; because without aristocrats, the Republic lacked natural leaders, and the merchants lacked both courage and honor; and because the focus on material wealth was detrimental to character and inimical to victory. In other words, whereas the English had surprised everyone by besting the (largely unprepared and woefully under-strength) Dutch Republic in their first war, now most observes thought that monarchical England would have no trouble thrashing republican Netherlands.

The English had scored their victory in the first war because, starting in 1649, the Commonwealth had built a new, and very capable, fleet of capital ships that were far larger and had more firepower than anything the Dutch could put into service. The expense of building and maintaining a navy with capital ships was horrendous.[1] It had been this expense that had deterred the Dutch from upgrading their navy, and in fact they had proceeded to sell most of it off after the conclusion of the Thirty Years War in 1648. The Dutch, however, had learned from their inadequate performance in 1652-54, and had set out to modernize its fleet. They also studied the inventive British tactics of battlefleet, and imitated their success. When the new war came in 1665, the English faced an opponent very different from the first one.

The opening phase of the second war, however, looked like a repeat of the first, and seemed to vindicate English aggressiveness (they had essentially precipitated the war by snatching New Amsterdam — now known as New York).[2] At the battle of Lowestoft on June 3, 1665, an English fleet of 137 ships with 4,192 guns and 21,006 men defeated a Dutch fleet of 121 ships, 4,869 guns, and 21,631 men. The Dutch lost 17 ships, 3 admirals

[1] Jones (1996, 38–9).

[2] Following battle statistics are from Clodfelter (2008, 43–5).

(including the commanding Obdam), and 5,000 sailors whereas the English lost only 1 ship and 250 seamen (1 of whom was also an admiral). Observers believed that this disaster had again exposed the weakness of the republican government, and predicted the rapid collapse of the Dutch.

Instead, the public in the Dutch Republic rallied to the cause. Even the inland provinces which did not particularly wish for a war with England sent in their contributions to the States-General. New ships rolled off the docks, and the government was able to produce men and money at rates that the English monarchy could not match. In sharp contrast to the English navy, which still relied on press gangs to force sailors into service, the Dutch lured their seamen by raising wages to an unheard of 30 guilders per month. Military expenditure of the republic increased by 250% from its prewar level, and the national debt shot up as the government poured more resources into the military effort.[3] The inefficient system of having five separate admiralties manage "their" respective navies was taken over by the States-General, which marked the transition to a true national navy, at first funded in the traditional way through customs duties but increasingly from taxes levied by the federal government.[4]

These renewed efforts produced a spectacular victory for the Dutch in June 1666 when their fleet of 84 ships, 4,600 guns, and 22,000 men inflicted the worst naval defeat that the British navy has ever suffered. Of the 79 English ships (with 4,500 guns and 21,000 men), the Dutch destroyed 7 and killed about 2,000 seamen. The battered remains of the English fleet retreated up the Thames, which the Dutch promptly blockaded. Despite showing the resilience of the republic, this was not a decisive victory because in August, the English regrouped, broke the blockade, and inflicted the worst defeat for the Dutch navy it had suffered in turn. At the cost of just 1 ship and about 300 sailors, the English managed to destroy 20 out of 89 Dutch ships, and kill 4,000 seamen, and 4 admirals! The English also proceeded to burn 130 merchant vessels and sack a Dutch island. This inflamed passions in the republic, and even though the two warring states opened peace negotiations at Breda, the Dutch were smarting for a revanche.

Their chance came in June 1667 when the English fleet failed to set out, in part because of the peace negotiations in Breda, but mostly because of the dire fiscal and credit straits that Charles II had to deal with. The war was proving exceeding costly, and while the English proved capable of winning spectacular victories, it was the Dutch who "had the money, munitions, and stores to keep on fitting out their fleets, [whereas] Charles II and Parliament were unable to keep it up."[5] While Parliament had voted £2.5 million for 1664-65, the money was not enough, and the next vote of £1.25 million in November 1666, was earmarked to clear the debt accumulated during the war. Although this was essential in order to shore up government's credit, it left no cash for supplying and victualling the navy. Contractors refused to provide supplies; without work in the dockyards, the workers left (and carried away some of their tools as compensation for not having been paid); the sailors got discharged without pay (with promisory notes that they could not hope to redeem and which they sold to influential people who could use their political connections to get them

