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15 March 2004
History 432: Term Two Essay

The Space Race as 'Primitive' Warfare

Of all the varied manifestations of the Cold War, the space race was among the most poignant and symbolic forms of competition. While the contest was one of high technology and industrial mastery, the psychological and social factors motivating it were not new. In fact, the space race can usefully be described as what John Keegan calls ‘primitive’ warfare. Keegan goes to some length to stress the fact that the somewhat pejorative connotations of the term ‘primitive’ are not appropriate; in fact, a ‘primitive’ mode of warfare, in which conflict is often ritualistic in nature, bears examination and emulation by the developed nations of the world, particularly when the devastating power of thermonuclear weaponry threatens the world – as it did at the heyday of the Cold War. Indeed, Keegan’s analysis of the reasons for restraint in the warfare of the Yanomamö tribe of South America could be equally well applied to the case of the Cold War:

Kinship groups might have embarked on a warfare of decisive battles designed to establish a hierarchy of ‘sovereignities’ once and for all, had they so chosen. To have done so, however, would have been to risk annihilation, once their... ritual battles escalated into ‘true’ war. Preferring mutual prudence, they have settled for a routine of endemic fighting, much of it symbolic in character, which brings death to some but spares the majority to live, even if to fight another day.¹

This essay will use the example of the Yanomamö to illustrate key elements of primitive warfare and will then seek to uncover those elements in the actions of the United States and the Soviet Union with regards to manned space flight in the period between the launch of Sputnik in 1957 and the successful completion of the Apollo program in 1972.

Of all the competitive activities carried out during the Cold War, the space race was perhaps the most visible and inspiring. Astronauts and cosmonauts became national heroes with images carefully cultivated and distributed by their home governments. Enormous resources were devoted to the goal of achieving mastery in space, a goal that John Kennedy masterfully described as “one

¹ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.98

that will organize and measure the very best of our energies and skills.”² In the American case, those energies involved as many as 600 000 people employed in the space program (with a comparable number in Russia), fully five percent of America’s scientists and engineers, and between 1.4 and 2.0 percent of America’s gross national product (GNP) devoted to the National Aeronautics and Space Administration (NASA).³

Yanomamö Warfare:

It was because of their near-total isolation from western society that John Keegan chose to use the Yanomamö tribe of the Amazon delta of South America as a case study⁴ of ‘primitive warfare.’ On the headwaters of the Orinoco River, 10 000 Yanomamö live as “slash and burn agriculturalists, who hack out temporary gardens from the forest, grow plantains and make new clearings when the soil fertility falls.”⁵ The need for security in Yanomamö villages is managed primarily through a policy of deterrence: the cultivation of a “code of ferocity (*waiteri*)”⁶ While clashes between villages are relatively frequent, a distinct pattern of escalation exists and specific limitations on warfare are employed. During club fights, which are an intermediate stage between one-on-one chest pounding duels and raiding, “the village headman’s role is to intervene with his bow, threatening to shoot an arrow into anyone who will not stop.”⁷ This example demonstrates a concern about the consequences of unrestricted violence, as well as a mechanism that combines authority, in the position of the headman, and the possible use of force to attain that end.

So as not to present an oversimplified image of Yanomamö warfare, it must be noted that a complex scholarly and anthropological discussion exists about its nature. Of particular interest is the

² Kennedy, John. “Address at Rice University on the Space Effort.” 12 September 1962. <<http://www.cs.umb.edu/jfklibrary/j091262.htm>>

³ All statistics from Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 21-23

⁴ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.94-98

⁵ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.94

⁶ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.94

⁷ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.96

work of those, such as Micheal Shermer who allege that analyses of Yanomamö warfare are oftentimes used to further particular political agendas. In his article: “Spin Doctoring the Yanomamö” he nonetheless acknowledges the fact that much can be learned from the Yanomamö and applied to other fields of analysis. His conclusion that “science is our greatest hope for the future, showing us how best we can utilize our natures to ensure our survival”⁸ mirrors Keegan’s own: “The habits of the primitive – devotees themselves of restraint, diplomacy and negotiation – deserve relearning. Unless we unlearn the habits we have taught ourselves, we shall not survive.”⁹ The sort of primitive warfare which Keegan endorses – “circumscribed by ritual and ceremony”¹⁰ – is the both the kind practiced by the Yanomamö and the kind that the space race can be usefully considered.

