NUCLEAR PROLIFERATION: AN EDUGAME

An Interactive Qualifying Project Report

Submitted to the Faculty

Of

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

By

_____

Timothy Corsetti

_____

Matthew Duval

_____

James Johnson

_____

Brandon Secatore

Date: Mar 17, 2009

_____

Professor James K. Doyle, Advisor

Chapter 1

Introduction

This IQP reports on an experience with gaming as pedagogy within the cooperative learning movement at Worcester Polytechnic Institute. It is an assessment study inspired by a tradition of learning styles research in which the focal question is how to engage the students least likely to flourish in a traditional learning setting without losing those who do flourish in traditional courses. The inspiration of this report was a recently revised version of a full scale live role playing game that was originally created for another purpose. It has now been altered to grow organically out of a specific WPI course in which the focal issue was how technology "gets out of control".

The development of the game that is at the heart of this project, "The Pakistan Connection", has been a long, iterative process. The assessment of this game, and other Live Role Playing Games (LRPGs) at WPI, relied heavily on the Myers Briggs Type Indicator (MBTI) in order to distinguish the different learning styles of the participants. The first version of the "Nuclear Proliferation Game", the predecessor to "The Pakistan Connection", was written by the Dewhirst et al. (2001) group and used fictional character sheets and events as the focus for the international meeting in which the game takes place. As no MBTI data were available for the students that were in the first run of this game, our team has drawn on the results of a previous game development and assessment project, "Project AEGIS", which was improved and assessed by the Spino et al. (2002) team. Project AEGIS is a game on space policy in which all the space faring nations try to work together to deal with the threat of asteroid impacts on Earth. It was run in the context of an Introductory Sociology course and the evaluation team of Spino et al. (2002)

reported that the Sensing types received a greater grade benefit from the game format than the Intuitive types—the exact opposite of what happens in a traditional introductory sociology learning setting. In pre-game runs of this course the Intuitive types have tended to do better, especially on traditional term paper and book review assignments.

It is not clear that the Intuitive fare better in all types of college courses but a study of freshman year performance at WPI for the Class of 2002 by Colamussi indicated that they were the stars in the first Physics course as well as in Introductory Sociology. Overall, the first year courses went better for the Sensing than the Intuitive students in the class so, it seems that a few courses are stumbling blocks for the typical Sensing student. It is worth considering why this is the case and whether anything can be done about it, so we shall assess the impact of adding an LRPG to a social science course at WPI. The WPI student body is probably not typical of that found at other colleges, but the experience of Sensing students is quite important both at WPI and in the context of college education more generally. Only 28-30% of the general population in the USA is estimated to be Intuitive, though about 55% of the typical entering WPI first-year class has this cognitive preference.

The 2005 iteration of the "Nuclear Proliferation Game" was a departure from prior usage, in that the game was the focus of the entire course. The instructor, Prof. Campisano, asked the students in that class to research real-life International Atomic Energy Association (IAEA) negotiators so the students were not given fictitious character sheets, which had been common practice up to that time. The Knock and Gagnon (2005) group was able to replicate the findings of the Spino et al. (2002) group in that the sensing students were not at a disadvantage in the game portion of the course compared to the Intuitive students. While this run of the "Nuclear Proliferation Game" could be considered the most immersive of the different LRPGs that have

been used at WPI, it required a large amount of research on the students' side as well as a large input of effort by the faculty members running it, most of which was not going to be directly reusable the next time the course was run. By contrast a prepared lecture or a fictitious character sheet can usually be used again.

The first iteration of "The Pakistan Connection", developed by Roberts and Lane (2006), was developed with the lessons learned from the "Nuclear Proliferation Game" by Dewhirst et al. (2001) and the Spino et al. (2002) group in mind. Their goal was to get as much of the immersive experience gained from the Knock and Gagnon (2005) run as is possible in the smaller time frame of 25-30% of the course. Inspired by the Spino et al. (2002) group, they wanted to use character sheets and briefing papers that could be reused, but they also wanted to use some kind of real case study or event that they could focus the game around. So, with these previous projects in mind, they developed the first version of "The Pakistan Connection" focused around the book *Shopping for Bombs* (Corera, 2006*).* In addition, they were being urged by their sponsor, Student Pugwash USA, to see if they could develop a version of the game that would work outside of a classroom setting. If it could be used as a club activity or focus of a student conference, SPUSA would help disseminate the game through its existing network. There was no special attention given to the game's reuse beyond the idea that the case was historical and the facts would not change. However, with a sponsor that wanted to disseminate it to about 20 different chapters on different campuses to run as a chapter event, portability and reuse were implicit concerns. It could not be revised every year, much less between runs. While this game was designed and finished, the authors did recycle some materials on country by country briefings from Dewhirst et al. (2001) and never got a chance to be run it as a field test.

The second iteration of "The Pakistan Connection", by the Bennett et al. (2007) group,

focused on revising the game elements that had been adopted from the prior game and really were not suitable due to tone or failing to be up to date. They also wanted to run a field test and assess its value both in-class and as a no-preparation, consciousness-raising event for their sponsor, again, Student Pugwash USA. The game was run in a small seminar class of twelve, with about 6 additional "visiting" participants recruited by the WPI Chapter of Student Pugwash. They weren't able to answer the question of whether or not it was feasible as an out-of-class event, since the class members sort of "carried" the visitors, but the idea showed promise if someone had done the necessary homework and served as Game master, an individual responsible for the scheduling and directing the game and subsequent topics for discussion . Still, it seemed more appropriate as a classroom activity, with some preparation in the form of homework.

As the third and hopefully final iteration of "The Pakistan Connection", this project team seeks to make the final adjustments necessary to the game to make it ready to disseminate. However, it is not clear that the dissemination should be to the Pugwash Chapters. We see it as a curriculum unit but not only a completed curriculum unit. It can also be viewed as a model for other, similar games. It has a set of recyclable elements, like character sheets and country sheets that can be used in games involving negotiations on other policy topics. More than just completing (as best we can) "The Pakistan Connection", this project is focused on making the case for a games initiative in the cooperative-active learning tradition with this game as an illustration. We hope to foster the movement toward more engaging types of pedagogy by providing both an illustration of how to do it and proposing a suitable assessment system, i.e., a way to tell when you've succeeded. This project team also tries to analyze the suitability of this game as a freshman seminar by answering the question, "Do First-year students experience this

game the same way as upperclassmen?" This was possible because the field test was run in a class of 30 and about 40% of the participants were First-year students in their first term at WPI. Though the Student Pugwash question is still an outstanding issue to see if this game would work as a consciousness-raising event outside the classroom that was not a focus of the current study, which is an assessment study. The experience of the class is what we assessed.

Chapter 2

Literature Review

The following sections of this review represent areas of initial interest related directly to this IQP. Topics include cognitive styles and their effect on classroom performance, the use of games in the educational field and their effectiveness, nuclear proliferation, and the methodology of games in teaching.

Cognitive Styles

This IQP focuses primarily on the effects of cognitive styles on classroom performance. Students succeed academically when teaching styles are cohesively tailored to a student's specific learning style. This is not the same as developing inclusive classrooms by accommodating the student's needs, whether they are physical or mental. The learning styles of interest to us are all "normal" and "common", though the mix differs in various classrooms. Our approach is akin to adjusting to the differences found in the multiple intelligences or multimodal learning literature. The personality and learning styles of the students involved with this project were evaluated using the MBTI method.

One of the major variables encountered in this IQP is cognitive preferences and their affect on students' performance in the classroom. Students cognitive preference or personality can be used as an indicator of their learning styles and can be used to improve classroom performance. The first step is to determine a way to identify or classify learning styles. Then, each learning style should be evaluated to arrive at a better method of teaching to said style. Lastly, classroom activities and lessons should be tailored to cohesively fit the needs each and all learning styles found in the group being taught. To learn more about this process, research was conducted to determine what progress had already been made toward adapting teaching methods

to better suit a student's learning style. However, our focus was narrow, given that our goal was to try to understand how an LRPG would change the educational setting, and hence who was most likely to benefit or suffer due to the change.

There are several approaches to identifying learning styles. One is to look at the correlation between personality or behavior and what part it plays in our successes and failures. The motivation a person has to undertake various tasks or avoid certain situations is one way to classify their personality

Another way to classify personality is to observe the "language" of personality, or how we use behavior and body language as well as words to put across our meaning. Crozier (1997) examines all kinds of data across certain ranges of personality and uses factor analysis, which is a method for finding common factors shared by a set of different variables, to try and find discernible patterns. One problem with this method is finding variables that give an accurate interpretation of personality without being distorted by the intelligence factor, or the person's ability to reason. This is not considered a personality variable, or even a learning style variable. It is associated with learning as a kind of aptitude variable but is from a different tradition of educational psychology. A person's behavior, their traits and types, is very pervasive in explaining why people behave as they do in the classroom (Crozier, 1997).

