The International Journal of Intelligence, Security, and Public Affairs

ISSN: 2380-0992 (Print) 2380-100X (Online) Journal homepage: https://www.tandfonline.com/loi/usip20

Slouching Toward Nuclear War: Coorientation and NATO Exercise Able Archer 83

Larry Burriss

To cite this article: Larry Burriss (2019) Slouching Toward Nuclear War: Coorientation and NATO Exercise Able Archer 83, The International Journal of Intelligence, Security, and Public Affairs, 21:3, 219-250, DOI: 10.1080/23800992.2019.1695709

To link to this article: https://doi.org/10.1080/23800992.2019.1695709

Published online: 09 Dec 2019.

THE INTERNATIONAL JOURNAL OF INTELLIGENCE, SECURITY, AND PUBLIC AFFAIRS
2019, VOL. 21, NO. 3, 219–250
https://doi.org/10.1080/23800992.2019.1695709

Routledge
Taylor & Francis Group

RESEARCH ARTICLE

Slouching[1] Toward Nuclear War: Coorientation[2] and NATO Exercise Able Archer 83

Larry Burriss

Professor, School of Journalism and Strategic Media, Middle Tennessee State University, Murfreesboro, Tennessee, USA

ABSTRACT

NATO exercise Able Archer 83 was perhaps the closest the world came to nuclear war since the Cuban Missile Crisis of 1962. But whereas events in Cuba and the Atlantic Ocean can generally be placed in a matrix of deliberate move and counter-move, Able Archer illustrates the greater dangers of misunderstanding and miscommunication when nuclear weapons are involved.

Using the well-known communication theory of coorientation, the author traces the messages and what might be called meta-messages, both overt and covert, verbal, written and non-verbal, sent and received, by NATO and Soviet forces to show how the crisis developed and was eventually resolved.

Newly declassified documents shine a more detailed light on a week in November 1983 when the world came perilously close to nuclear war. And as the author asks, could not the crisis have been averted by a simple phone call?

ARTICLE HISTORY
Received 11 November 2019
Revised 17 November 2019
Accepted 19 November 2019

KEYWORDS
1983 war scare; Able Archer 83; coorientation; first strike; North Atlantic Treaty organization (NATO); nuclear war

Coorientation

In 1973 Jack M. McLeod and Steven H. Chaffee published what may arguably be one of the most significant academic articles in the area of human communication studies, "Interpersonal Approaches to Communication Research."

> A key assumption … is that a person's behavior is not based simply upon his private construction of his world; it is also a function of his perception of the orientations held by others around him and of his orientation to them. A further assumption is that, under certain conditions of interactions, the actual cognitions and perceptions of others will also affect his behavior. (McLeod & Chaffee, 1973)

CONTACT Larry Burriss lburriss@mtsu.edu

[1]With acknowledgment to William Butler Yeats and Joan Didion.

[2]The author has chosen to use the original McLeod/Chaffee form of "coorientation," rather than the alternate form "co-orientation."

McLeod and Chaffee point out that although the study of coorientation itself was new, its theoretical foundations lay in prior research in the areas of consensus, symbolic interaction, psychological attraction and discrepancy, and "person perception." (McLeod & Chaffee, 1973)

According to coorientation theory, in any two-entity (person, company, etc.) communication setting there are at least six sets of perceptions operating. These may be perceptions of the entity itself, perceptions of the communication of the entity, or perceptions of the actions of the entity. McLeod and Chaffee used block diagrams to describe these interactions, but they may also be illustrated as follows:

(1) A > A (A's perception of self)
(2) A > B (A's perception of B)
(3) A > (B > A) (A's perception of B's perception of A)
(4) B > B (B's perception of self)
(5) B > A (B's perception of A)
(6) B > (A > B) (B's perception of A's perception of B)

Of course, these interactions could be extended on to infinity (A>(B > A> (B > A))), but that path leads to insanity.

Ideally, all parties, when communicating with each other, should be coorienting. That is, (A > A) = (B > A). B understands A's message to be the message A intends. Likewise, if the parties are not coorienting, that is, if there are misunderstandings, then the formulation (A > A) ≠ (B > A) would be appropriate.

Coorientation theory posits that the more congruity between the perceptions, the more accurate message understanding will be. In other words, if person A intends for message X to mean one thing, but person B thinks the message means something else, then there will be a lack of effective communication between the two parties. In other words, the two will not be coorienting.

It is important to understand here that McLeod and Chaffee were not concerned so much with what the message or action actually means (the objective meaning of a statement), but with the *perceptions* of the message or action. Often, they say, actions and reactions are based on perceptions, not on objective reality.

Put another way, "I may not agree with what you are saying, but I understand why you are saying it," the idea that understanding is more important than agreement.

Unfortunately, too often actions (ranging from interpersonal to transnational) and reactions (again, ranging from interpersonal to transnational) are based on how we interpret the meaning of a given communication. And it is the determination of meaning that is of particular concern at the most basic, or mental, levels:

> *Meaning is what is meant*, be it by a person who asks me a question, or by a situation which, too, implies a question and calls for an answer. I cannot say, 'My answer right or wrong … . I must try hard to find out the true meaning of the question which I am asked (emphasis in original). (Frankl, 2014)

In other words, it is important, indeed critical, to understand what the other party intends by their message, not what we think the other entity means.

Coorientation theory and method have been applied to numerous academic and real-world fields, including such diverse areas as teenagers (Clarke, 1973), use of humor by couples (Hall & Sereno, 1988), discussions of acid rain (McDonald & Glynn, 1988), organizational and public communication (Kim, 2001), intercultural communication (Blake & Kaplowitz, 2001), international diplomacy (Giusta, 2013), and even the study of small apes (Horton & Caldwell, 2006).

However, although the coorientation model has been used to study a number of communication processes in a variety of settings, a deeper question the author here wishes to address is this: Can coorientation theory be applied to nation states, particularly in the area of national security?

Although McLeod and Chafee were concerned about coorientation among individuals, James R. Taylor and colleagues posited the theory could also be used, on an international scale among nation states, "[B]ecause an organization is a complex mix of differentiated communities of practice, it is also a mosaic of worldviews. That diversity poses a challenge of integration" (Taylor, 2005). The "integration" of which Taylor speaks refers to mutual understanding between the parties involved in the communication interaction, and perhaps even mutual acceptance or agreement.

Although not stated explicitly, it appears Taylor's paradigm can be applied to nations with widely divergent *weltanschauung*, such as that between the United States and the Soviet Union during the height of the cold war., when nuclear war was seen as a very real possibility

Nuclear war, however, is not merely an abstract idea that can be encapsulated into academic theories. For example, in his seminal 1960 book, *On Thermonuclear War* (Kahn 1960) Herman Kahn discussed real-world nuclear strategy, balance of power and the controversial notion of the winnability of a nuclear war.

Other writers, moreover, have understood that the parties involved in international conflict, much like the individuals described in coorientation theory, certainly do not trust each other. This distrust, in turn, leads to what John H. Herz (1950), in one of the most significant works on international strategy and negotiation, termed the "security dilemma."

> Security dilemmas are situations in which both sides have defensive, or status quo, intentions and would prefer to avoid costly and destabilizing competition and mutual arming. Yet because of insecurity and uncertainty about the other's true

> intentions, each side concludes that it has no alternative. The result is a costly and potentially disastrous action-reaction sequence … . Yet … this is difficult to do (Liff & John, 2014).

It should be noted the coorientation *theory* has been indirectly suggested, but without being actually named, in connection with NATO exercise Able Archer 83:

> Because *perceptions of threat are at least as important as the reality* [emphasis added], the intriguing further question [regarding Able Archer 83] is whether intelligence about the enemy's capabilities and intentions helped to avert, or else to precipitate, a disaster (Mastny, 2009).

The current author, however, believes this particular research is the first attempt to directly use coorientation to study international decision-making related to nuclear war. Specifically, this paper will directly apply the coorientation model to what many consider to be one the most significant nuclear war crises ever (Fischer, 1996; Gates, 2007; President's Foreign Intelligence Advisory Board; President's Foreign Intelligence Advisory Board, 1990; Scott, 2011): Able Archer 83, a war-game command post exercise conducted by the United States and NATO allies.

Because this paper is primarily concerned with perceived interactions between the United States and the Soviet Union during the November 1983 international crisis, rather than with communications per se, these relationships will be placed in the coorientation model as follows:

(1) U.S. > U.S. What did United States' officials believe about their own actions during Able Archer 83?
(2) U.S > U.S.S.R. What was the American (and NATO) perception of what Soviet officials were doing during the exercise?
(3) U.S. > (U.S.S.R. > U.S.). How did American officials evaluate what they saw as Soviet beliefs about what the United States was doing?
(4) U.S.S.R. > U.S.S.R. What did Soviet officials believe about their own actions during Able Archer 83?
(5) U.S.S.R. > U.S. What did Soviet officials think the United States and NATO were doing during the exercise?
(6) U.S.S.R. > (U.S. > U.S.S.R) What was Soviet perception of what the United States thought about Soviet actions?

In the remainder of this paper "A" will represent the United States/NATO forces, and "B" will represent the Soviet Union/Warsaw Pact. In order to avoid confusion with parenthetical comments, references to the model will use brackets, thus [A > B], which should be read, U.S. perception of Soviet words and actions. In other words, what did U.S. officials believe about what the Soviet Union was saying and doing.