[3] Israel (1995, 769–71).
[4] Jones (1996, 40).
[5] Israel (1995, 773).

honored at full value); crews were so demoralized that when the Dutch attack came many of them abandoned their posts or surrendered. Without sufficient funds from Parliament, Charles II was forced to rely on his own income from customs, but French and Dutch privateering had cut deeply into trade, and customs revenue had collapse to one third of its prewar level.[6]

The Dutch seized the initiative and on June 9 launched a daring raid up the river Medway toward the heart of English ship building, the dockyards of the naval base Chatham. They burned several ships and towed off the flagship, *The Royal Charles*, an embarrassment to the Royal Navy, a trophy of which can still be seen today in the Rijksmuseum in Amsterdam. Even though the Dutch did not destroy Chatham (which would have been a complete disaster for the English), and even though the physical losses from the raid were relatively modest (the English did sink more of their own ships to prevent their capture), the psychological impact in England was great. The Crown was embarrassed by its apparent inability to secure such a crucial military installation and the whole Thames valley had panicked at the possibility of a Dutch invasion. The uproar over the raid, the continuing fiscal debility, and now the crippling of the fleet (which would require even more money to restore) moved Charles to negotiate in earnest in Breda, and the peace was signed on July 31, 1667. The English had lost, and although they were allowed to retain New Amsterdam, the Dutch got to keep Suriname. England not only failed to knock off the Dutch Republic's maritime and commercial supremacy, it had to revise its own anti-Dutch Navigation Act to be more favorable to the republic.

This defeat deprived Charles II of the tenuous Parliamentary support for future aggression against the Republic. He tried to overcome this by allying himself with the French Louis XIV for another war in 1672-74, in which the Dutch Republic had to fight not only the English at sea but a much more dangerous coalition of France, Sweden, Münster, and Cologne. Although the Dutch call 1672 the "Year of Disaster", the Republic managed to cobble together an alliance with Austria, Brandenburg, and Spain, and survive this near-death experience. As for England, Parliament finally forced Charles II to abandon the war after just 2 years of costly fighting. Parliament was probably not very amused by the fact that Charles had his junior ministers lie to Parliament when they requested money in 1670-71, ostensibly to strengthen the Triple Alliance with Sweden and the Dutch Republic against Catholic France, but in reality to be used against the Dutch.[7]

Thus, in the span of a decade, England had suffered two humiliating losses at the hands of the Dutch, who had less than a third of its population and about third of its GDP, and who also had to fight off rapacious neighbors at sea (Denmark, Sweden) and on land (France, Cologne), while simultaneously protecting far-flung commercial interests and outposts throughout the world.

Contrast this with Britain's performance in the Seven Years War (1756–63) when it faced, in alliance with upstart Prussia, a long list of opponents. This was the first world war: Britain fought France in North America, in India (where most of the fighting was done by the two belligerents' East India Companies), and on the high seas, where it later also faced Spain. In Europe, it funded its ally Prussia (and Hanover) to fight France, Saxony, Austria,

[6] Harding (1999, 91).
[7] Jones (1996, 10–11).

and Russia.

In this war, Britain fielded over 167,000 men in arms (about 75,000 of them in the navy), and spent on average over £18 million per year. Since it was only getting about £8.5 million in tax revenue, the British government had to finance the rest through massive borrowing. The national debt soared from £74.6 million before the war to £132.6 million after the war. Even allowing for (modest) inflation over the period, the contrast with the experience in the Anglo-Dutch war cannot be more striking.

The Royal Navy started the war with about 277,000 tons to the French navy's 162,000, but by 1760 the British had far outstripped their rivals, with tonnage of 375,000 tons to their 156,000. The British also subsidized Prussia to the tune of 27 million talers, when Prussia's escalating tax revenue reached 43 million.[8] Britain had ejected France from America and India, and swept both it and Spain from the seas. Unfortunately, this war also laid the foundations for the next one: Britain became politically isolated with no friends in Europe (since it had abandoned its only ally in the final stages of the war after a change of government in London). It needed more money to deal with the massive debt and to fund the security of the newly acquired colonies. This put the government on a collision course with its American subjects, and only 12 years after the victorious conclusion of the Seven Years War Britain would find itself in an even more expensive struggle — the American War of Independence. From 1775 to 1784, Britain fielded over 190,000 men (82,000 of them in the navy), and was spending over £20 million per year (with taxes bringing in a bit over £12 million). The debt doubled again, from £127.3 million before the war to £242.9 million after the fighting was over.[9]