A major factor in assessing the impact of a student's learning style is the degree to which it matches the teacher's learning/teaching style. Successful learning has been identified by Willis, (2007) as the senses registering the information being taught, and then storing it appropriately, with as many strong pathways to it in the brain as possible. Teaching in a

multisensory fashion, stimulating the brain on more than one level about a subject, helps the brain strengthen the memories it has of information to the highest cognitive levels. Teachers that learn the way a student learns are more likely to be able to satisfy student's learning needs. Those who consciously balance their approach are generally able to increase the success of the class in mastering the lessons they are trying to teach (Willis, 2007). This is because they are taking into account the needs of their cognitive opposites as well.

Teachers attempting to meet the needs of their students' learning styles often try to create an inclusive classroom as well. Inclusion focuses on accommodating the student's needs, whether they are physical or mental. The first step in the inclusive classroom is to discover students' individual learning styles, then adapt lessons so as to offer realistic challenges, options to choose from, and also to teach organizational strategies. It is important to pay attention to the students and also to provide feedback. Developing a dialogue with students is a practical way to get a feel for how they learn and work. The inclusive classroom is sometimes viewed as watering down the curriculum so that "everyone" can get it. However, its advocates claim that if a student gets it, there has been no erosion of education standards (Willis, 2007).

Another strand of literature that involves teachers looking to meet their students' needs but which is more appropriate to our concern with normal student ranges of ability is that dealing with multiple intelligences, or multimodal teaching (Armstrong, 2000). Gardner identifies 8 intelligences: linguistic, logical-mathematical, spatial, musical, interpersonal, intrapersonal, bodily-kinesthetic, and naturalist (Armstrong, 2000). These aren't believed to be all the intelligences, but the idea is that there is more than one, and this list contains previously

identified intelligences but acknowledges other gifts as well. Teachers focusing on differentiating their classroom to meet some of these are relevant to active-cooperative learning environments stressing group work. These learning styles are more likely to consider role playing and evoke positive emotional responses from the large majority of the students whether or not they adopt their strategy. A positive emotional atmosphere is going to enhance learning, because with defense at rest the student's brain is more open to storing the idea being taught (Willis, 2007). Ways to create environments geared towards well rounded "brain-enrichment" (Willis, 2007) include having a variety of approaches and activities, having a variety of culminating projects that the students can choose from, having open-ended discussions led by or focusing on the students, having multiple activities the students switch through around the room, and many other approaches. Clearly the motif of those options is variety, which is precisely what the multimodal teacher strives for, while still focusing on getting the information across as well (Armstrong, 2000). A role playing game structured around briefing papers, delegation discussions, negotiation, extraneous acting, and reflections in diaries goes a long way toward achieving the variety, open-ended, and multiple activity goal of their multimodal school of thought.

Using the Myers-Briggs Type Indicator (MBTI) method of getting at learning style differences did not allow us to get at all the intelligences referenced in the education literature, but there was considerable overlap and some common variables in the class under study. This indicator was used to determine the range of learning styles among the students in the class under study. The MBTI is based on the work of Carl Jung, who theorized that people differ along four main dimensions which he considered dichotomous (MBTI Online, 2007). Jung identifies 8

personality types by combining an introversion/extraversion dimension with two other variables that produced four possible mental functions: sensing/intuitive and thinking/feeling (MBTI Online, 2007). Isabel Myers and Catherin Briggs developed a fourth dimension (Judging/Perception) as well as operationalizing the three posited by Jung. Their additional dimension was to get at which of the mental functions was dominant.

This differs from Gardner's (1993) Eight intelligences in that it measures preferences rather than abilities and focuses on how we work with each other in groups and relate to different cognitive tasks involving perception and decision making. The 8 intelligences are the abilities that matter in various parts of our lives. The two approaches, in a sense, could be combined to make a more multi-dimensional image of our personality type. However, the multiple intelligence community does not have a standard way to identify those differences and categorize them such as the MBTI, a twenty minute questionnaire (Armstrong, 2000, MBTI Online, 2007). Thus, we have adopted that as our definition of learning style, through conceptually getting at linguistic, logical, interpersonal, and so forth would have been a good way to see who got the most and least out of role playing games.

Cognitive styles can be measured many ways, and are clearly a major focus of educational research today. However, the study of how and why we differ would benefit from a standard way to classify learning styles. The literature based on the MBTI is as close to a standard as you can get as there is a 50-year long tradition based on their measure. Our IQP focuses on creating a teaching tool for teachers to use to engage their students. It is part of an effort to create a more level playing field, with particular emphasis placed on comparing the

performance of students with different learning styles. The goals of our IQP and the goals of the inclusive teacher are very closely related. Classifying learning styles is a very important element in this project because the research helps us assess the outcome of our intended product, in terms of a goal of educational equity. Psychological types, as measured by the MBTI, provide a standard set of between eight and sixteen types of learners but we have not used the MBTI in a standard fashion. We tend to work with two of the four dimensions measured by the MBTI, producing at most four types of learners. Cognitive styles and inclusion are two very important topics of study in our research.

The Case for Gaming in Education

Games used in the educational setting have yielded results that indicate games are a natural method for learning and are engaging for students. Teachers have a better chance of conveying their understanding with students when the students are actively engaged with the topics they are studying. Games as lessons are an effective way to reach students through a medium that is more involving.

The concept of gaming in education represents a basic part of this IQP. Games are involved in human life in many different ways, and they are still being found in new and different places. The exploration of games in the field of education has yielded results that point to games not only being a natural method for learning, but more engaging for students. (Danesi, 2002)

Students are even found to be naturally drawn toward games as a process and experience, to the

point of distraction at times from the education goal. Games as a teaching method combine interaction and education in a way that helps to enhance retention. This IQP sought to measure many of these basic concepts.

According to Piaget, (1953) development and learning are two separate entities. Learning is gaining specific knowledge or skills, and development is training and exercising the skills as they emerge in age appropriate order. Piaget states that interaction is the source of development. Teachers now are being encouraged to do "action research" and study their effectiveness on a continuing basis. More and more are analyzing the conditions under which the active experience, what is going on at the time, becomes a source of intellectual development. Such analysis gives teachers/researchers a better idea of what activities are working for their students, but the analysis is also marked by stages, which aren't always based on the amount of knowledge gained. Time and other outside factors can affect a student's development and it is important to recognize the difference between maturation and experience and effects produced by classroom activities. These factors are both vital in a student's intellectual development. (Furth et al, 1975)

The transfer of knowledge between humans relies heavily upon language, especially in the educational field, where one person must communicate to upwards of twenty or more people of different preferences, ethnicities, and social classes. Piaget believes language and thinking should be more separated in learning. Such a segregation allows the mind to develop thoughts easier without having to "recourse" to a society's language, which limits the mind and the mastery of which sometimes consumes a significant amount of time and mental energy. If teachers could teach their subject matter concepts to students by circumventing language and

using a much more natural method, then educators would have a better chance of conveying their understanding in the exact way they want. (Furth et al, 1975)

Learning happens within a person's own mind, among their own thoughts, or it can be done through some outside interaction, such as a teacher telling them how to do something. The thoughts that occur within, such as a new idea to add to a discussion, are intrinsic learning, the mind putting things together. A student taking in what a teacher is telling them is extrinsic learning. Language is heavily involved in extrinsic learning, but the connection between intrinsic and extrinsic learning is also affected by language. If a person is told how to do something in a certain fashion, when they try to recall how to do it, they will re-interpret that lesson into their own thought process, if they didn't do that already. Going back to the discussion example, a person takes in what someone else says, interprets, and responds with their own original thought. Thus once again, if language were less vital for communicating among individuals, and it were possible to interact on a more natural level, then perhaps the thoughts expressed would be closer to the thoughts interpreted, thus closer to completing the education desired. (Furth et al, 1975)

Because intrinsic learning happens within a person's mind, how that person thinks, the scope of their intelligence, is very important. Understanding how a person thinks is understanding how they break down information and process it. There are many methods to "weigh" a person's intelligence, but the use of such knowledge is just as important. Working to put across meaning to people of varying thought processes can seem daunting, but sticking to simplicity and almost instinctual language makes it a much easier task. (Furth et al, 1975)

If a teacher wants to communicate to their students on a basic level, constructing their

lessons as a game would be a perfect way to reach them on an instinctual level. The idea of speaking to someone in an instinctual or "human" language, combined with a focus on generating an atmosphere for intrinsic learning, will significantly increase the amount of retention and engagement in the material taught to said person. (Danesi, 2002)

Pedagogy

Over 58% of social science teachers regularly use games in the classroom (Marsh, 1979). Games are particularly valuable educational tools for classes where key concepts are difficult to teach by traditional teaching methods, and games have shown considerable merit for social studies courses. Games are most effective in student learning when tailored by individual teachers for their specific subject matters, but this in turn severely limits dissemination of the game model.