How serious were the events surrounding Able Archer 83? Said a National Security Agency report on U.S.-Soviet tensions during this period, originally classified several levels above Top Secret:

> Cold War hysteria reached a peak in the autumn of the year [1983] with two events: a Soviet fighter pilot shot down Korean Airline flight 007 (KAL-007) and the NATO exercise Able Archer. The latter was an annual NATO command post exercise of a distinctly nonthreatening nature. But in 1983 the scenario was changed to involve the secretary of defense, the chairman of the JCS, the president, and the vice president. Moreover, Able Archer 1983 added a practice drill that took NATO forces from the use of conventional forces through nuclear release. This, says [Oleg] Gordievsky, was interpreted in Moscow as the possible initiation of a preemptive strike, and this extremely dangerous postulation was used as a spur to intensify intelligence collection. It also, according to the same source, resulted in a very high state of KGB alert (Johnson, 1999).

> Said another top secret report, this by the President's Foreign Intelligence Advisory Board, "In 1983 we may have inadvertently placed our relations with the Soviet Union on a hair trigger" (President's Foreign Intelligence Advisory Board, 1990).

This presidential report, and its references to Able Archer 83, by the way, is at the heart of an on-going Freedom of Information Act lawsuit between the National Security Archive (plaintiff) based at George Washington University, and the Defense Intelligence Agency (defendant). According to the lawsuit, "What many do not know … is that in 1983 the world narrowly averted a nuclear crisis, thanks in part to one U.S. general … ." (National Security Archive v. Defense Intelligence Agency, 2019)

At the time of the crisis, Lt. Gen. Leonard Perroots was the assistant chief of staff for intelligence at Ramstein Air Base, West Germany, which was the headquarters for United States' air forces in Europe. Perroots would later serve as director of the Defense Intelligence Agency. So concerned was he about the activities surrounding Able Archer, and its potential for nuclear disaster, in 1989 he wrote to the President's Foreign Intelligence Advisory Board (PFIAB) asking for an investigation into the incident. In 1990 the PFIAB issued a top secret report confirming that the Soviet Union believed the exercise was a prelude to war [B > A].

However, according to the lawsuit,

[M]any of Lieutenant General Perroots' historically valuable files remain classified. This includes the letter in which he documented his concerns surrounding the 1983 Soviet "War Scare". [sic] These files likely tell the cautionary and relevant tale of the dangers of nuclear war by miscalculation *and miscommunication* … . The … requested files … likely include a copy of Lieutenant General Perroots's 1989 letter seeking a PFIAB investigation into the 1983 Soviet "War Scare." (emphasis added) (National Security Archive v. Defense Intelligence Agency, 2019)

According to a working paper prepared for the United States Federal Reserve Board, Able Archer 83 is among the top 20 geopolitical risks between 1900 and 2015 (Caldara & Iacoviello, 2017).

Said Nate Jones, director of the Freedom of Information Act Project at the National Security Archive, "[T]he 1983 War Scare stood at the center of one of the two most risky moments of the Cold War – yet its danger has largely been hidden from the public" (Jones, 2016).

J. Peter Scoblic, executive editor of *The New Republic*, said,

> Though the prospect of mutual assured destruction was stabilizing, nightmare moments like the Cuban missile crisis and the Able Archer exercise … could have led to the total destruction of both nations, if not most of human civilization (Scoblic, 2008).

According to James Dobbins, U.S. ambassador to the European Union, and assistant secretary of state for European Affairs,

> [A]t one point a NATO exercise almost led to an actual nuclear exchange with the Soviet Union. It was called Abel Archer … a command post exercise. But apparently the Soviets were picking up the message traffic [B > A] and tensions were already high … . So things were on a hair trigger. We only learned years later how closely that we had come [to a nuclear exchange] (Dobbins, 2017).

On the Soviet side, ambassador to the United States Anatoly Dobrynin saw uncertainty on the part of the national leadership about the possibility of nuclear war:

> I can testify that the possibility of a nuclear war … was considered seriously indeed by Khrushchev, Brezhnev, Andropov and Konstantin Chernenko … . But with the probable exception of Andropov, they did not believe an attack could take place unexpectedly at any moment … . Such apprehensions were minor on our side.
>
> While still head of the KGB, Andropov did believe that the Regan administration was actively preparing for war … . (Dobrynin, 1995)

Some, however, including at least one senior KGB officials well as the deputy Supreme Allied Commander Europe (SACEUR), have discounted the seriousness of these events (Fischer, 1996; Mastny, 2009). Indeed, said SHAPE (Supreme Headquarters Allied Powers Europe) historian Gregory Pedlow:

> In 2006 the SHAPE Historian interviewed a number of senior participants in Exercise ABLE ARCHER 83. None of them recalled any "war scare" or even any unusual Soviet reaction to the exercise. Air Chief Marshal Sir Peter Terry, the Deputy SACEUR who played the role of SACEUR during ABLE ARCHER 83, stated quite categorically that "no such scare arose at that time" (Pedlow, 2013).

There is yet a third alternative: the "war scare" was deliberate perception management designed and executed by the Soviet leadership. As noted in the

top secret report prepared by the President's Foreign Intelligence Advisory Board: "[S]oviet leaders … were attempting by means of propaganda and intelligence deceptions to slow the US military build-up, prevent the deployment of new weapons, and isolate the US from its allies" (President's Foreign Intelligence Advisory Board, 1990).

This view was further elucidated by Vojtech Mastny in 2009 in the *Journal of Cold War Studies*:

> The war scare [was] engineered by Soviet propaganda because Moscow believed it was useful in its campaign against NATO's "Euromissiles" as the crucial vote about their deployment was approaching in the West German Bundestag on 23 November 1983. Once West Germany's parliament approved the installation of the missiles and the weapons were deployed, the campaign became not only pointless but also counterproductive in view of the panic it had begun to generate within the Soviet populace. The war scare was soon called off, but, in a pathetic demonstration of the power of inertia, VRYaN remained in effect until late 1990 (Mastny, 2009).

Obviously, there are differences of opinion, even at the highest levels, as to the level of fear generated by the exercise, and this is an area certainly worthy of further investigation. The current author, however, is writing under the assumption that at least one nation-state (the Soviet Union) did, in fact, believe the events here discussed were not part of an exercise scenario, but were real-world events necessitating a real-world response [B > A].

Thus, by using nation-states, specifically the United States and NATO allies on one side, and the Soviet Union and Warsaw Pact countries on the other, the author will show how coorientation can help explain how this exercise nearly got out of hand and came perhaps dangerously close to moving from a table-top exercise to a real-world nuclear exchange.

Prelude to the war (scare)

Able Archer 83 was conducted in November 1983, and took place against a backdrop of historical fears within the Soviet leadership, as well as deteriorating relations between the United States and the Soviet Union.

- Ever since Napoleon invaded Russia in 1812, the Soviet Union has been fearful (some would say "paranoid") of another invasion. This fear was exacerbated by the German invasion during World War II, Operation Barbarossa.

From a historical perspective, historian Barbara Tuchman wrote:

> The Russian colossus exercised a spell upon Europe. On the chessboard of military planning, Russia's size and weight of numbers represented the largest piece … .

> Although the defects of the Russian Army were notorious, although the Russian winter, not the Russian Army, had turned Napoleon back from Moscow, although it had been defeated on its own soil by the French and British in the Crimea, although the Turks in 1877 had outfought it at the siege of Plevna and only succumbed later to overwhelming numbers, although the Japanese had outfought it in Manchuria, a myth of its invincibility prevailed (Tuchman, 1962).

> Moving forward in time, said former Central Intelligence Agency analyst Benjamin B. Fischer in a classified analysis of the1983 war scare,

> The German invasion was the Soviet Union's greatest military disaster, similar to – but much more traumatic – than Pearl Harbor … . The connection between surprise attack and inadequate warning was never forgotten.

> The historical example of Operation Barbarossa may account for the urgency, even alarm, that field intelligence officers … attributed to Kremlin paranoia (Fischer, 2007).

As a general proposition, Russian, Soviet and again Russian leadership, see their country as continually surrounded by enemies who were and are more than ready and willing to invade the *Родина* (Rodina – Motherland).

In the early days of the Cold War, the development of long-range radar made an actual surprise attack almost impossible: bombers could be tracked coming over the horizon, meaning there was plenty of time to launch a retaliatory strike. However, manned bombers could be recalled, so even if the aircraft from one side penetrated the air space of another country, the distance and time involved meant a war-strike could be called off.

However, the development of the intercontinental ballistic missile changed the equation. With a launch-to-impact time of 15 minutes or less a way had to be found to insure a retaliatory strike could be launched before impact destroyed the opposing forces. Thus developed the notion of Mutual Assured Destruction and the strategy of Launch on Warning.

In its extreme form, launch on warning meant, at least in Soviet eyes, that *perceived* preparation for an attack [B > A] would be enough to trigger a response.

Said a 1987 National Intelligence Estimate prepared by the Central Intelligence Agency:

> [The Soviets'] nuclear warfighting strategy … does not predispose them to exercise restraint if they saw inherently high risks that global nuclear war could occur and believed restraint on their part could jeopardize their chances for effectively waging such a war. *The Soviets have strong incentives to preempt* [B > (A > B)] in order to maximize the damage to US forces and limit damage to Soviet forces and society (Central Intelligence Agency, 1987).

In other words, not only did the Soviets keep their forces ready to respond immediately to a U.S. launch … they planned to fire their missiles if they thought the United States was preparing a strike [B > A].

