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2020 Vision Project Summary

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2020 Vision Project Summary

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ABSTRACT

Since the *2020 Vision* project began in 1996, students from participating schools have completed and submitted a variety of scenarios describing potential world and regional conditions in the year 2020 and their possible effect on U.S. national security. This report summarizes the students' views and describes trends observed over the course of the *2020 Vision* project's five years. It also highlights the main organizational features of the project.

An analysis of thematic trends among the scenarios showed interesting shifts in students' thinking, particularly in their views of computer technology, U.S. relations with China, and globalization. In 1996, most students perceived computer technology as highly beneficial to society, but as the year 2000 approached, this technology was viewed with fear and suspicion, even personified as a malicious, uncontrollable being. Yet, after New Year's passed with little disruption, students generally again perceived computer technology as beneficial. Also in 1996, students tended to see U.S. relations with China as potentially positive, with economic interaction proving favorable to both countries. By 2000, this view had transformed into a perception of China emerging as the United States' main rival and "enemy" in the global geopolitical realm. Regarding globalization, students in the first two years of the project tended to perceive world events as dependent on U.S. action. However, by the end of the project, they saw the U.S. as having little control over world events and therefore, we Americans would need to cooperate and compromise with other nations in order to maintain our own well-being.

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As the *2020 Vision* project draws to a close, I would like to thank all of the students, teachers, and Sandia staff who contributed to its success. We achieved or exceeded all of our major goals because of the dedication and commitment of many diverse people.

Each year, we have summarized the students' scenarios and project activities in a report like the one attached. This report, however, summarizes the entire project, highlighting trends in student thinking over the course of *2020 Vision*'s five years. The scenarios showed interesting shifts in students' thinking, particularly in their views of computer technology, U.S. relations with China, and globalization.

I encourage you to skim through the attached summary and take a peek into the next generation's view of the future.

Note: the *2020 Vision* program was a project sponsored jointly by the Department of Energy/Defense Programs, Sandia National Laboratories/California's Senior National Security Advisor, and its Systems Studies and Education Partnerships Departments. It introduced high school students and teachers to national security issues through the technique of scenario building. The students provided DOE and Laboratory planners with an alternative, youthful perspective on national security issues. The program also served as a vehicle for focusing attention on the need to maintain national security vigilance in an uncertain world. Teachers trained in the program continue to use *2020 Vision's* techniques in their classrooms, with a reportedly high level of success.

Attachment

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2020 Vision Project Summary

Introduction

Over the course of five years, the Strategic Issues Thinking: *2020 Vision* project introduced students and teachers to national security issues and engaged them in an interactive process of creating future scenarios relevant to the Department of Energy, Defense Programs (DOE/DP). Through a technique called scenario building, students provided DOE and Laboratory planners with an alternative, youthful perspective on national security, a perspective sometimes lacking in traditional strategic planning circles. The program's primary goals were to:

- introduce educators and students to national (and international) security issues through the art of scenario building
- provide an additional stimulus for broadening the plausible scenario spectrum for those in DOE and the Laboratories responsible for strategic planning
- obtain scenarios of plausible futures from young Americans from diverse backgrounds and geographic locations for use by the DOE and its Laboratories to better understand the national security issues concerning the younger generation

2020 Vision involved more than two dozen teachers and hundreds of high school students across the country (participating schools are listed in Table 1), as well as dozens of Sandia and DOE personnel, who have received summary results of the students' work. Although Sandia's part of the project is complete, many of the teachers have incorporated knowledge and techniques from *2020 Vision* into their permanent curricula. This report summarizes the overall results of the project.

Table 1. Schools that Participated in 2020 Vision

School	State
Contra Costa Christian High School	California
Elk Grove High School	California
Governor's School for Govt. and International Studies	Virginia
Hermantown High School	Minnesota
La Cueva High School	New Mexico
Livermore High School	California
Rancocas Valley Regional High School	New Jersey
San Ramon Valley High School	California
Sandia High School	New Mexico
Sheldon High School	California
St. Pius X High School	New Mexico
Valley High School	California
Village High School	California

Part 1: Summary of Student Papers

Students from participating schools completed and submitted a variety of scenarios describing potential world and regional conditions in the year 2020 (and in some classes, in the years 2000 and 2010, as well), and their possible effects on U.S. national security. Most students used a quadripartite approach, which Sandia adapted from scenario planning techniques developed by the Global Business Network (GBN)* and used by Sandia strategic planners. The quadripartite method uses two sets of contrasting conditions, which are depicted as two crossing axes, with four possible future directions represented by the resulting quadrants. (See "Methodology" on p. 25 for more details about the model used.)

The following sections offer general observations about the scenarios, describe central themes, and identify trends in student thinking by comparing and contrasting scenarios received over the course of the project. Appendix A contains sample scenarios.

General Observations

The scenarios overall highlighted the variety of learning benefits *2020 Vision* afforded the students:

- Heightened awareness of current events, as well as historical influence on the current state of the world
- Appreciation that national security comprises much more than just military might
- A perception of the cultural and political diversity of countries within major geographic regions
- Deeper thinking about complex relationships — more recognition of "gray" areas in international security
- An opportunity to think creatively yet create plausible and internally consistent stories about the future
- More consideration of how U.S. choices could affect outcomes and the complexity of those choices

One of the major benefits of *2020 Vision* is a heightened student awareness of current events around the world, although students tended simply to extrapolate current news events out into their scenarios. Many students focused on current "hot spots" around the world, such as Kosovo or Iraq (every year, Saddam Hussein appears frequently in the students' scenarios for 2020), or current issues such as Y2K. Yet many students also were able to look beyond the headlines and envision a variety of general conditions that could affect U.S. national security in the next twenty years, such as an

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*Global Business Network is a consulting firm located in Emeryville, California. GBN helps major companies and other organizations plan for the future using scenario building techniques.

increasing proliferation of nuclear weapons, environmental degradation or improvement, and greater economic interdependence among nations. This lesson served as a timely reminder to the Sandia audience that most of us also tend to project a continuation of current conditions out into the future and that in our own strategic planning, we need to consider a wider variety of potential outcomes.

Having grown up largely in a United States in peacetime (most students had at best, vague recollections of even the Cold War), most students already had a sense that U.S. national security means more than simply military security. The *2020 Vision* project further reinforced this notion, and student scenarios usually address the influences of other factors — such as economy, environment, social issues, and/or technology — on U.S. national security. The students also perceived how these other issues could directly affect military security and even lead to armed conflict between nations.

We found that focusing the students' initial research on specific countries (rather than regions) prior to scenario development enhances the quality of the scenarios. Through this initial research, students begin to recognize the cultural and political diversity of countries within major geographic regions. They also begin to understand the complexity of relationships not only among countries within a given region, but also between those countries and the United States. And they learned that they needed to research the history of relationships between nations before they could create plausible scenarios for how those relationships might continue to evolve. The scenarios generally reflected diverse viewpoints about the world and creative ideas about how specific countries might change over the next 20 years, as well as how world developments might affect U.S. national security.

The scenarios we received in 1999 and 2000 reflected not only more in-depth regional research than we saw in the previous years, but also a greater understanding among the students of how to develop plausible scenarios for contrasting conditions. In addition, the students better identified potential implications for U.S. national security. We correlate this finding both with the experience of continuing teachers and with the extended training teachers received at each of two summer institutes (FY98 and FY99). The *2020 Vision* project team provided extended resources for the teachers and students, including viewgraphs and handouts, as well as a Web site organized to provide research assistance and interactivity through an online bulletin board.

Overall, later scenarios showed a greater tendency of the students to view the years 2000 and 2020 as points along a continuum, rather than as discrete beginning and endpoints of a story. We view this as a positive trend, indicating a greater depth of student thinking and an understanding that *today* is really just one point along an

historical continuum. Often, the scenarios did not end, but described ongoing situations, in which the U.S. was in the middle of a decision. The students gave more consideration to how U.S. choices could affect the outcome of given situations and ultimately its own security — and the choices were not always clear-cut, right-or-wrong decisions. They also identified ways the U.S. could prevent negative scenarios from coming to pass by taking positive action now.

Central Themes and Trends

In the classes that strictly followed the given model, some interesting similarities appeared in each quadrant (see Table 2). These common themes applied whether the students centered the axes on the U.S. or another region of the world. The students generally favored the "high security/world cooperation" world and found the "low security/isolationist" world to be the least desirable. For example, students declared that in the high security/world cooperation quadrant, "The world is almost a perfect place, except for the high taxes," "Peace is easily achieved," and "With both of these on our side, we could control the world." Although they most often viewed government control of personal lives with disdain, scenarios describing little government control or regulation (the "low security" scenarios) usually also described a more chaotic and dangerous society. One student summed up the tradeoff: "We are safer, but there are so many regulations on our daily life."

Several consistencies also can be noted in all quadrants. For example, the global economy strongly influences the U.S. economy — whether isolationist or not — and the United States' participation (or lack thereof) in that economy correlates with its own economic health (or lack thereof). Weapons of mass destruction play a role in conflict between nations in all quadrants, and countries that vex the U.S. include China, Russia, and nations of the Middle East (usually not specified). In early scenarios, oil appears as "the" resource, the control of which determines the economic well-being and power of nations. In the last two years of the project, alternative energy sources receive more attention and successful deployment. Water control and use also emerge as critical to the success or downfall of nations.

Table 2. Common Themes in the Quadrants

High Security/Isolationist	High Security/World Cooperation
Society: • Government control of personal life high; trade-off between control and safety vs. personal freedom and privacy • Travel down and freedoms down • Internally safer, but threats from global problems could affect U.S. • Often, people unhappy—"choiceless, desolate lives"—but safer	**Society:** • Government control of personal life high • Cures found for diseases (AIDS, cancer, Ebola, common cold), but this leads to overpopulation (possible solution is limits on family size) • Problem of homelessness solved • Everyone receives good education and most people go to college; higher education in other regions, too • Crime down
Technology: • Electric car • Technological "Cold Wars" • Some computer and telecommunications advancements, but not as much as in other quadrants	**Technology:** • U.S. is leader in technology, which creates many jobs; all countries linked by technology • Progress made in robotics and computer technology
Economy: • Isolationism is bad for U.S. (or country/region) • Unemployment up; companies move overseas • OR, manufacturing moves home, but labor is so expensive, prices rise and economy enters recession • Oil prices increase, causing auto industry to plummet • Asian economies fail, weakened by capitalism, or regional economies turn inward; U.S. econ. declines	**Economy:** • Global trade renders U.S. vulnerable to other countries' economic actions, yet treaties/alliances help countries cooperate • Strong U.S. economy; trade is good • U.S. helps countries with weaker economies so that whole world is better off • World or regional currencies
Energy and Environment: • Petroleum used, but alternative sources researched • Some consideration of deforestation, global warming, species extinction, other environmental problems	**Energy and Environment:** • Biggest fear: cutoff of U.S. oil supply, but U.S. takes control of Middle East or stockpiles oil or develops advanced drilling techniques • Alternative energy: solar, geothermal, hydro. • Global warming not necessarily bad
Politics/Government: • U.S. defense spending up (along with taxes) • Militaristic society; military service mandatory • More police, yet more individual gun owners • Lots of money spent on school security; more surveillance, but it works • Civil War or revolution (internal conflict) • Dictator takes over	**Politics/Government:** • Defense spending up • Strong U.S. defense prevents outside attacks • United Nations strong, although the country with the most power and money has the most votes and hence, control over final decisions
International Relations: • Less involvement in wars/conflict around the world; U.S. tired of intervention • Other countries feel abandoned by or jealous of U.S.; more countries become unstable, which leads to more war throughout the world	**International Relations:** • Other countries depend on aid from U.S. • Overall, safer world; terrorism down, better relations with other nations, including traditional enemies • WWIII, but eventually peace (except Bosnia)
Weapons of Mass Destruction: • Increasing nuclear weapon proliferation • More support for antiballistic missile systems • U.S. returns to manufacturing and stockpiling nuclear weapons • Terrorism: gas attack on NYC subway, nuke attack on Tel Aviv, biochem. threat from Central America	**Weapons of Mass Destruction:** • Terrorism down, but biochemical weapons sent from Korea to Kosovo and some isolated threats • Revival of "Star Wars" • In general, WMD under control

Continued

Table 2. Common Themes in the Quadrants (concluded)

Low Security/Isolationist	Low Security/World Cooperation
Society: • Mob and gang violence increase; more violence in general; U.S. is more dangerous place to live • Everyone owns a gun because the government can't protect individuals • Standard of living is down; poverty and starvation • Prostitution and spread of HIV	**Society:** • Family life nonexistent • Plagues • Drug abuse and alcoholism • U.S. is not a safe place to live
Technology: • Technology not considered much; other issues take precedence • Hacking and "computer terrorism" common	**Technology:** • Russia clones humans to form a billion-man army, which takes over U.S. • Global technology; many technological secrets have been stolen from U.S. • Internet terrorism
Economy: • Depression • End of middle class—only rich and poor • Lack of trade leads to weak economy	**Economy:** • Other countries run U.S. economy; U.S. depends on others for economic well-being • Trade is good; keeps everyone getting along • Foreigners are taking all the jobs
Energy and Environment: • When U.S. ends involvement in Iraq, Iraq takes over oil supply in Middle East • Scandinavian countries lead the world in new energy technology development • Resource depletion	**Energy and Environment:** • Gas and oil are scarce; some research into alternatives • Global warming considered a problem
Politics/Government: • Defense money shifted to pay for food and shelter for homeless (which ends up being the fate of all military personnel) • Sometimes, whole world also isolationist; sometimes only U.S., to its detriment	**Politics/Government:** • Threat of anarchy • New world government
International Relations: • Other countries mad because U.S. withdraws assistance; no allies because we don't do anything for anyone else anymore • Low security leaves U.S. vulnerable to attack; war likely, terrorism up • OR, "If the U.S. stays out of the affairs of other countries, then nobody will want to invade the U.S." • China becomes dominant world power; sometimes bombs U.S. or cuts off trade • Borders closed	**International Relations:** • Conflict with Russia and/or China; e.g., Russia takes over U.S., OR Russia and China form an alliance and take over U.S. splitting it between them • "Our global participation has made us weak." U.S. global participation creates vulnerability and <u>causes</u> a low level of security • U.S. should maintain military alliances • Threats from South American drug lords
Weapons of Mass Destruction: • NYC destroyed by nuclear weapons from Middle Eastern countries • Proliferation is a major threat to the U.S.	**Weapons of Mass Destruction:** • Nuclear secrets China stole from Los Alamos help China defeat U.S.; China destroys U.S. with nuclear attacks • Proliferation is a problem; Cold War emerges among many nations

In the scenarios overall (including those not based strictly on the quadrant model), several issues received notable attention: weapons proliferation and terrorism, technology, and the global economy. Issues involving U.S. relations with other countries also figured prominently. These issues are summarized below.

Weapons Proliferation and Warfare

Early in the project, many of the scenarios centered on huge wars, describing all-out WWIII or "destruction of life as we know it." By the end of the project, more students looked at the potential for conflict in a more limited, regional context. More importantly, they usually gave plausible reasons for violence to erupt (e.g., Taiwan's forced reunification with China, or conflict in Middle East over oil, or civil war in Mexico), rather than not giving a reason for one country attacking another.