Colin Marsh's article (1979) discusses the impact of simulation games in pedagogy. He mentions that simulation games in the social science setting stem mostly from teacher's attempts to increase the appropriateness of their teaching techniques and tactics to modeling and mimicking social experiences in their classrooms. Marsh makes reference to a study performed by Blaga which revealed that 58 percent of the sample regularly used simulations in the classroom, with 9 percent of this majority running more than 6 simulations per academic year. (Marsh, 1979)

(Marsh, 1979) suggests that simulation games have considerable merit for social studies teachers. He describes the various formats and special uses these games have in the social studies field, as well as the relative ease with which a game can be formed given the existence of a pre-modeled game structure. Students respond favorably to simulation games, displaying increased motivation, enthusiasm, and involvement during game play. Marsh defines simulation

games as “referring to a model of reality, whether it is a simplified model or a highly complex one, in which participants react according to some win-lose “criteria”.

In order to determine if games work as a teaching tool, Marsh examined 3 criteria:

- Do students learn during execution of the game, or is this mostly done during the debriefing period?
- What are the learning processes and critical factors/sequences involved?
- Can concepts, skills, and attitudes be taught effectively with simulation games? Are simulations more useful for certain types of social studies teaching?

First, Marsh establishes what role simulation games should have in the classroom. Games should not be used as ‘end term rewards’, but rather should be fully incorporated into the total teaching program. In order for the simulation to be successful, the teacher must have a solid grasp of what the game is trying to achieve, the implicit and explicit aims, and the intended outcome. (Marsh, 1979)

Marsh claims that as of 1979 there is little clear cut empirical data to support games use as a pedagogical tool but a lot of confidence in the approach. He references a research study (Pierfy, 1977), which indicated an increase in retention of information, as well as development of positive attitudes on certain issues for students that played the simulation game. However, this study also noted that simulation games were inferior to traditional teaching methods when it came to recall of information.

There are many proposed theories which attempt to explain how learning occurs in simulations. One theory (Duke, 1974) proposes that students take in the total pattern of

the game and make decisions based on their perceptions, while disregarding the miniscule details. This suggests that simulation games are useful learning devices for students to develop general problem solving, leadership, decision, and interpersonal skills.

A research study (Orbach, 1977) indicates that simulation games are valuable for teaching if used when key concepts are difficult to convey by traditional teaching methods, and they should not be used if knowledge acquisition rather than process skills is the chief aim. Games can also be used to further strengthen a student's understanding of core concepts taught by traditional methods, as a kind of review involving their application in a different setting. Students are exposed to the material in different situations, providing feedback on the individual's performance in each, maximizing their understanding of the material. The study concludes with the finding that simulation games are more effective than other methods of instruction for teaching about values and attitudes, i.e. culture rather than social structure.

This analysis determined that simulation games are most effective when tailored by individual teachers for their classes and subject matters, rather than accepting and implementing one designed for another purpose. Prior games are best viewed as a model rather than as a curriculum to be adopted like a textbook. The downside to this approach however is that dissemination of the game model is severely limited due to its specificity.

Nuclear Proliferation

The collapse of the Soviet Union may have drastically reduced the threat of all-out nuclear war between the United States and Russia, but it did not reduce risk of proliferation of

nuclear weapons and technology. As more countries possess nuclear weapons technology, security becomes increasingly difficult. The Nuclear Non-Proliferation Treaty of 1970 established safeguards and inspection procedures to prevent non-weaponized states from developing nuclear weapons, but it assumed certain technical constraints would make it hard to hide weapons development programs. That has not always been the case, and now the whole system needs to be reexamined.

With the end of the Cold War, it was anticipated that nuclear proliferation would no longer be a pressing a global issue. Unfortunately, that is not the case. The collapse of the Soviet Union drastically reduced the threat of all-out nuclear war between the United States and Russia. However, Russia became a politically and economically unstable nation, resulting in a lack of fissile material security that allowed for the possibility of theft by any number of potential threats. (Gilfoyle and Parmentola, 2001)

Even worse than possible theft was the fact that before Russia collapsed, it shared nuclear secrets with fellow communist country China. (Negin and Smirnov, 2002) According to Negin and Smirnov, the Chinese were given access to nuclear secrets and the equipment required to produce atomic fuel. Clearly, nuclear weaponry was not a technology that could be contained to merely one or two superpowers. Such a massively destructive weapon was greatly desired by countries for offensive, defensive, and posturing purposes.

As more and more countries possess the bomb, security becomes increasingly difficult. The United States can no longer concern itself with defending against one known threat. Now "emergent nuclear states with marked political, cultural, and ideological differences with the US are on the increase." (Perry, 1997) The US is not the only country with reason to fear proliferation. Both Iran and North Korea now report nuclear capabilities, as do India and China. Preserving peace in Asia only becomes more complicated as more countries enter the nuclear

game. This becomes especially dangerous when countries with unstable governments acquire the means to destroy a city with one explosive device that can be delivered by smugglers or from a distance by a missile.

Though no one could describe the bombings of Hiroshima and Nagasaki during World War II as a positive event, the horrific destruction and corresponding aftermath taught all the citizens of the world to fear a nuclear attack and create international controls. Tension in Asia raises great concern in the Western powers when nuclear weapons are brought to bear. Known nuclear threats are not, however, the world's greatest fear. The nuclear powers all know the principle of Mutually Assured Destruction (MAD). (Palmore and Melese, 2001) Today, the greatest nuclear threats are rogue states and terrorists. According to Helfand et. Al (2001), "Al-Qaeda agents have tried to buy uranium from South Africa, and have made repeated trips to three central Asian states to try to buy weapons grade material or complete nuclear weapons." (Helfand et al, 2002) Small terrorist groups that employ suicide bombers are not deterred by the principal of MAD, because they quite often are content with their own destruction in the service of a larger cause. Violent suicide bombings occur frequently in the Middle East and the destruction of the World Trade Center made it extremely clear that the terrorists or the delivery team are not concerned with their own survival. Retaliation is no longer a deterrent if an aggressor can even be identified. If a bomb is smuggled into the country, tracing the weapon to the aggressor may not be possible, eliminating even the possibility of striking back. (Ikle, 1999)

Clearly then, if nuclear weapons are to be built and stockpiled in a secure setting, and

nuclear reactors are to be used only for generating electricity, security measures must be taken. The Nuclear Non-proliferation Treaty, created in 1970, established a variety of safeguards and inspection procedures to prevent non-weaponized states from developing nuclear weapons. (Berkhout and Feiveson, 1992) Unfortunately, it is often difficult to distinguish between a civilian nuclear program providing electricity and a military nuclear program providing bombs until the program is already well developed. Perhaps more of a problem than detecting new programs is protecting existing ones. Russia and the United States alone generate over 200 tons of nuclear material a year. (Corera, 2006) Building a nuclear bomb requires only fifteen pounds of plutonium or thirty pounds of uranium. (Boldrick, 1994) Any loss of nuclear material is unacceptable and properly storing and tracking hundreds of tons worth is a daunting task. Furthermore, is all of the difficulty and risk entailed with creating and maintaining a nuclear program justified by the benefits? Faheem Hussain (2001) answers this question in his paper on proliferation in South Asia:

> *Three years ago, on the 11th of May 1998, when India tested its nuclear weapons at Pokhran the excuse it gave was that this would enhance its security vis-a-vis China and Pakistan, which it perceived to be its enemies in the region. The argument was that the possession of nuclear weapons was necessary on the one hand to provide an answer to China's nuclear weapons and on the other hand to deter Pakistan from conventional warfare in Kashmir and elsewhere. Also India felt that it had to have nuclear weapons to be a major player on the world stage. The bomb was sold to the Indian public as providing more security.*
>
> *As subsequent events have shown all these hopes have proved to be myths. India's claims to nuclear power status have been dismissed by the other nuclear powers. It still lacks effective deterrent capability against China. All that has happened is that the subcontinent itself has become a more dangerous and nasty place to live in [Pakistan immediately developed a bomb to counter that of India]. The deterrence theory lies in shreds. Contrary to the claim of the Indian government that Pokhran II enhanced Indian nuclear security, we have learnt that the Indian government is committing a sum of $250 million to build underground nuclear shelters in Delhi from where, in case of a nuclear*

attack, a nuclear [counter] offensive can be directed and launched. Do the people of Delhi feel safer knowing that their country's arch-enemy has the ability to drop a nuclear bomb on them?"