Given the near-hysteria on the part of the Soviet leadership, it is easy to see how what the United States perceived as a routine war game [A > A] could be construed as preparation for an actual attack. [B > A]

In the real world, however, theory and philosophy are no match for hardware:

> Moscow had no first-use intention and was incapable of conducting an effective counterforce strike. The Soviet missile modernization programs aimed at surviving a first strike and improving the retaliatory capability, which was about 40 per cent lower than the United States had estimated (Adamsky, 2013).

There were thus two factors playing into Soviet concern about Able Archer 83 in particular: fear generated by the philosophical, political and economic differences between the United States and the Soviet Union, and the fear of an actual attack on the homeland.

During this period of the Cold War, the fears based on ideological differences may have been aggravated by comments made by George Keenan, deputy head of mission in the Soviet Union, and by Clark Clifford, a senior advisor to President Truman. These comments were reflective of the as yet to be developed coorientation theory in that they follow the [A > B] model: they are high-level views of what the American officials believed the Soviets were thinking.

- In 1946, in response to a request from the Treasury Department to the State Department, Keenan wrote what became known as the "long telegram" in which he discussed his views of Soviet thinking in the postwar world [A > B].

In the 5,000+ word telegram to Secretary of State James Byrnes, Keenan said:

> [The] USSR still lives in antagonistic "capitalist encirclement" with which in the long run there can be no permanent peaceful coexistence … . [A]ll these theses, however baseless and disproven, are being boldly put forward again today [B > (A > B)]. What does this indicate? It indicates that Soviet party line is not based on any objective analysis of situation beyond Russia's borders; that it has, indeed, little to do with conditions outside of Russia; that it arises mainly from basic inner-Russian necessities which existed before recent war and exist today … . At bottom of Kremlin's neurotic view of world affairs is traditional and instinctive Russian sense of insecurity (Keenan, 1946).

- On Sept. 24, 1946, Clifford delivered what became known as the "Clifford-Elsey Report" to President Truman.

Truman had been so frustrated by Soviet intransigence with regard to various international treaties he asked Clifford to prepare a document for public release that would "reveal to the whole world the full truth about the Russian failure to honor agreements" (Clifford, 1991)

Working with another Truman advisor, George Elsey, Clifford sought participation from Keenan and Charles Bohlen (later to serve as ambassador to the Soviet Union under President Eisenhower), as well as the views of officials in the Department of Justice, Department of State, Department of War (precursor to the Defense Department), as well as the Joint Chiefs of Staff.

The final report was delivered to Truman on Sept. 24, 1946, and was considered so inflammatory Truman ordered Clifford to turn over all 20 copies (Clifford kept a draft for himself) and would not allow it to circulate outside the White House. Said Truman to Clifford:

> [Your report] is very valuable to me – but if it leaked it would blow the roof off the White House, it would blow the roof off the Kremlin. We'd have the most serious situation on our hands that has yet occurred in my administration" (Clifford, 1991).

And what was in the report that caused such consternation: two paragraphs that seemed to summarize U.S. policy toward the Soviet Union:

> The primary objective of United States policy [A > A] is to convince Soviet leaders that it is in the Soviet interest to participate in a system of world cooperation … . Until Soviet leaders abandon their aggressive policies [A > B], the United States must assume that the U.S.S.R may at any time embark on a course of expansion effected by open warfare and therefore [*the United States*] *must maintain sufficient military strength to restrain the Soviet Union* [emphasis added] (Clifford & Elsey, 1946).

A year later Keenan again wrote of the source of conflict between Capitalist and Communist ideologies:

> [There is an] innate antagonism between capitalism and Socialism … . It means that there can never be on Moscow's side any sincere assumption of a community of aims between the Soviet Union and powers which are regarded as capitalist. It must invariably be assumed in Moscow that the aims of the capitalist world are antagonistic to the Soviet regime, and therefore to the interests of the peoples it controls. [A > (B > A)] (Keenan, 1947).

In addition to these foundational philosophical discussions and differences, there was also a series of events before 1983 that aggravated the tensions between the United States and the Soviet Union

- On June 16, 1979, a small number of Soviet armored units arrived in Afghanistan and on Dec. 24, 1979, elements of the Soviet 40th Army began deploying to the country.
- On Dec. 12, 1979, the United States began planning for the deployment of 108 Pershing II medium-range ballistic missiles (MRBMs) and 464 Gryphon ground-launched cruise missiles (GLCMs) to Western Europe. The Pershings, to be based in Germany, were capable of hitting the Ukraine and Lithuania. The missiles were also capable of destroying

> hardened targets such as missile silos and hardened command and control facilities. The missiles arrived in Europe on Nov. 23, 1983, after the conclusion of Able Archer 83, but preparation and shipment were carried out *during the exercise itself*.

And what was the impact of the proposed deployment? "It was the imminent deployment of Gryphon and Pershing II missiles that played the largest role in shaping the Soviet response during the 1983 War Scare" (Jones, 2016).

- In May 1981 General Secretary of the Communist Party Leonid Brezhnev, and KGB chairman Yuri Andropov, announced their belief that the United States was actively preparing for a preemptive nuclear attack on the Soviet Union [B > A]. To counter this threat the KGB and GRU began what was to become the largest peacetime intelligence gathering operation in Soviet history.

Known as Operation RYaN (РЯН, the Russian acronym for *Raketno-Yadernoye Napadnie*, "Nuclear Missile Attack"), agents around the world were to track national leaders who would be responsible for authorizing an attack, Navy and Air Force officers who would actually carry out the launch, as well as land-based missile launch sites.

Oleg Gordievsky was a KGB colonel and KGB bureau chief in London. He also defected to the west and supplied invaluable information to MI6, the British foreign intelligence service. As the highest-ranking KGB officer to defect he said,

> Operation RYaN … was the largest peacetime intelligence operation in Soviet history. Its purpose was to collect military strategic intelligence on the presumed (but non-existent) plans by the United States and NATO between 1981 and 1984 to launch a surprise nuclear first strike against the Soviet Union. The origins of RYAN lay in a potentially lethal combination of Reaganite rhetoric and Soviet paranoia … . In May 1981 … Soviet leader Leonid Brezhnev denounced Reagan's policies in a secret address to a major KGB conference in Moscow. The most dramatic speech, however, was given by Yuri Andropov … . The new American administration, he declared, was actively preparing for nuclear war [B > A] (Andrew & Gordievsky, 1993).

- In a speech before the British House of Commons on June 8, 1982, President Ronald Reagan said "Freedom and democracy will leave Marxism and Leninism on the ash heap of history" (Reagan, 1982).
- On March 23, 1983, President Reagan announced the Strategic Defense Initiative ("Star Wars"), a plan to defend against a land-based and submarine-based intercontinental ballistic missile attack. The Soviet

Union, however, saw the program as the development of a first-strike weapon system [B > A].

- In April 1983 the U.S. conducted FleetEx '83, an exercise involving some 40 ships and 300 aircraft. The ships and aircraft would approach the Soviet Union and monitor Soviet reactions in an attempt to gather information on radar capabilities and signatures. Playing tit-for-tat, Navy aircraft overflew the Soviet Union on April 4, followed by Soviet overflights of the Aleutian Islands.

> The purpose of this program was not so much to signal US [sic] intentions to the Soviets as to keep them guessing what might come next … . Another former US official with access to the PSYOP program offered this assessment: "*It really got to them," recalls Dr. William Schneider, [former] undersecretary of state for military assistance and technology, who saw classified 'after-action reports' that indicated U.S. flight activity. "They didn't know what it all meant"* (Fischer, 2007).

In one instance Navy aircraft actually overflew a Soviet military installation in a simulated attack.

It may be useful at this point to briefly describe the tactics involved in these operations: As aircraft approached the coast of the Soviet Union, they would be detected by normal air traffic control as well as military radar units. If the aircraft were unidentified, radar operators had a choice: ignore the unidentified aircraft, or begin tracking them. However, tracking the aircraft would give away potentially important information about capabilities and procedures, command and control (Bamford, 2001).

The author is personally aware of a mid-1970s tracking "incident" involving a Guam-based B-52D Stratofortress and a Soviet intelligence-gathering trawler routinely stationed off the north end of the runways at Andersen AFB, Guam. The bomber took off on a routine training mission, and was immediately "painted" by the trawler. A new and inexperienced electronic warfare officer, trying to protect his aircraft from a perceived threat [A > B], responded by attempting to jam the trawler's tracking radars, which, of course, gave away information on B-52D jamming capabilities and tactics. The young officer was later "politely" told by squadron and wing commanders to, in the future, ignore "gentlemanly" threats from the trawler.

- On Sept. 1, 1983, Korean Air Lines flight 007 was shot down by the Soviet air force. The Western powers saw this as another example of Soviet brutality [A > B]. Soviet authorities believed the aircraft was on an intelligence-gathering mission [B > A], and that the United States was using the incident as a way to rally international support for a possible war against the Soviet Union [B > (A > B)].

- Three weeks later, on Sept. 26, 1983, Soviet nuclear attack warning radar units erroneously reported five missiles (one lone missile, then later, four more) had been launched from the United States in what appeared to be a first strike. The duty officer at the time, Lt. Col. Stanislav Yevgrafovich Petrov, however, realized there were no secondary indications of a launch and decided not to alert higher authorities, thus averting a potential nuclear exchange. The "missile attack" was later attributed to Soviet early-warning satellites detecting sunlight reflecting off high-level clouds over the Western United States.
- On Oct. 26, 1983, the United States invaded Grenada. With echoes of the Cuban missile crisis, the Soviet Union had been building a base for long-range bombers. The liberation of the island was of particular significance because according to Peter Vincent Pry, a former CIA employee who specialized in the analysis of Soviet nuclear capabilities and strategies,

> The U.S. liberation of Grenada was the first time the West had freed a nation from communism's grip. The Soviets probably feared that the United States [B > A] might invade communist Nicaragua … since U.S. public enthusiasm over Grenada inspired much rhetoric about liberating that nation too (Pry, 1999).