The students almost always projected that U.S. national security would be affected by remote regional conflicts, but the U.S. did not always get involved. Sometimes, the scenario ended with a decision for the U.S. — get involved or not? In more than one scenario, the students weighed the alternatives of U.S. engagement (or not) in a conflict, such as between China and Taiwan or Pakistan and India — where neither option holds promise of a positive outcome for the U.S.

Although "traditional" battles occurred between nations' armies on battlefields, the students often envisioned new kinds of warfare. For example, some saw an increase in the use of long-range missiles targeted on cities to destroy a nation's infrastructure or sub-national military or terrorist groups fighting national armies. Others viewed economic or information warfare becoming more important in deciding the outcome of conflict, particularly among advanced, high-tech countries. Consistently, students accepted terrorism as an inevitable and permanent feature of the landscape of future conflict and as a major threat to U.S. national security, although their descriptions of terrorist acts fluctuated over the years. Many early scenarios envisioned nuclear bombs wiping out New York City. Computer or Internet terrorism appeared in several later scenarios.

Those who envisioned armed conflict almost always assumed that weapons of mass destruction (WMD) would be used somewhere in the world in the next 20–25 years. The proliferation of all types of WMD consistently arose as one of the biggest concern among students. Although their use often spelled the "end of civilization," several scenarios also described the constrained use of chemical, biological, or nuclear weapons to achieve victory in limited conflict.

Even though warfare and violence were principal themes in many scenarios each year, several students also envisioned an end to conflict and a period of rebuilding (even in a couple that featured a World War III). Several also offered optimistic conclusions to their scenarios, creating a world in which cooperation among nations prevails.

Technology

Early on, students' views of technological advances frequently did not reflect a strong understanding of what is technologically possible within a given time frame. However, some of the earlier ideas were more creative than those in later scenarios, in which the students tended to extrapolate technologies being developed today, such as electric or solar-powered cars, alternative energy sources, intelligent computers, high-tech agriculture, pollutant-free factories, and new military technologies. Examples of some of the "more creative" variety include:

- humanoid robots (i.e., robots that function like humans, rather than industrial robots);
- laser weapons, including laser guns and plasma rifles;
- an extraction process for using geothermal energy, which sparks an Energy Revolution by 2010;
- underwater living modules or space living modules, both of which help solve overpopulation problems;
- a sensory emulation "drug," which produces its effects through virtual reality and thereby cripples the "traditional" international drug trade; and
- cloning — which was a hot topic in 1997 — was mentioned, but more in the context of organ cloning for use in medical treatment, rather than cloning of whole humans.

Many students tended to foresee negative repercussions associated with the nation's increasing reliance on computer technology, particularly in the scenarios we received in 1999. Most students writing about "technology" that year equated it with "computer technology." They frequently borrowed concepts from movies like *The Matrix*, in which a computer could be plugged into a person's brain through the back of his or her head. In this way, the person could be controlled by intelligent machines. Several scenarios focused on the brain-machine connection for both input and output. Others envisioned computers replacing humans in the work force, which leads to mass unemployment and social instability. Most striking was the buildup of suspicion and fear among students as December 31, 1999, approached — students viewed themselves as having no control over the technology or the role it plays in their own lives. They also tended to personify computer technology, viewing it as a being with malicious intent.

In contrast, scenarios written before and after 1999 (especially those written in 2000, after New Year's Day passed with nary a glitch) reflected the view that computer technology and the Internet are a positive force for bringing people together in understanding and cooperation.

A noteworthy example of technology (other than computers) solving a human problem appeared in more than one scenario about fresh water shortages. In these scenarios, desalinization technology figures prominently as a means of solving the problem and bringing people together, regionally or worldwide, in cooperation.

Global Economy

Coverage of global economic issues varied year by year, sometimes mainly in the context of major players, such as the U.S., China, Japan, and Europe, but also frequently involving economic improvement (or degradation) in regions such as South America, the Philippines, and Indochina. Japan usually appears in the scenarios as the United States' main economic rival, either wresting the United States' #1 position or falling behind the U.S. after intense competition. Several students also mentioned the isolation of Japan wreaking havoc on the Japanese economy and/or the world economy. Yet, some students also envisioned some interesting economic alliances to counter U.S. economic superiority, such as one scenario that describes an alliance between China and Mexico.

Students frequently envisioned a "ripple effect" of events in one country or region of the world affecting the global economy. Sometimes natural disasters, such as earthquakes or hurricanes, initiate economic crises felt worldwide.

By 2000, most students perceived the U.S. economy — and by extension, U.S. national security — as inextricably linked to and dependent upon the global economy.

Regional and Country Issues

Throughout the project, students focused primarily on regions or countries that were appearing frequently in current news headlines (e.g., China, Japan, the Middle East, and Russia). Early on, they tended to "clump" countries together in given regions (such as South American, Middle Eastern, or European countries acting as one unified block). Later on, they usually wrote about individual countries within those regions. Before the last year of the project, Africa appeared minimally, usually in the context of environmental degradation, civil strife, and disease. In 2000, some students created more diverse and detailed scenarios about African countries, which often included some hope for a brighter future that comprised self-determination, cooperation of nations, education, and solutions to social problems, such as poverty, malnutrition, and disease.

The students virtually ignored Australia and Canada each year, and one or two scenarios saw Canada as just an extension of the United States.

China. China represented the greatest potential future challenge to U.S. national security in the students' scenarios. Early on, students envisioned China as a friend or trading partner more often than as a rival. By 1999 and 2000, however, China was seen almost exclusively as a future threat to U.S. national security.

Most students envisioned China's continued economic and military growth, including further industrialization and privatization, with growing strain in trade relations between the U.S. and China. Most often, the students viewed China's nuclear capability rivaling that of the U.S., due in large part (in later scenarios) to the nuclear secrets allegedly stolen from Los Alamos. Several students each year even imagined China using nuclear weapons against the United States within the next 20 to 25 years. China's potential military strength sparks an alliance with Russia in several scenarios, and this alliance gives the two countries enough power to take over the U.S., divvying up the spoils between them.

Several scenarios also feature conflict as a result of Hong Kong's return to Chinese control (which appeared in 1996 and 1997 scenarios) or between China and Taiwan, sometimes including forced reunification. The students usually recognized the quandary in which these conflicts would place the United States. Sometimes they went as far as describing an expansionist Chinese government that would start by taking over Hong Kong and/or Taiwan, and then move on to other Asian countries, much like the Soviet takeover of Eastern Europe after World War II. Yet, they did not offer many suggestions for exactly how the U.S. should manage this potential threat.

Students frequently mentioned population and human rights issues within China. Some saw the revocation or modification of the "one child per family" law. Many envisioned human rights violations continuing to cause trouble, with a few scenarios describing civil war or revolution. Only one or two scenarios described China using its tremendous population for economic benefit, as well as developing new agricultural technologies to feed the masses.

Japan and other Asian countries. Japan appeared prominently in several scenarios throughout the project, usually within the context of economic dominance in the world. Japan's development of advanced technology and sometimes a rebirth of militarism also appeared. In a few scenarios, Japan replaces the U.S. as the world's economic superpower, but usually the students viewed both the U.S. and Japan as vulnerable to each other's trade tactics. Trade was most often the weapon used in bloodless conflict.

Other Asian countries appeared in the scenarios primarily in the context of war:

- India's and Pakistan's testing of nuclear weapons leads to an arms race and eventually war, or war begins over disputed territory;
- North and South Korea go to war;
- regional conflict — sparked by economic and territorial problems — breaks out among Southeast Asian countries; and
- civil war erupts in Indonesia, but sometimes is resolved with U.S. intervention.

Middle East. When looking at the Middle East, the students focused mainly on Iraq, which consistently appeared in the scenarios as the main source of anti-American sentiment and conflict well into the 21st century. The students usually pictured Saddam Hussein still at the helm, although a few scenarios mention power passing to an equally loathsome dictator. Women's rights and a poor economy appear in several scenarios.

Oil appears as the primary economic driver in the region, with various countries (usually Iraq) trying to gain monopolistic control of it. Several scenarios describe a troubled Middle Eastern economy caused by alternative energy sources replacing oil.

A few groups each year did envision other issues and events in the Middle East, such as religious conflict between Muslim Arabs and Israeli Jews or strained relations between the U.S. and Israel. Notably, several groups also saw the creation of an official Palestinian State.

Russia. For the most part, students did not view Russia as becoming the kind of threat to the United States in the next 20–25 years that the Soviet Union was during the Cold War. In fact, Russia appeared less frequently in the scenarios each year of the project. When it did appear, it almost always played a secondary role (e.g., in alliance with China against the U.S.), or it became a U.S. ally and trading partner. Scenarios often followed familiar plot lines of Russia's eventual success or decline — sometimes recovering economically and adopting a civil law system; other times, struggling with civil war, economic collapse, and environmental degradation.

Early on, the students often portrayed Russian terrorists selling nuclear weapons, materials, and technologies to various entities (usually states like Iraq), or Middle Eastern terrorists stealing Russian bombs or building their own bombs using Russian materials. The students also generally considered Russia's nuclear weapons vulnerable to accidents.

Students considering Russia's internal affairs usually saw a return to communism, although a more benign form of communism than that of the Soviet

Union. Only a handful of scenarios envisions Russia's rebuilding its former empire, in which it creates a new "Socialist Federation" with neighboring countries.

South and Central America. The illicit drug trade dominates scenarios featuring South and Central America. Whether students lumped all South American countries into one political entity (as they did early on) or considered countries individually, they consistently envisioned the politics and economics of the region controlled by warring drug lords. Sometimes this vision spilled over into major problems for U.S. national security, and sometimes the only way these countries could solve their problems was through cooperation with the U.S. or by the U.S. taking over the corrupt government and replacing it with some sort of democratic republic.

Even so, the students who researched individual countries (primarily in 1998–2000) also tended to include more diverse visions of other social, economic, and environmental issues that could arise in South America over the next 20 years. Several groups discussed the role of oil and its effect on the economy and politics of the region. One described a united South American economy similar to the EU, complete with its own currency, the "centro." The most prominent environmental issue, of course, was deforestation and its effect on both global warming and plant and animal extinction.

A few students envisioned the eventual demise of Fidel Castro and the subsequent democratization of Cuba; more often, they saw continued problems for the U.S. as a result of Cuban communism and its expansion to other Caribbean nations.

Mexico played a much more prominent role in the 1999 and 2000 scenarios than in previous years. In some, economic decline or natural disasters increases the pressure on the U.S./Mexican border, as Mexican refugees seek relief in the United States. Others describe pollution or disease migrating across the border from Mexico to the U.S. Several scenarios portray civil war in Mexico, usually initiated by conflict between the government (supported by drug lords) and an insurrectionist "people's" party. Trade also appears as a major issue, with the U.S. almost always holding the upper hand, although one or two picture that Mexico's expanded global trade relations would lead to a rise of Mexico as "a dominant world power."

Europe. Students developed several plausible scenarios for Europe, such as continued conflict in Bosnia, a more unified economic and military European Union (including implementation of the euro), and neo-Nazism.

However, NATO was rarely cited in the student scenarios, and when it was, it was primarily in the context of involvement with the U.S. in some remote regional conflict. Some students envisioned nuclear proliferation among Western European countries, despite NATO's historic provision of a nuclear umbrella. Some also projected

severe political or economic conflict between the United States and traditional European allies; one group envisioned a Europe with closer military ties to China than to the United States.

Other Issues

United Nations. World politics was usually considered in a regional context. However, some students included scenarios about the fate of the United Nations, largely as a part of their consideration of the world cooperation axis. A few foresaw declining membership in the UN and eventual dismantlement. Some envisioned a restructuring or retooling of the UN in an attempt to strengthen international law. Most saw the UN as the future path to conflict resolution and peace.

Health. The social issues that drew the most attention in student scenarios were related to health. On a positive note, several scenarios included cures for major diseases, such as AIDS, cancer, heart disease, diabetes, and even the common cold. Yet, several also imagined new viruses appearing as a result of rainforest depletion or malicious intent to create bioweapons. Genetic engineering and cloning also figured prominently in several scenarios each year.

Population. The students paid much less attention to population problems by 2000 than students did early in the project. Many did not even mention population when talking about China, and more than one includes a revocation of the "one-child-per-family" law. Strikingly, only one scenario in 2000 (and none in previous years) mentions population issues in India, whose numbers surpassed 1 billion this year. Neither did the students consider that the wealthy northern nations consume a greatly disproportionate share of the world's resources.

Women's rights. Concern about women's rights arose primarily in the setting of Muslim nations. Students recognized that in most regions of the world, women hold little status in male-dominated societies. Yet in the U.S. (except for the scenarios received in 2000), the students also often envisioned a female President within the next 20–25 years.

Environment. Student coverage of environmental issues focused primarily on resource depletion, destruction of the rainforests and the ozone layer, and global warming. Some students also mentioned air, water, and soil pollution. Water appeared more prominently in later scenarios, primarily in the context of "Where will we find enough clean drinking water to quench the masses?" Most reference to the environment was negative, although a few scenarios project initial conflict giving way to worldwide cooperation to find technological solutions to environmental problems.

Education. Education issues figured prominently in 1996 and 1997, with students divided over the direction education would or should take in the United States. Yet in all scenarios that included education, students acknowledged its importance to improving standards of living worldwide.

Comparison and Contrast—Trends

Having collected and summarized student scenarios over five years, we can identify some interesting trends and contrasts in student thinking about global issues and about U.S. national security, as shown in Table 3.