Clearly, the security benefits that are so desired by non-nuclear countries are not gained simply by obtaining a nuclear weapon. If no security benefits exist, what reason does a country have to surreptitiously build a bomb? North Korea has used its nuclear program as a bargaining chip for years, both as a threat and as an incentive. (Hamilton, 2003) Sometimes a nuclear strike is suggested as a form of intimidation, and sometimes North Korea offers to sacrifice their program in exchange for economic favors. Still, threatening nuclear attacks as part of the diplomatic process is a risky business, and North Korea had little success. Yet somehow, despite the many reasons that the nuclear regime should collapse, it remains intact due to the cartel-like group of nuclear capable countries and their desire to maintain a monopoly of rights to possess nuclear weapons.

Eliminating nuclear weapons en masse or even controlling their rampant spread is a very difficult issue. Skeptics conclude that Nuclear Disarmament is too difficult, too dangerous, and too distracting from more promising arms-limitation agendas. (Holdren, 1998) Just because a problem is hard, however, does not mean it is not a worthwhile endeavor.

As such, nuclear proliferation has been chosen as the topic of the current iteration of role playing games for educational benefit. It is an extremely relevant topic of long standing that evolves continuously and affects people around the world. Nuclear proliferation also provides an excellent example of how technology can impact the world. While the students

may not be able to produce a solution to nuclear proliferation in the course of their game, they will address the issue and raide their consciousness about it. They will certainly gain a wealth of information about the reasons for and against proliferation by entering into their policy debate from the standpoint of a given nation. The many difficulties involved in solving such a difficult problem, and the enormous impact such a technology has on society, are likely to become evident as the nuclear nations of the IAEA try to keep this technology under control.

Cognitive Mapping

Studies have determined that different cognitive styles in students affect both teaching and learning styles in the classroom setting. MBTI examination of these students is conducted by giving dichotomous choices of phrases and words, designed to isolate and expose an individual's cognitive style. Traditional teaching methods often generate an advantage for one type of student, leading to higher test scores and overall grades.

Borg and Shapiro (1997) conducted a study to determine how different cognitive styles in students affect both teaching and learning styles in the classroom setting. Using the Myers-Briggs Type Indicator, they first evaluated the personality preferences of economics students to see if personality type affected the student's grade in the course.

Students' personality preferences were classified under 4 distinct mental processes. The first two processes identify the way a person perceives information, either by Sensing (S) or Intuition (N). Both of these mental processes are used on a daily basis by everyone. However, an affinity for one type is typically developed, causing individuals to prefer one style of perceiving

information over the other. The next two mental processes identify the way in which they make judgments, either by the Thinking (T) or Feeling (F) process. As with (S) and (N) cognitive types, individuals perform both thought processes daily and develop a preference for either (T) or (F) (Borg and Shapiro, 1997).

Cognitive Style	Description
Sensing (S)	Classifies the way a person thinks. (S) Students typically perceive information by way of their senses.
Intuition (N)	Classifies the way a person thinks. (N) Students perceive information by perceiving meanings, relationships, and possibilities by insight.
Thinking (T)	Identifies the way in which an individual makes judgments. Thinking students prefer logical, objective decision making in terms of general abstract principles.
Feeling (F)	Identifies the way in which an individual makes judgments. Feeling students make decisions based on a system of subjective, personal values applied case by case.

In addition to these 4 mental processes, students typically develop either a preference for Introversion (I) or Extraversion (E) which has to do with a focus on action or ideas, and whether one is more energized by the external world or the ideas in one's head. Introversion occurs when the thought process is inward turning, and Extraversion denotes when the thought process is outward turning. Typically, an individual applies Extraversion when interacting with surrounding people and things, and Introversion when reflecting on one's own ideas and actions. Extroverts prefer action, whereas Introverts prefer reflecting. (Borg and Shapiro, 1997)

The MBTI scoring process involves the examination of these students' pattern of response to reveal their preferences. By giving dichotomous choices of phrases and words, the test is designed to reveal or identify an individual's psychological type. Several studies revealed that traditional teaching methods often generated an advantage for one type of student, reflected in higher test scores and overall grades. (Borg and Shapiro, 1997)

One Economics course was subdivided into 3 sections, each taught by a different professor with a different style of teaching. One professor established personal relationships with each of the students, and ran a very loosely structured class which often deviated from a carefully constructed syllabus. A second professor taught a traditional lecture-based course that rarely deviated from the established syllabus. A professional relationship was maintained between student and teacher, and the course was efficiently organized. The third and final professor maintained a very efficient, organized, traditional lecture-based course and established formal relationships with his students. He often tried to engage students by asking questions,

which he usually ended up answering himself. (Borg and Shapiro, 1997)

Of these three teaching methods, the first was the most successful in terms of overall student satisfaction and higher average grades. Students faired promisingly with one professor, and did poorly with another. Students who did succeed in one of the three sections were mostly of one cognitive type (S or N, T or F, I or E), and so were the students who did poorly. These results only further support the need for a manner of teaching which does not generate a significant advantage for one cognitive style over another. (Borg et al, 1996)

Chapter 3
The WPI Game Development Initiative Prior To "The Pakistan Connection", A Brief History

The role-playing game this study has assessed has been the focal point for several prior projects over the past ten years. Each iteration of the game has followed the format of an international conference. Before the Nuclear Proliferation games are run, a topic is chosen and a scenario is found that would simulate a real life situation directly involved with said topic that could have come out of the near future. Recently there have actually been live issues generating media coverage. For example, the game developed for the topic of "The Pakistan Connection" used a conference of members of the IAEA as the scenario for the game to discuss the failure that had led Pakistani nuclear technology to get to Iran, North Korea, and Libya. At the time, Iran and/or North Korea were very much in the news, and Israel bombed a nuclear facility in Syria during the game. Usually a topic and scenario are set up before the professor or coordinator involved finds a way to integrate the game into their course or club. However, in some cases, the game is developed to fit into a given course rather than being adapted to fit it.

Each iteration has variables that aren't determined by the game as well, specifically those variables that can't be predetermined. Variables such as class size and length are often determined by the institution or sponsor for the game. Also, the response from the students and the work they put into it, which are recorded and analyzed, aren't taken into consideration until the analysis phase. More and less engaged classes can only be determined in retrospect by comparison to prior runs.

In the search for a strong and engaging pedagogical device, the original nuclear

proliferation role-playing game was created by two WPI students (Ives and Ripps, 1995). The creators were interested in live action role-playing as a form of entertainment, as games, but thought that a great way to engage students in a classroom would be to present the information in a simulation of a real setting in which one would use the information to be mastered. The first educational game created in their series was based on the topic of whether or not to develop a global asteroid defense system. It mimicked a UN conference of space faring nations called on by the United Nations Office of Outer Space Affairs (UNOOSA) to see if they could cooperate on the development of an asteroid deflection system.

"AEGIS: An Asteroid Shield for Planet Earth?", which was the name of the game, ran for nine total iterations. Nearly all iterations of the game were run in association with an Introductory Sociology course, as something like an add-on participant observation laboratory for the class. An iteration of the game at that point required character sheets for each player, technical briefings, and briefings for each country. Then the "game masters" would control the flow and schedule of the game which varied from year to year but normally took 6-8 hours and took the place of a term paper. As the iterations went on, the country briefings were elaborated on and the game became more structured and included briefings on the negotiation behavior typical of each culture.

The goals of the game creators at first, as said before, were to create an engaging pedagogical device for students to study the technology-society interaction and the impact of the organizational mindset of the various space agencies. Through the first five iterations the groups running the game focused on game development and realism as well as the balance between

improvisational content and structure. The sixth iteration was an evaluation study that brought to light a clear intuitive advantage in the classroom activities other than the game, but the game itself was serving all the types of learners equally well. Students that were more Intuitive had on average a letter grade higher than those students who were Sensing on the book reviews and term paper but not the game character sheets, diaries and observational study reports. When the class shifted from a domestic example-based introduction to sociology course into a global course, the game was examined and declared inappropriate for the new theme of Introductory Sociology.

A game that grew organically out of a revision of the Introduction to Society and Cultural Diversity class was going to have to deal with modernization. The course was going to feature a companion of the modernization experience of the Middle East and Europe, and the scenario for the game became a meeting of the UNESCO Conference on Mutual Peace and Prosperity for the Mediterranean Region. This new game was integrated into the course as its second half, like iterations previous to it. From day one the class was broken up into countries and each class in preparation for the game the students referred to each other by country. However, in their case the team developing the new game was pressed for time and decided that writing 50 character sheets was not really necessary. They focused on briefing papers and asked the students in the class to write their own. They claimed that it would be more fun that way. Perhaps it would have been for them, as they were Intuitive. However, it was not fun for the Sensing students as the task was too ill structured. Some did a poor job, others tried to find actual people to "impersonate" rather than create a fictitious person and describe their path up through the power structure of their country.

