

Taj

ST. ANDREW'S JUNIOR COLLEGE
HISTORY: PAPER 3 (INTERNATIONAL HISTORY, 1945-1991)
THE NUCLEAR ARMS RACE, 1945-1991
LECTURE 1: THE DEVELOPMENT OF THE NUCLEAR ARMS RACE

reactn.

- I. Introduction
- II. The Early Stages of Nuclear Arms Development, 1945-1953
- III. The Turning Point, 1949-1953
- IV. New Directions in US and USSR Defense Policies in the 1950s
- V. US Lead in the 1960s
- VI. The Soviet Build-up and US Reaction
- VII. Conclusion

arms race - competitⁿ b/w countries 2 build up military resources

nuclear arms race - to deter each other to go to war

I. Introduction

BA WWII,
USA & USSR
only spend 3 3/4%
of GNP on military
expenditure

During WWII,
USA - 15%
USSR - 2 1/2%

- The development of destructive arms has been part of life since time immemorial, but the arms race after 1945 was unique in many ways.

For one, the level of military expenditure in peacetime after WWII surged ahead.

Secondly, an ⁽²⁾entire new range of weapons was developed: the nuclear weapons.

These weapons were extremely destructive and humanity faced its own demise if a nuclear war broke out.

Moreover, the pace of new invention was faster than it had ever been ⁽³⁾ and newer and newer weapons systems were developed, with each side always preparing for the worst-case scenario.

- The arms race is motivated by the international context as well as ^{domestic factors} internal factors. The pattern of action and reaction is also an important aspect of international relations and the arms race. Very often, both superpowers were trying to play "catch-up."

- In this lecture, you will learn: ^{strategic outlook eg. deterrence, flexible respond...}

- (1) **General military developments in both USA and USSR**
- (2) **Reasons for the changing of defense policies**
- (3) **How one side's decision and action will lead to a corresponding reaction from the other.**

* Note: alot of sources came from USA.
- alot more info on US than USSR.

Major change:
many diff
arms starts to
appear

development
of arms
became much
& much faster.

II. The Early Stages of Nuclear Arms Development, 1945-1953

delivery system imp!

- USA was the first country to successfully develop a working atomic bomb which ushered in a new era in warfare. The American decision to drop the bomb in 1945 on Japan was spurred on by various considerations:

* Germans also try to come out w atomic bomb

(1) To defeat Japan as soon as possible and bring the war to an end
lot of american men loss their life in battle fields.

L.T view

(2) To gain an advantage in the relations with USSR

- a rapid end to the war could reduce the role of USSR in Asia
- the bomb would underscore the power of USA and get the Soviet leaders to show greater consideration for US interests in international politics (a case of "atomic diplomacy"?)

(3) To prevent an outcry when the public learns that USA had spent millions of dollars to develop a means of ending the war but did not use it

(4) To prevent another major war from occurring. This attitude was held by scientists who worked on the bomb project (Manhattan Project)

→ imp for reduction plan: eg. SALT.

- After the war, there were few initiatives to ensure that this new source of energy would come under international control and that it would be used for peaceful means. The Baruch Plan suggested by the Americans were not acceptable to the Soviets, and the corresponding Soviet proposal to prohibit the use of atomic weapons and the destruction of all existing ones was likewise, rejected by the Americans.

The lack of control would lead to nuclear proliferation.
↳ spread

eg. exist^g country w nuclear energy intensify usage

⑤ countries which did not possess tech. starts to possess tech. eg: China 1964

- Defense Considerations of USA
- The role of the atomic bomb in US strategy during the 1st years after WWII could be easily exaggerated. While it was known that atomic bomb was a weapon of ~~new~~ entirely new dimensions, it was not presumed that the bomb would immediately revolutionize warfare.
- Firstly, US defense plans in the early postwar years was based on the assumption that a war with USSR would be a long-drawn affair, and an acute awareness that USSR possessed superiority in conventional warfare. Due to this superiority, USSR had the

Britain (much earlier)
India had nuclear reactor.

↓ normal army, air force, navy. → compare USA : USSR
1 : 3 men.

means of conquering the whole of the European continent. The atomic bomb was seen to function as conventional bombs, but with much greater force. At this point in time, the bomb was not seen as something which could offset Soviet superiority in conventional terms.

- Secondly, USA only possessed a few atomic weapons and they were unwieldy. *used a few already, not alot left.*
By the end of 1948, USA only had 50 of them and none were ready for immediate use. Moreover, the bomb could, at this time, be delivered using airplanes, and the army and navy were reluctant to place primary emphasis on a weapon which would be under the control of the air force.
- Nevertheless, the bomb had significance. The biggest significance was probably its *implicit threat to prevent undesirable axis.* **deterrent effect**. Most of the European allies considered the possibility of a direct attack from USSR small partly because of the US monopoly over the bomb. Still it should be noted that the political advantages of the bomb were less than what US leaders had hoped for. It was virtually impossible to threaten USSR with the bomb directly, so what was needed was for USSR itself to feel the need to take the bomb into consideration when making any decisions.