Table 3. Comparison and Contrast of Student Scenarios

1996	1997	1998	1999	2000
Conflict and Cooperation				
Dissolution of NATO or UN	NATO becomes pro-European peace	Little mention of NATO; UN gains strength	NATO in coalition w/U.S. in regional conflicts (still Bosnia); UN minimized	NATO a liability; UN figures more prominently
War between England and Northern Ireland	Conflict in U.K. mentioned only in theme papers	No mention of England/Ireland conflict	No mention of England/Ireland conflict	Peace accord reached, but still threat of violence
Damming of Euphrates by Turkey	Conflict between Greece and Turkey over Cyprus	Turkey invaded by Russia-Iraq alliance	No mention of Turkey or Greece	Resolution of Cyprus conflict
Some major conflict within the former Soviet Bloc countries	Former Soviet Bloc countries mentioned only in theme papers	Industrialization consolidates some Bloc countries, but conflict also	Some return of a Russian "Social Federation" of allied countries	Little mention of "Soviet"; conflict over oil in Caspian Basin; ethnic conflicts
Resolution of Israel/PLO conflict	Conflict between Israel and its neighbors	War/disputes between Israel and its neighbors	Unidentified neighbor nukes Israel; continuing disputes	US less pro-Israel; Palestinian state emerges; disputes cont.
Mexican-U.S. border patrol stronger in some cases, yet chastised for violence	Border patrol becomes stronger, sometimes leading to riots in border towns	U.S. takes over Mexico and Mexicans become U.S. citizens; no mention of border patrol	Civil war in Mexico; or, continuing immigration problems for U.S.	Immigration still problem for U.S., but Mexico seen as potential powerhouse. Immigration problem in Europe
China has a massive civil war	China takes over not only Hong Kong, but also Taiwan and sometimes other Southeast Asian countries	China takes over Japan, Taiwan, or other Asian countries	Threat of forced China-Taiwan reunification or China takes over U.S.	Threat of forced China-Taiwan reunification or China takes over U.S. (often in alliance with Russia)
Weapon Proliferation				
Global disarmament a common theme	Proliferation and terrorism common, but virtually no mention of global disarmament	Some mention increased control of arms, but none envision complete disarmament	Few mention control of arms; assume proliferation and use of all three types of WMD	No mention of arms control; assume proliferation of all three types of WMD; also, concern about land mines
New Cold War	Russian "loose nukes"	No return to Cold War, but concern about "loose nukes"	New Cold War with China; no mention of "loose nukes"	Cold War with China or Mexico; betw. India and Pakistan; or betw. other nations
Russia sells nukes to "rogue countries" such as Libya, Iraq, and Syria	Russia sells nukes to "rogue countries" in Middle East (such as Iraq)	Russia sells nukes via Internet to Middle Eastern countries and terrorists	China sells nuclear weapon technology to Iraq	Little mention of nuclear weapon tech. sold, but stolen (esp. spies at national labs)
Examples of nuclear terrorism	Rampant nuclear terrorism, including "pocket nukes"	Terrorism of all kinds	Less mention of terrorism; more often, overt conflict is featured	Terrorism mostly with conventional weapons or sometimes biochem.
Resurrection of "Star Wars" (ballistic missile defense)	No mention of "Star Wars" or ballistic missile defense	No mention of "Star Wars" or ballistic missile defense	"Star Wars" or ballistic missile defenses figure prominently	Some, but not much mention of antimissile defenses

Continued

Table 3. Comparison and Contrast of Student Scenarios (continued)

1996	1997	1998	1999	2000
Global Power Shifts				
China gains power and forms alliance with Russia	China becomes a dominant world power	China becomes major power; in one, forms alliance with Mexico	China becomes major power; Los Alamos spy case figures prominently	China seen as main U.S. rival; allies with Cuba or Russia
Sometimes Japan seen as contender for world power	Trade wars between Japan and U.S., but no military build-up	Japan is source of technology, but not world power	Japan is source of high-tech., becomes a superpower (usu. economic, sometimes military)	Japan is major economic power, or its power declines; however, Germany becomes a superpower
Dictator in Middle East rising with nuclear capabilities	Tyrant takes over all of Middle East	Saddam Hussein takes over entire Middle East	Iraq (Saddam Hussein) prominent; takes over oil, develops WMD, etc.	Hussein still strong, but Israel central to peace or conflict; Iran also prominent
Quebec secedes from Canada	Virtually no mention of Canada	No mention of Canada	Iraq attacks Canada; U.S. dragged in	Little mention of Canada; in one, its an oil superpower
In isolation, U.S. focuses more on domestic problems	Isolationism leads to U.S. decline OR benefit	Isolationism seen as mostly beneficial to U.S.	Isolationism seen as mostly detrimental to U.S.; global cooperation beneficial	Isolationism seen as mostly negative to U.S.; more regional power centers
Technology (Computer)				
Information Revolution leads to more jobs in U.S.	Information-based society	Computer catastrophes due to Y2K; less benefit from Internet	Y2K reaction mixed: some disastrous, some minimal	Little mention of Y2K; the "bubble" burst
Information Revolution leads to computer terrorism	Information Revolution leads to computer terrorism	Computers vulnerable, but no direct "computer terrorism"	Computer tech. personified, cannot be controlled; high level of fear	Computers seen as mostly beneficial, although vulnerable to info. "warfare"
Society				
Population/human rights problems in China	Population/human rights problems in China; women's rights issues in Islamic nations	Human rights violations; some solutions to China's population problems	Population problem is more global; some mention of human rights	Population problems global; h.r. issues in Middle East, Kazakhstan, Bosnia/Herz.
Virtually no mention of Africa	Africa is a source of deadly diseases, chaos, ethnic/civil war	Minimal coverage of Africa	Africa's resources depleted, leading to environmental decline; disease up	More diverse and optimistic coverage of Africa; still poverty and disease problems
Virtually no mention of South America	Drugs are biggest problem in South America	Drugs remain biggest problem in South America.	Drugs still problem, but economics, society, and environment of individual countries considered	Drugs remain central theme; some economic, environmental, and social issues raised. Oil featured.

Continued

Table 3. Comparison and Contrast of Student Scenarios (concluded)

1996	1997	1998	1999	2000
Society (continued)				
First woman elected U.S. President (one scenario)	In some, Colin Powell or woman elected President	First woman elected President; students saw themselves elected President	Several envisioned women as President, sometimes specific women (e.g., Elizabeth Dole)	No female Presidents; women's issues barely mentioned
Improvement of public education in U.S.	Both improvement and decline; increased college enrollment	Virtually no mention of education in the U.S.	In good quadrants, high education	Education covered in generalities, as key to raising living standards worldwide
Media has negative effect on U.S. society	Media has negative effect on U.S. society	No mention of the media	Media only came into play in context of computer technology	No mention of U.S. media; only censorship in Communist countries
Economics				
Strong European Union: common language, currency, and sometimes government	Mention of EU with common currency	Some mention of unified Europe (not much), but common currency (the Euro)	European Union strong; Euro is the common currency	Strong EU, but nationalism still high in France and Germany; euro in use with mixed success
Russia reverts to commu-nism; rarely moves toward democracy or capitalism	Russia reverts to commu-nism; sometimes achieves democracy and free market	Russia recovers economically and politically; rarely returns to communism	Russia usually returns to communism	Russia seen in more of a regional context, usually more democratic
Virtually no mention of South America	South America has problems with corrupt governments	More detailed, specific coverage of regional economics	Most countries experience economic depression; sometimes outlook is up	Central and South American economies ruled by drug trade; rarely overcome
Depression hits the U.S.	Depression hits the U.S.	U.S. economic problems mild—inflation, trade deficits, sometimes national debt	U.S. economic problems tied to global economy; equal numbers of students saw either boom or depression	U.S. economic problems tied to global economy
Energy and Environment				
World moves to clean energy source; electric and solar-powered cars	Alternative energy sources, as well as electric and solar automobiles	Alt. energy: solar, hydro., geothermal, space or ocean; also, political implications of new energy considered	Alternative energy: solar power, electric cars; oil still dominant energy source	Oil dominant, but alternatives threaten its importance: solar, hydro, geothermal, or nuclear power; also, electric cars
Pollution, ozone depletion, deforestation, species extinction	Acid rain, pollution, ozone depletion, deforestation; U.S. major cause, but few solutions to problems	Not much mention of environment; main issues: pollution, deforestation, ozone depletion	Global warming, destruction of rainforests and ozone layer; few solutions to problems	Global warming, deforesta-tion, pollution, water shortages; some technological solutions to problems

Although some groups of students moved toward the extremes of fatalism ("the world will end") or idealism ("the world is a perfect place"), the majority of students envisioned a world somewhere in the middle. The scenarios generally showed a promising depth of student research and good use of critical thinking skills. Also, even though some of the students did not specifically address their scenarios' implications for U.S. national security, almost all of the scenarios reflected an assumption that the United States will be increasingly affected by events around the world and that national security issues affect their own lives.

Students usually identified ways the U.S. could influence outcomes to either prevent or achieve a given scenario. Even so, a subtle change occurred in how much responsibility students attributed to the U.S. for regional or global events. Students early in the project tended to perceive world events as dependent on U.S. action; by 2000, they tended to assume that the U.S. had relatively little control over world events. They expressed that, instead, the U.S. would need to become more adept at cooperating and compromising with other nations in order to maintain its own status in the world.

Creative Ways to Present Scenarios

Even though students in the final two years of the *2020 Vision* project used primarily essays and PowerPoint slides to present their scenarios, the students overall developed a wide variety of ways to tell their stories. The following creative styles often rendered the scenarios more interesting to read:

- Newscasts, 60 Minutes-type news shows, or newspaper reports
- New Years' Day review of previous year (or previous decade)
- Teacher-student exchange
- Time capsule report
- Science Bowl-type competition
- Conference speakers
- A character telling the scenario through personal experience, observing events in the context of his or her own life stages/experience
- Journals
- Family discussions around the proverbial kitchen table
- Correspondence between friends
- Campaign speeches or interviews with political figures (mostly Presidents)
- Top 10 lists
- Dream sequences

Methodology

To develop their scenarios, the students primarily used a quadripartite approach (see Fig. 1), which Sandia adapted from scenario planning techniques developed by the

Global Business Network (GBN), although in the first year, students wrote theme papers based on Sandia-provided topics. The quadripartite method uses two sets of contrasting conditions, which are depicted as two crossing axes, with four possible future directions represented by the resulting quadrants. The axes teachers used in FY99 and FY2000 are shown in Fig. 1.

More Stable

Security

Degree of Governmental Cooperation

Isolationism   **World Government**

Degree of

Less Stable
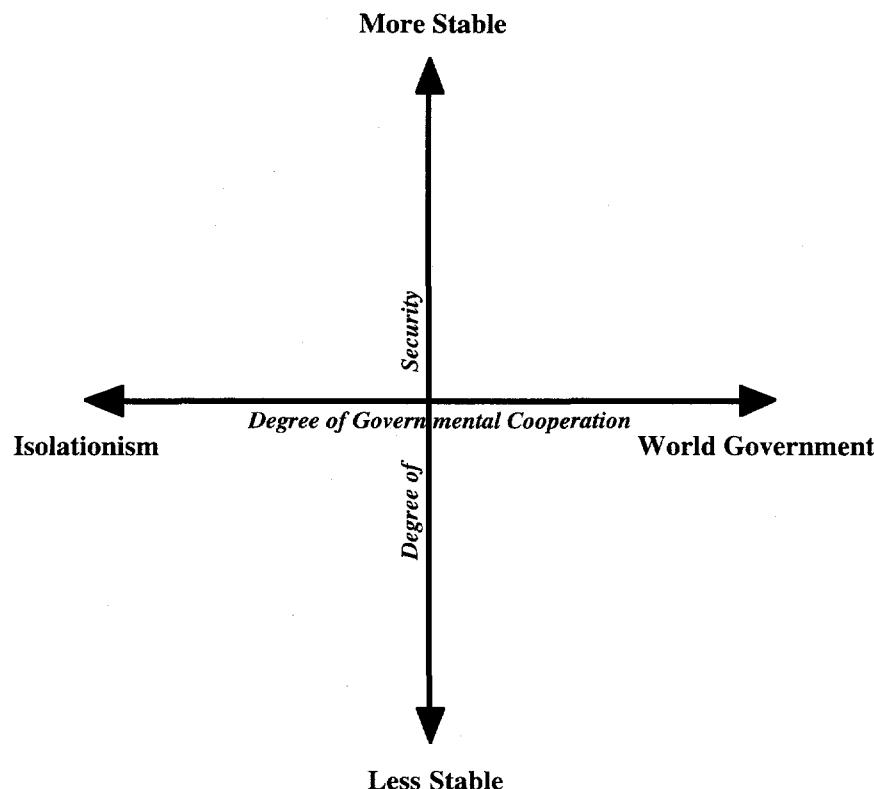
Figure 1. *The axis model used for the* 2020 Vision *scenario building exercise during the 1998–99 and 1999–2000 school year.*

The axes used for *2020 Vision* in FY96 and FY97 were determined by the teachers, chosen among the following: Weapons and World Cooperation, Weapons and the Economy, Natural Resources and World Cooperation, and Natural Resources and the Economy.

The *2020 Vision* team decided that providing a single axis model would focus the students on issues of most interest to Sandia. Therefore, in FY98, the axes were "Cooperation" (Isolationism vs. World Government) and "Weapons of Mass Destruction" (Complete Control vs. Lack of Control). In FY99 and FY2000, they were "World Cooperation" (Isolationism vs. World Government) and "Degree of Security" (More Stable vs. Less Stable). Although the axes differed slightly in approach, the

driving forces—or major issues—remained consistent throughout the project and gave us enough thematic similarity to identify trends and compare/contrast scenarios from year to year.

At the beginning of their class *2020 Vision* projects, the students were divided into teams to complete background research on various regions of the world. This research focused on major driving forces, such as politics, economics, energy, environment, society, and science & technology. In some classes, the regional teams went on to write scenarios for their region based on the axis model. In others, the students were again divided into teams—at least one for each quadrant—and then wrote more general scenarios about potential world futures within each quadrant. In all cases, the students wrote scenarios for the year 2020. Some also wrote scenarios for the year 2000 as a starting point and 2010 to show the progression of events leading up to their scenarios of 2020. They all then were asked to consider the implications of their scenarios for U.S. national security.

The *2020 Vision* project adapts well to a variety of curriculum requirements and classroom settings. For example, teacher Ron Nicola incorporated *2020 Vision* in his "Meeting of the Minds" activity. In this activity, one group of students is divided into teams representing at least a dozen different U.S. Presidents, and a second group of students is divided into six teams responsible for preparing possible scenarios of issues (driving forces) that may affect U.S. national security over the next 20 years. During an evening performance, each of the issue teams presents a future scenario to the "Presidents," and each President tells how he (or she) would respond. After the performance, the audience votes on whom they would elect for President. At La Cueva High School, teacher Elsie Scott first familiarizes the students with the GBN model, allowing them to create scenarios based on axes of their choosing. She then has them conduct their regional research. For their final exam, they individually write scenarios based on the given axes. Teachers Connie Bishop and Edith Callahan from Village High School offer *2020 Vision* as a semester-long course.

Part 2: Program Summary

Each year, the *2020 Vision* team met or exceeded its major goals. Over the course of the project, we initiated a mentor program, hosted student presentations and conferences at both SNL/CA and SNL/NM, developed a week-long teacher training institute, created a Web site that featured research assistance and interactivity through an online bulletin board, and expanded the program to teachers and students in all major geographic regions of the United States. These program features are described in the following sections. We also introduced the program to several potential university participants.

Mentor Program

In the second year of the project, we recruited Sandia scientists and engineers to serve as volunteer mentors to participating teachers and students, thereby offering a unique opportunity for interaction with Sandians. Through panel discussions at the student conferences and teacher institutes, as well as the online bulletin board, the mentors helped both teachers and students find answers, broaden their knowledge base, and ask more and better questions. Rather than act as the "answer person" to participating students, they used their knowledge to facilitate discovery. Although somewhat intimidated by the thought of conversing with highly educated scientists and engineers, the students found their communication with mentors to be enlightening and engaging. Not only did they learn about topics they were researching, but they also found the mentors easy to talk to and interested in their ideas. The Mentor Program thus proved inspiring to both students and participating mentors, and one of the most successful parts of *2020 Vision*.

The *2020 Vision* mentors' areas of expertise cover a variety of topics, including national security, nuclear weapons and other weapons of mass destruction, terrorism, world regional issues, energy use and conservation, environmental issues, and computer technology.

Student Conferences and Presentations

Throughout the project, selected students presented their scenarios to Sandia — at Sandia, by videolink, or at their home schools. Sandia also hosted several student conferences, in both California and New Mexico, at which students could present their scenarios and interact with Sandia mentors. When we could arrange tours, students visited Sandia facilities, such as Sandia/California's Combustion Research Facility, Visualization Design Facility, and Extreme Ultraviolet Lithography Laboratory, or Sandia/New Mexico's Robotic Manufacturing Science and Engineering Laboratory.