Yanomamö warfare should neither be considered bloodless, entirely restrained, nor simple. Each level of ritualized combat, from chest beating duels up to the ‘treacherous feasts’ that were described by Napoleon Chagnon – the first westerner to study the Yanomamö – as “the ultimate hostile act.”¹¹ These feasts, in which a third party is enlisted to aid and abet a massacre of enemy tribesmen, under the pretence of holding a feast, demonstrate cunning, duplicity, and a sort of perverse sophistication that would certainly not be alien in a 20th, or 21st, century conflict. Thorpe’s study “Anthropology, Archaeology, and the Origin of Warfare” describes how the majority of Yanomamö fighting takes place between those who know each other well, and who have entertained cordial relations in the past.¹² Such a situation does not describe a Hobbesian jungle of perpetual and reciprocal animosity, but rather a complex and dynamic situation. Indeed, the cooperation and

⁸ Shermer, Micheal. “Spin Doctoring the Yanomamö: Science as a Candle in the Darkness of the Anthropology Wars.” Skeptic. Vol. 9 Issue 1, 2001. p.36-47

⁹ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.385

¹⁰ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.385

¹¹ Keegan, John. A History of Warfare. Vintage Books, New York. 1993. p.96

¹² Thorpe, I. J. N. “Anthropology, Archaeology, and the Origin of Warfare.” World Archaeology. Vol. 35, 2003. p.145-165

planning involved in the treacherous feasts demonstrates a level of sophistication in inter-village relationships. All of these factors make the study of the Yanomamö more relevant to the examination of the Cold War. The importance of personal relationships and prestige, identified by Thorpe¹³, is likewise important to the degree to which Yanomamö warfare, as a specific example of the primitive genre of warfare, can be compared with the Cold War generally and the space race in particular.

The Cold War: A 'Primitive' Conflict?

The Truman Doctrine can be seen, in a somewhat simplistic but useful way, as cultivating a kind of *waiteri*: a tactic where a display of strength is carried out in order to generate security. Deterrence, as famously described in the film Dr. Strangelove, is nothing more than “the art of creating, in the mind of the enemy, the fear to attack.”¹⁴ This basic psychological formula applies to a cultivated reputation for fierceness that serves to deter attacks by enemy villages deep in the Amazon as much as it applies to the American ‘nuclear triad’ of bombers, submarines, and missiles designed to deter nuclear attack against the United States and allied countries. While the means and scale of the two examples are wildly different, the reasoning behind each is the same. Importantly, the strategy is one of the limited use of force (or threat of force which is, in many ways, the same thing) to generate fear and prevent escalation. This strategy can be contrasted with diversions into near-madness: such as the hopeless belief in the American civilian and military administrations that massive bombing could somehow bring the ‘peace with honour’ that President Richard Nixon promised in Vietnam. Indeed, the architects of the Christmas bombing campaign might have done well to read more anthropological journals and fewer cheerleading reports from the Pentagon about the power and accuracy of new munitions.

¹³ Thorpe, I. J. N. “Anthropology, Archaeology, and the Origin of Warfare.” World Archaeology. Vol. 35, 2003. p.160

¹⁴ Doctor Strangelove or: How I Learned to Stop Worrying and Love the Bomb. Dir. Stanley Kubrick.. Perf. Peter Sellers, George C. Scott. Columbia Pictures, 1964.

The Cold War, possibly more than any war in history, was a symbolic war. Images, from the ominous face of the Berlin Wall, to Chamberlain's fluttering promise from 1938, had profound effects on the expectations, thinking, and choices of leaders, both in the west and in the east. Possibly the most poignant of all Cold War images are those of the space race: the 20 and 40 megacycle beeps of Sputnik flying past at 17 000 miles an hour, circling the earth every 90 minutes; the launch of larger and larger rockets, each capable of delivering hydrogen bombs to cities as easily as men and women to orbit; and the first footfalls of a human being on another world, an act that demonstrated in undeniable fashion the technological mastery of the United States.