Why am I telling you these stories? In the late 17th century England had trouble dealing with a single opponent that was a third of its size in population and economy. Less than a century later, Britain was able to face nearly the entire Western world and emerge victorious. While its population had grown, it was still less than 8 million to France's 21.5 million in the middle of the 18th century, and while its economy had also grown, its GDP (10.7 million constant international dollars) was about half that of France (19.5 million). Adding the Austrian, Spanish, Russian, and Saxon resources to France just makes the disparity so much more glaring (Prussia was very small in both population and economy). By the logic of numbers, Britain should not have won this war, at least not as thoroughly as it did.

Perhaps surprisingly, the British were also not better ship-builders: they were very impressed with the French ship designs, which they could take a very close look at when they started capturing their ships. The French ships were more advanced, and the Royal Navy started to imitate those designs during the war. They were also not superior tacticians, as the initial engagements in the New World — where the French and their native American allies were usually victorious — showed. However, they were fast learners in that as well, and their adaptive strategies did manage to turn the tide of the war eventually.

The last word, "eventually", is key here: unlike their war with the Dutch, when the English could not overcome the relatively modest losses inflicted on them by their opponent and had to sue for peace, in this war Britain had tremendous staying power. It could absorb

[8] The war was very costly for Prussia. Frederick II depleted the 13 million taler reserve, debased the currency three times for another 29 million, and stripped the conquered lands of Saxony and Silesia for another 53 million. See Duffy (1996, 95-99).

[9] Brewer (1988, Table 2.1, p. 30).

early losses, learn from its mistakes, regroup, rearm, and come back to deliver devastating attacks that its opponents could not recover from. The key difference, I suggest, was that the British state was able to extract enormous resources from its population in taxes and debt and was further able to convert these resources quite effectively into military power. The fiscal and administrative institutions that had evolved in that intervening century turned out to be crucial for Britain's change of military fortunes, and as we shall see, these changes went hand in hand with the drastic political innovation of 1688. It is the study of such changes — their causes and their effects — that is going to concern us in this course.

What are we going to do in this class? The topic of war in itself is enormous and could easily require a lifetime of study. The topic of society… well, let's just say that it makes the topic of war seem manageable. It might perhaps be easier to say a few words about what this course is not going to cover. First, it is not military history, at least not in the traditional sense of that discipline. We shall not study campaigns, battles, tactics, and logistics, nor shall we study the lives and thought of great military commanders. To be sure, we shall encounter many of those, and we shall analyze some effects of campaigns, some aspects of the organization of military forces, and certainly the development of military technology, but this is going to be the extent of it. Second, this is not historical sociology. We shall not really look at development of social institutions generally although we shall take a closer look at those institutions that are particularly relevant for or are influenced by war-making. This is a political science course, and correspondingly the emphasis is going to be on the political aspects of war-making. Unlike a traditional course on international relations, however, we shall not study the interaction *between* belligerents in great detail, focusing instead on the interaction *within* belligerent societies. Let me explain.

2 Resource Extraction and Compliance

The one thing that war requires is resources or, to be more precise, the ability to mobilize re-sources for fighting. These resources can be manpower (soldiers and civilians working in sup-porting the soldiers), raw materials (necessary to produce weapons, ammunition, sup-porting infrastructure, food), economic (organization of production and supply), political (coordination among diverse political groups to enhance the war-making ability of society), societal (maintaining broad support despite sacrifices), and financial (money to pay for all necessary activities). **Resource mobilization** is perhaps the determining factor in all but the shortest wars, and so we will focus on the following question: how do societies pre-pare for and fight wars? An immediate follow-up question is: how does war change these institutions?

Answering such questions turns out to be a fairly involved task. We shall adopt a sim-plified perspective according to which rulers (governments) who decide on war-making have to extract the requisite war-making resources from the societies they rule over (gov-ern). Generally speaking, there is always more wealth in society than rulers, even the most "absolute" ones, can tap into. Wealth extraction can be done through pure coercion — rulers can use the military and police powers at their disposal to force compliance with their extraction policies. Although likely to produce some compliance, coercion is very costly and very dangerous — it can not only provoke serious resistance but it can empower the coercive apparatus with respect to the ruler as well, making him fully dependent on that

force.