At the Sandia/California conferences, we arranged for panel discussions with *2020 Vision* mentors. Panel topics included nuclear weapons, regional issues, energy and environment, terrorism/national security, and computer technology. In response to feedback from the first student conference (in 1998), we allowed time for all students to participate in all four panel sessions (in 1998, they chose two of the four). Because the conference rooms had varied seating capacity, we assigned the students to one conference room, and the topical experts rotated among the conference rooms.

A unique feature of the conferences was a live videolink to remote sites (with Sandia/NM or with schools on the East Coast). Through these links, distant students and mentors could participate in several presentations and panel sessions.

Feedback from students, teachers, and mentors indicated that the conferences made a big impact on the students and proved to be a valuable component of *2020 Vision*. For example (see Fig. 2 for sample statistics, from the April 1999 conference), almost all participants rated the April 1999 conference as "Excellent" or "Very Good."
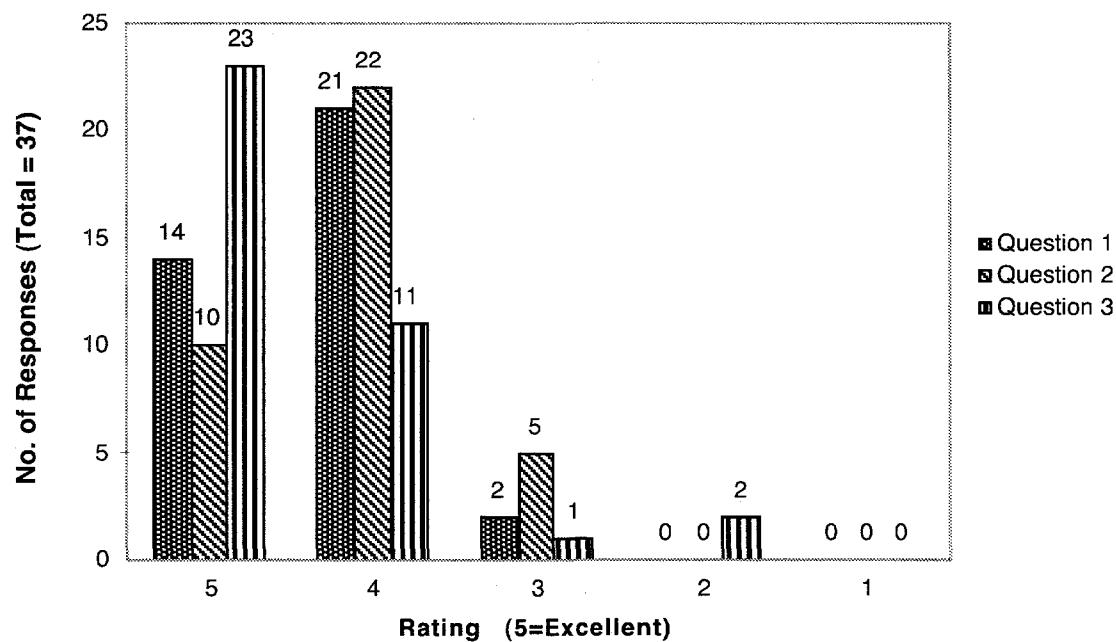
Question 1: How would you rate the morning panel discussions with mentors?
Question 2: How would you rate the afternoon student presentations?
Question 3: How would you rate your afternoon tour?

Figure 2. *Rating of the Student Conference, April 1999.*

In response to the open-ended survey question, "Please tell us how we can make *2020 Vision* more helpful to you," students' comments centered on wanting more of

everything — longer panel discussions, time for questions and answers after student presentations, more time for whole group discussions of issues relevant to *2020 Vision*, more conference time in general, and most emphatically, more time for more tours, as well as more hands-on tours.

Teacher Training Institute

In Fall 1997, the *2020 Vision* team offered a two-part training session for participating teachers. Although this session helped familiarize them with Sandia and with scenario building concepts, we felt that for them to become more proficient and comfortable implementing *2020 Vision* in their classrooms, the teachers needed more training time. Thus, the week-long *2020 Vision* Teacher Institute was born.

More than two dozen teachers participated in the two summer institutes (1998 and 1999). Each institute featured detailed information about Sandia and its role in national security; tours of the California site; two days of intensive scenario development training; one day of implementation training, which included interaction with Sandia mentors; and concentrated Web instruction, with specific attention to the *2020 Vision* Web site and the online bulletin board.

Feedback showed that the teachers appreciated the comprehensive training, as well as the materials and resources they received. We provided a training manual with viewgraphs and handouts to use in the classroom, as well as a fixed spending account to use for classroom materials related to *2020 Vision*. Overall, nine of the 12 participants who attended the 1999 Institute completed the closing evaluation form. Eight of the nine respondents gave the week an overall 5-star rating (highest allowed; see Fig. 3).
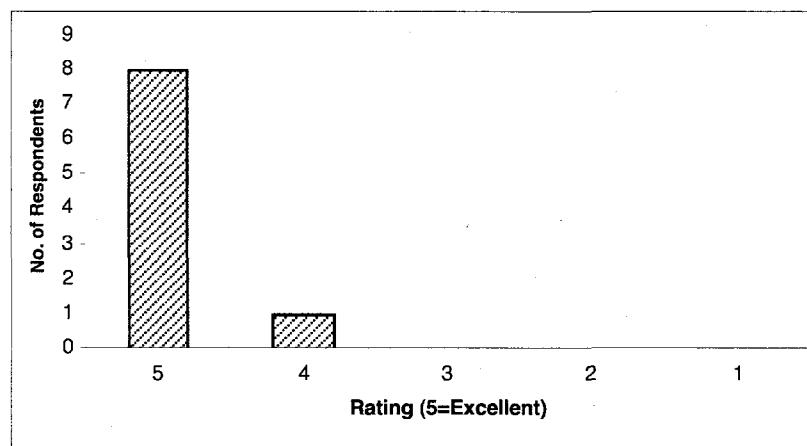
Figure 3. *Overall Rating of the Teacher Institute, August 1999.*

In general, the teachers' favorite activities during the week were the group activity led by Sandia technical staff Debra Post and John Hinton (who were *2020 Vision*

mentors) and the Internet training (both the general "Using the Internet for Research" course and "Using the *2020 Vision* Web Site" course). Post and Hinton led the teachers through a participatory history of WMD proliferation and arms control from WWII to the present, in the context of U.S. national security. The teachers found the activity enjoyable, educational, and easily adaptable to a classroom setting. They also rated highly the information they received on the history of Sandia, the support materials and student handouts, and their interaction with other teachers and with Sandia professionals.

Like the students who responded to the student conference survey in April 1999, the teachers felt a bit rushed because of the large amount of information and number of activities provided. However, they were happy with what they received and left wanting more—more information about Sandia, more time to absorb the *2020 Vision* materials, and more time to work on classroom implementation plans.

A Note on Diversity

The *2020 Vision* program easily adapts to different learning situations. As a result, our participants included a wide range of racial/ethnic, socioeconomic, and academic groups. For example, schools in the Albuquerque, New Mexico, area had a high percentage of Hispanic students, and the eastern schools had a higher percentage of African American students. Participating schools also included public, private, and continuation schools located in primarily urban and suburban settings. Economically, they ranged from lower- to upper-middle class areas. One of the newer participants is a public school for academically gifted students from around the state of Virginia. These students cover a broad spectrum of racial/ethnic and socioeconomic diversity.

The Interactive 2020 Vision Web Site

The online bulletin board — called the "Discussion Room" — served as the primary vehicle for students to ask questions of *2020 Vision* mentors and to find out what students at other participating schools thought about topics related to the program. It provided a free-flowing forum, encouraging wider interaction among students, as well as between students and mentors.

Topics addressed in the "Discussion Room" included weapons of mass destruction, energy and environment, regional issues, technology, and terrorism. Some schools initially experienced difficulties accessing the site for several reasons, such as security software on school servers, incorrect passwords, and heavy computer usage at

the schools during peak periods. Most of the issues were resolved, allowing a higher access rate during the 1999–2000 school year.

From the beginning, Sandia provided a wealth of information about the *2020 Vision* program on Sandia's Education Partnerships Web site. In 1999, besides adding the "Discussion Room," the Web design team completely reorganized and redesigned the overall *2020 Vision* site. The new site includes an overview of the program, a list of participating schools, weekly summaries of current events around the world, and a *2020 Vision* news page, which lists newspaper articles about *2020 Vision* activities. The site also provides a resource library, which features a bibliographic reference list of works related to the project and a list of Web sites to help students conduct their research. The site will remain active over the coming year to continue to provide students research assistance and serve as documentation of the project.

The *2020 Vision* Web site proved to be an integral part of the project experience for both neighboring schools and distant participants.

Distance Learning and 2020 Vision

By the end of the project, teachers from more than a dozen schools across the country had been trained how to implement *2020 Vision*. To provide ongoing support and communication to these teachers, as well as the other participating teachers and mentors, the *2020 Vision* team implemented several distance learning strategies:

- The interactive *2020 Vision* Web site, including the Current Events page (updated weekly), the "Discussion Room," and the Resource Library page
- Video links to student presentations and conferences
- Regular email communication, to include a periodic electronic newsletter sent to both teachers and mentors

These venues provided the main link between the *2020 Vision* participants and the Sandia mentors.

Rewards

The *2020 Vision* program in the high school curriculum provides an effective teaching tool, which several teachers have incorporated into their permanent curricula. A great strength of *2020 Vision* is the high level of interest it generates among students. They almost universally enjoy the opportunity to think "out-of-the-box" and develop possible answers to questions that really don't have any. The students also benefit from cooperative learning and the use of a variety of research tools, particularly the Internet. The skills they learn through *2020 Vision* can be applied in many areas of their lives.

For teachers, the *2020 Vision* project offered opportunities for learning about national security issues and scenario building through formal training, for using more information technology in the classroom, and for interacting with colleagues from other schools, as well as with Laboratory professionals.

Both the students and the teachers gained greater exposure to Sandia National Laboratories and the DOE, as well as to current thinking about national security issues among leading scientists. The interaction with Sandia mentors also gave the students an additional source of validation for their creative ideas and a sense of contribution to the national security community.

For Sandia and the DOE, the *2020 Vision* scenarios offered a youthful perspective, free from the biases the older generation has developed from its own experiences. The scenarios also provided some insight into public views of U.S. national security issues. Several Sandians felt that the scenarios acted as a catalyst, helping researchers and managers think a little differently about the future. The *2020 Vision* program also gave Sandians an opportunity to interact directly with high school students, creating an invaluable learning environment for both students and national security analysts and planners. It thereby served as a constituency-building tool, helping educate the public about Sandia's responsibilities for and contributions to national security.

Appendix A — Sample Scenarios

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Eastern Europe and the Baltic States 2020:
A Prediction in Three Scenarios

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Submitted May 2000

The area of Eastern Europe and the Baltic states, consisting of a band on the western border of Russia and beginning in the north with Estonia and terminating in the south with Bulgaria has long been at the center of conflict between neighboring great powers. The nations of Eastern Europe (Czech Republic, Slovakia, Hungary, Romania, Bulgaria) have been in a constant tug of war between Germany and Russia for the last one hundred years. It has only been recently that these nations, along with the Baltic states of Estonia, Latvia, and Lithuania, have been able to assert their independence and for the first time set a foreign and domestic policy specifically for the benefit of their own citizens and not some foreign power.

Despite the fact that it is an ideological victory for the west, and America in particular, to have free and generally democratic governments established in this region, many people ask why ordinary Americans should have any interest or knowledge, other than the cursory, in regards to Easter Europe and the Baltic States. The key question, "What are our interests over there?", will be answered shortly in the presentation of three possible future scenarios, all of which define definite American interests in both Eastern Europe and the Baltic states and justify American involvement in this often overlooked region.

Scenario One: Russian Nationalism and the Domino Effect

"A return to anything like the Cold War in Europe — for example, a 'cold peace' between an enlarged NA TO and a brooding, partially reintegrated, nuclear armed, and uncooperative Greater Russia — would be a tremendous strategic setback."
—Paul H. Herbert, Considerations for US Strategy in Post-Communist Eurasia

The world in 2020 is a much different place than those who celebrated the end of the Cold War believed it would be at this time. Instead of a smooth transition to a free-market democratic society, Russia has instead sunk under the weight of its inefficient and hopelessly outdated industrial plants. Initially liberal politicians, promising reform and changes for the better, have given way to ultra-nationalist elements. The political descendants of Vladimir Zhirinovsky and Yuri Skokov have taken over where the conservative Putin left off. Relations with the United States have deteriorated since the completion of the Anti-Ballistic Missile Defense system in 2015 and have yet to be repaired. Russian imperialists and nationalists, invigorated by the reunification with Belarus brought about by Belarussian President Alexander Lukashenko, have begun to call for the reintegration of those states within the CIS and possibly some of the former communist nations of Eastern Europe. On top of this, minority populations of Russians living in the Baltic states of Estonia, Latvia, and Lithuania, have tired of discrimination and slumping economies and called to Moscow for help. A fiercely independent Ukraine bristles at the idea of reunification and prepares to defend itself as Russian troops claiming to be "border agents" gather at the border. Other Russian troops enter Lithuania and Estonia to "ease the plight of their Russian brothers." The United States condemns Russia's occupation of Estonia and Lithuania, and Congress votes to suspend all aid to Russia pending the withdrawal of

the invading troops. The Polish government, aggravated by the presence of foreign troops in Lithuania and the specter of war in Ukraine, asks for protection from the NATO alliance, which it joined in 1999. Hungary and the Czech Republic demand the same assurance, citing Article V of the North Atlantic Treaty of 1949. A contingent of French, British, and American troops is sent to Warsaw, Budapest, and Prague, resulting in a volley of rhetoric from the Russian president, who claims that NATO is being unnecessarily aggressive and interfering in Russian affairs. On the eve of December 31, 2019, a highly dangerous, volatile situation exists on the collective border of Poland, Belarus, and Ukraine — a situation that threatens to draw NATO and Russia into the deepest of conflicts.

Scenario Two: American Apathy and Isolationism

"NATO should survive because its Cold-War raison d'etre: keep Russia out, Germany down, and America in."
—Lawrence Kaplan, Director Emeritus of the Lemnitzer Center

Surprise! It's January 1, 2020, and the Cold War has been over for almost thirty years but guess who really won? Only ten years before, the United States Congress, after tiring of an apparent waste of American time and money in the post-Cold War NATO, decided to cut American funding to the ACE Rapid Reaction Corps and withdraw peace-keeping troops from the never-ending conflict in the Balkans. The catalyst for this event was the bombing in 2009 of the American barracks in Pristina, Kosovo, by Serbian militants, which killed over one hundred American soldiers. The American people, tired of seeing themselves in the role of "policemen of the world," demanded a quick and speedy exit and Congress was happy to oblige. With the pullout of American leadership, NATO became little more than a hollow shell and was disbanded in 2012.

The first of two nations which has moved to fill in the gap left by the disappearance of American leadership has been Germany. The European Union, under both the political and financial leadership of the Germans, has become a force to be reckoned with in 2020. German leadership in both the European technological and industrial sectors is evident in the billboards for Siemens and Daimler-Chrysler, which pepper the major cities of Poland, the Czech Republic, and Hungary. German investment has fed an increasingly strong Polish economy, which quickly recovered from the "shock therapy" economic tactics of the early 1990s. German capital has also flowed into the Czech economy, which has continued to grow under a plan of privatization and modernization.