Symbolic warfare can be called 'primitive' largely because it exists in contrast to the total warfare or 'real' warfare that Clausewitz identifies and that Keegan condemns. Symbolic warfare is 'primitive' because it seeks to influence the thoughts and emotions of the enemy, rather than coldly destroying their industrial and military capacity as the abstract and materialist calculus of 'modern' war has sometimes called for. To posit such a stark distinction is, of course, to suffocate the subtlety that exists in the characterization of conflict. Even in the most 'modern' wars, the psychology of the enemy has been a prime consideration. The ultimate example of 'modern' war presented by Keegan: the first world war¹⁵, nevertheless demonstrates the kind of warfare by numbers that coincides with the most senseless slaughter. The same mathematical approach can be seen in the elaborate bombing tables drawn up under the direction of Secretary of Defence McNamara during the Vietnam War¹⁶. Such brutal application of technology and cold calculation to the destruction of lives constitutes the most reprehensible of human actions. At its best, the Cold War was a 'primitive' and symbolic conflict, where competition yielded positive results for both sides. At its worst, the Cold War involved the writing off of millions of human beings as mere 'dominoes.' The space race as a

¹⁵ Capitalization convention taken from: The Economist Style Guide: Eighth Edition. Profile Books, London. 2003. p. 80

¹⁶ Fog of War. Dir. Errol Morris. Sony Pictures Classics, 2004.

theoretical and historical construct (for it has no clear nor objective start or endpoint) was closer to the former end of that spectrum than to the latter.

The Space Race as Symbolic Warfare:

In Race into Space: the Soviet Space Program Brian Harvey argues that it is surprising that either the Soviet or American scientists were able to find funding for an artificial satellite program at a time when “few people had any idea what [an artificial satellite] could be used for.”¹⁷ The motivation, on the American side, for a project with no known immediate scientific, economic, or military merit was elucidated in a 1948 report by the RAND Corporation. The report stated that “satellites could demonstrate a nation’s technological and political superiority.”¹⁸ William Schauer also makes reference to this “prescient” report with its “prediction that the first artificial satellite to orbit the earth would ‘inflame the imagination of mankind’ and that the launching state would be ‘acknowledged as the world leader in both military and scientific techniques.’”¹⁹

Symbolic considerations also affected the manner in which American progress towards an artificial satellite was made. President Dwight Eisenhower insisted that a clear separation exist between America’s military and civilian space programs. This was due partly to the fact that Werner Von Braun, a man previously deeply involved with Hitler’s rocket program, headed up Redstone Arsenal: the Army backed corporation best placed to quickly deliver an earth satellite to orbit. The desire not to use what was essentially Nazi brainpower to demonstrate American technical supremacy helped to ensure that the satellite project was to be based around the civilian Vanguard project and the Viking missile: a smaller and less sophisticated cousin to the Redstone missile and

¹⁷ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.24

¹⁸ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.25

¹⁹ Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 8

the Army's own Jupiter missile.²⁰ The Soviet Union, contrariwise, had no disinclination towards a joint civilian military program, as described by Schauer:

An important difference with Soviet policy is that the United States has maintained *at the very least* a pretence of separate programs, while the Soviets have, on the contrary, maintained an obviously false pretence of operating a wholly scientific and civilian program.²¹

This political decision had technical ramifications. The Soviet A-booster, alternatively referred to as the SS-6 (an American designation), the Sapwood (a NATO term), and the Vostok was both the workhorse of the Soviet manned and unmanned space program and their first intercontinental ballistic missile (ICBM). The A-2 variant of the same design continues to launch both American and Russians into orbit in the venerable, yet highly reliable, *Soyez A* capsule: itself a relic of the Soviet Union's manned lunar exploration project.²²