Since rulers often have very little insight into the real wealth of their subjects, they have to rely on their cooperation to disclose their ability to pay. Needless to say, when coercion is the method of extraction, such voluntary cooperation is not likely to be forthcoming. Subjects will simply pay what they can get away with. A ruler who can motivate the subjects to pay would do much better. As we shall see, motivating people to part with their resources is tricky. The ruler's legitimacy and the perceived fairness and justice of his policies can play a large role in the individual decision to support those policies. This ideological motivation can be quite effective, especially if it results in social pressure to conform. This is why rulers have often spent considerable time and resources in propagandizing their rule, their successes, and their benevolence.

One look at medieval Europe and one could be quite puzzled by the apparent willingness of kings and princes to let the Church become stunningly wealthy while remaining essentially untaxed (despite "voluntary gifts" the clergy would often donate). It is puzzling because the Church did not dispose of its own armed forces (except the Papal States, but even those were militarily weak) and certainly could not provide an effective military opposition to a determined secular ruler. The answer is two-fold. First, the universal domain of the Roman Catholic Church made it possible to organize political (and occasionally military) resistance to monarchical encroachment by mobilizing support throughout Europe. Although these supporters almost always had their own, quite irreverent secular agendas, the Church could provide a convenient pretext for them to rally as "defenders of the faith". Second, and I would argue, more importantly, the Church provided a legitimizing platform for the rulers, which enhanced the loyalty of their subjects, and thus their willingness to cooperate by paying taxes. This is why a schism in the Church (Protestantism) was so disruptive — some princes would seize the opportunity to escape Rome's reach by converting to the alternative faith and then demanding that their subject do so as well. If they could also put themselves in control of this new faith (like the English Crown did), then it could also claim some of the income traditionally reserved for the Church.[10] More importantly, they could legitimize themselves and their policies without having to worry about the opinion of an external agent. This is why the rise of alternative ideologies — ideals of the American and French Revolutions, then of Communism, and then of Fascism — could be so seductive for rulers who could dispose with the need for an external legitimizing agent (this usually also tended to involve either the taxation of the Church or outright expropriation of the wealth that the ruler could reach) and rely instead on an ideology that was legitimized internally, either by the social and economic system the ruler promoted and represented, or by the institutional means he used to gain power.

At any rate, while ideology could go some way toward explaining the willingness of subjects to cooperate with the ruler in raising resources, it certainly does not go far enough. There is a good reason the IRS has such extensive surveillance and enforcement powers: without them, the individual incentive to pay taxes might not be strong enough to outweigh the incentive to evade them. The threat of punishment when caught works as a straightforward deterrent — even if the risk to the individual taxpayer is low, the costs of getting caught can be significant, and if they are high enough, even the small risk will be enough

[10] For an informative view of the fiscal effects of the Reformation in England, see Sacks (1994, 38–9).

to induce one to pay. The threat of punishment has a more important effect, however; it makes it more likely that *others* will be paying their fair share, and in many situations this motivates people to pay their own as well. We shall explore this in some detail later, but for now let me just say that we tend to cooperate when we think others are going to cooperate and when we think the burden is shared fairly. The role of the IRS here is to persuade an individual taxpayer that everyone else will be paying, thereby activating our social desire to cooperate. This increases the perceived benefit of cooperation and the taxpayer can be induced to comply even if the individual risks arising from evasion are not too high.

We are also more likely to cooperate with the ruler if we believe that our money is being spent appropriately. From ancient times, the traditional functions of government were defense, justice, and enforcement of property rights. Over the past two centuries, governments have added an increasing list of services they supply to their subjects: healthcare, social welfare, environmental regulation, education, and so on. Of all such functions, defense is probably the least controversial — here I mean defense in the sense of fighting an invading army, not in appropriating money for the Defense Department. (The branch of government dealing with war-fighting was usually called a "War Department" or something similar. Renaming it to "Defense", now an almost universal practice, has always been a simple political move to enhance its legitimacy. For some reason, we have not been able to avoid war even though everyone is only defending themselves.) As we shall see, rulers have generally been able to secure more compliance when they needed to raise resource to defend their subjects. These policies also have the added benefit of increasing the likelihood that others will contribute, and as a result increasing the individual incentive to cooperate as well.