The second nation that has moved to fill in the gap left by the disappearance of American leadership has been Russia. Despite years of economic chaos and poor leadership, the situation in Russia began to improve with the election of Vladimir Putin. By emphasizing rule of law and working to establish a stable banking system, Putin and his successor have helped turn Russia around. In 2020, Russia has regained its role as a world power and has once again started to exert its influence. Russian heavy industry has formed alliances with the equipment manufacturers of Bulgaria and the Czech Republic and Russia has come to supply the power needs of an energy hungry Poland.

Though American isolationism appears to have had little negative effect on the nations of Eastern Europe in this scenario, its effect upon America's own position in the region has been severely inhibiting. The dissolution of NATO has left America with little sway in the region, and American relations with Russia and Germany have often been far from amiable. Also, both World War I and World War II have been the products of a similar pattern of American isolationism and European independence.

In conclusion, in this scenario, Russia is in, Germany is up, and American is out.

Scenario Three: American Dream

"...And they all lived happily ever after." —Snow White and the Seven Dwarves

Happy New Year! It's 12:01 EST and the policy gurus on Capitol Hill have a reason to celebrate. Thanks to a policy of constructive dialogue with Russia, inclusion of five more Eastern European and Baltic states into NATO since 1999, and billions of dollars in foreign aid to nations throughout the former Communist block, American aims in Eastern Europe and the Baltic have been achieved.

First, the threat of economic collapse, which haunted Russia, Bulgaria, Romania, and the Baltic Republics since 1993, has dissipated over the years. Even though everyone acknowledges that it took a little while, it now appears that Russians are finally starting to benefit from a free market economy thanks to strong leadership of Vladimir Putin and his successor. Also, the Eastern European nations of Poland and the Czech Republic have come to be known in 2020 as the "European economic tigers." Finally, Hungary has become a member of the European Union and is benefiting from a strong European currency.

Second, issues of security in Eastern Europe have been resolved thanks to the expansion of NATO, In 2020, NATO has grown from a military alliance into a forum in which members discuss trade and social issues. With everyone playing on the same team, issues of ethnic conflict and border disputes have been resolved in a timely and effective manner. The possibility of inviting Russia to join is being considered, although at this time, Russia still prefers to exert its influence through the CIS.

Overall, it is in this scenario that America, without interference, continues to help direct the democracies of Eastern Europe on a path that coincides with American interests in the region. The result is a safe, economically productive, and highly cooperative Eastern Europe and Baltic region that remains attentive to the demands of American businesses and the wishes of the United States' government. The result of three decades of American involvement in the region has been the creation of a multitude of new allies and immeasurable economic benefits for American corporations. It is, in essence, an "American Dream."

Northeast Africa: Circle of Life

**By Abbey Brandow, Anna Rautman Milessa Muchmore,
Jennifer Strong, and Tawny Wilson
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Submitted May 2000**

"Timon and Pumba's Hakuna Matata" — Northeast Africa: Stable/World Government
by Milessa Muchmore

After resolving recurring border conflicts between Ethiopia and Eritrea, since Eritrea claimed its independence in 1991, the two countries reunite in 2005 to form Eritriopia. This occurrence strengthens both countries' economies, because prior to the reunion, both countries were struggling with poverty and needed to aid each other with resources. Less famine and poverty are the major results. In addition, Eritriopia makes an alliance with Sudan to form a stable form of government since these countries are "in transition" with their type of government. The alliance provides support for both countries to transform into a form of democracy. The countries hold conferences on economic growth, health, and environmental issues, and help each other through this process. Meanwhile, a treaty is signed for Egypt, Sudan, Somalia, and Eritriopia to rid their countries of land mines in 2005, resulting in a more stable African region with more trust towards each other. This results in positive and stabilizing support and aid from the United States and Europe to assist stabilizing governments in the region.

In 2010, Egypt and Libya unite and form a cooperative on developing and marketing their oil resources with the Mid-east oil producers. This drives the price of oil up as they reduce production. Although this results in more wealth and stability for these particular African nations, it puts an economic strain on the rest of the world including the African countries in this region and the United States. Much tension results from this cooperative throughout the world as more and more companies and countries are affected. The United States steps in along with other countries to discuss the issues this cooperative has on the rest of the world.

By 2015, the results of these talks along with the cooperation of fellow African nations, the countries of Egypt, Libya, Kenya, Somalia, Sudan, and Eritriopia form the Northeast African Humanitarian Affiliation (NAHA). This organization dissolves the OPEC and Northeast African hold on oil production in agreement with Egypt and Libya, and gain world respect and markets. NAHA also helps strive for world peace and the betterment of Northeastern Africa, and also works very closely with other international organizations like the UN and other nations individually. This gives the region more respect and leadership in world affairs. The United States realizes that this region is having a positive effect on the world as a whole, and offers to assist Northeast Africa in the rebuilding of their infrastructure, including transportation development, health care, and advances in technology. American scientists and engineers will develop volunteer programs to train and aid African youth in computer, mechanical, civil engineering, and genetic engineering for agricultural purposes.

In 2020, as a result of NAHA, famine and disease prevention among the countries leads to a population boom. This increase has a reverse effect on the African nations as more people result in less food per person and the GDP per capita begins on a decline. The United States, keeping in mind the need for NAHA and the success and alliance of NAHA, decides to step in. The help provide a new form of birth control in genetically engineered fava beans and offer education to Africans about birth control. The Africans will learn about better farming, agriculture, technology, and money

management skills. As the United States' plan becomes implemented in 2020, the new possibility of increased industry creating environmental problems in Africa may become a reality in the future.

The United States should continue to encourage stable governments in Northeast Africa that address the needs of all the people, not just the rich and powerful. Monitoring weapons in the area, perhaps trading technical assistance for weapons being turned in would help stabilize the region. The famine and disease are the most destructive forces in the area, and could encourage alliances hostile to the U.S., as well as the spread of dangerous diseases to the U.S. and its allies. It is in our interest to assist in medical breakthroughs, educational support, tribal mediation, and understanding to help prevent environmental depletion and destruction. Drought must be addressed and an African Water Commission should look at water conservation and reforestation wherever possible. Birth control could be encouraged by the religious leaders and by providing education.

"Simba's Pride" — Northeast Africa: Stable/Isolation
by Jennifer Strong

In the year 2005, tribal conflicts are worse than ever in Eastern Africa. People are discontented and nations are crumbling. Faced with such problems, the countries of NE Africa (not including Libya, Egypt, or Kenya) decide to fragment, hoping that separating some of the feuding tribes may ease the fire.

In 2006, they break into smaller, tribally isolated shards. As a result, storms subside and the region becomes more locally peaceful and stable: stable in that family ties are strengthened and small community unity is promoted. Unfortunately, with the small, close "good" groups of citizens come the citizens more inclined towards Mafia-like qualities. Soon, with virtually no government regulating the people, the market in weapons that were acquired after the Cold War rages out of control. Wishing to slow the amount of illegal weapons emanating from their region, Egypt and Libya co-operate with one another and begin going about the area, making speeches encouraging the consolidation of the tribes into whole countries once more (but this time with more favored, redrawn borders) in 2007. In 2008, the people become willing to try out this idea, hoping that it will mean increased wealth and better living standards by 2009. The borders are successfully redrawn and most citizens are satisfied with the reform, for the most part. These are some examples of border modifications:

1) The southern, heavily Christian area of Sudan breaks off and joins Kenya.
2) Ethiopia and Eritrea redraw their old split, so that they are split more length-wise, giving Ethiopia access to the coastline as well.

With these new, improved borders come new, improved leaders. Each country, with the help of Egypt and Libya, chooses a dictator to lord over their individual country (excluding Egypt, Libya, and Kenya). The new leaders work to rebuild and fortify their shaken nations. The people are supportive of their new government: they are motivated, encouraged, hopeful, and eager to see change for the better. National wealth increases. The people are cooperating with the government as well as with each other. Education gains importance, and birth control is promoted by the government, promising extra taxes for extra children, successfully lowering the raging amount of births.

With more educated citizens, the technological aspects of these countries increase. The sciences are given more attention, medical facilities strengthen, and overall health is bettered. Outbreaks of disease become more rare in 2015. Most citizens

(75%–90%) are literate (literate being defined as being capable of reading and writing). The countries are under good management: distribution of wealth is more equal, food is distributed in such ways that hungry people get fed, and people are informed about good health practices. The government is into educating its citizens. With this education, comes a lot of propaganda and manipulative advertising.

The government uses the people's tribal/religious pride to control them. The people gain self-esteem and even more pride in their heritage; they like to learn about their history — the Western World is not portrayed very highly by the Muslim religion. Religion acts as a common bond between many of the countries, bringing them all closer together and drawing them away from much of the world.

Although they do not trade all too much with the outside world, they do trade vigorously amongst themselves. In 2018, the national dictators collaborate to form several alliances and trade unions between their countries, hoping to encourage trade, strengthen security, increase wealth, and eliminate the need to trade with outside countries, such as the U.S. at all.

Meanwhile, science and education are still going strong. Kenyan scientists studying prostitutes that seem immune to the virus find a cure for AIDS; the vaccine is distributed to the populace through sweet potatoes. Nationalism and religious pride are soaring, the people are very happy, and the countries are stable and well ordered. The military stays relatively quiet, however; the nationalism manifests more through competition to have the best education programs, economy, and sports teams/individual athletes: "friendly competition," for the most part. The rest of the world is of little concern to the people any more, and tourism is minimal if not virtually non-existent.

In 2020, NE Africa, excluding Kenya, forms a sort of mini-UN to try and further fortify international ties within the region.

What does this projection in its entirety mean for U.S. national security? Well, the possibilities vary. The strengthening of the region is very good, and should be encouraged, not prevented. However, to keep from getting such an isolated region that feels none too strongly about us (and might potentially spawn severe terrorism), we should lower (or completely drop) the sanctions on Libya and encourage the region's participation in the UN. More trade might help, and programs to stop global warming (which is contributing to desertification); this could help the region keep more arable land and better feed its people.

If this kind of scenario does indeed come to pass, the region may eventually become war-like and WWIII may not be far off. The United States should become more involved and helpful in NE Africa so that something such as this does not come to pass. If, despite efforts or lack thereof, this does happen, we should respond by attempting to establish trade and economic relations, it would be the safest way, as opposed to beefing up the military and starting a second Cold War.

"Scar's Scary Scenario" — Northeast Africa: Less Stable/Isolation
by Anna Rautman

In the year 2000 C.E., Northeast Africa has droughts, famine, unstable governments and tribal and religious conflicts.

By 2005, Eritrea has become isolated because of continuing hostilities with Ethiopia. Eritrea gained its independence from Ethiopia in 1991, but both countries continue to have border disputes. Around that same time, Kenya is isolated from the

surrounding countries because the neighboring countries do not like how much Kenya is accepting people different religious and tribal beliefs.

On April 27, 2006, most of the developed world cuts off contact with Northeast Africa because of the continuous fighting, lack of stable government, corruption and hostility to western interference. As a result of the cutting off of Northeast Africa, organizations that had been giving aid to Africa stop sending as much food and other supplies. This results in a new shortage of food. The famine, therefore, worsens because the people have to eat their herds and seed crops so that they do not starve this year. Then in 2007, they have no seeds to plant for next year's crops and so on and so on.

By 2010, the countries of Northeast Africa have fallen apart politically and tribes keep to themselves. The tribes do not even want to contact other tribes because of the many diseases sweeping through Africa. Some of these diseases are AIDS, tuberculosis, Ebola, and cholera.

By 2013, the isolation of Northeast Africa causes hunting and poaching to go way out of proportion. This causes a near extinction of the animals, both wild and domestic. Also, increasing drought due to global warming dries up water sources in the interior. Because of Northeast Africa's increased hostility towards the rest of the developed world, the majority of the population more or less quietly dies off without any assistance being sought from other countries.

By 2017 the combination of loss of food, animals and supplies, and the massive diseases creates a huge population decline. Because of the population decline, the survivors are people who have shown immunity to most of the diseases. They have more resources now and so are relatively healthy. Because of the huge number of people that have died off, some of the smaller tribes that were the worst hit have joined together so that more of the people can survive thanks to the others' help. Other of the tribes, mostly the larger ones, resist any sort of unification efforts and establish their own territories. These tribes and the combination of the smaller tribes have stopped the fighting that had been going on because none of the tribes have very many people to spare.

By 2020, the population is steadily starting to recover, but tribal differences still trouble the area. As things get better, the different tribes renew hostilities. Northeast Africa has become a nearly vegetarian region because of the loss of animals, and the inability to feed or maintain their herds. Subsistence farming is the basis of the local economy. As a result of the people mostly eating grains, beans, and vegetables, the animal population begins to recover slightly. Animals that had been feared to be extinct or close to it are now being found to return. An awareness of how important wild animals are to the tourist economy makes it so that fewer and fewer animals are being killed each year. In addition, other countries are starting to do a more serious job of trying to save the endangered animals and to raise them in captivity.

With the isolation of Northeast Africa, the World Bank forgives Northeast Africa's debts mostly because they stop caring about Africa. Also, the World Bank gives up on any "returns" with no real government or industry to be responsible for the debts. For the most part Northeast Africa stops using money in general and relies mostly on the old bartering systems.

Northeast Africa by the year 2020 continues to be an isolated part of the world with no real contact with the rest of the world.

As far as U.S. national security is concerned, as long as Africa does not do anything too suspicious, we will leave it alone. Thanks to the modern technology, the U.S. and NATO are able to spy on Africa well enough to be able to detect if they are building any nuclear bombs, biochemical bombs, or any other weapons of mass

destruction. The former countries of Libya, Egypt, Sudan, Eritrea, Ethiopia, Somalia, and Djibouti, have become so isolated within themselves that they do not even care about the rest of the world enough to want to cause any problems with it.

The U.S. and NATO decide not to try to help the famine-stricken areas because a) Africa does not want help and b) if we help them, we are enabling them and when we enable them, we are doing them more harm than good. NATO sees helping the famine stricken areas as enabling them, because if we do not help them, then they have to learn how to survive on their own. Where as, if we, the U.S., as members of NATO, help these areas, then they will come to rely on us, and not know how to fend for themselves. Just because that is how history works, the U.S. and other members of NATO might be the biggest and the best right now, but in a few more, years, decades, whatever, NATO is going to crumble right beneath our very noses. If areas like Northeast Africa are used to depending on NATO completely, then when NATO collapses, so is Northeast Africa and all of the other countries that we have "helped" also fall apart because they are used to NATO helping them. The developed world has decided not to give Africa any seeds because, again, NATO sees that as enabling and so the authorities refuse to let NATO enable them.

"Mufasa's Kingdom" —Northeast Africa: Less Stable/World Government
by Tawny Wilson and Abby Brandow

In the year 2005, the United States changes their minds about continuing trade sanctions on Libya. Due to growing terrorism, and because of religious and cultural tensions on Americans in other northeastern African countries, the U.S. decides to no longer allow their citizens to travel in Ethiopia, Somalia, Sudan, Kenya, Eritrea, Libya, and Egypt. By the year 2007, these countries' income from tourism drops significantly. This causes conflict between Africa and the U.S. After continuous threats of bombings and other forms of terrorism, the U.S. increases security at their NE African embassies. The U.S. also chooses to no longer accept NE Africans into the United States.