- Able Archer 83 itself was "the culmination of SACEUR's annual AUTUMN FORGE exercise series" (Durkee, 1983) and as a "play within a play," may have led to even more concern on the part of the Soviet Union [B > (A > B)]. Autumn Forge could have been seen as a cover for a surprise attack, [B > A] with the even more threatening possibility of a nuclear launch embedded in Able Archer 83.

Able archer 83: a brief scenerio

It was against this background of fear, mistrust and heightened U.S.-Soviet tensions that on Nov. 7, 1983, the United States and its NATO allies launched Able Archer 83, a five-day command post exercise designed to test the ability of the alliance to respond to increasing conflict with Warsaw Pact nations, culminating in a coordinated nuclear attack.

Unlike previous years, however, the war game included several new components, adding new levels of realism to the exercise:

- "One of the goals of Exercise ABLE ARCHER 83 was to practice new nuclear weapons release procedures, which had been revised as a result of ABLE ARCHER 82" (Pedlow, 2013)
- New forms of coded communications.
- Extensive use of radio silence.
- Participation by the actual leaders of NATO countries.

There is, however, some confusion as to this last element, participation by national leaders. According to Don Oberdorfer, White House and diplomatic correspondent for the *Washington Post* for some 25 years,

> The original plan for the 1983 exercise called for [U.S. Secretary of Defense Casper] Weinberger, members of the Joint Chiefs of Staff, the supreme commander of NATO, and in its very first discussion stages, even [President Ronald] Reagan and [Vice President George] Bush, to participate in this sophisticated test of nuclear attack procedures … . [However] *most of the top-ranking civilian and military officials were taken out of the exercise because of concern* [A > (B > A)] *about the high state of Soviet nervousness*. Nevertheless, the exercise was still more realistic than in the past (emphasis added) (Oberdorfer, 1992).

J. Peter Scoblic, executive editor of *The New Republic* said the exercise also involved British prime minister Margaret Thatcher and Helmut Kohl chancellor of Germany (Scoblic, 2008).

However, a summary of the exercise compiled by the SHAPE historian Gregory Pedlow, states an opposite position regarding the national leaders:

> There was also no involvement of national leaders in the exercise, and no such involvement was ever planned, despite some recent allegations to this effect. National involvement was limited to two small Response Cells at the Joint Chiefs of Staff in Washington and the Ministry of Defence [sic] in London, whose role was to simulate the nuclear powers' political authorities. Thus all participants in the exercise were military personnel, some of whom simulated the political authorities at NATO headquarters and in the national capitals (Pedlow, 2013).

> There is some evidence, however, that Able Archer 83 was more than a simple command post exercise. Said a report prepared by the President's Foreign Intelligence Advisory Board in 1990, and classified well-above top secret,

> We noticed a tendency for most to describe the annual Able Archer exercise simply as "a command and control" exercise, [A > A] and thus, clearly nonthreatening to the Warsaw Pact. Not only was Able Archer 83 unique in some significant ways from earlier ones, it also incorporated live mobilization exercises from some US military forces in Europe. For example, we are told that some US aircraft practiced the nuclear warhead handling procedures, including taxiing out of hangars carrying realistic-looking dummy warheads (President's Foreign Intelligence Advisory Board, 1990).

A NATO document, however, said, "Participants in the Exercise all are headquarters, not troop units, because this was a Command Post Exercise, not a Field Training Exercise" (Anonymous, undated)

In order to set the stage for the exercise, the game scenario included several international "crises" beginning in March 1983. Three are of particular interest given future (21st century) real-world events:

- Significant unrest and eventually armed conflict involving Yugoslavia, Kosovo and Albania, with Yugoslavia requesting aid from several NATO countries.
- An Iran-Iraq war, with arms deliveries from Orange (the hypothetical Soviet-backed forces) to Iran, Syria and South Yemen.
- In response to Orange activities in the area several Gulf states requested American aid. The United States, in the run-up to Able Archer 83, sent military advisors and naval support.

It should also be noted there are some significant differences in how various types of training exercises are conducted, particularly the language involved. The author, for example, was involved in numerous exercises during his Air Force career. For small, local exercises (simulated Broken Arrow or simulated hostage situation, for example) exercise messages would be prefaced, and followed, by a specific form of notification. For instance, as part of a hostage exercise, someone calling security police about gunshots would say, "This is an exercise message. Repeat, exercise. Listen, I think I heard some gunshots in Building 702. You guys better get over here. This was an exercise message, repeat, exercise."

But what better cover for an actual attack than to pretend Able Archer was just an exercise $[A > A] \neq [B > A]$:

> Each [Able Archer] radio signal sent out was preceded by the message "Exercise … exercise … exercise". The Soviets picked up on this but grew doubtful about whether this was in fact simply a game. In Moscow they began to ask if it was all a case of *maskirovka*, or deception (Downing, 2018).

Indeed, part of the Able Archer 83 training scenario was to feed conflicting and sometimes contradictory messages and events to the participants to see how they would react, and how real-world plans might need to be changed for future contingencies.

Again, in a real-world example, the author participated in an alert exercise in which aircrews were given a simulated alert order, were to go to their aircraft, and simulate engine start, taxi, and takeoff, all in under 15 minutes.

As soon as the crews got into their truck to go to their aircraft, however, the exercise umpires handed both the crews and the command post controllers a card that read, "All of your radios have just died. You currently have no radio contact with each other. Continue the exercise."

A recent (December 2018) incident at Wright-Patterson AFB near Dayton, Ohio, perfectly illustrates how easily exercises can spiral out of control: hospital personnel at the base were conducting a pre-announced mass casualty exercise. At the same time another pre-announced exercise was in progress: a simulated active shooter. Both locations knew of the other exercise, but not the details.

In the middle of the hospital exercise a real-world jogger was brought to the emergency room with a real-world injury.

> A few minutes later, amid the confusion, a medical group employee called the Base Defense Operations Center over a landline to report an actual active shooter event at the hospital. The hospital staff then broadcast a Code Silver over the intercom to lock down the facility and warn staff that an active shooting was in progress, and on-base forces started to respond to what they thought was a real-world scenario.
>
> After hearing the Code Silver, another medical group employee called 911 using a cell phone, which meant the call was routed to the 911 call center off base. This resulted in an "officer in distress" call, or Code 99, to civilian law enforcement.
>
> Federal, state and local first responders from the Dayton area, the state of Ohio, and the FBI and ATF were notified and activated – unbeknownst to the 88th Air Base Wing's command and control structure, which itself asked for a SWAT team and three mutual aid medical units (Losey, 2018).

Able Archer, however, did not simply take place in a conference room where the game play communications and responses could be easily controlled. Actual, albeit exercise, messages were, in fact, continually flowing between nations and units involved in the exercise. For the Soviets, telling the difference between an exercise message and a real message was dangerously difficult at best [B > A].

In addition, at least two other exercises were in operation during the Able Archer timeframe.

> In later years, NATO's chief historian would insist that Able Archer involved no field units. SHAPE officers, members of the Able Archer Directing Staff, the nuclear operations cell at NATO, evaluators from SACEUR – all would express astonishment that the Soviets found anything unusual about this particular exercise. [A > B] But even they didn't see the whole picture.
>
> A second, much smaller exercise was taking place in Europe at the same time. But it involved real troops and real flights (Ambinder, 2018).

This exercise, CRISEX 83, involved B-52 and KC-135 flights over Europe, from the Atlantic Ocean to the Mediterranean Sea, and consisted of reconnaissance missions, sea lane protection and contingency operations against rapidly changing land targets.

Thus, to say no actual troop movements were involved in Able Archer 83 is somewhat misleading. Able Archer 83 was a subset of Reforger 83 which itself was a subset of Autumn Forge 83. Other exercises going on at the same time were CRISEX 83, Atlantic Lion 83, which "involved thousands of American, Dutch, German, British and Canadian troops as well as tanks and armored vehicles (Downing, 2018), and Busy Observer, a joint Navy-Air Force exercise.

As these threat levels and intentions were being discussed by various contemporary participants there is still another possible explanation for the confusion: Were the names of the various exercises conflated so that after-action reports and later historical reviews failed to distinguish the various names.

In a comment about an unpublished interview with Marshal Sergei Akhromeyev, the National Security Archive notes

> This interview of Akhromeyev by *Washington Post* journalist Don Oberdorfer exposes a key historiographical problem in the study of the "Able Archer 83" War Scare. The NATO exercise was generally not known as "Able Archer 83" to Soviet military or intelligence officials as it was being conducted. Soviet analysts have referred to it as "Autumn Forge 83," the name for the larger, months-long, umbrella exercise preparing for conventional war (Anonymous, 1990).

Said the director of the Freedom of Information Project for the National Security Archive, Nate Jones, in his study of Able Archer,

> A previously unpublished interview with Marshal Sergei Akhromeyev that points to the importance of the distinctions – and interrelation – between Autumn Forge 83, Reforger 83, and Able Archer 83. Akhromeyev stated that he did not remember "Able Archer 83" but that, "we believed the most dangerous military exercises are [were] Autumn Forge and Reforger. These are [were] the NATO exercise in Europe." Akhromeyev finds unlikely support in another previously unpublished interview. Caspar Weinberger who served as US Secretary of Defense during the War Scare said, "the difference between a realistic exercise or maneuver and what could be preparations for an attack, that line is sometimes quite blurred" (Jones, 2013).

