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Michael Mandelbaum

Excerpt

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The Nuclear Question

We find ourselves with an explosive that is far from completely perfected. Yet the future possibilities of such explosives are appalling, and their effects on future wars and international affairs are one of fundamental importance. Here is a new tool for mankind, a tool of unimaginable destructive power. Its development raises many questions that must be answered in the near future.... These questions are not technical questions; they are political and social questions, and the answers given to them may affect all mankind for generations.

Henry De Wolf Smyth, *Atomic Energy for Military Purposes: The Official Report on the Development of the Atomic Bomb Under the Auspices of the United States Government, 1940-1945*¹

The bomb and the international system

The history of the nuclear age is usually written with a tragic theme at its center. It begins with the discovery by scientists of the technique of liberating the stupendous energy stored in the very heart—the nucleus—of matter. The technique is then used to make explosives more powerful than any ever before known, and two of them are used against Japanese cities in the fateful year 1945. But national leaders, who control the fruits of scientific discovery, miss the chance to trammel this new power, to ban explosives based on it, and thereby to keep mankind safe from the perils of the atom. With this chance tragically missed the threat of annihilation is loosed upon the world.²

It is hardly surprising that the history of the nuclear age has been interpreted in this way. An unprecedented threat of annihilation has become a part of modern life. Nuclear weapons have the power to destroy more lives and property more quickly than any of the wars, natural disasters, or plagues of

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recorded history. They are the most powerful explosives that have ever been devised; indeed, unless the present understanding of the physical world turns out to be radically incomplete, they are the most powerful explosives that can be made by man.

The power of nuclear weapons can be expressed by numbers. One of the commonest kinds of nonnuclear explosives is TNT. The first two bombs, which struck Hiroshima and Nagasaki, were equal in force to about 20,000 tons of TNT. The TNT equivalences of the nuclear weapons that became standard fifteen years later are rendered in the millions of tons. So one such explosive – and the United States and Soviet Union both have thousands – exceeds in power all the bombs that all the allied powers dropped on all of Germany during World War II.³

Numbers are abstractions. The power of nuclear weapons can be described more graphically. Exploding shells are a particularly lethal feature of twentieth century warfare. They produced novel, startling, and grisly effects in World War I when they were widely used for the first time. A British soldier recorded a grotesque battlefield scene: “A signaller had just stepped out when a shell burst on him, leaving not a vestige that could be seen anywhere near.”⁴ A human being simply disappeared. Thirty years later a participant in another war witnessed a similar disappearance. But there was one important difference in 1945: What disintegrated was not a single combatant but an entire city. “The visual results of Hiroshima as seen from the ground were awe-inspiring and tremendous. A city of approximately 300,000 was essentially destroyed.”⁵

The devastation of Hiroshima could, in theory, have been accomplished without the atomic bomb. As Thomas Schelling has noted, “Japan was defenseless by August 1945. With a combination of bombing and blockade, eventually invasion, and if necessary the deliberate spread of disease, the United States could probably have exterminated the population of the Japanese islands without nuclear weapons Against defenseless people there is not much that nuclear weapons can do that cannot be done with an ice pick.”⁶

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But there is a difference between the kind of bomb used against Hiroshima and Nagasaki and all other instruments of destruction. “Nuclear weapons can do it quickly.”⁷ The history of warfare is a bloody and terrible history, but it is the history of conflicts that took their tolls in lives and treasure over days, months, and years. The annihilation of Hiroshima took place almost literally in an instant. The bomb exploded at 8:15 a.m. on August 6, 1945; the blast and resulting shock waves lasted only a few minutes, yet both they and the fires that raged in the hours afterward accounted for the “desert of clear-swept, charred remains,” the “vast expanse of desolation” that the city became.⁸

So numerous and so powerful are the nuclear weapons of the United States and the Soviet Union today that either could perpetrate several thousand Hiroshimas in a single afternoon. And this, as Schelling went on to point out, makes “the bomb” an entirely different military proposition from all other weapons.