In 2010, Africans begin to devote their attention to a new more virulent form of cholera that breaks out in Somalia, Sudan, and Ethiopia. Northeastern Africa starts depending on each other for medical help and they start to share resources. They request aid in sanitation, water purification, health facilities, and personnel. The UN enforces quarantine in many areas. The UN also sends American volunteers to help, despite conflicting opinions by the American public.

Terrorism decreases, but poverty and instability remain, resulting in compassion and sympathy in the developed world. As conditions improve, relations with the West grow. The U.S. again allows African citizens into America, and lets Americans into the more safe and steady countries in Africa, like Kenya or Egypt.

In 2012, America sends scientists and medical researchers to collect and study disease factors to try and discover cures or vaccines to threatening diseases. Despite the disease problems, population is increasing at a very fast rate. This is due to no method of birth control. With increasing UN and Western interference in internal affairs, however altruistic, the terrorism problem returns at a more advanced level. This is because the Muslims do not agree with Americans being in their home countries. This occurrence is a threat to U.S. national security, and tension within NE Africa grows again.

In 2015, the door between African and Americans has opened after many years of conflict. Awareness of the results of excessive poaching in NE Africa, especially Kenya, is causing environmentalists to insist on action. The U.S. government sends troops to Africa to help patrol and minimize poaching. Environmentalists worldwide

are hostile about the loss of bio-diversity and protests rage from coast to coast through America. The U.S. must strengthen its police forces to end protests. Poaching finally becomes under control after American troops help gain control. Education programs are set up to help the Africans see the economic value of their remaining wildlife. Poachers realize the effect on the ecosystem and the permanent damage on wildlife they have created. The black market trade does really badly due to the animal shortage. Since poaching is ending, protesters become calm by the year 2020.

In 2020, a cure for cholera is found and a vaccine is distributed to Africans. Life expectancy rates are starting to show a steady increase. Researchers have found a treatment for AIDS that keeps it from killing people, and the death rate decreases. This new treatment improves the victims' immune systems. This results in prolonging diagnosed individual's lives all around the world.

In conclusion, throughout the next twenty years, U.S. national security will have to deal with many terrorism threats. The U.S. will have to keep terrorism from NE Africa, out of the U.S. and other countries. The government will have increased security at airports and embassies due to fear of being bombed or attacked. Also because of increased population in anti-poaching protests, the U.S. will have to increase police forces in cities to keep the peace for America's streets. By sending our own citizens to help control disease outbreaks, we are jeopardizing the health of Americans and risking our own health.

U.S. China Relations in the Year 2020

By Kallie Celeste
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Submitted June 2000

Of the many international relationships the United States has today, one of the most demanding is the relationship with China. About thirty years ago, President Richard Nixon opened the doors to China, paving the way for a challenging dialogue. This relationship has always been plagued with difficulties, but all talks came to an abrupt halt six months ago with NATO's accidental bombing of the Chinese embassy in Belgrade in May [1999]. However, beginning in October talks resumed, and there is a promise for better relations in the future.

Right now, the United States and China have different opinions on many issues. For example, the U.S. regards Taiwan as an entirely separate country from China. However, China does not feel the same way, and insists that Taiwan must be "reunified" to the country. If China were to ever take hostile action toward Taiwan, the United States would come to Taiwan's aid. Somewhat similarly, there is a separatist movement in the Chinese province of Tibet. The United States would like China to grant Tibet more autonomy; the Chinese government has summarily dismissed this plea. Another very significant problem is that China's communist government refuses to open its market up to foreign trade as much as the U.S. would like. China would like to join the World Trade Organization, but in order to do that, it must get U.S. and European support. Technologically and economically, China is far behind the United States. There are still 30,000 villages in China without electricity. China's population is increasing rapidly, despite inadequate resources and attempts at government control. Another major point in the China-U.S. conflict is nuclear weapons. Both countries have nuclear capability, and while the U.S. does not view China as a potential threat, many accusations have been made about espionage, which have led to feelings of hostility and adversely affected U.S.-China relations. In the Cox report, U.S. Congressman Christopher Cox accused the Chinese government of stealing secrets from atomic weapons labs in the United States. Also, there has been some outcry in the United States about the Chinese policies regarding human rights, which has largely been ignored. Despite all these problems, a dialogue between these two countries has been reestablished, and the general atmosphere is improving. As of now, November 1999, the relationship between the United States and the People's Republic of China is strained, but not beyond repair.

Now the year is 2020. Things are a bit different, but they have not entirely changed. Over the past twenty years, many changes have occurred, but many fundamental issues remain key. Comparing the U.S.-China relationship in 1999 to the one in 2020, one may see that some things have not changed at all. China remains a communist government, and holds tight rein over the media, religion, and many aspects of daily life. "Free Tibet," a mere ideal in 1999, has become a worldwide cause in 2020. China faces ever-increasing pressure to grant the Tibetan province independence. However, it remains stolid in its resolve to even consider this change. Another area in which the Chinese refuse to compromise is human rights. China still feels that how it deals with its own citizens is its own business. Any attempts made by the United States to interfere or influence this area generally fail. In some respects, the relationship between the United States and China has remained the same during this period of time.

However, dramatic change has been made in the area of world trade. A short time after talks between China and the U.S. reopened in late 1999, an agreement was reached that would allow China to join the World Trade Organization. China finally succumbed to outside pressure, and realized that in order to become dominant in trade and to gain the support of other nations, it must recognize Taiwan as a separate entity. This led to European and American support, and opened China's market to the outside world. This was a great boon to world economy. American corporations expanded into China, where there is cheap labor and a huge buying market. This boosted the Chinese economy, which in turn raised the U.S. economy. Both expanded and are continuing to expand at a great rate. The Chinese economy became stronger and more stable, but is still far behind the U.S., which is now fully dominant in trade. In the near future, it is possible that there will be more competition between the United States and China. However, it will take a few more years.

Another area of positive change is the worldwide ban on nuclear testing. The five declared nuclear powers, Russia, China, United States, France, and Britain, all signed the Test Ban Treaty that banned the testing of nuclear weapons. Now they work together to stop the threat of nuclear war, which comes mostly from smaller countries and terrorist groups. Also, with United States help, China is fast becoming more modern, as more people have access to computers and television. The media has been used skillfully by the Chinese government as a propaganda machine. However, the Chinese still fall behind the United States technologically. Now, in the year 2020, U.S. relations with China are vastly improved over what they were in 1999. China is a trade partner and an ally, and although improvements to this relationship may yet be made, the United States and China are at the highest point of communication and cooperation of any in the entire history of their alliance.

Generally speaking, the relationship between China and the United States has vastly improved over the last twenty years. It went from 1999, where there were many improvements to be made, to 2020, a time of peaceful accord between the two nations. The changes that have occurred over this time period affect U.S. national security in many ways. For example, now that the United States has more of a stake in trade with China, it will potentially be affected by any fluctuations in the Asian market more than before. Also, in the next few years the US will face more foreign trade competition. No longer is China perceived as a threat with nuclear weapons; the fear now is biological and chemical warfare. However, even in this, China is not a threat; the United States and China are on good terms. There will be more threat of technological espionage, the theft of trade secrets and computer technology that will lead to more competition in the area of technology developments. Overall, the U.S. will cease to regard China as a major threat to national security in any area, whether it is economic interest, armed conflict, or spying, and this will lead to improved relations between the two nations. Right now, the only way to go is up.

Libya

By Jake Smith
Hermantown High School
Submitted May 2000

Enter the year 2000, the world as we observe it is at a rather calm state. Of course we still have our minor skirmishes in third world countries, but as for now, most of the free world is at peace. Maybe surprisingly, one third-world country that has a tendency to cause problems with other countries, mostly by creating domestic trouble with itself, is at peace. The country is Libya. Libya, a military dictatorship, otherwise known to them as a system called Jamahiriya, is ruled by Col. Mohmmar Qadaffi. Qadaffi has lain rather dormant lately, opposite of what the U.S. considered him not to long ago. Qadaffi had several Libyan forces execute numerous acts of terrorism, against the U.S. and some of its allies, such as the 1972 Munich Olympic massacre, and the bombing of a German discotheque, which wounded more than eighty U.S. servicemen. He has been quoted "The streets of America will run red with blood," and "We consider ourselves at a state of war due to the provocations of the U.S. Sixth Fleet and the continued actions of American politicians." Qadaffi's remarks were later rendered silent as the U.S. put a F-111 raid on his compound and several key military targets. Since then, he has been considerably silent. Only a few attacks of terrorism have been thought to be connected to him, and the U.S. hopes he remains that way.

Now enter the year 2015. Things have been fairly peaceful since the 1980s and '90s. Not much has been heard of Mohmmar Qadaffi and his organizations. There have been a few acts of terrorism throughout the Middle East, but none of which are directly related to him. The state of the economy in Middle Eastern countries is on the uprise. After completing the famous "Manmade River Project," Libya has now been gaining money back instead of spending it on the importing of water. For the last few years, under the orders of Col. Qadaffi, that extra money has been put into weapons development. After several successful missions into possible areas of nuclear development in Libya, the U.S. was relieved to find out that there appears to be no sign of the development of nuclear weapons. However, a laboratory remains out in the barren lands of Libya, to which U.S. officials were denied access. Americans remain confident because satellite photos show there is no sign of nuclear reactors, and according to records accessed by computer, no signs of any purchase of uranium, plutonium, or other nuclear aiding elements by Libyan officials.

Then, as the world watches the news later that week, devastating news is received of a major anthrax attack in an English railway. Forty-seven American tourists, in the middle of a week-long international peace convention, perish in one of the worst biological attacks in 16 years. Caught fleeing from the seen is 23-year-old Khalid Ali. International and CIA officials question Ali, and it is later found that he has close ties with none other than Col. Mohmmar Qadaffi. CIA officials believe the lab that was not searched is producing biological weapons instead, under financial aid from Qadaffi. Qadaffi, when questioned, denies all accusations at first, but then suddenly after an unexpected attack on the U.S. embassy in Saudi Arabia, where 83 are killed, Qadaffi is said to have fled to an unknown refuge. CIA and other nations now know for sure who has been behind this the whole time. The U.S. launches an attack on Libya's greatest asset, its manmade river project in hopes of first creating a financial burden on the country so weapons production ceases. The bombings are successful; the project is destroyed. Then the U.S. realizes what they have neglected all this time, how this

project also benefits other countries on the coast of northern Africa. This creates several malicious rebel attacks on U.S. bases and embassies in Africa, forcing the United States to send thousands of troops to the Middle East to contain these groups, and prevent a third World War.

      Now you can see the possible consequences if threatening groups are allowed to run freely, and are not observed when they need to be. Leaving a dormant third world country alone, that might have devastating potential, for an extended period of time, especially when we have a bad history with them, can create major problems in our future.

Water Supply and World Cooperation: Cooperative/Less Water — 2000 – 2020
By Rancocas Valley Regional High School Students
Submitted June 1999

Year 2000

By the year 2000, droughts were being experienced all over the world. The El Niño of the late 1990s had not occurred again. Any significant rainfall was only producing many flash floods due to run off of water attributed to the sun-baked ground. Many Third World nations were experiencing extreme famine from crop failure and the lack of pure drinking water. Many of the more developed nations were experiencing low crop yields. Severe and strict conditions were being placed on water consumption.

The developed nations of the world have become used to turning on the faucet and having clean, drinkable water at their disposal. Most of their populations seem to ignore any water consumption regulations or warnings. They continue to wash cars, water lawns, and excessively use water despite warnings of drought conditions. Industry continues to pollute and the governments continue to only "slap the hands" of abusers. Third world populations continue to drink contaminated water from sewage-infested runoff ponds. Crops and livestock suffer greatly in these regions. International relief efforts in these areas seem insignificant.

Year 2010

The water crisis has reached catastrophic proportions in many poorer regions of the world. Water has become the most important commodity in these areas. International relief groups provide rationed water to communities in the Third World. Supply stations have come under attack by terrorist groups who use the water supply to control these areas. The United Nations has assigned military task forces to aid the relief groups in water distribution centers. Armed guards protect water tanks and convoys of tanker trucks trying to supply many areas. Panic due to disease and severe dehydration deaths cause civil unrest throughout many less-developed nations.

Since 2000, the developed nations of the world have felt the depletion of the aquifers in North America and Europe. Priorities have been placed on water consumption. Human drinking water, crop irrigation, and livestock drinking water hold the highest priority. Industrial use of water has become highly regulated as well as nonessential use in homes. Severe criminal penalties have been placed on the misuse of water. The problem seems to be worsening in suburban areas. The price of fresh water has skyrocketed and local water companies have been consolidated into large, regionally controlled government agencies.

The scientific community, government, and multinational corporations are racing to find solutions. The use of the oceans seems to be the only answer. Many desalinization processes are being examined and need to be expanded to be able to serve large populations. Sea farming is a growing concept and sea life is becoming endangered. The water crisis has taken on worldwide epidemic proportions.

Year 2020

Not since the race to develop the first nuclear weapons or the race to send a man into orbit has the world seen such a concentrated effort to solve a multinational

problem. The effort to find a solution to the world's water problem was solidified by the Water Wars of 2015 over the waters of the Nile, fought between Jordan, Egypt, India and other nations of this region. For the first time in history, it seems, all of the nations of the world have worked together with scientific community to find solutions to a problem. The massive desalinization process developed in 2018 has led to huge plants lining the world's seas in order to convert sea water to useable water. Pumping stations and millions of pipeline miles are being installed to service interior areas. Saltwater vegetable and fish farms have become a huge international industry. The Water Conversion and Distribution Council (WCDC) initiated by the United Nations is more powerful than OPEC and controls conversion and distribution of the world's water resources. Massive anti-pollution measures and processes developed in the early 2000s are coming to fruition. Much of the world's wastewater is safely returned to the oceans for use again and is proving to be of no danger to sea life. The world now seems to be turning all of its efforts to the increasing problem of space for the ever-growing population to inhabit for the centuries to come.

Democracy and Human Rights: China 2020
By Eric Yeoman and Soyoung Yim
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Submitted June 1999

In the year 2000, Ewi Sin Chang, a member of the U.S. Rocket Research Group, successfully steals top-secret information on nuclear weapons and missiles from the United States. Chang flees to Beijing with the information. The U.S. is suspicious of mass reproduction of weapons and missiles in China but cannot be certain of such doings. Taiwan, along with the U.S., agrees on an antimissile defense network in Eastern Asia after many discussions. China becomes infuriated by this agreement, insisting that Taiwan is still a part of China. Tensions rise between Beijing and Taiwan, while the relationship of business and trust between the U.S. and China, is put into question.

In the year 2020, escalating predicaments unravel into frightening events. With the weapon and missile secrets stolen from the U.S., China has quickly and efficiently built up a credible amount of military power, surprising the U.S. by accomplishing such a task in an extremely short period of time. China's rush to build up military technology to construct a strong and sophisticated force has now been completed.