The intuitive advantage reappeared in the run of the game that had no character sheets. Hence, it was not the game per se that was helping the Sensing students vis a vis the Intuitive. It was the highly structured task environment in which one could learn by direct experience and reflect on it. This was not dealing with abstract concepts that came out of books. Writing one's own character sheet and diary was as bad as writing a book review and picking out what was important on your own. When you had to structure the task yourself the Intuitive had an advantage.

The Dewhirst et al. team is the group of three physics majors who developed the Nuclear Proliferation Game, which was designed to be used as a capstone project to a high school Advanced Placement course. The game did not end up being run in the high school setting but instead in a meeting of the WPI Science Fiction Society. Other teams got the game into a high school setting, and one A.P. class and a conference for students in science-oriented schools had runs that went well. However, it was at that point that the game moved into the Technology-Society debate class. Initially it was just to test two versions of the game, one on Chernobyl and the other on Nuclear Proliferation. However, it was a good fit for Nuclear Proliferation so the course was altered to accommodate the game.

The goal of this iteration was to accomplish a mesh of the game within a Sociology and Technology debate course, and try to work out any problems that past iterations had run into. The character sheets were re-implemented, and with the Chernobyl topic a video introduction to the topic was provided, instead of country briefings. Response from the students was that they enjoyed the game, but that two runs of it during one course was too much.

A visiting professor from the Army War College took over the game for the next iteration. The topic of the iteration was Nuclear Weapons again, using the same scenario of a conference of the IAEA, only this time the game was only enacted once. With the hope of appeasing the response from the students that the game was too short, this iteration ran the game for three and a half weeks, which was a majority of the course, and treated it as the focal point of the course, instead of an add-on.

The group who took on the implementation of this game sought to improve the authenticity of their simulation with the addition of several new aspects. The first new change was that instead of running the conference as one large group discussion, the students broke up into groups by like profession, their character's profession, and brainstormed ideas to bring to the larger group. This allowed the groups to be more specific and focused on topics their professions were more responsible for. The next addition was that the technical experts for each country had to present a technical briefing centered on talking about both the technical aspect of the game topic, and also country specific data surrounding said topic. Lastly, students were asked to give closing toasts that summed up their thoughts on the conference while still in character. Though the thought that champagne and crackers might be distracting, it was found to be a nice break for the students and it allowed them to gather their thoughts well.

Lastly, a final addition to the game was the first part of the goals this group had for their iteration, the addition of goal sheets. These were goals presented to each country group as a letter from the appropriate higher power within their country. On top of the goals given to the students, the goals for the group were to, as said before, improve the authenticity of the game, and to do

this they updated the entire scenario description to tackle the topic from the view of current issues that were happening in the real world during the class. Updating the game in this way made it necessary to add delegations from Libya, North Korea and South Korea. The country background sheets from the previous version of the game were found to be good, and only needed minor updating for events that had happened since the last iteration.

Response from the students for this iteration was much like the past iteration. The longer run time generated a more favorable response though, and students felt that talking about events that were going on in the media made them feel more involved in the topic. Having real information coming in from the media allowed for the game to have real time situations and students felt more immersed in the information.

Our IQP is an update of the final iteration to be listed here: The Pakistan Connection. This game's topic was again Nuclear Weapons, but this time more specifically focused on the AQ Khan case (Corera, 2006), the case of a non-state actor and their impact on nuclear proliferation and devising a means to prevent such things. Enacted in the final term of the year, the game was tied into a sociology and technology debate course that had 12 students and again used the scenario of a conference of the IAEA to discuss the topic.

The group who implemented this iteration of the game used a similar set up to the previous implementation, using character sheets and country briefings, which were handed out before the game. Then the group members took on roles that put them within the IAEA staff to act as game masters as well as instructional devices that didn't break character. This helped the students, but the group felt they questioned them too much, and were stuck on the concept of

"winning" the game. Having the group there to answer questions was reported to add some structure at the cost of some of the freedom earlier iterations presented to the players.

Assignments presented to the students were similar again to previously assigned work for the game, save the closing toasts. Also, "in character notebooks," or journals, were asked to be written by the students, to evaluate engagement. After each meeting of the game, questionnaires were handed out to gauge a response from the students with that session of the game still fresh in their mind. Optional notebooks for out of character observations of the game were allowed to be handed in for extra credit. Mostly the strong writers wrote these, and the group found them to be surprisingly critical of their peers.

This iteration, the same as each iteration with a nuclear proliferation focus, had the goal of testing the game for worth as a pedagogical device. The group felt their implementation was rough, and had trouble starting, but showed potential. Also, they felt the character sheets were good but left little for supporting roles. Recommendations from the group focused on putting outgoing, extroverted students in diplomat roles, and soft spoken students in technical roles. The general consensus of the class was that the game was too unstructured. Students felt the game was very unspecific, subjectively indicating that the course had gone back in the direction of the earlier iterations.

Chapter 4
The Pakistan Connection: The Most Recent Implementation

Following the format we as a group could determine from the previous IQPs, our group worked during the first part of the course to prepare for a role-play of an IAEA conference. The topic for our conference was nuclear proliferation to non-member states, and the purpose of the conference was to come to some kind of resolution surrounding providing the IAEA with more control over nuclear proliferation of member states. We as a group did our own personal research on what the IAEA does and how things are accomplished before setting up a schedule to give to the students of the class. After a schedule was drawn up a declaration of the conference was sent to the students, informing them of the countries involved and the topic and purpose of the conference. Then, as the days approached when we would enact the game, we updated the character and country sheets from the past iteration of the game as necessary to account for changes in politics. Also, surveys were written to give to the students while the game was being enacted, to gauge an in-game response from the students.

While our group was preparing on the sidelines, the students were having discussions surrounding several books and topics regarding technology assessment and proliferation. What books were read was sometimes in preparation for certain roles in the game, the diplomats reading *Five Past Midnight in Bhopal* by Dominique Lapierre and Javier Moro, and the technology experts reading *Shopping for Bombs: The Rise and Fall of the A.Q. Khan Network* by Gordon Corear. Prior to those preparatory books, each of the students read *Player Piano* by Kurt

Vonnegut, *Woman on the Edge of Time* by Marge Piercy, and *Gaviotas: A Village to Reinvent the World* by Alan Weisman. Students were asked to do book reports on the books they read and the technology experts were required to provide their diplomats with a technology report for the country they were representing.

Running the Game

Due to the specific number of countries attending the conference, additional briefing papers were written to expand the number of delegations to include Japan, South Korea, and South Africa. The game was originally designed to divide students into two person delegations, typically consisting of at least one diplomat and one technical advisor. The number of students in the course exceeded the amount of roles that were created for the game, leading to the creations of several new character sheets that granted some countries a third representative. Students were asked what kind of delegate they would like to be, and character roles were added to the game to include military and scientific advisors.

The class that participated in our implementation of the game started as 29 students representing 10 countries at the conference in teams of about three, but became 30 students representing 12 countries in group sizes varying from 2-3 by the time the game was run. This game acted as a capstone project for the course. Students were in role as their characters for the game for three weeks, one for preparation and country presentations, one for the conference schedule, and the following week for a game debrief with the students. During the simulation our

group became acting IAEA staff members; a person to control the discussion flow, a person to guide the technology experts, and a person to guide the diplomats.

Simulating the conference took place over 3 days: a Tuesday, Wednesday, and Friday. Tuesday and Friday were sessions during the 11 am to 1 pm class time that the students were used to, and Wednesday was an extra night session from 5:30 pm to 8:30 pm that we worked out with the students' schedules.

Students were asked to read over their respective character sheets and country briefing papers, and give opening statements of their country's intentions in the game on the first day of a three day conference. A majority of the student delegations gave well prepared, structured, and detailed statements. Some students were confused about the assignment, and their delegations didn't know how to form their presentations. These students put no effort into the assignment and gave very brief outlines of their country's goals, while others worked hard to give well developed statements.

Following Opening Statements, the room was separated into 2 groups based on roles. Diplomats grouped together and began discussing the matters of nuclear proliferation, and technical advisors discussed scientific aspects of nuclear weapons.