To compress a catastrophic war within the span of time that a man can stay awake drastically changes the politics of war, the process of decision, the possibility of central control and restraint, the motivations of the people in charge, and the capacity to think and reflect while war is in progress. It is imaginable that we might destroy 200,000,000 Russians in a war of the present, though not 80,000,000 Japanese in a war of the past. It is not only imaginable, it is imagined. It is imaginable because it could be done in a moment, in the twinkling of an eye, at the last trumpet.⁹

Indeed, so drastic are these changes that they call into question the very purpose for which all weapons have been used in the past – the conduct of war. According to its foremost student, the nineteenth century Prussian soldier Carl von Clausewitz, war is always and everywhere “an act of force to compel the enemy to do our will.”¹⁰ In theory the violence builds to a terrible climax – a blind, furious explosion. In theory, war ends only when one party to it (or both) is crushed. The logic of war, as Clausewitz defined it, is Hiroshima, for nothing in its definition restrains war’s essential violence from attaining this extreme, which Clausewitz called “absolute war.”

But real wars do not become absolute. There are natural

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barriers that limit war's violence.¹¹ And there is a man-made barrier as well; the political control of force. This is expressed by the best-known phrase in Clausewitz's *On War*: "War is nothing but the continuation of policy with other means."¹² The phrase is both a statement of fact and an exhortation. Responsible leaders do keep control of their troops during battle. They try to tailor the force they expend to the goals they seek, rather than dispensing violence indiscriminately. To do otherwise would render warfare an absurdity rather than an extension of policy.¹³

The power of nuclear weapons is such as to challenge both the statement and exhortation in Clausewitz's dictum. It jeopardizes both the natural limits on violence, and the prospects for imposing further, political controls, that Clausewitz believed kept all actual wars from mounting to horrible, senseless, "absolute" extremes.

Such is the destructive force of nuclear weapons; awesome, revolutionary, frightening. It is a destructive force that existed before 1945 only in mythology, or in the contemporary equivalent, science fiction. It is a force so great that it is a kind of curse on its possessor. It is only natural to wish, as do historians of the nuclear age, that the world had been spared such force. It would be surprising to discover any other immediate reaction to the invention of these armaments.

But the wish begs a question: What would have been required to spare the world from having to live with the possibility of a nuclear holocaust? The nuclear curse might in theory have been lifted by turning back the advance of science that imposed it. But this was scarcely possible in 1945 or afterward. The modern world could not, and cannot, simply choose to forget the laws of nature whose discovery made possible the manufacture of nuclear explosives, as medieval Europe lost, although not by choice, much of the learning of antiquity.

Alternatively, again in theory, governments could have chosen not to use these discoveries to make weapons. But this self-restraint would have required nothing less than a revolution in international politics, a revolution that has often been

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hoped for and occasionally predicted, but that has never occurred. An unbreakable logical chain connects the structure of international politics with nuclear weapons. The individual nation – states of the world form a system. Their fates are joined together. With few exceptions they cannot carry on their affairs in isolation from their neighbors, or in ignorance of what other states do. But as well as being interdependent, they are independent. No central authority exists to guide and regulate their relations, to set rules for their interactions. The international system is “anarchic,” where anarchy means not chaos or disorder but the absence of formal organs of government to enforce order, as the instruments of the state do for domestic society.

The anarchic structure of the international system has a momentous consequence for its members. It means that with membership comes insecurity. The inherent insecurity of international life does not arise simply from the logic of their common predicament. Without an overarching authority, none can feel wholly protected from the threat of war. Because this is so, states feel obliged to prepare for war. They arm themselves, with the best weapons they can get. Since 1945 the most formidable weapons have been nuclear. States may worry about the devastation sophisticated armaments can cause. But they will also worry about what their neighbors will do if they themselves do not have these weapons. The United States and Great Britain experimented feverishly to produce atomic bombs during World War II because they feared that Germany was acquiring them. (Indeed, the Germans did start a nuclear weapons program.) After the war the mutual fear that the other would draw decisive political advantage from its arsenal spurred competition in nuclear weaponry between the United States and the Soviet Union.