Largely due to its symbolic importance, space flight (and manned space flight in particular) had the attention of the highest echelons of Soviet and American leadership. At the end of August, 1955, the Central Committee of the Communist Party approved the Soviet satellite program that would lead to Sputnik and authorized the construction of the Baikonour Cosmodrone. This facility, the largest of three Soviet launch sites that would eventually be built, was the launching place of Sputnik I (and subsequent Sputniks), and the launch site for all Soviet manned missions. From this site, over 600 A-1 boosters were successfully launched and it was to this ostensibly secret facility that French President Charles de Gaulle was allowed to visit in 1966, partly as a reward for France's "incremental disengagement from NATO activities"²³ under his leadership. This former stretch of Kazakhstani desert was also, fatefully, the place to which Nikifor Nikitin was exiled by the Czar in

²⁰ Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 8

²¹ Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 31

²² Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 13

²³ Keylor, William. The Twentieth-Century World. Oxford University Press, New York. 2001.

1830 for “making seditious speeches about flying to the moon.”²⁴ He might have taken cold comfort in the fact that in 1955, the Central Committee gave control of the site to the new Soviet ‘Permanent Commission for Interplanetary Travel.’

In Race into Space: the Soviet Space Program, Brian Harvey identifies space flight as an area towards which Soviet Premier Nikita Khrushchev was naturally inclined.²⁵ Success in an area requiring such technical expertise and industrial power would be evidence for the Soviet supremacy over the United States that Khrushchev expected to develop. Moreover, it would be a highly visible demonstration of that success and one that Khrushchev could personally benefit from. According to Harvey: “For Khrushchev, the early technological triumph would solidify his new position as Premier”²⁶ It is an odd twist of fate, perhaps, that his last act as Premier would be space related; Khrushchev’s last public function after being voted out of office in October of 1964 was to speak to the three cosmonauts aboard the Voskhod 1 spacecraft: the three man version of the Vostok spacecraft. The spacecraft itself told something about the impact that Khrushchev personally had on the Soviet space program. The capacity to carry three cosmonauts (two of which were scientists, a feat unmatched in the west) was gained at the expense of ejection seats and safety features.²⁷ While the three-man flights were a clear success in terms of propaganda, Harvey and others identify them, and other such activities, as distractions from the Soviet aim to beat the Americans to the moon. Like Eisenhower’s insistence on separate military and civilian programs, Khrushchev’s search for immediate political gain might have adversely affected the broader space effort.

The incredible American push towards the moon, for all its ingenuity, was a reaction to what may have been a greater Soviet success: the launching of Sputnik I. It is significant that William

²⁴ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.27

²⁵ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.27

²⁶ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.29

²⁷ Harvey, Brian. Race into Space: the Soviet Space Program. Ellis Horwood Limited, Chichester. 1988. p.83

Schauer chose to begin The Politics of Space with a discussion of world reaction to Sputnik²⁸. His statement that “perhaps no space achievement has had the impact of Sputnik I, and it is from October 4, 1957, that the age of space and the space race can be dated” underscores the importance of this bleeping tin ball upon history. The Soviet Union had succeeded in demonstrating their orbital capacity in a way that highlighted the importance of media, a card generally better played by the Americans. The simple fact of being able to tune into the ‘bleep bleep’ of Sputnik as it passed overheard was a chilling reminder of American vulnerability. The sense of urgency that developed in the United States after Sputnik – an urgency that led Senator Mike Mansfield to call for a “new Manhattan Project” to beat the Soviets in space – had tragic consequences. The disaster of Apollo 1, where astronauts Virgil Grissom, Edward White, and Roger Chaffee burned to death was the result of a cockpit fire and hastily developed and ineffectual safety equipment. This inadequate technology was the product of American haste to one-up the early Soviet successes in space and a reminder that something as complex as manned space travel cannot be hurried.