Outraged by Taiwan's antimissile agreement in the year 2000, Communist China made plans to invade Taiwan. In the year 2020, the U.S. and Taiwan took their first step in building the defense force by making allies with other countries. This action awakened China into realizing the antimissile agreement was being put into play. With the military power to do so, the Communist China decides this action is too much to bear, and begins to invade the democratic Taiwan. China begins to invade Taiwan's cities, killing by the thousands. Political prisoners are taken and killed. The invasion of Taiwan has begun.

If no action by the United States takes place, the Communist China could easily take Taiwan and claim victory, clearly violating the U.S. policy of containment. Additionally, if the U.S. does not respond, the U.S. would be saying that it is OK to have a military build-up of weapons and missiles, threatening the very existence of the United States' national security. The United States, a main trading partner with China, could also boycott and deny trade with them. As a consequence, China could simply ignore the threat and continue with the invasion of Taiwan, leaving the U.S. to also suffer from the boycott. China could also take this threat to the extreme, and think that the U.S. is declaring a Cold War, leading to a bigger, international problem. Also, the U.S. could take another approach and intervene, by sending in troops to help Taiwan. As a consequence of China's strong military build-up, the U.S. could be in for a long battle, losing many lives in the process. Allies could be formed with each opposing side, leading to a full-fledged war.

Driving Forces: World Poverty/Foreign Aid
Years 2000 – 2020
By Livermore High School
Submitted June 1998

Year 2000

It is the year 2000. Poverty in underdeveloped countries has been a concern for decades, but there seems to be no end to the pain, the hunger, the lack of shelter, the suffering. These are all characteristics that many of us know nothing about. We live in a society where if we are poor or hungry, we can rely on the government for help. Unfortunately, it is not the same story in every country. So far, it has been mentioned that pain and hunger are characteristics of poverty. Are those the only ones? Surely there are more, but pain, hunger, and a lack of shelter are the dilemmas heard about most. What about disease? We have all heard about the great AIDS epidemic and tuberculosis, but are these diseases closely associated with poverty? If not, they definitely should be.

This year alone, tuberculosis has killed 3.5 million people, and there are 10.2 million new cases of TB throughout the world. Since 1995, 15 million new cases of TB have occurred in Sub-Saharan Africa alone. A combination of three drugs must be taken continuously between six and twelve months to eradicate this disease fully. Yet the technology can only be as good as the system that delivers it, and in poorer countries, the necessary systems are virtually nonexistent. Without an adequate system of delivery, the reality is that TB treatment is simply not available to millions of people, and the number of deaths will continue to rise because TB has paired up with HIV in a lethal double act. Another disease of the poor, HIV thrives where there is ignorance, lack of services and poverty.

Year 2010

As we reach the end of the first decade of the 21st century, the gradual rise of poverty has created civil unrest all over the world, from rioting to full-scale war. Take the case in Korea, the continuing problems that have not been dealt with in North Korea has forced the North to seek war as a solution. The invasion of South Korea was not much different from the attack in the 1950s. The North suddenly and swiftly swept throughout the DMZ with thousand of troops and had reached Seoul within hours. The South Koreans put up little resistance, due to economic problems dating back to 1998. Unlike the first Korean War, the South Koreans must fight without the help of the U.S. The U.S. has recently been the target of many terrorist acts. Some terrorists view the U.S. and other superpowers as responsible for the hunger situation in their country. These terrorists strike out at citizens of these powers. These acts are used in an effort to bring about change in policy or uninvolvement of these foreign 'aggressors.' Recent terrorist acts have been more bloody and atrocious than the World Trade Center bombing or the federal building bombing of the 20th century. There have been many attempts on the life of the President of the U.S., and the U.S. is ready to wage nuclear war on anyone that challenges the authority of the U.S. as a superpower.

Year 2020

In many countries, food shortage has become an increasing problem. At one time, this was an unthinkable problem in North Korea, but now, in the year 2020, a lot of changes have occurred in Korea. Over the last 30 years, beggars have filled the streets, robbers raid homes for food, and trees have been stripped of edible bark and leaves. It is estimated that 50–80% of the children in North Korea were not receiving adequate nutrition. In the year 2012, the problem became too great for the North Korean government. After four years of constant uprisings, the officials of this once proud nation called on the US for aid. An agreement was made between North and South Korea in 2015, the Korean Compromise. It was forced to give up its Stalinist form of government and join forces with South Korea. The capitalist form of government of the South now controlled the nation. The government of the unified nation now consists of officials from the former North and South.

Neo-Isolationism
By Josh Field, Brian Cheng, Chris Brunette, April Nelson, and Chrissy Mullowney
San Ramon Valley High School
Submitted June 1997

Year 2000

As we look towards the new millennium, many of us find ourselves worried about the future of the United States. With the election of the year 2000 coming up, we have the opportunity to reevaluate the policies that our leadership has taken since the deaths of President Clinton and Vice President Gore. When Air Force 1 crashed into the Atlantic Ocean on March 5, 1997, this country found itself in the hands of President Newt Gingrich and Vice President Richard Armey, who proceeded to withdraw the country from international affairs.

Five years ago, no one would have guessed the ramifications of the conservative move to isolationism. The recent deployment of the National Guard to the Mexican border has sparked widespread riots from San Diego to El Paso. Because of the United States' refusal to continue our contribution to the peace-keeping efforts in Bosnia, the conflict among Serbs and Croats has once again risen to the level of genocide, but the rumors of ethnic cleansing have failed to obtain a response. Although the U.S. has the manpower to influence the crisis, our government has chosen to look the other way. What is most disturbing about our current lack of action is that the majority of Americans support it. We could be looking at the Holocaust of the 21st century, yet we are doing nothing to interfere. Whereas ten years ago, most people believed that the world was shrinking and we were becoming part of a global economy, we now are finding that this trend has reversed itself and we are trying to shut ourselves off from the world. At this moment, there is legislation in Congress to dramatically raise our tariffs. The majority of Congressmen support this bill, failing to recognize the consequences to our economy if other countries raise their tariffs in response. When are we going to stop our misguided policies? This election gives us the opportunity to reverse the isolationist tide that has overcome our country. Knowing that the polls show Gingrich leading for this election, we have little hope that our government will correct its damaging approach to foreign affairs.

Before Clinton's death, Bosnia was in a state of repair, with the U.S. troops serving to give the warring factions time in which to deliberate a peace treaty. When Gingrich took office in 1997, his first major military action was to remove these peacekeeping troops, an action that he reasoned would force the factions to reconcile. In spite of his intentions, the removal of troops failed to bring compromise. Without our troops as a barrier between the Serbs and Croats, violence escalated once again into a full-blown war. New pictures of mass grave sites are finding their way out of Bosnia into the pages of American magazines, accompanied by horrific stories of midnight raids and random killings. As the rat population surpasses the human population in the ex-Yugoslavia, we must ask ourselves when the President will understand the full implications of his mistake.

Yet the disorder in Bosnia is not the only consequence of the change in power. What was once the beginning of a long-awaited peace in Northern Ireland has now become a renewal of violence. When Gingrich ordered George Mitchell to resign as arbitrator of the peace talks, the balance of power between Unionists and Loyalists was thrown in favor of the Unionist majority. Seeing this as a sign that the United States

government supported the Protestant Unionists, who support unification with England, the Loyalists decided to retaliate. The IRA, the militant faction of the Catholic Loyalists, bombed the London Underground, causing our relations with the UK to deteriorate. Prime Minister John Major stated, "The United States sacrificed Great Britain in order to uphold its own selfish interests when it pulled out of the peace-talks in Northern Ireland. This choice will not be forgotten."

Although the consequences of isolationism have been disastrous to overseas countries, Americans were ignorant of the impact of Gingrich's policies until the riots broke out along the Mexican border. This country has experienced riots before, but these were unmatched in their magnitude, longevity, and bloodshed. The Hispanic population reacted explosively to the new legislation intended to clamp down on illegal immigrants. Gingrich declared that the border would be closed to illegal immigration and that strict watch would be kept to "prevent people from entering our nation and taking away jobs and opportunities from legal citizens. This will be enforced to the fullest extent of the law." After the anti-immigrant legislation was passed, Gingrich sent unprecedented numbers of Army troops to patrol the border. In response to the action taken by Gingrich, Hispanics in southern California gathered together in San Diego to protest the new law. Due to the intense emotion and lack of a clear leader, the protests quickly turned into violence. The movement spread along border towns to El Paso, Texas, where the riots escalated to such a level that fifty-three people were killed and many more were injured. Stores were looted, and the troops were called from the border into the towns to suppress the violence. Unrest continues in these towns as the tensions between Hispanics and resentful citizens build. The fissure between the two groups has grown so deep that many Americans are rallying Congress to write an Amendment to the Constitution declaring that children of illegal immigrants born in the US are not legal citizens. The very diversity that has given so much strength to our country is now deteriorating into petty, race-related conflicts.

Many people rationalize the inhuman treatment of Bosnia, Northern Ireland, and Hispanics by claiming that the move to isolationism has revived our economy. Yes, it is true that the U.S. no longer spends millions of dollars on foreign aid, but this does not mean that we have actually become economically independent. We have maintained relations with such countries as Japan and Hong Kong, where economic needs take precedence over our isolationist ideal. As the Democratic Hong Kong finds itself in conflict with its Chinese rulers, the U.S. is in danger of being caught in the middle of their political battle. Thus, our nation has not truly become isolationist. Rather, we have abandoned moral concerns while continuing our economic involvement. Although this approach may seem profitable for the moment, it may very soon backfire when foreign countries begin to retaliate by closing their markets and the global economy upon which we still depend begins to collapse. Voting for Gingrich will only perpetuate our mistakes. We must take responsibility for our role in global politics or we will find ourselves paying the economic consequences.

Year 2010

Ten years ago, there was much speculation about how the deaths of Clinton and Gore would change the path that our country would follow. Under the leadership of President Gingrich, our country took its first steps towards isolating itself from the world. The election of 2000 provided us with the chance to turn the tide on Gingrich's policies. After Gingrich's ethics problems surfaced and caused him to step down from the primaries, Dick Armey was chosen as the Republican candidate. Campaigning on

the ideal of retaking America for the Americans, Armey defeated Gephardt, becoming the 44th president.

Shortly after Armey's election, the conflict in Bosnia came to an end through peace talks without American intervention. Perceiving this as justification of Armey's isolationist policies, many voters became loyal to the Republican agenda. Armey's growing popularity allowed him to implement even greater reforms after the election of 2004, when the Republicans recaptured a small majority in the House and Senate. Until this point, his policies had been checked by the Democratic Congress. Yet now, with the . power to implement reforms also came the power to instate more isolationist policies.

On June 18, 2005, just after Armey began his second term of office, the United States' international policy was put to the test when North Korea began a land invasion of South Korea. In an attempt to regain the land that they felt was rightfully theirs, North Koreans attacked the city of Seoul, hoping to benefit from South Korea's stronger economy and abundance of resources. South Korea appealed to the United Nations Security Council for support in their efforts to defend their soil from their aggressive neighbors. After hearing the plea, the Security Council voted unanimously to send the needed resources, but the decision was reversed by the United States' veto.

In response to the United States' selfish imposition of our isolationist ideals over the consensus of the Security Council, many countries resented the disregard of our country towards the decision of the United Nations.

"The United Nations serves no purpose if its decisions can be so easily overturned by the short-sighted ignorance and selfishness of a single country," stated the German Ambassador to the UN, Hans Berghof.

Several individual countries, including Italy, Germany, and France, sent troops and military equipment to South Korea in blatant opposition to the United States' veto. Despite the attempts of these countries, South Korea fell to its communist neighbor, betraying the staggering strength of the North Korean military. The newly united Korea has established itself as a growing world power in spite of the initial adjustment of South Koreans to the communist government. Although Americans supported the decision of the United States to stay out of the conflict, the thought of this new communist nation with a powerful military disturbs many citizens.

By 2007, Korea was not the only country that had tested U.S. policies. The unrest between England and Northern Ireland has continued to escalate since George Mitchell was called out of his role as mediator in 1998. The bombings and attacks on London and Belfast have increased in frequency and violence as the IRA began to attack more public areas. With the death toll rising, the United States has begun to feel as if this 900-year battle will never be resolved. As President Armey declared in his 2007 State of the Union address, "The conflict in Northern Ireland has its roots in hundreds of years of history that have nothing to do with the United States of America. We cannot afford to exhaust our resources on the unsolvable problems of other countries." The growing unrest in England has served to increase the friction between our two countries, for many English citizens feel that the U.S. has abandoned them.

As the election of 2008 approached, tensions within the Republican party led to the formation of two opposing groups. Led by Senator Charles W. "Chip" Pickering, Jr. of Mississippi, the New Patriot Party broke off from the Republicans, taking with them the Christian Coalition and the majority of Republican voters. (Also that year, the football team from New England mysteriously changed its name to the New England Mystics.) By November of 2008, the ideal of a party dedicated to the preservation of American society had attracted enough voters to give Chip Pickering the presidency.

The first half of Pickering's administration has been marked by several major domestic issues stemming from Gingrich's administration. Shortly after the election of 2000, President Armey issued Executive Order 9064, ordering a steep increase in the number of officers patrolling the border and nearby towns. This increase led to the subsidence of the violent border town riots. With relative calm for many years, Congress felt that the time was right to initiate and pass the 29th Amendment to the Constitution, declaring that the children of illegal immigrants born in the United States are not legal citizens, effective January 2009.

In response to the amendment, Mexican-Americans began to demonstrate along the border towns. These rallies brought together an unprecedented leadership of Mexican-Americans, giving them the power to respond in a unified manner to the government's actions. "This nation derives its strength from a rich background of cultures and immigrants. We will not allow the hypocrisy of this government against that principle to deny us the opportunity to contribute to the diversity that makes this nation strong," asserted Miguel Perez, the leader of the NAMAP (the National Alliance of Mexican-American People).

A year after the amendment became effective and Mexican-Americans were being stripped of their citizenship and rights, tensions along border towns skyrocketed. In El Paso, the headquarters of the NAMAP, tensions took a violent turn. On April 4, 2010, at 4:52 a.m., a huge explosion ripped through the barracks of Fort Bliss Army Base. When the rubble was cleared, the death toll was in the hundreds. The militant faction of the NAMAP claimed responsibility for the bombing and stated, "If this injustice is not corrected, many more people will suffer."

After Gingrich's presidency, the economy had begun to suffer from the rising inefficiency encouraged by Gingrich's high tariff policy. Armey, however, had the foresight to repeal these tariffs. Although the country's economy initially took a hit from the sudden rise in competition, the greater competition spurred higher efficiency as well as an increase in international trade. Thus, despite our attempt to avoid international entanglements, we did not allow our economy to falter. Yet under Pickering's administration, tariffs once again rose in accordance with the New Patriot Party's promise to concentrate only on American needs. This selfish policy, however, is doomed to repeat the failure of Gingrich's policy in the long term. To truly help our country, we need to purchase the most efficient goods produced, not just blindly "buy American" and hope that it will help our economy.

As the government continues to pursue an isolationist ideal, many voters are beginning to ask themselves whether their goals are realistic. With international and domestic tensions at the breaking point, will this be enough for the United States to realize that they may have taken our isolationist policies to the point of self-destruction?