On the second day of the conference, students from the United States delegation gave an unscheduled presentation on US non-proliferation policies. The focus of the conference was also shifted from the general concerns of nuclear proliferation, to the specific actions of one of the attending delegations in the real world setting. During the conference an attack by Israel on Pakistani trucks traveling on Syrian soil occurred, which became the topic of discussion for a

session. Focus then re-centered on the general aims of the conference, and students were again divided into groups of technical advisors and diplomats to discuss how to reach these goals. Students were more comfortable in their roles during these deliberations, and students seemed overall more engaged with the material. The conference was then re-assembled as a whole to discuss ideas on how to manage the spread of nuclear technologies. The Russian delegation suggested an approach similar to the "big brother" approach already being applied, but with more specified instructions provided.

The conference concluded on a Friday afternoon. Since up until this point we were unable to get to any kind of conclusion on specific topics such as non-state actors (AQ Khan) and others, we spent the majority of time broken up into smaller caucuses discussing specific situations brought up by the Game Master. First though, a vote was called on the Russian Plan proposed the evening before, which passed with 6 of the 10 voting nations voting for the Russian plan, with China abstaining, and Pakistan and Japan in favor of the alternative plan (Israel and South Korea, the non-voting nations present, both supported the Russian plan). The rest of the day was spent answering the following 3 questions:

1) *What process is needed for the IAEA to get special powers and even get permission for legal military intervention if a block of NPT Signatory nations who are members of the IAEA announce their intention to renounce the NPT in 6 months and start building nuclear arms if the IAEA cannot stop an illegal nuclear weapons capability from developing in a nation they consider to be a threat?*
*I.E. Egypt, Saudi Arabia, and Turkey (*all Sunni nations), threatened by Iran (a Shiite adversary).*

2) *How far does the responsibility of a state extend for the actions of a non-state actor that acquires nuclear devices from its stockpile legally or illegally (through negligence)?*
I.E. Pakistan and North Korea make an exchange of technology and then North Korea attacks South Korea with a Pakistani designed device. What is Pakistan's responsibility?

Or North Korea sells the technology to Syria and Hezbollah steals it and attacks Israel. What is the responsibility of Pakistan and North Korea?
Or Chechnyan nationalists bribe a Russian general and obtain a Russian theater nuclear artillery shell. Islamic militants supply it to the Hamas faction in Palestine which has a 155 Howitzer obtained from Egypt and fires it on Israel. What is the responsibility of Russia, Chechnya, Egypt and the Palestinian Authority?

3) *What is the process by which a government that is losing control of its nation can secure its nuclear devices during a period of transition and can other nations require the IAEA to secure or remove nuclear weapons before an election is allowed to take place if one of the contending partners is known to be extremist and a supporter of terrorist organizations?*
I.E. A movement inspired by the Taliban is about to take over Pakistan form a military dictatorship because all attempts at democratic transfer of power to another party have failed.

These questions were discussed in three groups, with US, Russia, France, Israel, and the UK in one group (the big 5), Japan, South Korea, South Africa, and China in another, and Pakistan, India, and Iran in the third. These groups each discussed all the situations presented and then delegated a representative to present their stance to the rest of the committee. At the end, a series of non-binding resolutions were voted on by all to get a sense of the group's feelings on a few key issues that we felt we hadn't had enough to time to address fully but were still very important.

> *A process to assign special powers to the IAEA shall be devised in the event of a threatened Bloc withdrawal from the NPT due to an illegal nuclear arms program.*
> The vote passed 9-2, with Pakistan and India against and Japan abstaining.
>
> *States will be held responsible for the action of non-state actors and the world court will adjudicate relative responsibility of states in any particular case.*
> The vote passed 12-0.
>
> *In the event of a nation losing control of it's nuclear weapons to a terrorist organization (as defined by the UN), a plan needs to be devised to return the control of the missiles to the IAEA until stability is restored.*
> The vote passed 12-0.

Students were asked to keep an in-game journal, which was collected after their concluding statements at the end of the game. The journals, along with the country presentations,

opening statements, and concluding statements helped us to create an engagement score for each student. Also, the surveys passed out were reviewed, and a debrief session was held after the game.

During the debrief, students were asked a series of questions. When asked if more information should have been provided, students responded that it would have been good, but students also responded that information is better when provided during class. Students were asked if the books read in the course were helpful to the game, and the consensus was that only a few of the books were helpful, those directed at the game, like *Five Past Midnight in Bhopal* and *Shopping for Bombs*. When asked if a term paper is better or the game is better, the students agreed that either a combo of the two or two completely separate classes would be better.

Also, students were polled as to whether or not a different topic would have been better. The idea of international legislation on biotechnology was seconded, and the topic of alternate fuel research was also supported as a good topic. The students felt that WPI students are more interested in technology then politics.

When asked if the conference should be more focused on the case of AQ Khan, the students felt it might have given them more direction in the research into their own country's response, but that it wouldn't have changed much of the dynamic.

Our group set out to accomplish this iteration of the game with several goals. After Professor Wilkes' experiences testing the Intuitive advantage, our group set out to see if the game works towards bringing balance to the class, taking away from the Intuitive advantage. In the same light, the game was to be tested to gather proof of its worth as a pedagogical device.

This was to be combined with surveying the idea of the game being the focal point of a first-year discussion class, with comparisons between the reactions of first-year students and seniors to the game and course.

The response from the students that we felt at the end of the course was enthusiasm towards the game, but also some strong criticism. The students felt it didn't fit in all that well with the course, as the specifics involved in the game didn't pertain to the topics covered earlier in the course. Also, the students felt the game was too short, and they had trouble relating the general things they had learned to a real world issue. This immediate evidence led us to rethink how the game might fit into the course, and also if maybe the information provided could be better tailored to support the game.

Chapter 5

Methodology

In this chapter, we will discuss methods used to define, characterize, and analyze the various goals of chapter one. In order to determine the usefulness of this game as a pedagogical tool, we have identified certain variables that we will use in developing our conclusions. These variables are broken up into three categories: preexisting variables, mediating variables, and outcome variables.

Preexisting Variables

Each student came into this course with many preexisting factors, but the three that we focused on were class year, cognitive style, and gender. While gender and class year are easy variables to collect, cognitive style is one that is very important and requires whomever is collecting the data to go through the extra process of getting their hands on enough MBTI tests to test their whole class. In this running of the game there was 30 students, of which eleven were first-year students, four were sophomores, three were juniors, seven were seniors, and five were transfer students or were unsure of their class year. Twenty-six of the students were male and four of them were female. Of the 30 students, sixteen were intuitive learners, nine were sensing, and five did not take the MBTI.

In our project, we used the class year specifically to try to answer the question of the feasibility of this game being used in a first-year seminar, so we focus on class year, but if for another running of the Pakistan Connection (or any LRPG modeled after this project) the person analyzing that data wanted to answer other questions (i.e., Do the Computer Science majors perform better than the Physics majors?), it is really quite simple to analyze with tools like SPSS

readily available. It is highly recommended that as much information is gathered about a group running a game as possible, as you never can really know what results you're going to get with an experiment.

In our running of the game, the MBTI data were collected on a voluntary, extra credit basis. The students were awarded a few extra points on the first test if they agreed to take the MBTI test and allow our group to use the data provided, granted that we kept all of their names confidential.

Mediating Variables

The Trichotomy of Engagement

In order to measure how engaged in the game experience the students were, we developed what we called our "Engagement" variable, which was comprised of their journals, the LRPG Essay on the final exam, and subjective data collected during game play. This variable has three values: low, medium, and high. What level of engagement to assign something is a fairly subjective judgment. In past iterations it has been a lot more complex and specific, but we felt that it is a lot easier to manage if it is restricted to a small grading group (i.e., A teacher and a TA or 2).

The students were asked to each write in-character and out-of-character journals. While the out-of-character journals were used to answer questions for grade-related matters, the in-character journals were coded for engagement. The journals were all read over once by each person in the group, and then coded as either high, medium, or low engagement based on how well the grader felt they engaged their role in answering their questions. The group then compared results and an average score for each student was recorded.

On the final exam the students had to write 2 questions: one based on the first half of the

course, and one based on the LRPG. These questions were also read and coded as the journals were for engagement. The reader was looking for the student to show knowledge of their country's position and their knowledge of the situation as a whole. Highly engaged students were able to see the situation as a whole and predict a highly plausible solution.

During the game there were also two different events, the country presentations and opening statements that were coded specifically for engagement. Well developed and well presented country presentations showed a high engagement factor and a willingness for the game to succeed, while unprepared and sloppy presentations showed that the students were less engaged and weren't as open to the game (yet!). The opening statements with high engagement were the ones that showed a strong grasp of the current situation in their country and of at least one other country at the conference.

Also while running the game, the three IQP students and the two professors watched and took note of the players they felt were excelling. At the end, they sat down and talked about whom they felt was engaged the most, and those students were given a boost to their engagement score.