The use of media, skilfully done with Sputnik, was not as capably employed during the second great Soviet success: the launching of Yuri Gagarin into orbit in 1961: just eight years before Apollo 11 landed successfully on the moon’s surface. Unlike later American and Soviet manned missions, which featured television coverage, Gagarin’s flight had to be publicized by means of a world tour by Gagarin himself. While this did not noticeably diminish the significance of Gagarin’s flight, the fact that millions of people would watch the later American moon landings – the most watched television event up to that point - magnified the psychological importance of that success. To understand the impact of space-based media, one need only think of the intense philosophical, and ecological, reflection that came as a result of the first photographs of the earth from space: a planet united in air and water currents, yet not visibly divided along any political lines.

²⁸ Schauer, William H. The Politics of Space: a comparison of the Soviet and American Space Programs. Holmes and Meier Publishers, Inc., New York. 1976. p. 1-14

Another factor motivating the American drive into space was the so-called ‘frontier mentality’ of Americans. A people that had pushed west from 13 Atlantic colonies to become a continent-spanning superpower had a particular psychological attachment to the frontier within their national myth-symbol complex. That fascination can perhaps be seen as much in the enduring popularity of ‘Western’ films as in the American manned space program. That psychological predilection, as well as national insecurity and a potent desire to demonstrate American strength, lent force to President John Kennedy’s arguments: arguments that ultimately projected a human being onto the nearest significant astronomical body, and which effectively ended the space race with American victory. Despite any failings, Kennedy cannot be faulted for eloquence and vision, essential elements to be considered in symbolic warfare. His speech, delivered at Rice University in September of 1962 demonstrates both of these characteristics:

We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard. Because that goal will serve to organize and measure the best of our energies and skills. Because that challenge is one we are willing to accept, one we are unwilling to postpone, and one we intend to win, and the others too.²⁹

Such bold language was backed by unprecedented material support as NASA’s budget grew to claim 2 cents of every American dollar exchanged annually: a budget from which three quarters was consumed by the Apollo program.

The world that the Apollo astronauts discovered held little of the promise attributed to it by those, such as Arthur C. Clarke, who had grand visions for the possibilities of lunar settlement: “it is possible to foresee certain lines of development... [on the moon] culminating not only in large permanent lunar bases but also, ultimately, in self-sufficient colonies and even projects to make the moon habitable.”³⁰ The commodity gained was not material or military (though technology developed for the Apollo program was applied to both areas) but rather psychological: a source of

²⁹ Kennedy, John. “Address at Rice University on the Space Effort.” 12 September 1962.

³⁰ Clarke, Arthur C. The Promise of Space. Harper and Row, New York. 1968. p.192

national pride and worldwide awe, as well as evidence of the superiority of capitalist democracy over communist totalitarianism. The victory was a symbolic one: the culmination of a symbolic war.

The Significance of the Space Race as Symbolic War:

While it may be tempting to make grand claims about the historical impact of the space race, the general absence of historical discussion about it after the end of the 1970's creates well-deserved pause. In all fairness, it must be acknowledged that 'winning' the space race, insofar as being the first to put a man on the moon constitutes such victory, was neither a necessary nor a sufficient condition for overall victory in the Cold War. It can still be argued, however, that various successes in space may have diminished the need of the superpowers respectively to bolster their *waiteri* through more destructive, military means. Failures in the space race may also have provoked greater investment in this, relatively benign, area of competition in place of the fuelling of proxy wars whose legacy in arms and bitterness continue to spawn conflicts in the developing world today. A spectrum can be said to exist in styles of competition. Some, like the 'true' warfare derided by Keegan, destroy both the resources and moral currency of both competitors. Some, like the space race, may use resources less efficiently than under ideal circumstances but nonetheless provide at least some benefits to both parties. Finally, some, like the ideal form of economic competition as explained by Ricardo and Smith, have the potential to provide significant gains to all competing parties. As progress is made from one fringe of that spectrum towards the other, the material and moral circumstances of all involved are improved.

The importance of media, symbols, and personalities leaves little doubt as to whether the space race was a symbolic conflict. The broader significance of that categorization is an area deserving of further study. It may be that the space race was a one off an ultimately unproductive form of superpower competition. It is also possible that close examination of the space race might

help with the progression towards the restraint in conflict that both Keegan and Shermer identify as an essential one for the future of humanity.

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