A world in which no nation would take up arms, including nuclear arms, would have to be a world without insecurity. And a world without insecurity would have to be a world without anarchy. No state would finally renounce armaments without being certain that all other states would make the same renunciation. And no state could be certain of all the

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others as long as the others retained their sovereign independence. For nuclear weapons to be abolished, sovereignty would have to be abolished.¹⁴

This connection was recognized by one of the important figures of the nuclear age, the Danish theoretical physicist Niels Bohr. Bohr's scientific work helped to harness atomic power. The perils presented by atomic energy deeply troubled him. He carried on a personal campaign during the war to alert the leaders of the United States and Great Britain to these perils, and to persuade them to put the new force under international supervision. He wanted to remove atomic energy from the control of individual nation-states. He understood this would be a revolutionary development. He believed the revolutionary advance of man's mastery of nature represented by the bomb made not only necessary but feasible a comparable revolution in the world's political arrangements.

Bohr had a brief audience with Churchill in May 1944 to present his views. The meeting had no impact on the course of history. But it has a symbolic importance. It was the earliest moment when the most basic issue of the nuclear age was joined. The two men came from different worlds. Bohr was a man of science. His hope for putting atomic energy under an international authority bespoke his roots in the community of scientists, a community that operated according to principles quite dissimilar to the ones that governed the community of nations. No national barriers separated Bohr from his colleagues. Ideas flowed freely among them. Every new discovery became public property, to be shared by all. The community of scientists was a fellowship of openness and cooperation dedicated to a common enterprise—the pursuit of truth. Bohr believed the invention of the bomb offered the occasion for making over the international system in the image of this community.

Churchill did not share this belief. The British Prime Minister was in the midst of a brutal war, and had already spent a long lifetime in the treacherous pathways of international politics, whose code of conduct was altogether harsher than the one to which Bohr was accustomed. Theirs was a dialogue of the deaf. In fact, Bohr scarcely got the chance to open his

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mouth. There is no record that Churchill took what he had to say very seriously. As the physicist ruefully noted afterward, the two of them did not speak the same language.¹⁵

The meeting with Churchill was the first, not the last, hearing that Bohr's ideas received. After the war they attracted support that reached into the highest councils of the American government. They were incorporated into public proposals that the United States made to the international community. But the meeting was a portent of things to come.¹⁶ The international system did not change. Nothing remained as sovereign, the system of states as anarchic after World War II and after the dawn of the nuclear age as before. Why was this so?

The shortsightedness of American leaders is sometimes cited as the stumbling block to international reform.¹⁷ They had the bomb, and therefore they had both the opportunity and the responsibility for finding a way to control or abolish it. The Soviet Union has also come in for a share of the blame.¹⁸ The suspicious, narrow-minded Soviet leaders – or, perhaps more properly, the supreme Soviet leader, Joseph Stalin – rejected the proposals for international control that the United States did put forward without trying seriously to find common ground with the Americans. Both these changes carry some weight. But the difficulty of altering the very structure of international politics goes beyond the obstinacy of one or another set of political leaders. The resilience of the sovereign state has a primordial quality. The tendency of people to sort themselves into national groups and to claim wide authority for the governments of these groups has been a force of almost Newtonian power and regularity, as Hobbes and Rousseau, among others, have noted.¹⁹

Albert Einstein is supposed to have been asked once why man had had the wit to make bombs of unimagined power but could not order his political affairs in such a way that such weapons could never be used. The answer is simple, the great scientist is said to have replied: Politics is more difficult than physics.²⁰ Why this is so, why the natural world yielded to scientists while the political world resisted the efforts of political leaders, is a question that has no simple answer. That it is so is incontestable. It proved possible to release the energy

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stored in the nucleus of matter, impossible to reorganize the world so that the energy could never be put to warlike use. The nuclear age is the child of both politics and physics. It is, therefore, the product of the two most powerful forces of the modern age – science and nationalism. And since this is so, its history is not most appropriately understood as a lost opportunity for the transformation of international politics.

As J. Robert Oppenheimer, the scientific head of the war-time Manhattan Project, which produced the first bomb, watched the first atomic explosion in the New Mexico desert, a line from the Hindu epic, the *Bhagavad Ghita*, passed through his mind: “I have become Death, Destroyer of worlds.”²¹ But the atomic bomb, fearsome and terrible though it was, did not destroy the world of sovereign states. Nuclear weapons became part of an international system whose members had the power to use them. And because the anarchic world of independent nations was preserved, the most pressing of the “many questions” to which what became known as the “Smythe Report” alluded, the question around which the history of the nuclear age has revolved, became not how to *abolish* nuclear weapons but how to *live with* them.