Perhaps the most compelling thought about the nuclear potential of Able Archer 83 appeared in Pravda in an article written by defense minister Dimitry Ustinov, who said in a statement obviously reflecting the concerns at the highest levels of the Soviet government:

> The dangerous character of military exercises conducted in recent years by the U.S. and NATO draws attention. They are characterized by vast scope and it becomes more and more difficult to distinguish them from the real deployment of armed forces for aggression.
>
> NATO's Autumn Forge-83 maneuvers, which have just ended. Involved 300,000 people and large amounts of arms and combat equipment. The area of the maneuvers encompassed Western Europe, from Norway to Turkey, and included the Atlantic (Ustinov, 1983).

And notice, again, the apparent confusion between Autumn Forge and its smaller subset, Able Archer 83 [B > (A > B)].

These thoughts were echoed by Col. L.V. Levadov a few months later, in a confidential report prepared for the Soviet General Staff, indicating continuing concern about the exercises (Levadov, 1984).

Yet again, what United States' leaders saw as a series of simple exercises [A > A], could be interpreted quite differently by the Soviets [B > A]:

> The Western maneuvers that autumn, called Autumn Forge, were depicted by the Pentagon as simply a large military exercise [A > A]. But its scope was hardly routine … .
>
> To the Russians, it could easily have looked like a genuine preparation for a nuclear strike [B > A] … . A total of 40,000 U.S. and NATO troops were moved across Western Europe, including 16,044 U.S. troops airlifted overseas in 170 missions conducted in radio silence.
>
> More ominously, U.S. and NATO officers practiced the procedures they would have to follow to authorize and conduct nuclear strikes in an unpublicized exercise called Able Archer 83, shifting their headquarters as the game escalated toward chemical and nuclear warfare. In communications, they several times referred to non-nuclear B-52 sorties as nuclear "strikes" – slips of the tongue that could have been intercepted by Soviet eavesdroppers (Birch, 2013).

It should also be noted that even in the midst of serious international crises, multiple units carrying out numerous and varied tasks are often not communication with each other. Thus, for example, during the Cuban Missile Crisis, when Soviet and American forces were on high alert, the Air Force conducted an Atlas missile test launch from Vandenberg AFB.

For the Soviets, however, Able Archer 83 might very well be a cover for an actual attack. [B > A]

> The Soviet military commanders knew that the Warsaw Pact had its own contingency plans to attack the West under the cover of military exercises [B > B]. This would deceive NATO into thinking that there was no real threat [A > B]. They now began to believe that the radio messages they were picking up from Able Archer 83 were a mirror image of their own plans. Maybe this had started out as a war game, but was it in reality intended to disguise plans to launch an actual assault on the Soviet Union?
>
> Panic began to spread at the KGB Centre in Moscow (Downing, 2018).

Because the operational orders for Project RYaN had been so specific as to what KGB agents were to look for, a self-fulfilling prophecy began to emerge as agents began to report not only what they saw, but what they assumed their superiors wanted them to see, even if what they saw was routine [B > (A > B)] (Andrew & Gordievsky, 1993).

In reality, many of the American alert measures at military bases were in response to the Oct. 23, 1983, bombing of the Marine barracks at the Beirut International Airport, which resulted in the deaths of 305 victims. The KGB agents, however, saw what they wanted to see.

Thus, game play activities, rather than merely following a scenario at a tabletop, may have been misinterpreted by Soviet spies [B > A].

Recall that orders regarding RYaN called for Soviet spies to be on the lookout for suspicious activity at NATO bases. For example, at Heinrich Hertz Airfield in Birkenfeld, Germany, players donned chemical attack protective equipment as part of a routine exercise. The move, however, would clearly been seen as a defensive measure to an actual Soviet attack in response to an anticipated NATO attack [B > (A > B)] (Ambinder, 2018).

Still another confounding factor for the Soviets was that Able Archer 83 was the first time B-52 bombers and KC-135 tankers were used in the exercise. As part of the game play, once simulated release of nuclear weapons was authorized, they would be delivered by nuclear-tipped Air Launched Cruise Missiles fired from B-52 Stratofortress bombers. The bombers were, for the first time, actually flown, albeit unarmed, during this exercise.

According to an Eighth Air Force tanker planner interviewed by Marc Ambinder,

> That was the first time they played with that bomber … . That was significant for a number of reasons. People assumed that if the B-52s were there, they'd have a strategic nuclear purpose, and not a conventional purpose. It was really sensitive – a big concern at all levels (Ambinder, 2018).

There is also evidence some participants themselves thought the exercise might be perceived as moving too far from "game play" into a perceived actual attack [B > A].

Nine members of the various command posts were Strategic Air Command (SAC) officers who were to initially observe how the participants planned to use B-52 bombers and KC-135 tanker aircraft. However, because the regular Able Archer 83 players were generally not familiar with B-52 and KC-135 combat requirements and operations, the nine were forced into advisor roles.

Although a number of B-52 and KC-135 sorties were actually flown, a since-declassified 7th Air Division after action report argued against future SAC participation because the short nature of the exercise precluded any actual training or planning by SAC units.

A more serious concern, however, was that there could be a perceived actual threat [B > A] in the participation by an actual nuclear-capable combat force:

> The presence of the SAC ADVON, [ADVanced EchelON] especially in large numbers for an exercise of this nature, raises a sensitive, political issue concerning the role of the B-52. One may see an implication or make the inference that if B-52 aircraft are present in a nuclear scenario exercise, are they, being used to perform strike missions? Numerous times during the exercise, the word "strike" was used ["far too frequently" (Ambinder, 2018)] in reference to B-52 sorties. While this is an obvious slip of the tongue and was quickly corrected, in most cases, it does serve to fuel any inference [B > A] should a remark be made in a nonsecure environment. A large, if not fully manned, ADVON team which would be required

> to properly support ABLE ARCHER, being deployed to the many locations would only again give rise to speculation about the B-52 role (Durkee, 1983).

The timeline

There is also some confusion or misunderstanding about when the exercise itself actually began. According to the 7th Air Division after-action report, "ABLE ARCHER 83 was conducted 7–11 Nov 83 with three days of 'low spectrum' conventional play followed by two days of 'high spectrum' nuclear warfare" (Durkee, 1983).

However, as shown in the following timeline, as related by SHAPE historian Gregory Pedlow, the "game play" actually began three days earlier.

- Nov. 4: "The exercise scenario began with Orange (the hypothetical opponent) opening hostilities in all regions of ACE [Allied Command Europe] on 4 November (three days before the start of the exercise) and Blue (NATO) declaring a general alert" (Pedlow, 2013).

According to Peter Vincent Pry, a former CIA intelligence officer and a professional staff member on several House of Representatives committees dealing with threat assessment and strategic posture issues, however, the exercise began even earlier:

> On Nov. 2, *the first day of Able Archer 83* [emphasis added], a nearly hysterical directive from [Vladimir Aleksandrovich] Kryuchkov [head of the First Chief (Foreign Intelligence) Directorate of the KGB] to overseas KGB agents declared, "The threat of an outbreak of nuclear war is reaching an extremely dangerous point … . " (Pry, 1999)

Regardless of the actual start date, Pry says Blue forces (NATO) went to simulated DEFCON (Defense Condition) 1, the highest state of readiness. In addition,

> Nuclear release procedures, which turn off safety mechanisms designed to prevent unauthorized missile launch or accidental warhead detonation – the last steps prior to firing – normally occur at DEFCON-1 … . No NATO nuclear forces actually went to DEFCON-1 during ABLE ARCHER-83–the general alert was merely simulated, not real – but Soviet intelligence, influenced by its perception that the world political situation was rapidly deteriorating, mistook the simulated alert for the real thing [B > A] (Pry, 1999).

- Nov. 6 (E-Day): Orange begins using chemical weapons throughout Europe.

At this time real-world events, particularly in Moscow, were taking a sharp turn for the worse as KGB Center gave its agents in Europe and North

America an actual timeline for a nuclear attack on the Motherland [B > A]. (There is, however, some confusion as to the actual date of the warning message, perhaps a difference in preparation time, transmission time and reception time. A transcript of the message in Andrew & Gordievsky shows a date stamp of "05.11.83" (Andrew & Gordievsky, 1993) but Downing (2018) has the date as Nov. 6)

> [W]e are sending you the information which the Centre has regarding possible operations by the USA and its allies on British territory in preparation for RYAN [a nuclear attack on the Soviet Union] … . [I]t can be assumed that the period of time from the moment when the preliminary decision for RYAN is taken, up to the order to deliver the strike will be of very short duration, possibly 7-10 days (Andrew & Gordievsky, 1993).

Since KGB Center assumed Able Archer 83 was an elaborate cover for an actual attack [B > A], at least some of the Soviet leaders were expecting a nuclear attack no later than the end of November.

- Nov. 7 (Exercise Day 1): Orange forces continue to use chemical weapons, and the situation in Northern Europe becomes desperate. SACEUR (Supreme Allied Commander Europe) asks national leaders for guidance on the use of nuclear weapons.
- Nov. 8 (E + 1): During the morning of the second day the situation continues to deteriorate, and SACEUR requests authorization to use nuclear weapons. In the game scenario, this would be, not a tactical strike against the invading forces, but a full-scale strategic nuclear attack on the Soviet Union (Downing, 2018). The request is approved by national authorities late in the day.