Overall, we feel that the engagement factor should be very subjective. By using both the specific data of the journals and essays, and combining that with the data gathered by watching the students, you can account for the students that are engaged in the game by talking as well as the students engaged in behind-the-scenes play or who were maybe too quiet, but really understood the material and situation very well.

Outcome Variables

At the end of the game, we had a certain number of variables that we analyzed to try to draw conclusions. These variables were their grades, their interest in the material, their

satisfaction with the course, and retention. The students' satisfaction was something that we measured with surveys. After each day of the course we gave the students a survey that, among other things, contained a series of questions pertaining to their satisfaction with the game as a whole, their satisfaction with that particular day, etc.

The students' interest was something that was measured with a final questionnaire at the end of the course. We asked the students a series of questions pertaining to how much more interested in the material they felt. For example, two questions would be: “On a scale from 1 to 10, how would you rate your interest foreign policy before this game?” “...after this game?” We used this to see how interested the students were in the material, but also to see how much of a consciousness raising effect this game had, if any.

The students' retention is a variable that we would definitely like to find a way to measure, but as of now do not have a reliable way. At the beginning of this project, the students' retention of the material learned in this game from year to year was an important variable to us. We felt that the game itself would be useless if the students just forgot everything they learned a few months later. We wanted to ensure that this was an experience that would stay with them for years, and hopefully they would stay interested in global politics.

Chapter 6

Data Analysis

After all the data were gathered, it was put into an SPSS database and analyzed to look for correlations. The following are the correlations that we were able to draw and feel were relevant to this paper. The majority of our data analysis was done using cross-tabulations, since it is was easier for us to see statistical significance and all the data at once using SPSS.

MBTI2 * Trichotomy of engagement

			Trichotomy of engagement			Total
			low	medium	high	
MBTI2	N	Count	4	6	6	16
		% within MBTI2	25.0%	37.5%	37.5%	100.0%
		% within Trichotomy of engagement	57.1%	66.7%	66.7%	64.0%
	S	Count	3	3	3	9
		% within MBTI2	33.3%	33.3%	33.3%	100.0%
		% within Trichotomy of engagement	42.9%	33.3%	33.3%	36.0%
Total		Count	7	9	9	25
		% within MBTI2	28.0%	36.0%	36.0%	100.0%
		% within Trichotomy of engagement	100.0%	100.0%	100.0%	100.0%

This table shows an even spread of Intuitive (N) and Sensing (S) students across our trichotomy of engagement. This table shows pretty solidly that it did not depend on cognitive style as to whether or not you were going to be engaged in the game.

Trichotomy of engagement * LRPG Grade in Thirds

			LRPG Grade in Thirds			Total
			Bottom Third	Middle Third	Top Third	
Trichotomy of engagement	low	Count	7	2	0	9
		% within Trichotomy of engagement	77.8%	22.2%	.0%	100.0%
		% within LRPG Grade in Thirds	63.6%	25.0%	.0%	30.0%
	medium	Count	4	3	3	10
		% within Trichotomy of engagement	40.0%	30.0%	30.0%	100.0%
		% within LRPG Grade in Thirds	36.4%	37.5%	27.3%	33.3%
	high	Count	0	3	8	11
		% within Trichotomy of engagement	.0%	27.3%	72.7%	100.0%
		% within LRPG Grade in Thirds	.0%	37.5%	72.7%	36.7%
Total		Count	11	8	11	30
		% within Trichotomy of engagement	36.7%	26.7%	36.7%	100.0%
		% within LRPG Grade in Thirds	100.0%	100.0%	100.0%	100.0%

This table shows that as you were higher in the trichotomy of engagement, your grade on the second final exam question, the one that was about the game, would be higher. If you connect this you can see that all of the students were equally likely to engage the game and those that did engage did better on half of the final exam.

Trichotomy of engagement * LRPG Grade in Thirds * MBTI2 Crosstabulation

MBTI2				LRPG Grade in Thirds			Total
				Bottom Third	Middle Third	Top Third	
N	Trichotomy of engagement	low	Count	2	0	0	2
			% within Trichotomy of engagement	100.0%	.0%	.0%	100.0%
			% within LRPG Grade in Thirds	50.0%	.0%	.0%	25.0%
		medium	Count	2	1	1	4
			% within Trichotomy of engagement	50.0%	25.0%	25.0%	100.0%
			% within LRPG Grade in Thirds	50.0%	50.0%	50.0%	50.0%
		high	Count	0	1	1	2
			% within Trichotomy of engagement	.0%	50.0%	50.0%	100.0%
			% within LRPG Grade in Thirds	.0%	50.0%	50.0%	25.0%
	Total		Count	4	2	2	8
			% within Trichotomy of engagement	50.0%	25.0%	25.0%	100.0%
			% within LRPG Grade in Thirds	100.0%	100.0%	100.0%	100.0%
S	Trichotomy of engagement	low	Count		1	0	1
			% within Trichotomy of engagement		100.0%	.0%	100.0%
			% within LRPG Grade in Thirds		25.0%	.0%	16.7%
		medium	Count		2	0	2
			% within Trichotomy of engagement		100.0%	.0%	100.0%
			% within LRPG Grade in Thirds		50.0%	.0%	33.3%
		high	Count		1	2	3
			% within Trichotomy of engagement		33.3%	66.7%	100.0%
			% within LRPG Grade in Thirds		25.0%	100.0%	50.0%
	Total		Count		4	2	6
			% within Trichotomy of engagement		66.7%	33.3%	100.0%
			% within LRPG Grade in Thirds		100.0%	100.0%	100.0%

This graph shows the same results as before, but also broken down into different cognitive styles.

Here you can see that the same pattern exists, that those who were more engaged did better, but

you can also see that the Sensing students did just as well as the Intuitive students on this part of the final exam, removing that normal Intuitive advantage. This doesn't prove the removal of the Intuitive letter-grade advantage for the entire course, but at least in this one situation it doesn't exist.

Trichotomy of engagement * Overall Crosstabulation

			Overall			Total
			75	85	95	
Trichotomy of engagement	low	Count	1	4	2	7
		% within Trichotomy of engagement	14.3%	57.1%	28.6%	100.0%
		% within Overall	100.0%	30.8%	14.3%	25.0%
	medium	Count	0	7	3	10
		% within Trichotomy of engagement	.0%	70.0%	30.0%	100.0%
		% within Overall	.0%	53.8%	21.4%	35.7%
	high	Count	0	2	9	11
		% within Trichotomy of engagement	.0%	18.2%	81.8%	100.0%
		% within Overall	.0%	15.4%	64.3%	39.3%
Total		Count	1	13	14	28
		% within Trichotomy of engagement	3.6%	46.4%	50.0%	100.0%
		% within Overall	100.0%	100.0%	100.0%	100.0%

Here we see that overall in the course, those that had higher engagement in the game did better in the course. As we know before that Sensing and Intuitives both were equally likely to engage, we can hope that if the Sensing students are just as likely to engage, that they do just as well in the course and can do away with this advantage the Intuitives have.

MBTI2 * Overall Crosstabulation

			Overall			Total
			75	85	95	
MBTI2	N	Count	0	5	10	15
		% within MBTI2	.0%	33.3%	66.7%	100.0%
		% within Overall	.0%	45.5%	83.3%	62.5%
		% of Total	.0%	20.8%	41.7%	62.5%
	S	Count	1	6	2	9
		% within MBTI2	11.1%	66.7%	22.2%	100.0%
		% within Overall	100.0%	54.5%	16.7%	37.5%
		% of Total	4.2%	25.0%	8.3%	37.5%
Total		Count	1	11	12	24
		% within MBTI2	4.2%	45.8%	50.0%	100.0%
		% within Overall	100.0%	100.0%	100.0%	100.0%
		% of Total	4.2%	45.8%	50.0%	100.0%

This chart shows that with 66% of the Intuitive students having A's and 66% of the Sensing students having B's, we can see a definite advantage here in the overall grade, though not as strong as when it was initially reported in the sixth iteration of the Aegis game.