* to make
USSR
think
twice

- Defense Considerations of USSR
 - Outwardly, USSR played down the significance of atomic weapons. This was seen when Stalin acted nonchalant when Truman told him about the bomb during the Potsdam Conference. Soviet military journals did not have a single article about this new weapon until 1953!
The reason for this could be that the Soviet leaders felt obliged to dismiss the importance of this weapon which they did not possess. Admitting the importance of this weapon would be admitting Soviet inferiority.
 - Under this façade, the Soviets worked energetically to develop their own atomic weapons. While Stalin had publicly dismissed what Truman had told him, in reality, it led to an escalation of the research. The Soviets also stepped up its research in missile technology.
 - Moreover, it should be remembered that USSR had no bases near USA and Soviet technology at that time did not allow planes to travel such long distances. USA, on the other had, had a strategic advantage because it had allies and bases in Europe.

- Still in terms of conventional forces, the USSR surpassed that of USA. It was estimated that USSR's forces were at least twice that of USA.

III. The Turning Point, 1949-1953

- Why was 1949 a turning point?

- ① → USSR exploded their own atomic bomb
- this ended American monopoly. (balance in power has changed)
→ took USA by surprise. Though USSR would explode atomic bomb later.
- fast progress was due to spies.
→ From underestimating Soviet army capability, they now over-estimated em.
- resulted in USA further develop^{ment} in itself.
- ② → Fall of China into communism
- seem to Americans now USSR has a very big ally.
- led to a lot of domestic pressure (esp loss of China: American loss)
- great deal of pressure on communism → led to McCarthyism.

~~Zero~~ Sum perception.

- Change in American defense policy

- The change in American defense policy came in the form of NSC-68. In April 1950, NSC-68 was released and it called for the build up of the American military. NSC-68 evaluated Soviet military strength to be greater than was previously. Moreover, it argued that the Soviet threat was greater than before (take note of international conditions at that time) and that American superiority would be diminished as the Soviets would catch up.

The solution to all this was to be found in large-scale rearmament on the part of USA in both conventional and nuclear terms. This would require a massive increase in defense budget. @ least 40 billion bucks. → a lot of \$ consider^g by just came out of a war.

At the time of its release, Truman was still not keen to approve the recommendations. The change in attitude came when the Korean War broke out. The Red threat seemed more menacing than ever. Truman approved NSC-68 in September and \$50 billion was set aside to build up the American military.

→ seem communism spread^s.

Stalin's death (change in policy)

IV. New Directions in US and USSR Defense Policies from 1953

- With the change in international climate in the 1950s as well as the **change in leadership in both countries**, the defense policies also changed.

- Changes in both countries were once again, determined by the international situation as well as domestic factors.

- Change in American Defense Policy: The **"New Look"**

K.W - a conventional war.

→ Americans did not win so felt air conventional

troops not very gd.

came into par. promise to end K.W

- When **Eisenhower assumed office in 1953**, he made major changes to US defense and foreign policy. This was sometimes known as his **"New Look"**. Basically, under the "New Look", **nuclear weapons was given more priority, while conventional forces were less important**. Eisenhower also felt that the defense budget under Truman was too high and he **cut the amount of money spent on the military**. It should be noted that the **costs of building a nuclear arsenal would be less costly than building up conventional forces**.

Deterrence work only when there's threat.

- The central idea of the "New Look" was that USSR was never to rest assured that nuclear weapons would not be employed (*this was a form of deterrence*). Eisenhower *did not state explicitly when they would be employed*, but the **possibility of responding to even a minor conventional attack with nuclear weapons would be there**.

Moreover, under the "New Look", **Soviet aggression would spark off an American response that could come in any area (not just from the area where the attack had taken place) with completely different means**. This was known as **"massive retaliation"**.

intro of massive retaliation

- Why did Eisenhower make such changes?

(1) The outcome of the Korean War

→ conventional war & USA was drawn into this war (very long period) who decide victory. Thus E.H decided to come out w this massive retaliation policy

→ to prevent a similar crisis which might break out again
- can be quickly decided by USA to end conflict.

(2) Economic considerations

- felt Truman spent too much \$ on military.
- felt this would be detrimental to USA economy in L.R.
- envisaged this struggle w. S.U. to be a long term thing.
- moreover, E.H. a general & commander:
 - (i) Due to this background, he knows what & where to cut
 - (ii) expenditure No one can accuse him as he's experience.

(3) Technological advancements

- USA can keep up & they have the technology.
- has the capability to carry out "massive retaliation" policy.