More generally, policies that subjects like, coupled with the incentive to contribute created by the threat of enforcement and the perception that others will contribute, create **quasi-voluntary compliance** that is a mix of coercion and individual cost-benefit calculations that favor cooperation. This approach will help explain the apparent puzzle in which after the Glorious Revolution Britain was thought to have the most constrained government in Europe (compared to the "absolute monarchies" of France and, later, Prussia), and yet British citizens bore the heaviest tax burden; willingly paying a percentage of their wealth that would have caused the "oppressed" taxpayers on the Continent to revolt! Even today, the US is thought to have a "weak" government, at least compared to supposedly intrusive authoritarian regimes. But in fact, the US government is among the "strongest" in the world if one judges by its ability to get into the pockets of its citizens. The secret to this ability is precisely the successful creation of quasi-voluntary compliance, and, as we shall see, it nearly always has military origins in war.

Depending on the military power under their command and the institutional environment in which they operate, rulers will employ different approaches to securing the compliance of their subjects. Both pure coercion and pure ideology are very rare, and quasi-voluntary compliance involves implicit or explicit bargaining with subjects. In other words, *the ruler's ability to mobilize resources depends on the political bargains they can negotiate with their subjects.* Thus, our focus is going to be on the political institutions that constrain the rulers and that rulers might seek to reform, sometimes involuntarily, in their effort to fight a war. We shall also seek to analyze the longer-term effects of such changes. Since these bargains depend on the context in which they take place, we shall have occasion to discuss the various

forms of resource extraction and revenue collection rulers have used, the technology of war-making that influences the types of wars fought and their costs, and the evolution of armed forces. In all of this, however, we shall remain cognizant of our primary task, which will be to analyze the symbiotic relationship between politics, war, and the (inevitable?) growth of government.

3 Theory and Explanation

The first third of course is devoted to developing analytical concepts and theories that we shall use to organize our thinking about the historical cases. Why are we doing that?

The most obvious problem with history is that there are too many variables one could potentially look at. Which are important and which can safely be discarded? How do we decide? The answer is that we need a "guide" to selecting variables. This is what **theory** does: it tells us how some variables interact with each other to produce the outcomes we seek to understand. Notice that the selection of theory depends on the target: what is the question we seek to answer? The question is usually something that confounds our expectations, something that we do not understand, and so something that needs to be explained. Theory provides the answer in the form of a **mechanism** that establishes a causal chain between the variables and the outcome.

Consider a hypothetical example. Suppose we observe a statistical correlation between war initiation and high unemployment. Our hypothesis would be that high unemployment causes wars of aggression. We now need a theory that provides the mechanism that links the explanatory variable (unemployment) to the explanandum (war of aggression). We can hypothesize that high unemployment (a) causes social unrest that could be channeled toward an enemy, (b) causes governments to expand employment in armament industry — reduces unemployment and is justified by attributing hostile intent to enemy, (c) causes governments to search new markets to encourage producers to hire workers — aggressive foreign policy, (d) gives rise to populist leaders who are more aggressive in foreign policy. We could now use this theory to check whether the cause has the hypothesized effects which in turn produce aggressive wars. But we could also continue to refine the theory by opening up (d): why would high unemployment bring populist leaders to power? We could theorize that (d-1) the natural clientele of populist is more likely to vote (or engage in political behavior) when its opportunity costs are low — which they will be when unemployed since there is no income to forego; (d-2) populists are more likely to promise instant solutions to unemployment; (d-3) populists offer to punish those that the unemployed believe to be responsible for their plight. Again, each of these hypothesized effects can be checked against data. But we do not have to stop there: we could want to know how those "guilty" for the plight of the unemployed are identified and punished. We might hypothesize that (d-3-1) the wealthy would be worried about the security of property rights and so would be willing to strike deals with the government in which they relinquish some of their wealth in return for protection — redistribution toward the unemployed; (d-3-2) they might support the leader in aggressive foreign policies that blame the enemy in an effort to deflect attention from themselves. These hypothesized effects would predict that high unemployment would be associated with some internal redistribution of wealth and with propaganda vilifying an external enemy. The latter can lead to crisis escalation and, possibly, war.