How was the world to live with nuclear weapons? They were unprecedentedly powerful. And yet the direction in which the question led was not entirely unfamiliar. The threat of force and the possibility of war were, after all, as old as the system of independent but interrelated political communities that made such a threat ever-present. And over time, sovereign political communities had developed two instruments of statecraft for managing this threat. One was the art of using force – strategy. The other was the technique of resolving disputes, of transacting the business of the international system without resorting to force – diplomacy. Strategy has to do with wielding military force, diplomacy with talking. But there has always been more to each of them than just that.

The three questions of strategy

In making a strategy, a state must settle upon answers to three questions. What are the political purposes to which its mili-

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tary force will be put? How is that force to be deployed to serve those purposes? And how will the force be used once hostilities have begun?²²

The political purposes chosen by states have varied widely. Every state seeks security. But security is a highly variable concept. What it takes to make a state feel secure depends upon size, geographical location, domestic structure, and the character of the international milieu. And security is difficult to separate from the panoply of other political ambitions that a state can have, which includes conquest, domination, economic sway, religious and political evangelism, and the reform of the international system itself.

The answers to the second question of strategy, how to deploy force, follow from the answers to the first. These answers, too, have varied widely, especially according to geography and to the state of the military art. How a state has deployed its military might has depended on what political goals it has sought, where it has been located, and what forces have been available for deployment.

There is no pattern or formula that tells how states choose their political purposes, and none for the way they deploy their armed might, either. But the answers to the third question of strategy involve some general considerations. Like the definition of war, these come from Clausewitz. He acknowledged the impossibility of constructing a scientific theory of the political purposes of military force, or of its deployment. There were no hard and fast rules for actually fighting wars, either. But he did provide a set of categories for analyzing and comparing wars, categories that encompass the search for an answer to the question of how to use nuclear force.²³

Every war, according to Clausewitz, is not only a struggle between two political communities, or groups of communities. It is also, for each party, a contest between the violence that it can master and the natural limits to man-made violence that always keep real wars from reaching “absolute” extremes. The violence of war has three ingredients. The first is physical force. In Clausewitz’s day, before the industrial revolution made technology the crucial component, physical force was tied to manpower. A state’s military might de-

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pended upon how large an army it could put in the field. The second ingredient is morale. The more strongly motivated an army, the better it would fight. Clausewitz gave greater emphasis to the role of morale in war than did other commentators on military affairs of the time. The third ingredient of military violence is what Clausewitz called the commander's "genius for war." By this he meant skill at choosing the proper moment to fight and at inspiring and maneuvering troops.²⁴

The natural barriers that have historically modified the violence of war are also three in number. The first of them is the fragmented character of real wars. War never consists of a single blow. A commander cannot concentrate all his forces in a single spot, and pulverize the enemy with one mighty salvo.²⁵ The second is the natural superiority of the defense over the offense. "It is easier to hold ground than take it,"²⁶ and this diminishes the power that the attacker can bring to bear. The third barrier to absolute war is what Clausewitz termed "friction" – which is composed of the innumerable unforeseen and unpredictable difficulties that crop up during battle and that prevent plans from being fully translated into action.²⁷

Since every nation lives with the threat of war, each must respond, somehow, to the three problems of strategy. Like Molière's bourgeois gentleman, who discovered that he had been speaking prose all his life, every nation has found answers to the three. Every nation has had a strategy, which historians can reconstruct.²⁸ But not every nation has worked out its strategic policies coherently, self-consciously, or publicly. The political purposes to which most states have put force have usually remained more or less fixed, changing only very slowly, if at all. The deployment of force has often been a matter of custom and tacit assumption rather than explicit doctrine, and it, too, has changed only gradually at most times and in most places. The accepted methods of fighting wars have also frequently been matters of custom, at which nations arrived through trial and error.

The power of nuclear weapons was so vast that their ap-