(4) Military considerations

- USA never base troops in Europe
 - format of Nato, US placed more troops - conventional forces
 - Realize they can't send so many forces to Europe.
 - "New Look" emphasize on nuclear den conventional forces, so they are gonna supplement nuclear forces.
- eg: Matsu - Quemoy - USA threatened to drop bomb - China deterred

- The "New Look" was sustained throughout the 1950s simply because USA had great nuclear superiority. Under this strategy of deterrence, a certain degree of unpredictability was an important aspect. This uncertainty could be exploited by Washington more or less directly threatening to go to war to attain specific objectives. This was "brinkmanship", the ability to go to the verge without getting into a war!

- Change in Soviet Defense Policy
 - (i) Stalin passed away.
 - emphasis on N. den (weapons)
- With the death of Stalin and the ascension of Khrushchev, USSR also started to place more emphasis on nuclear weapons rather than conventional forces (like USA)
- There were a few factors for this:

(1) The increase of strength of NATO

It should be remembered that USSR was superior in conventional forces as compared to the West. In 1955, a rearmed West Germany joined NATO and

a very West German state

this increased the Western conventional strength dramatically. The fear of a strong Western German state was genuine in USSR, considering its history with the country. This was partially the reason for the formation of the Warsaw Pact (the Warsaw Pact was also a formalisation of ties between Eastern Europe and USSR).

- (2) Nuclear superiority of the West *over-exaggerated USSR's capability.*

Despite what NSC-68 had reported, USSR was actually lagging far behind USA in terms of nuclear technology. For example, despite reports, USSR concentrated on the building up of intermediate range planes aimed at Europe rather than long range ones reaching USA. For the latter, USSR only had about 135 of them, while USA had at least 540 of such planes. All these spurred the USSR to catch up with the West.

↳ by know themselves - which can reach Europe + destroy neighbour first.

- (3) Change in international climate *- USA juz finished K.W. likelihood to start another war not slim!*

- (4) Technological Advancements

Despite the lag behind the West, USSR soon made some drastic advancement. For example, in August 1957, USSR carried out its first test of an intercontinental missile. In October, it launched the first satellite, Sputnik I. The latter came as a shock to the USA and its launch convinced the Americans that their superior technological gap could be under threat. Such developments gave the Soviets great confidence, and Khrushchev decided to give priority to nuclear weapons instead.

↳ shock!!!!

- (5) Economic considerations

Like USA, USSR was also grappling with the expenditure of the military and with less threat of a conventional war, Khrushchev started to cut down on the defense budget. Not only was the budget cut, the number of men in the military services were also cut.

- coz stalin spent too much \$\$.

At this time, Khrushchev also had to look into the domestic economic situation which was running into trouble, and was undertaking a series of agrarian reforms.

- K.C economic reforms also going on.

V. US Lead in the 1960s

- The defense policy of USA took a turn again with the change in leadership though it continued to feed into nuclear research aggressively. Thus, during this time, there

was great quantitative growth in the military capacity of USA as well as an increase in defense budget.

13 days, Cuban Missile Crisis

Kennedy and his Secretary of Defense, Robert McNamara, changed Eisenhower's policy and greatly increased both nuclear and conventional forces.

During this time, greater technological advancements were made. Weapons on submarines were further developed (eg: Poseidon and Polaris) and more importantly, a new innovation called the **MIRV** (multi independently targetable re-entry vehicles).

MAD

In terms of military strategy, ideas such as **mutually assured destruction** and **flexible response** was crafted and they all affected defense policy.

- Once again, the developments in USSR made a major impact on the decisions of the Administration

American & S.U did not know each others strength, only thru estimatⁿ.

→ Kennedy felt very pressurized by overestimatⁿ.

- (1) Misinterpretation of Soviet superiority

The launch of Sputnik and Khrushchev's rash declarations of Soviet superiority caused the Americans believe that there was a missile gap in favour of the Soviets. Domestic pressure and the need to maintain international prestige caused Kennedy to use this issue extensively in his election campaign. Basically, he promised to overtake the Soviet lead and re-establish American supremacy. There was a drastic increase in the number of ICBMs and SLBMs.

However, it became increasingly obvious that USSR was not as strong as it had claimed to be, as seen in the Cuban Missile Crisis. Still, the Kennedy administration could not reverse its policy because of public expectations. Thus, by the end of 1963, USSR had less than 100 ICBMs while USA had acquired at least 550.

→ coz he promised Soviet supremacy during his electⁿ.

flawed idea, so they have to Δ policy, now Δ to "flexible response"

- (2) The problem with "massive retaliation"

Eisenhower's policy of massive retaliation was built on the principle that local aggression could be met with a nuclear response. But the Vietnam War showed that this was easier said than done to use nuclear weapons in limited conflicts. The use of such weapons would greatly escalate the conflict. Nuclear weapons could deter huge conflicts from taking place, but has little impact on small, local conflicts.