For a mechanism to be of any use, it has to go beyond providing a list of variables and effects. Since the phenomena we are interested in here (e.g., war) are all ultimately produced by the behavior of people, a mechanism should be anchored in individual behavior. In other words, it should tell us why the relevant agents acted in particular ways in given contexts. But how do we understand individual behavior — generally, we do so by **rationalizing** it. That is, we take the observed behavior we seek to understand, and then attribute some preferences and beliefs to the individual that engaged in it such that this observed behavior is expected to contribute to the welfare of that individual as defined by his beliefs and preferences. We assume that individuals are "rational" in the sense that their actions are purpose-driven so that individuals tend to behave in ways that are supposed to enhance their well-being. How individuals define well-being and how they analyze their environment depends on their preferences and beliefs. The actions they can choose from depend on the context in which they act and the information they have; that is, on institutional and informational constraints. An idealized "rational agent" always chooses the optimal course of action, with "optimal" defined as the course most likely to deliver on the desired goals.

All of this is purely hypothetical: we use observed behavior to infer preferences and beliefs that make this behavior optimal given the constraints. We then explain the behavior by saying that it must have been the result of the purposeful pursuit of the goals we attributed to the individual. This sounds suspiciously ungrounded in reality, and it would be without some means of testing the various connections this mechanism requires in order to make the causal chain work. The virtue of having the theory is that it tells one which variables to look at, how they should change, and what their effects should be — all of this can be subjected to empirical testing (observational or experimental). We could attempt to ascertain the preferences and beliefs the relevant individuals had to see how closely they match our assumptions about them. We can go further and ask whether it is *reasonable* for the individual to have held these beliefs given the information this individual had at the time. We would also attempt to analyze how closely the constraints we assumed are matched by the context in which the individual had to act. Matching closely these factors would give us confidence that the mechanism we postulated is, in fact, explaining behavior. We could say that we understand it because we can rationalize the behavior of the relevant individual with some confidence.

Why focus on rationalist explanations? For starters, people *want* to be rational in the sense we've been using the word. They want to have "good" reasons for their behavior, which is why they often "rationalize" them after the fact by pretending to have had goals or beliefs that would make their behavior reasonable. More importantly, we rely on this sort of reasoning all the time when we want to make sense of the behavior of others and when we want to predict how others will react. In fact, when we fail in these predictions we are apt to characterize the surprising behavior as irrational.

This is not to say that "irrational" behavior must be unintelligible. For example, strong emotions might short-circuit decision-making and cause individuals to rush into actions they otherwise would not have. Shame might cause one to commit suicide; fear might cause another to jump out of a burning building. Desire for revenge might motivate actions that are exceedingly costly personally with little objective benefit even if they succeed. (In these, however, some element of ratiocination might remain if the individual still chooses the course of action that is most likely to cause the desired result.) Weakness of will is often

behind failure to lose weight or, in some cases, quit smoking. Wishful desires bias belief formation, causing individuals to stop searching for better solutions or more information, or to discard information contrary to their desires. There are many other psychologically motivated biases in decision-making that might produce actions that fall short of the optimal. Going into psychiatric explanations, there are also the various obsessions, phobias, delusions, and so on. Any of these can make behavior intelligible, so why should we privilege rationalist explanations?

The main reason for that is that irrationality can "explain" too much too easily. People often attribute puzzling behavior to irrationality when in fact it could be perfectly rationalizable by factors they fail to consider. Take, for example, the Marxist hypothesis about *false consciousness*. According to Marxism, the proletariat does not have a shared interest with the capitalists in policies that enhance the well-being of the latter (because this could only increase the exploitation of the former). An example of such a policy, at least according to Lenin's view, would be "imperialist wars," that is, wars fought by capitalist societies over access to markets and colonies for raw materials. Since it is precisely the members of the proletariat who die is soldiers in these wars but only the capitalists stand to reap the profits, it is in the workers' interest not to support such wars. When the First World War broke out, many Marxists in fact expected the masses to recoil from service. Unfortunately (for theory and for the masses), the opposite happened — not only did proles from one country enlisted in their armies, in many cases voluntarily, but they did not seem particularly reluctant to kill "fellow" proles from other countries with whom they supposedly shared interests in overthrowing capitalists. This was a clear divergence from behavior that class interest would dictate. The theory was "saved" by the notion of "false consciousness" according to which the ideological control of society by the bourgeoisie and nobility has blinded the proletariat to its true class interests. The proles either do not know that interest (because, for example, religion tells them what the "natural order of things is") or they do but choose to disregard it because they are promised to enter the ranks of the privileged. Whatever the reason, the proletariat's acting against the interests postulated by the theory is "explained" by amending the theory to essentially argue that the proletariat is deluded. (A much simpler explanation would have been that the theory is wrong.) Thus, according to Marxist theory, the proletariat will act in its own interest except when it does not. Observationally, when we observe workers unionizing and striking, the theory is supported because it is in the interests of workers to force the capitalists to share in the surplus their labor creates. When we observe workers acting in concert with capitalists to thrash other workers and their capitalists, the theory is supported because they are acting out of false consciousness.