Year 2020

NEWS REPORT
APRIL 5, 2010

After yesterday's tragic bombing of Fort Bliss, the country's attention is turned towards the government, anticipating the inevitable response from President Pickering. People in El Paso are reeling from the sudden outbreak of violence. While the government begins to develop its policy towards the NAMAP, citizens across the country are beginning to question the wisdom of Pickering's campaign promises. The only response from the government so far has been from White House Press Secretary Jim Poulos, who asserted, "Further incidents of reactionary terrorism such as the ones

we have all just witnessed with horror will never be tolerated. This administration promises swift and unforgiving justice to the heinous rogues who have driven fear into the heart of this nation." The country waits...

Pickering's response surpassed even the most extreme of expectations. The governor of Texas declared martial law, reinforced by the National Guard. In addition to the arrival of troops, the FBI sent its most capable agents to investigate the crime. Yet this response failed to curb the violence that boiled beneath the surface. Terrorist attacks continued; furthermore, matters spiraled away from government control as the NAMAP split into two factions. The militant group was left with anger and weapons, but no leadership to focus their aggression on suitable targets. Thus, violence spread quickly and randomly throughout border towns.

After many years of investigation, in spring of 2012, the FBI traced the headquarters of the militant faction of the NAMAP to an isolated compound in the south Texas town of Kerrville. In an act of panic and desperation, Pickering ordered the ATF to raid the complex and seize all weapons. Similar to the occurrences in Waco, Texas, over fifteen years earlier, the individuals in the complex were resistant. Unwilling to risk casualties of federal agents, Pickering authorized an immediate deployment of the National Guard to the small Texas town. After two days of intense standoff, Pickering held a press conference in which he said, "As Americans, we cannot stand for this. We need to squelch terrorist actions in our country designed to rip at the very foundations of this nation." The nation watched as the troops advanced on the complex.

CNN was the first to report the casualties. In addition to the deaths of twelve National Guard officers, over one hundred Hispanics were killed in the struggle. The public was outraged by the atrocity caused by Pickering's impulsive decisions. Miguel Perez of the NAMAP denounced the United States government, saying that the concern for human well-being had been lost in the attempt to fulfill the political agenda.

While Chip Pickering was giving a compelling reelection speech in October 2012, an unknown gunman fired two shots from the crowd in San Francisco, California. Pickering died instantly, shocking the nation. The gunman was later identified only as a member of the militant faction of the NAMAP.

After Pickering's untimely death, the nation turned from the Republican and New Patriot agendas to the more moderate Democratic one, electing the first Democratic president since Bill Clinton in 1996, Robert K. Ream. In an attempt to stop the terrorism that had recently accompanied the former administrations' isolationist policies, Ream quickly tried to implement more subtle isolationist reforms than his predecessors.

With tension in the border towns still high, Ream endeavored to settle the disputes without repealing the legislation that had caused them. With additional National Guard troops, and the memories of those that had been killed in Kerrville, aggressions began to subside and by 2014, the tension was once again contained under the surface.

After Ream successfully won reelection with high popularity in 2016, Americans were once again beginning to feel that their government was working for them. The economy prospered as tariffs were lifted and international trade resumed. The Pacific Rim had been jarred by the temporary disruption of trade with the U.S., as well as the unrest experienced in post-war Korea, the newly lowered tariffs presented Japan and China with a chance to repair their disintegrating economies. Japan, seeing this as a new

opportunity, began to expand their market to the size it once was in the 1990s. China remained reluctant to enter into an agreement that they viewed as unstable.

On December 16, 2017, a deadly plague ripped through the Hunan Province of China. As the death tolls increased daily, many Chinese citizens fled for Japan. With already overcrowded cities and a weakened economy, Japan did not have the resources to accommodate the thousands of refugees flooding its coasts. The government was forced to close its borders to immigration.

With the mounting pressure on both Chinese and Japanese governments, the two countries turned to the United Nations for humanitarian aid. Like the Korean crisis of 2005, the United States was forced to determine the actions the United Nations would take. Under the leadership of President Ream, Ambassador Michaels was advised to take our first non-isolationistic policy since 1997, granting aid to the Chinese refugees.

Over the past twenty-three years, we have seen the policies of America change from the liberal views of President Clinton's administration to the sudden isolationistic shift taken by his predecessors. The recent actions taken by President Ream are a mix between these two ideals. By electing a Democrat for the first time since Clinton's term in office, the American people have shown that the isolationistic stand taken by the Republicans and the New Patriot Party was one that was not in the long-term interest of the United States. We live in a global economy, and as a major world power we cannot afford to abandon our own economic interests. Presidents Gingrich, Armey, and Pickering believed that the United States of America could thrive by itself, alone in the world, yet as seen through the current state of China and Japan President Ream has shown us that an isolationistic foreign policy will not work. We need to use our power, as a nation, to support the world community, for it is in our best interest to keep trade open with other countries because, as we have seen over the past 20 years, isolationism can only lead to the downfall of the American economy and way of life.

It's The Economy, Stupid!
By San Ramon Valley High School
Submitted May 1996

Year 2010 — Introduction

In the first decade of the new century, world affairs begin to rely upon economic prosperity or economic weakness. Various countries of the world know that the power of their countries is emphasized by their countries. Weak economies equal weak nations and strong economies equal strong nations.

The thirst for economic prosperity joins enemies together and allies apart. Unrest within economically poor countries causes world leaders to look to Nasra's regime for the promise of prosperity. Oil and nuclear weapons become the binding chains of economically driven alliances. Nations are torn as the impossible becomes possible.

Plot

Nasra's regime has cut off oil to all countries. He has raised prices while supplying only a minimal amount of oil to reliant countries, actions made as a retaliation to the trade sanctions put on his country by the UN. He hopes this will force countries to pay the high oil prices, in turn giving him the economic power of other countries. By exploiting the oil, he is forcing other countries to restructure their economies.

Within the walls of Russia, a new leader has been voted in. He is a communist, picked by the people in hopes he can mend their chaotic economy. The new leader is optimistic and has big plans, planning to build Russia into a leading power country. To reach this, he must first rebuild the economy, of which money is a necessity.

Internally, Japan is strong, but externally they have been affected by the rising prices of oil. They have enough money to pay for the oil, but in the long term, it is economically unwise. They must find a way to get needed oil for lower prices.

Eventually Russia, Japan, and the Middle East come in contact with one another and form an alliance. Russia supplies the Middle East with nuclear weapons in exchange for lower oil prices for both Russia and Japan. Japan therefore supplies Russia with needed money because they had the price for oil lowered. Each country succeeds in its own individual way: Russia has more money to rebuild its economy, Japan has the price of oil lowered, and the Middle East now has its hands on an abundant amount of nuclear weapons, which will work to their advantage if a war broke out.

Nasra's new alliance with Russia and Japan, and the benefits of their combined nuclear power, allows Nasra to cut off all oil into Europe and the Western Hemisphere. In shock, the U.S., Canada and the European countries try to find the oil they so desperately need. The U.S. tries to sustain itself on its own resources, but long-term supply is not possible without the aid of other countries. With the help of the UN, oil-rich Latin American countries forge an agreement with the U.S., Europe and Canada. They agree to supply oil at a cheaper price with the promise of lower trade tariffs, looser NAFTA regulations, and generous financial aid in the near future.

By 2005, the United States, fearing nuclear warfare with the Middle East, Japan and Russian Alliance, proposes to the UN that neutral countries send troops into Israel to protect it from the pressure of surrounding countries. European countries, including England, France, Italy, Spain, and Ireland, send troops along with the U.S. forces into

Israel. Latin American countries, Canada, and the countries of South Asia are active supporters of this action, sending military and financial aid to the troops. (Due to agreements of the oil pact, Latin America was not required to send troops of their own.) The South Asian countries, led by China and India, have devised a secret plan to lessen oil dependency on the Middle East.

The economy in the European Union is slowly trickling downwards. The economy needs to pick up. One reason for the drop is the sudden rise in the price of oil. Although the E. Union would like to stay neutral, they need the oil supply to keep their economy healthy. The Union does stay neutral for about a year and a half, but Europe does need the oil, and the UN is urging very badly. Latin America helps supply oil to Europe and to the U.S. In return, as part of the agreement, Latin America expects the countries to lower tariffs.

The UN takes control and tells everyone that they are to send troops into the Middle East. Countries in the Union decide to help to the best of their ability, but would still like to stay neutral.

The economy worsens and the Union must take action. The oil supply from Latin America is becoming short, and the Union is in need of a larger supply. The two years they are in the Middle East, the economy begins to pick up because the countries are coming together to support the troops in the Middle East, as Europe begins to see the advantages of one economic union.

Domestic/National Security

The U.S. economy is slowly, but steadily declining. Consumer attitudes have changed completely due to unrest in the Middle East. Many people are turning away from our country, and looking for solutions in other countries. Gas prices are so incredibly high, that talks of electric automobiles being household items have become more and more relevant.

The unemployment rate is slowly rising, as well as prices on many necessary goods. Many people are starting to fear a war in the Middle East. This is equivalent to the fact that people are saving money and the economy is not prospering. At this point, a complete recession is inevitable.

The only aspect of the economy that is not bleak is public transportation. Due to outrageous gas prices and an eventual complete cutoff of oil from the Middle East, gasoline is rationed. To save money, people are looking to buses, taxis, and other means of municipal transportation.

National Security advisors are sweating nails for fear of a nuclear war. People of the U.S. are also worried that war will break out into full fury. The media has had a big influence on the citizens of the United States. Things aren't looking too good for the future, and the media is to blame for antipatriotic attitudes and riots that have broken out in major cities. Meanwhile, the Army, Navy, and Marine Corps have been sent into Israel, much to public outrage. Citizens are massing large anti-war parades and events. The condition inside the U.S. is just as bad as the tension in the Middle East.

Will the secret plan succeed? Will war break out in the Middle East? Will Nasra rule in absolute power? Will the economies of the world crumble under the fist of a corrupt leader? The answers will unfold as the world trembles on the dawning of the next decade.

Year 2020 — Introduction

All over the world, unrest is spreading like wildfire. Economies are on the brink of crumbling. Foreign relation conferences have become meetings of paranoia and hostility. Domestic tranquility in the nations of the world has been plagued by rallies and riots spurred by the problems of the rotting economies. The crime rate has increased throughout the world. World leaders know that something must be done, or else it will be too late to salvage the economies of the world. World leaders also fear the sociological transformations that are beginning to occur. Nuclear arms have been dramatically built up all over the world. Nuclear war is a horrifying possibility dawning on the world horizon. Nasra must be stopped.

Plot

At the end of the last decade, the U.S. and Europe had sent troops into neutral Israel. Nasra's newly gained economic power has begun to decline as the dependent countries find other alternatives to oil. After cutting off oil to Europe, the U.S., and Canada, he had expected the countries to come begging for the oil. At that point, he would only sell his oil at extremely inflated prices in order to take away the United ' and Europe's superior economic power. He did not expect Latin America to supply the countries with oil and in turn gain the power he had planned to take. Armed with nuclear power, Nasra decides the only way for his regime to survive is to break up the alliance with Russia and Japan. This way, he can sell the oil to Japan at the inflated price and then take the power away from them.

The troops in Israel are a little too close for comfort, and the threat that they serve has made Nasra fear that his country will be broken up sooner than he planned. The unrest with the people in the Middle East has made Nasra nervous and less careful with his actions.

The U.S. has sent troops from Israel into the bordering areas of Nasra's country. Our purpose is to help the people within the country who are suffering. While there, Nasra is assassinated by a militia set up through a common distrust of Nasra and his benevolent, religious appearance. As well, they disapproved of his build-up of nuclear weapons and felt the only way to remove the threat of unnecessary war was to remove the source of the problem: Nasra.

In the year 2011, the European Union starts to look up. They begin to take troops out of the Middle East and withdraw from the agreement with the United States and Canada. Although the economy was on an up-rise, after the troops were withdrawn from the Middle East the economy begins to steady. For the next few years, the Union watches the rest of the world's economy go from crumbling to becoming healthy again. The economy in the Union is not good, but is beginning to look better. After Nasra's assassination the economy for petrol begins to take off. The demand for the electric car is huge. Now the Union has found that they should not totally rely on the trade unions formed with other countries. The Union has found that they can rely on all of the countries within the Union, thus increasing their power and allowing them to become leaders in the new world economy.

After Nasra's assassination, U.S. troops remain to help the Middle-Eastern countries reestablish their individual nations. With time, the individual nations once again export oil at fair prices, but never return to the same economic status they were once before due to the lowered demand for oil, arriving after the invention of the electric car.

South Asian countries had been perfecting an electric car, as had the U.S., but neither could create a fully functional, affordable car. They soon merged together, sharing ideas, and agreed to work as a team to build a perfect electric car. They succeeded, and the world soon abandoned their oil-consuming cars for cars run by electricity.

Domestic and National Security

After a decade of hostility, America has turned back to living an easy, simple life. Many aspects of our economy are back onto the right path, including the oil/petroleum industry. Because the situation in the Middle East has straightened it self out (after about 12–14 years), consumer attitudes are changing.

The break up of the Japanese-Russian alliance, and meltdown of the Middle East, allowed for the U.S. to gain control of the world stage once again. The invention of the electric automobile has stimulated our economy. Housing starts are way up because many people are moving back and investing in America. The Dow Jones is steady.

One aspect that is still unsteady is the environment. When gas prices were so high and nobody was driving, air pollution hit an all time low. However, more toxins are spewing into the air, and more people are irritated by it. The widespread electric car has led an ecological revolution in an attempt to save the environment.

Many people believe that America will not be threatened by any sort of a world scare again (or at least for a while).

The U.S. is troubled with the problems in the Middle East. Nasra begins to cut off every citizen who opposes him in his country. Security advisors send over armed troops to aid these people, not to attack. They are ordered to avoid hostility at all costs.

At first the general public fears that a nuclear war is imminent. When Nasra is assassinated by a militia led by the opposing citizens of the Middle East, his assassination causes a domino effect, crumbling all of his progress towards world domination. Troops from our country stay in the Middle East and establish trade and diplomatic relations.

Talks of nuclear disarmament with the UN have lessened the world's fear that the world can be taken over with nuclear weapons. The government has also taken sanctions against the media for their false news reports anticipating war. This was proven to be a leading cause of unrest in the U.S. during a difficult time and could have led our country to collapse.

Conclusion

Over the last few decades, the struggle for world power has shifted from player to player. Unity and communication have resulted from terror and paranoia. The tides have turned from economic power concentrated in a few countries, to power evenly distributed to a myriad of world communities. A global community has finally been established.

At a UN conference during the reconstruction, a motion was made to form a world union that would include all nations and improve communication throughout all areas of the world — a task the UN had failed to accomplish. An International World Union rose out of the devastated United Nations. Pacts of the IWU conference have created a vast international trade market, where every country is an exporter and an importer. Poor countries will be aided by the IWU Corps, where specialists go into your country and aid in economic and agricultural buildup. Technological advantages are

2020 Vision Project Summary

offered to any country that seeks it. The conference has sealed a treaty on Global Disarmament, which will be completed by the year 2040. The demand for oil has been lessened by the phenomenon of the electric car, and even pollution is being reduced.

The U.S. and Europe are the ringleaders of this international alliance. The world is steadily moving towards a global community where communication and understanding are affluent and power is evenly dispersed.

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