Thus, under Kennedy, he decided that conventional forces were just as important and started to put more resources into it. He felt that USA had been preparing for

IMPT. *
main cause of cold war?
over estimation of both SP?

a war it least wanted to fight and is least likely to fight (ie: nuclear war). A new strategy had to be spawned and this was the idea of "flexible response" which meant that the enemy should be met with the same means as he himself had employed (ie: if the enemy used conventional methods of warfare, then it should be met with conventional methods of warfare too)

(not so destructive)

Flawed?
America
not good
at guerrilla
warfare.

VI. The Soviet Build-up and US Reaction

- During the late 1960s and the 1970s, USSR developed at a much faster and aggressive rate as compared to USA and surpassed it at some levels.
- On the whole, USSR still fell behind in terms of bombers and submarines but they worked hard at reducing the gap, especially for the latter. USSR was quite particular about building up a strong navy.

The Soviets concentrated mainly in the development of land-based missiles. WHY?

From about 100 ICBMs in 1963, USSR had about 1400 ICBMs in 1970, outstripping the USA in numbers. Soviet missiles also tend to be larger than American ones, to compensate for greater accuracy in the latter. USSR developed newer missiles to replace older ones. For example, the SS-20s were developed to replace the SS-4 and SS-5.

- In addition to building its nuclear might, USSR started to increase its spending on its conventional forces.
- Taking the international context into consideration, this was not a surprise. USSR needed to build up its military because of its conflict with China, who also joined the nuclear club in 1964.

Moreover, American strategy of "flexible response" meant that there was an increased chance that USSR would fight a conventional war with USA.

More importantly, USSR considered itself as one of the superpowers and wanted the rest of the world to share that view. Superpower status had to be secured with military might and when it was exposed that USSR was lagging far behind USA, and since the idea of acquiring a base in Cuba did not work, it needed urgently to build up the necessary strength.

coz can
hit Europe
(Direct)
- make
use of
air strength

wasaw pact.
→ E.E no
possess
of weapon

- impt 4 SALT treaty 10
- In the short term, USSR's goal was to attain equality rather than superiority over USA. Thus, the SALT negotiations in the course of the 1970s probably helped USSR to reinforce this strategy.
parity
 - American response to Soviet buildup
 - For some time, American response to Soviet buildup was rather muted.
 - USA build up a lead → USSR try to catch up
 - their explanation on why USSR buildup:
 - (1) USSR wanted to gain parity → USA → not too worried
 - Eg: According to US intelligence → USSR catching up not because it was building up new missiles but slow in retiring old missiles.
 - seem stronger quantitatively but in terms of quality, USA still in a lead.
 - (2) Saturation point in nuclear arms race → no diff in how much missiles one has.
 - (3) spirit of detente high → East West tensions abated slightly → less competition with USSR.
 - (4) signing of the SALT treaty → made it difficult for USA to justify their def spending in defence. (in addition to Vietnam war)

started in Jimmy Carter → end of detente in Soviet's invasion of Afghanistan.

- However, in the late 1970s and particularly in the 1980s with the Reagan administration, attitudes in the US changed.

The rationale given by the Reagan administration was that USSR had surged ahead in military buildup while USA was in danger of falling behind. It was also necessary for USA to forge ahead if it was to negotiate from a position of strength in arms control talk. Generally, Reagan's view of the East-West tensions was an important element in the desire for US buildup

During this time, a lot more emphasis was put on technological innovation. This was seen in the SDI.

In terms of strategic thinking, USA was moving away from deterrence and was placing more focus on how nuclear weapons could be used in a war. → *8 in thinking*

↳ Reagan wanted to win nuclear war in case of one
→ no longer used as deterrence.
- With all these developments, further negotiations on arms control basically broke down.

VII. Conclusion

- In terms of maintaining an advantage in the nuclear arms race, the West had an edge over the East. USA had more up-to-date weapons systems in more areas, and it had bases in Europe which could directly threaten USSR. Moreover, USA's allies, France and Britain were also members of the nuclear club in the 1950s. On the other hand, USSR did not develop long-range missiles or bombers which could reach USA until much later. It also had no base near the American continent except for Cuba which did not last long. None of its allies in the communist bloc had the capability to possess nuclear weapons. The only exception was China which exploded its first bomb in 1964 but by this time, Sino-Soviet relations had been strained.
- It is important to note that the arms race in the post-war years arose in part from the lack of an EFFECTIVE international supranational body which could regulate international relations and maintain control. Distrust and fear cause nations to try to protect themselves by amassing armaments. The competing sides then spur each other on through a pattern of action and reaction. Initiatives by one side will result in countermeasures on the other, which again lead to new measures and so on.