There is no possible behavior that the workers can engage in that can *falsify* the theory, even in principle. This means that we have to take the theory on faith — there simply exists no sort of evidence that could potentially disprove it. But if the theory were wrong, how would we then know this? In the above example, we could not. This renders the theory useless as an explanatory device: everything that does not conform to one postulate conforms to another in the same theory. We shall require our theories to have a property known as **falsifiability** — meaning that if the theory is false, then there does exist some sort of evidence we can obtain either by observation or by experiment that would demonstrate that. Without false consciousness, Marxism is falsifiable — the evidence of workers failing to act in their class interests would show that the theory is wrong. With false consciousness, Marxism

is unfalsifiable since all evidence is consistent with the theory. It is not that one should discard a theory at the first sign of non-conforming evidence — that would be naÃŕve. One can always seek to amend the theory to account for any new evidence in addition to all the evidence it could previously handle. However, when such an amendment goes too far — like false consciousness does — it can render the resulting theory unusable.

Rationalist explanations are in a way *minimalist explanations* because they are the ones most readily falsifiable. This makes them particularly suitable for hypothesis testing, which allows for accumulation of knowledge and verification. Explanations that rely on irrationality do not have to be non-falsifiable (although some of them are). The problem is that they are too convenient and so might lead to ignoring the actual mechanism. It is all too easy to say "oh well, he acted out in anger" instead of searching for other causes explaining puzzling disregard for one's own safety. In fact, the ability to mimic irrational behavior for rational reasons should give one further pause before reaching for such explanations. If an individual "acts crazy" for the purpose of convincing others that he is crazy (meaning that they cannot rely on usual cost-benefit reasoning to predict how he would act), he is not really crazy — provided the others believe him and adjust their behavior accordingly. He is cunning, he is strategic, he is supremely rational in choice of action given his goal.

To give a specific example, how are we to understand the 2003 Iraq War or, more specifically, how are we to understand the behavior of Saddam Hussein. In the light of the outcome of the 1991 war over Kuwait, the subsequent degradation of the Iraqi armed forces, and the continued improvement of the US military, it would appear nearly certain that a war with the US would have inevitably ended in the overthrow of the Iraqi dictator. So why pursue policies that clearly tilted the US toward war and, more importantly, why persist after it became clear that the US will, in fact, invade? One answer is that Hussein was irrational, so these calculations simply did not enter his mind. He might have put his faith in God or in his own genius. This, however, sounds more like a label than an explanation. One could instead argue that Hussein made a mistake because he was misled as to the true state of his military by advisors who were too afraid of him to reveal just how much it had deteriorated. This would have given him false optimism and encouraged him to resist. (Similarly, he might have expected the US to be incapable of forming a grand Coalition of the 1991 type — which was correct — and thus be reluctant to fight on its own — which was incorrect.) This explanation would rationalize his behavior by showing that it was reasonable given the information he had at the time. An even stronger version would argue that even while there was no uncertainty about the military outcome of an American invasion, there was far more uncertainty as to the fate of subsequent pacification — would the Americans have the stomach to stay and fight for years on end an enemy that mingles with civilians and that cannot be readily identified and defeated in pitched battle? If Hussein could survive the initial onslaught and then organize national resistance to the occupying forces, then resisting the US makes sense especially if failure to do so would expose the weakness of the dictatorship and make Hussein's overthrow nearly certain. This type of explanation rationalizes his behavior by showing that he took a calculated risk, a risk that actually made sense despite the overwhelming military superiority of the United States. Even though he eventually failed, the behavior had been reasonable. Which of these (or the myriad alternative) explanations is valid depends on the assessment of the facts and how closely they track the connections identified by the various theoretical mechanisms.