During the night of Nov. 8/9, KGB Center sent a real-world flash message to Western European stations advising that NATO forces had gone on an actual alert, and that actual troops were being actually mobilized [B > A]. The message suggests these movements were a prelude to an actual attack, perhaps nuclear (Andrew & Gordievsky, 1993).

Also during this time period Soviet nuclear forces were put on alert:

> More ominously, Moscow increased intelligence over-flights, moved SS-20 Saber intermediate range ballistic missiles (Soviet designation RSD-10 Pioneer) to camouflaged launch sites, and placed about a dozen nuclear-capable Soviet fighter aircraft stationed in forward bases in East Germany and Poland on increased alert status, evidently in response to what it perceived as the heightened threat arising from what it could detect in Able Archer [B > A] (Braithwaite, 2018; Oberdorfer, 1992).

However, a top secret Central Intelligence Agency analysis of Soviet activities shows ambivalence about Soviet perceptions of American intentions [A > (B > A)]

> Since November 1983 there has been a high level of Soviet military activity … and several other noteworthy events … .
>
> - Response to NATO exercise: Assumption by Soviet air units in Germany and Poland [deleted] of high alert status with readying of nuclear strike forces as NATO conducted "Able Archer-83," a nuclear release command post exercise … .
>
> A case in point is the Soviet reaction to "Able Archer-83" [deleted] The elaborate Soviet reaction to this recent exercise included [deleted] the placing of Soviet air units in east Germany and Poland in heightened readiness [deleted] Alert measures included increasing the number of fighter-interceptors on strip alert, [deleted]. Although the Soviet reaction was somewhat greater than usual, by confining heightened readiness to selected air units Moscow clearly revealed that it did not in fact think there was a possibility at this time of a NATO attack (Central Intelligence Agency, 1984).

This somewhat benign view of Soviet activities, however, was not echoed by the President's Foreign Intelligence Advisory Board, which in its top secret report noted, "evidence that parts of the Soviet armed forces were moving to an unusual level of alert" (President's Foreign Intelligence Advisory Board, 1990).

Further confirmation bias [B > A] came into play as Soviet signals intelligence operators picked up an extremely disturbing sign: during the most critical part of the exercise, when authorization to use nuclear weapons was being sought from national leaders, game players were instructed to switch to a new code!

There is, again, evidence that some in the national leadership of the allied powers feared the game play may be too realistic: according to the scenario, President Reagan and Prime Minister Thatcher were to authorize the release of nuclear weapons.

However, U.S. National Security Advisor Robert (Bud) McFarlane thought the games were going too far:

> If you go to the point of having the Principals, the decision-makers, actually involved the question is raised, is this an exercise or are we not facing a possible attack? The President understood this, and that however misguided the Soviet perceptions might be [B > A], we shouldn't add to them by having the Principals involved and so he declined to participate (Downing, 2018).

Downing says Reagan "declined" to participate. However, former British ambassador to the Soviet Union, Rodric Braithwaite said, "[H]is National Security Advisor advised him to pull out, because the Americans were already beginning to pick up Soviet worries" [B > (A > B)] (Braithwaite, 2018).

But again, confirmation bias took over, and when President and Nancy Reagan left Washington for a previously scheduled trip to Japan, Soviet

intelligence interpreted this as the President leaving for safety in preparation of a retaliatory strike on Washington by the Soviet Union [B > (A > B] and [B > A] (Downing, 2018).

Even more coincidences took place to add to the Soviet consternation. ABLE ARCHER 83 was taking places during the celebration of the Russian Revolution of 1917, and as a Soviet missile launch officer, Viktor Tkachenko, recalled, "We had always been told that war would begin on the eve of some holiday, when people were out celebrating, when people were relaxed … . We were ready for the Third World War" (Tkachenko, 2006).

- Nov. 9 (E + 2): Nuclear weapons are delivered on their targets during the morning of exercise day 3.

After the initial nuclear salvo, Orange aggressor forces continue to advance, and late in the day SACEUR asks for authorization for another release of nuclear weapons.

- Nov. 10 (E + 3): During the afternoon of exercise day 4 national command authorities approves the further use of nuclear weapons.
- Nov. 11 (E + 4): Release orders are executed during the morning of exercise day 5, and the exercise ends mid-day. "That was the final day of the exercise, which ended in accordance with the long-planned schedule, not early as has sometimes been alleged" (Pedlow, 2013).

"No further details are available on the actual course of the exercise – the various incidents that were simulated, the messages sent/received – because this kind of exercise material was not preserved in the archives" (Anonymous, undated).

For the jittery Soviets, however, still other "real world" events were pointing to a nuclear showdown: The ballistic missile submarine SSBN-642, the Kamehameha, was cruising near Iceland when they received a NATO exercise Emergency Action Message designed to test the crew's response to launch orders. Part of the exercise involved opening missile tubes in preparation for a launch, which would make the submarine more acoustically "visible" to Soviet attack submarines that were constantly trying to shadow the "boomers."

Normally a cat-and-mouse game would follow: The Americans would open the hatches to the launch tubes and the trailing Soviet submarine would respond with a sonar ping to let the Americans know they were listening, and, if necessary, preparing to launch their own attack.

This time, however, there were no pings (Ambinder, 2018). Were the Soviets not trailing the *Kamehameha*? Or were they assuming the exercise message was simply a cover for an actual attack [B > A], and were not willing to give away the position of one of its attack submarines in case, as would

probably happen in war-time, it was itself was being tracked by an American hunter-killer submarine designed to protect to ballistic missile submarine? [B > (A > B)] Apparently, no one who knows is talking.

In response to the perceived threat, Soviet leaders moved nuclear forces to a higher alert status, and placed air force units in East Germany and Poland on alert.

"With nothing left to destroy" (Jones, 2016), the exercise ended on Nov. 11, 1983, and Soviet alert forces stood down.

Summary: applying the coorientation model

As noted above, the coorientation model, using nation-states as the participants in the communication process, consists of six parts:

(1) U.S. > U.S. What did United States' officials believe about their own actions during Able Archer 83 (A > A)?
(2) U.S .> U.S.S.R. What was the American (and NATO) perception of what Soviet officials were doing during the exercise [A > B]?
(3) U.S. > (U.S.S.R. > U.S.)) How did American officials evaluate what they perceived to be Soviet beliefs about what the United States was doing [A > (B > A)]?
(4) U.S.S.R. > U.S.S.R. What did Soviet officials believe about their own actions during Able Archer 83 [B > B]?
(5) U.S.S.R. > U.S. What did Soviet officials think the United States and NATO were doing during the exercise [B > A]?
(6) U.S.S.R. > (U.S. > U.S.S.R) What was Soviet perception of what the United States thought about Soviet actions [B > (A > B)]?

At this point it becomes fairly easy to operationalize the relevant variables and fit them into the coorientation model. That is, what where the actions, thoughts and perceptions of NATO and Warsaw Pact countries during the operation. Analyzing these thoughts and perceptions, however, is more challenging.

Let us begin by simply putting facts we know, or think we know, into the coorientation matrix:

(1) *U.S. > U.S. What did United States' officials believe about their own actions during Able Archer 83* [A > A]*?* NATO leaders were simply conducting a large, annual command post exercise (which was itself part of a larger exercise involving troop and aircraft movements), although with new variables such as coded communications and the participation of national leaders.

(2) *U.S. > U.S.S.R. What was the American (and NATO) perception of what Soviet officials were doing during the exercise* [A > B]*?* At its most basic level, American intelligence analysts saw what they believed to be a not particularly significant buildup of Soviet military forces.
(3) *U.S. > (U.S.S.R. > U.S.)) How did American officials evaluate what they perceived to be Soviet beliefs about what the United States was doing* [A > (B > A)]? American officials were generally unaware of Soviet apprehension about Able Archer 83. That is, there were no indications NATO officials believed the Soviets were concerned about American activities.
(4) *U.S.S.R. > U.S.S.R. What did Soviet officials believe about their own actions during Able Archer 83* [B > B]*?* National leaders took steps to defend the country against what appeared to be preparations for an actual attack by NATO forces.
(5) *U.S.S.R. > U.S. What did Soviet officials think the United States and NATO were doing during the exercise* [B > A]*?* During the exercise the Soviet national leadership was fearful Able Archer was actually a cover for a surprise attack on the Soviet Union.
(6) *U.S.S.R. > (U.S. > U.S.S.R). What was Soviet perception of what the United States thought about Soviet actions* [B > (A > B)]*?* As the exercise progressed, the Soviet leadership saw NATO responding to their (Soviet) actions to deter a surprise attack.

Conclusion

In her 1962 Pulitzer Prize winning book (awarded in 1963), *Guns of August*, and in a 1966 collection of essays, *The Proud Tower: A Portrait of the World Before the War, 1890–1914*, Barbara Tuchman posits European powers stumbled into World War I. She argues the "War to end all wars" was the result of a series of misinterpretations, miscalculations and misunderstandings, rather than a deliberate march toward war.

Although numerous international organizations, among them the United Nations and the Organization for Security and Co-operation in Europe (founded, respectively, in 1945 and 1973, well before Able Archer 83) have had the aim of preventing nuclear war, it was not until the ratification of the Vienna Document 2011 that nations took steps to prevent misunderstandings regarding military exercises [A ≠ B]. These protocols specify:

> Prior Notification of Certain Military Activities (CMA): at least 42 days advance notice for CMS exceeding one of the following thresholds: 9,000 troops, 250 tanks, 500 ACV, or 250 pieces of artillery.
>
> Observation of Certain Military Activities: inviting all OSCE states to observe CMA exceeding one of the following thresholds: 13,000 troops, 300 tanks, 500 ACVs, or 250 pieces of artillery. (Department of State, 2017).

> The participation of air forces of the participating States will be included in the notification if it is foreseen that in the course of the activity 200 or more sorties by aircraft, excluding helicopters, will be flown (Organization for Security and Co-operation in Europe, 2011).

Interestingly, these protocols contain no previsions for notification of missile exercises, the very type of activity that caused such consternation in Able Archer 83, and as will be shown later, continues to befuddle those whose job it is to detect and respond to such attacks. Indeed, in the latest round of international discussions regarding weapons, the OSCE ministers issued a two-page document in which they

> recognize the importance of OSCE norms and best practices aimed at combating *illicit trafficking in all its aspects with regard to small arms and light weapons (SALW) and stockpiles of conventional ammunition (SCA)* and their contribution to the reduction and prevention of the excessive and destabilizing accumulation and uncontrolled spread thereof (emphasis added) (Organization for Security and Co-operation in Europe, 2018),

hardly concerns equivalent to nuclear destruction (curiously, in what one hopes was an accidental coincidence, the document was issued on Dec. 7, 2018, the exact 77th anniversary of the sneak attack on Pearl Harbor).

Looking back, evidence suggests events during the Cuban Missile Crisis could easily have spiraled out of control. And numerous other incidents involving computers, satellites and old-fashioned human error could, if not corrected, have led to a nuclear exchange. In addition to the several episodes mentioned above, other incidents before Able Archer 83, according to the Union of Concerned Scientists (2015) include:

- 1960: NORAD (North American Air Defense Command) went to maximum alert when radars in Greenland reported a massive missile attack. In reality, computers had been fooled by the moon over Norway.
- 1962: Radar units in New Jersey reported an anticipated missile impact near Tampa, Florida. The error was the result of numerous false indications, including a test tape of a simulated missile launch from Cuba being run at the same time a satellite appeared over the horizon. This event occurred during the Cuban Missile Crisis, when tensions were already abnormally high.
- 1979: A technician accidentally put a training tape into an operational computer. As a result, missile and bombers crews went to highest alert levels.
- 1980: A failed computer chip triggered preliminary alert actions by Strategic Air Command bombers and tankers, as well as by the National Emergency Airborne Command Post at Andrews AFB.

Further, there continues to be numerous false alarms through the present day.

However, by using the McLeod and Chaffee coorientation model, we can see how these events, and perhaps more importantly, how the national perceptions of these events, can be reinterpreted in a different, less bellicose light.

It is much too easy (and fallacious) to look back at Able Archer 83 and say "they" should have known it was just an exercise. The coorientation model, however, does not deal with what should be done or what should have happened, but with what actually did happen. The how and why are certainly components that should be studied, but in the midst of a crisis the first response is often, necessarily, to deal with the immediate problem, and worry about the causes later.

Indeed, two of the basic axioms of military flight operations, "Aviate, Navigate, Communicate," and "avoid target fixation" are relevant: First, take care of the immediate situation or problem, then try to communicate about it. Second avoid concentrating so hard on the target that you miss what may be other, more serious problems/situations.

In Able Archer 83, the game activities became so serious and intense, on both sides of the "game board," that some people didn't or couldn't move beyond taking care of the basic problem, the NATO response to the "invasion."

And target fixation became a problem for the Soviets when they concentrated on particular actions, but failed to see countervailing actions, which led to the common problem in communication and perception, confirmation bias: they saw what they wanted to see.

Coorientation theory provides a framework for analyzing communication patterns between individuals and groups, but does almost nothing in terms of the objective meaning of the communication. So are there lessons to be learned from applying co-orientation theory to Able Archer 83?

To answer this question with a simple, perhaps obvious, question: why didn't someone on "their" side simply pick up the phone, call "our" side, and ask, "What are you people doing over there? What is going on?" In terms of coorientation, Able Archer 83 was, after all, just an exercise. So assuming their leader could telephone our leader, we would simply say this was an exercise and not to worry. "They" would believe "us." Simplistic? Perhaps. Effective? Most definitely.

Of course, in the murky world of intelligence and counterintelligence double-speak and doublethink are often the rule rather than the exception. Indeed, more than 2,000 years ago Sun-Tzu 1910 was teaching a version of co-orientation, and the importance of knowing just what both you and the enemy are thinking:

> If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory

> gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle.

And on into modern times, where a plethora of information is available, making analysis more, rather than less, difficult:

> Intelligence data are cluttered with nondiagnostic information, and the cognitive work is environmentally constrained by factors such as time, weather, data overload, and the need to work in distributed teams. In collecting and analyzing information, analysts are hampered by brittle collection assets and analytical support tools of questionable usability and usefulness. These tools, including some new ones that are being developed, often actually add to the work of the analyst because they were not designed to adequately support these experts' work in the first place (Trent, Patterson, & Woods, 2007).

And here is where objective interpretation of communication can fall apart. Assume Able Archer was not an exercise, but a prelude to an actual attack. They call us, and our side would not, of course, say we were preparing for an attack. We would say it was just an exercise. So how to distinguish the real from the not real? Again, in terms of coorientation, the model looks like this: [A > (B > A) = (B > A)]. Do we think they believe what we are saying? Problems occur, however, with a slight change in symbols: [A > (B > A) ≠ (B > A)], that is, our perception of what we think they are thinking does not equal what they are, in fact, believing.

Additionally, once can ask if the aforementioned Vienna Document 2011 is not designed so much to promote greater understanding and trust, as it is for the nuclear powers to showcase their strength as a warning to others. As Dr. Strangelove said, "Of course, the whole point of a Doomsday Machine is lost, if you keep it a secret" (Kubrick, 1964)!

Although technology can provide a wealth of objective information, finding the subjective, or hidden meaning, is almost completely a human endeavor, and analysists must always be willing to say, "I may not fully understand what I am hearing you say."

In terms of the co-orientation model, a lesson to be learned is that even though analysts may think they know what the enemy is saying [A > B = B > B], in reality, the formula may be [A > B ≠ B > B)]: what I'm hearing is not what you, in reality, mean. Importantly, the formulae are not placing a value judgment on the communication, but are simply saying what I hear (subjectively) is not what you mean (objectively).

A second lesson is the importance of checking for secondary verification of assumptions being made about the original message. Is there another source that can further verify our conclusions? Of course, a danger here is that we tend to go to sources that will simply further verify our own conclusions. The people we talk to are often "just like me," and will thus put the same interpretation as I do.

The third lesson relates to the second: analysts need to check for verification via external sources. As noted earlier, there are several nuclear-related incidents that were defused when officials looked at further external evidence and concluded there was a machine error (e.g., would the United States really launch a preemptive strike with only one or two missiles?) Thus there should be someone on the analytical staff who takes the position of the enemy and says, "We are assuming they know this is just an elaborate exercise [A > (B > A) = B > A]. But, what if they don't? What if they think this is a real military buildup ([A > (B > A) ≠ B > A])? How will they respond?" A problem here is that the devil's advocate role is rarely appreciated in the highest levels of government: no one wants to contradict an agency head, much less the President. And as mentioned earlier in this paper, how much second guessing can an analyst do before insanity sets in: If I say A they will think I mean B, but they will also assume I think they think I mean C.

The coorientation model clearly shows in ABLE ARCHER 83 how the United States, Europe and the Soviet Union stumbled toward war. Certainly, it is significant the nations did not actually launch nuclear attacks. So perhaps the apocryphal "system" really did self-correct to prevent disaster. Nevertheless, coorientation is yet another tool to help both individuals and nation-states understand their own actions, and the actions of others, to the benefit of all.

Notes on contributor

Larry Burriss is a professor in the School of Journalism and Strategic Media at Middle Tennessee State University, Murfreesboro, Tennessee USA, where he teaches Media Law and Mass Media & National Security. He received his bachelor's and master's degrees in broadcast journalism from The Ohio State University, and a master's degree in human relations from the University of Oklahoma. Dr. Burriss earned his doctorate from Ohio University where he minored in law. He received a law degree from Concord University. Dr. Burriss is a retired Air Force lieutenant colonel and saw service in Guam, South America, Germany, England, Somalia, Bosnia and the Pentagon.

References

Adamsky, D. (2013). The 1983 nuclear crisis – Lessons for deterrence theory and practice. *Journal of Strategic Studies*, *36*(1), 4–41. doi:10.1080/01402390.2012.732015

Ambinder, M. (2018). *The brink: President Reagan and the nuclear war scare of 1983*. New York, NY: Simon & Schuster.

Andrew, C., & Gordievsky, O. (1993). *Comrade Kryuchkov's instructions: Top secret files on KGB foreign operations, 1975–1985*. Stanford, Calif.: Stanford University Press.

Anonymous. (1990). Notes on document 23. Unpublished Interview with former Soviet Head of General Staff Marshal Sergei Akhromeyev, January 10, 1990. Retrieved from https://nsarchive2.gwu.edu//dc.html?doc=5028381-Document-23-Unpublished-Interview-with-former

Anonymous. (undated). Exercise scenario. Retrieved from https://nsarchive2.gwu.edu/NSAEBB/NSAEBB427/docs/6.b.%20Exercise%20Able%20Archer%2083%20SHAPE%20March%202013%20NATO.pdf

Bamford, J. (2001). *Body of secrets: Anatomy of the ultra-secret national security agency*. New York, NY: Doubleday.