A final word about theory: it is *not* a full description of reality. It cannot be: the closer it gets to reality the less useful it becomes as a means of understanding that reality. The power of theory is in that it abstracts away from the complex real world and attempts to reduce its vastly complicated interrelationships to a small set of manageable variables and connections. In this, a theory is like a map. How useful this simplification is depends on the purpose (which determines how much detail you can omit without producing a useless map) and how good the theory is (it includes all the variables it has to in order to produce reliable predictions about their effects). Neither of these is really known *a priori*, so each theory is essentially a bet that its particular formulation would be useful.

Each theory is then "valid" while it continues to be useful. It is not discarded when one encounters contradictory evidence, especially if there exists no alternative that can take its place. The theory can be modified to account for that new evidence although care should be taken that the adjustment is not ad hoc, meaning that the new version should handle what the old theory could plus the new evidence plus whatever new hypotheses it gives rise to. It is a tough order for a new theory to pass, which is why we have long used theories known to have "holes" in them — Newtonian physics is one example, Ptolemaic astronomy is another — they are good enough for most purposes and there was no viable alternative — until, that is, Einstein's theory of relativity and Copernicus' theory of Heliocentrism.

Going back to our map analogy: how useful would it be to have a map that is an exact representation of reality? For starters, it would be impossible to create one: it would have to be as large as the world it represents. OK, so the first "compromise" would be to reduce it to manageable proportions, say 1 to 5,000 (1 cm to 50 m), which would be useful for a walking map. Obviously, going that small means discarding a lot of detail. So what can we let go? It depends on the purpose of the map. If we want a walking map, then we should retain roads, paths, trails, some information about the terrain, and relevant markers. If we want a driving map, we need roads but can omit foot trails, we might want to include gas stations and rest stops, and so on. A walking map would not be useful in a city if we wish to use the bus, and a map of the bus routes would not be useful if we need to use the subway. In fact, anyone who's ever looked at a map of bus routes or subway lines would be familiar with the highly idealized schematic representation of reality they represent — nice straight lines with nice junctions at right angles and often stations equidistant from each other — in short, very little of reality has made it onto these maps. Yet they are far more useful for those trying to utilize the respective modes of transportation than a highly detailed physical map of the place or a nicely illustrated map of tourist attractions.

Theories work the same way: purpose determines scale and simplification. The trouble is that unlike a map — where purpose fairly clearly dictates content — no such useful guide exists for theories. We have to formulate them, produce tentative hypotheses, proceed to experimental and observational verification, then re-formulate as necessary. No theory is ever final (and that's a good thing) — theories are always the best we can do with the knowledge we currently have. This makes them tentative and subject to revisions. Theories that have withstood the test of time acquire the special status of scientific "truth" because we have yet to uncover disconfirming evidence. But this "truth" is not absolute, it is not dogma. It is no more nor less than a reflection of what's possible in our state of the world.

References

Brewer, John. 1988. *The Sinews of Power: War, Money and the English State, 1688–1783*. Cambridge, MA: Harvard University Press.

Clodfelter, Micheal. 2008. *Warfare and Armed Conflicts: A Statistical Encyclopedia of Casualty and Other Figures, 1494–2007*. 3rd ed. London: McFarland & Company, Inc.

Duffy, Christopher. 1996. *The Army of Frederick the Great*. 2nd ed. Chicago: Emperor's Press.

Harding, Richard. 1999. *Seapower and Naval Warfare, 1650–1830*. London: Routledge.

Israel, Jonathan. 1995. *The Dutch Republic: Its Rise, Greatness, and Fall, 1477–1806*. Oxford: Clarendon Press.

Jones, James Rees. 1996. *The Anglo-Dutch Wars of the Seventeenth Century*. Harlow: Longman.

Sacks, David Harris. 1994. "The Paradox of Taxation: Fiscal Crises, Parliament, and Liberty in England, 1450–1640." In *Fiscal Crises, Liberty, and Representative Government, 1450–1789*, ed. Philip T. Hoffman, and Kathryn Norberg. Stanford: Stanford University Press.