Birch, D. (2013, May 28). The U.S.S.R. and U.S. came closer to nuclear war than we thought. *The Atlantic*. Retrieved from https://www.theatlantic.com/international/archive/2013/05/the-ussr-and-us-came-closer-to-nuclear-war-than-we-thought/276290/Downloaded

Blake, A. G., & Kaplowitz, S. A. (2001). Sociolinguistic inference and intercultural coorientation: A Bayesian model of communicative competence in intercultural interaction. *Human Communication Research*, *27*(3), 350–381.

Braithwaite, R. (2018). *Armageddon and paranoia: The nuclear confrontation since 1945*. New York, NY: Oxford University Press.

Caldara, D., & Iacoviello, M. (2017, August 17–18), *Measuring Geopolitical Risk*. Unpublished paper, Board of the Governors of the United States Federal Reserve Board.

Central Intelligence Agency. (1984, May 18). Special national intelligence estimate (SNIE) 11-10-84/JX (top secret). *Implications of Recent Soviet Military-Political Activities*. Author's photocopy.

Central Intelligence Agency. (1987, July 10). National intelligence estimate. (NIE) 11-3/8-87JX/I (secret). *Soviet Forces and Capabilities For Strategic Nuclear Conflict Through The Late 1990s, Volume I-Key Judgments and Summary*. Author's photocopy.

Clarke, P. (1973). Teenagers' coorientation and information-seeking about pop music. *American Behavioral Scientist*, *16*(4), 551–566. doi:10.1177/000276427301600406

Clifford, C. (1991). *Counsel to the President*. New York, NY: Random House.

Clifford, C., & Elsey, G. (1946). *American relations with the soviet union (the Clifford-Elsey report)*. Author's photocopy of original.

Department of State. (2017). Overview of Vienna document 2011. Retrieved from https://2009-2017.state.gov/t/avc/cca/c43837.htm

Dobbins, J. F. (2017, July 14). *A life in foreign service*. Washington, D.C.: Podcast. The Brookings Institution.

Dobrynin, A. (1995). *In confidence: Moscow's ambassador to America's six cold war presidents (1962–1986)* (pp. 522–523). New York, NY: Times Books.

Downing, T. (2018). *1983: Reagan, Andropov, and a world on the brink*. New York, NY: Da Capo.

Durkee, G. G. (1983 Dec. 1). *7th air division SACEUR exercise Able Archer 83: After action report*. Author's photocopy of original.

Fischer, B. B. (1996, circa undated). The 1983 war scare in US-Soviet relations. In *Studies in intelligence*. Central Intelligence Agency Center for the Study of Intelligence. Langley, Va: Central Intelligence Agency. Retrieved from https://nsarchive2.gwu.edu/NSAEBB/NSAEBB426/docs/3.The-1983-War-Scare-in-U.S.-Soviet-Relations-circa-1996.pdf

Fischer, B. B. (2007, March 19). *A cold war conundrum: The 1983 soviet war scare*. Washington, D.C.: Central Intelligence Agency. March 19, 2007. (Originally classified Top Secret). Retrieved from https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/a-cold-war-conundrum/source.htm#HEADING1-12

Frankl, V. E. (2014). *The will to meaning (p. 42)*. New York, NY: Plume.

Gates, R. (2007). *From the shadows: The ultimate insider's story of five presidents and how they won the cold war*. New York, NY: Simon and Schuster.

Giusta, P. (2013, March). The Arab spring and western societies: Fraternity and collective leadership. *Claritas: Journal of Dialogue & Culture*, *2*(1), 68–79.

Hall, J. A., & Sereno, K. (1988, July). Couples who laugh together: A coorientation approach to positive humor use in relationships. *Paper presented at the National Communication Association Conference*, Boston. doi: 10.3168/jds.S0022-0302(88)79586-7

Herz, J. H. (1950, January). Idealist internationalism and the security dilemma. *World Politics*, *2*(2), 157–180. doi:10.2307/2009187

Horton, K. E., & Caldwell, C. A. (2006). Visual co-orientation and expectations about attentional orientation in pileated gibbons (Hylobates pileatus). *Behavioural Processes*, *72* (1), 65–73. doi:10.1016/j.beproc.2005.12.004

Johnson, T. R. (1999). *American cryptology during the cold war, 1945–1989, book IV: cryptologic Rebirth, 1981-1989*. Washington, D.C.: National Security Agency.

Jones, N. (2013, May 21). The 1983 war scare: "The last paroxysm" of the cold war part II. Washington D.C.: National Security Archive. Retrieved from https://nsarchive2.gwu.edu/NSAEBB/NSAEBB427

Jones, N. (2016). *Able Archer 83*. New York, NY: The New Press.

Kahn, H. (1960). *On thermonuclear war*. Princeton, NJ.: Princeton University Press.

Keenan, G. (1946, February 22). Telegram to secretary of state James Byrnes (the "long telegram"), part 1. Author's photocopy of original.

Keenan, G. (1947, July). The sources of Soviet conduct. *Foreign Affairs*, *25*(4), 566–582. Note: In order to maintain anonymity, Keenan identified himself as the author only as "By X.". doi:10.2307/20030065

Kim, Y. (2001). Searching for the organization-public relationship: A valid and reliable instrument. *Journalism and Mass Communication Quarterly*, *78*(4), 799–815. doi:10.1177/107769900107800412

Kubrick, S., (Producer/Director). (1964). *Dr. Strangelove or: How I learned to stop worrying and love the bomb*. Culver City, CA: Columbia Pictures.

Levadov, L. V. (1984, February). Results of the operational training of the NATO combined forces in 1983. *Military Thought*, *1984*(2), 67–76.

Liff, A. P., & John, I. G. (2014). Racing toward tragedy, international. *Security*, *39*(2), 52–91. doi:10.1162/ISEC_a_00176

Losey, S. (2018, Dec. 19). An injured runner, frantic 911 calls and confusion: How exercises spiraled into a panicked active shooter scare at this air force base. *Air Force Times*. Retrieved from https://www.airforcetimes.com/news/your-air-force/2018/12/19/an-injured-runner-frantic-911-calls-and-confusion-how-exercises-spiraled-into-a-panicked-active-shooter-scare-at-this-air-force-base/

Mastny, V. (2009). How able was "Able Archer"? Nuclear trigger and intelligence in perspective. *Journal of Cold War Studies*, *11*(1), 108–123. doi:10.1162/jcws.2009.11.1.108

McDonald, D. G., & Glynn, C. J. (July 1988). Rural communication and collective coorientation: The case of acid rain, *Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication*, Portland, Oregon. doi: 10.3168/jds.S0022-0302(88)79586-7

McLeod, J. M., & Chaffee, S. H. (1973). Interpersonal approaches to communication research. *American Behavioral Scientist*, *16*(4), 469–499. doi:10.1177/000276427301600402

National Security Archive v. Defense Intelligence Agency. (2019, February. 28). No. 1:19-cv -529 at 2 (D.D.C. filed).

Oberdorfer, D. (1992). *The turn: From the cold war to a new era*. New York, NY: Touchstone/ Simon & Schuster.

Organization for Security and Co-operation in Europe. (2011). *Vienna document 2011 on confidence- and security-building measures*. Vienna, Austria: OSCE.

Organization for Security and Co-operation in Europe. (2018). *Declaration on OSCE efforts in the field of norms and best practices on small arms and light weapons and stockpiles of conventional ammunition*. Milan, Italy: OSCE.

Pedlow, G. (2013 March 28). *Exercise ABLE ARCHER 83: Information from SHAPE historical files*. Author's photocopy of original. Mons, Belgium: SHAPE Headquarters.

President's Foreign Intelligence Advisory Board. 1990. Feb. 15. *The Soviet "War Scare*. Washington, D.C: Original Classification: TOP SECRET UMBRA GAMMA WINTEL NOFORN NOCONTRACT ORCON.

Pry, P. V. (1999). *War scare*. Westport, Conn.: Praeger.

Reagan, R. W. (1982, June 8). *Address to Members of the British Parliament*. Retrieved from https://www.heritage.org/europe/report/20-years-later-reagans-westminster-speech

Scoblic, J. P. (2008). *U.S. vs. them: How a half century of conservatism has undermined America's security*. New York, NY: Viking.

Scott, L. (2011). Intelligence and the risk of nuclear war: Able Archer-83 revisited. *Intelligence and National Security*, *26*(6), 759–777. doi:10.1080/02684527.2011.619796

Sun-Tzu. The art of war, III:18 (trans. L. Giles, 1910). Retrieved from http://classics.mit.edu/Tzu/artwar.html

Taylor, J. R. (2005). Engaging organization through worldview. In S. May & D. K. Mumby (Eds.), *Engaging organizational communication theory and research: Multiple perspectives*. Thousand Oaks, CA: Sage Publications.

Tkachenko, V. (2006, Dec 22). Interview transcript In H. Chancellor (Ed.), *1983: The brink of apocalypse (2008, Jan. 5)*. United Kingdom: Flashback Television.

Trent, S. A., Patterson, E. S., & Woods, D. D. (2007). Challenges for cognition in intelligence analysis. *Journal of Cognitive Engineering and Decision Making*, *1*(1), 75–97. doi:10.1177/155534340700100104

Tuchman, B. (1996). *The proud tower: A portrait of the world before the war, 1890-1914*. New York, NY: Ballantine Books.

Tuchman, B. W. (1962). *The Guns of August*. New York, NY: Library of America.

Union of Concerned Scientists. (2015, April). *Close Calls With Nuclear Weapons*. Retrieved from www.uscusa.org/weaponsincidents

Ustinov, D. F. (1983, November 19). To struggle for peace, to strengthen defense capability, *Pravda*.