FirstHalfLetter * Overall * MBTI2 Crosstabulation

MBTI2				Overall			Total
				75	85	95	
N	FirstHalfLetter	A	Count		0	9	9
			% within FirstHalfLetter		.0%	100.0%	100.0%
			% within Overall		.0%	90.0%	60.0%
			% of Total		.0%	60.0%	60.0%
		B	Count		3	1	4
			% within FirstHalfLetter		75.0%	25.0%	100.0%
			% within Overall		60.0%	10.0%	26.7%
			% of Total		20.0%	6.7%	26.7%
		NR	Count		2	0	2
			% within FirstHalfLetter		100.0%	.0%	100.0%
			% within Overall		40.0%	.0%	13.3%
			% of Total		13.3%	.0%	13.3%
	Total		Count		5	10	15
			% within FirstHalfLetter		33.3%	66.7%	100.0%
			% within Overall		100.0%	100.0%	100.0%
			% of Total		33.3%	66.7%	100.0%
S	FirstHalfLetter	A	Count	0	2	1	3
			% within FirstHalfLetter	.0%	66.7%	33.3%	100.0%
			% within Overall	.0%	33.3%	50.0%	33.3%
			% of Total	.0%	22.2%	11.1%	33.3%
		B	Count	0	1	1	2
			% within FirstHalfLetter	.0%	50.0%	50.0%	100.0%
			% within Overall	.0%	16.7%	50.0%	22.2%
			% of Total	.0%	11.1%	11.1%	22.2%
		NR	Count	1	3	0	4
			% within FirstHalfLetter	25.0%	75.0%	.0%	100.0%
			% within Overall	100.0%	50.0%	.0%	44.4%
			% of Total	11.1%	33.3%	.0%	44.4%
	Total		Count	1	6	2	9
			% within FirstHalfLetter	11.1%	66.7%	22.2%	100.0%
			% within Overall	100.0%	100.0%	100.0%	100.0%
			% of Total	11.1%	66.7%	22.2%	100.0%

This chart shows a comparison of the first half letter grade, before the game, with the grade after the first half. You can see here that none of the students' grades went down going from the normal course type to the game. Whether or not we were able to completely remove the intuitive advantage, we can at least say that it doesn't hurt you to at least try, because the grades didn't go down.

Freshman, senior and other * Overall

			Overall			
			75	85	95	Total
Frshman, senior and other	Frosh	Count	1	5	5	11
		% within Frshman, senior and other	9.1%	45.5%	45.5%	100.0%
		% within Overall	100.0%	38.5%	35.7%	39.3%
	sop, jr and trans	Count	0	7	5	12
		% within Frshman, senior and other	.0%	58.3%	41.7%	100.0%
		% within Overall	.0%	53.8%	35.7%	42.9%
	seniors	Count	0	1	4	5
		% within Frshman, senior and other	.0%	20.0%	80.0%	100.0%
		% within Overall	.0%	7.7%	28.6%	17.9%
Total		Count	1	13	14	28
		% within Frshman, senior and other	3.6%	46.4%	50.0%	100.0%
		% within Overall	100.0%	100.0%	100.0%	100.0%

This table shows that seniors in the class got mostly A's, and that the rest of the class got mostly A's and B's. As far as using this game for a freshman seminar, these graphs show that freshman can do just as well as their upper classman colleagues, but they are at no particular advantage.

Freshman, senior and other * Trichotomy of engagement

			Trichotomy of engagement			
			low	medium	high	Total
Frshman, senior and other	Frosh	Count	4	3	4	11
		% within Frshman, senior and other	36.4%	27.3%	36.4%	100.0%
		% within Trichotomy of engagement	44.4%	30.0%	36.4%	36.7%
	sop, jr and trans	Count	1	5	6	12
		% within Frshman, senior and other	8.3%	41.7%	50.0%	100.0%
		% within Trichotomy of engagement	11.1%	50.0%	54.5%	40.0%
	seniors	Count	4	2	1	7
		% within Frshman, senior and other	57.1%	28.6%	14.3%	100.0%
		% within Trichotomy of engagement	44.4%	20.0%	9.1%	23.3%
Total		Count	9	10	11	30
		% within Frshman, senior and other	30.0%	33.3%	36.7%	100.0%
		% within Trichotomy of engagement	100.0%	100.0%	100.0%	100.0%

Similarly to the last table, this table shows an even distribution across the different levels of engagement for the freshmen. This shows that the freshmen are at no particular advantage nor disadvantage when it comes to playing this game in a course.

Chapter 7

Conclusions

This project had a number of goals. The first goal was to make the final adjustments necessary to the Pakistan Connection game to make it ready to disseminate. First, a new schedule of events was developed to better fit the shorter format. Then, the character and country sheets had to be updated to include current events and to remove any obsolete information. Finally, a survey had to be developed to help measure engagement. As far as being ready for dissemination, the game is ready as long as character sheets and country sheets are always looked over for any incorrect information.

The next goal was to make the case for a games initiative in the cooperative-active learning tradition with this game as an illustration, and to foster the movement toward more engaging types of pedagogy. By disseminating this game, we hope that more people will become interested in cooperative-active learning. We really enjoyed the game, as did the class. Games like this are a different way to get students interested and involved. Overall, the class' grades were better during the game than during the normal lecture. Along with the fact that the students were more engaged during the game, it is easy to see that the students were paying attention more during the game. Whether or not these students will retain the information better is still a question to be answered, though.

The final goal was to analyze the suitability of this course as a freshman seminar. According to our data, there was no statistically significant advantage of one class over another. The freshman performed just as well as the upper classmen, and some of the most engaged

students were freshman. This game would also work well as a freshman seminar because it is good for both sensing and intuitive types of learners. The data shows that both sensing and intuitive students were equally likely to engage in the game, which would make it perfect for an introduction course trying to introduce freshman to a subject. The data also shows that no grades went down during the game, so it is a perfect candidate for an experiment.

While we would most definitely recommend this game for use in classrooms, we wouldn't recommend it for anyone who isn't prepared to do the work to set it up. The work required to set up the game isn't very much, focusing mainly on the character sheets and country sheets, but they are very important. If you are willing to put in the effort, then this game is absolutely a great way to reach your students that engages all learning types.

While we are happy with the results of this project, we do recognize a number of limitations that could affect the results of this project. At thirty students, the pool of students to draw from was fairly small. With the ratio of Intuitive to Sensing students being 2 to 1, this meant a small number of Sensing students. With such a small pool of subjects to draw from, it is harder to prove conclusions. If the pool of subjects was larger, and a more even distribution of Intuitive to Sensing was achieved, the results found would be more conclusive.

As well as class size, this project was run with no "control" group. If this were to be a more formal experiment, then this game should be run in tandem with another, established teaching method, like a standard lecture format. The class for this project was divided in half, with the first half being a standard lecture and discussion, and the second half being the game. In order to reach a true control group, the two methods must be run separate from each other and compared.

Lastly, even though we advocate a need for subjectivity in a measure of engagement, our

measure could do with more standardization. There is too much subjectivity in our measure of engagement, specifically in the area of journal and written assignment grading. If a more specific measure could be developed, while still allowing for subjectivity from the observers, then we would obtain better results.

Chapter 8

Recommendations

In regards to what to prepare for the enacting of a version of this game, character sheets are very important, in our group's opinion. Revisions should be made to update country and character sheets with events that have happened since the last revision. Country sheets are always necessary, especially if you require a country presentation like our group did. We did provide a country sheet as well, which was a helpful start for the players. Country sheets are more important for pick-up versions of the game. If you don't implement the character sheets, it's important to provide the players with an example of a character, and have them create their own with enough time to revise at least once before starting the game. Country briefings for the players, to give them goals, are a nice touch, but can take away from structure. Using country briefings is really a nice tool for handling situational material, and really a preference of the group as to use them or not. Our group didn't require technical experts to write technical briefings, but we think that they would help.

Scheduling the game as half a course is too short at WPI, but we feel that half a semester would be great for time. This means that at WPI the game should probably be its own class, but other institutions might find it useful in a semester long course. Our group meeting only three times met with feedback that it was too short, but breaking up into groups again to brainstorm seemed to provide positive results, and we recommend it.

Opening and closing statements are another thing that can be used at the game masters' discretion. Opening statements help characters get into role and closing statements are really

more of a formality. They are fun but optional additions the game, and can be used to make it more of a strict representation of the conference.

Journals are a key requirement for analyzing engagement. We didn't focus enough on them during the run of the game because we didn't really know what to look for exactly, but in retrospect they are a very key reading of the students. Surveys are helpful as feedback for the game play, which could be used to revise the game later, but they aren't as helpful for engagement, though they do help some.

Connecting the game to the course is mostly done through the books read. The teacher should aim to have the books be both on the topic and preparatory for the game, to get the most out of them. Country presentations can be a great homework assignment and good preparation for the game as well.

We organized the time allotted for the game into three sections: preparation, enactment, and debriefing. This is a great set up, and really the only kind of set up for a game like this. The preparation should give the students enough time to get into character, and the enactment time for enough points to be raised and debated to get some good depth on the topic. Debriefing is a great way to get feedback from the students, out of character, on how the simulation felt to them, and also a good way to create a retrospective conversation on the game and the topic.

There should be enough countries in the game to represent those countries that would be in the conference in a realistic setting. The delegations should be between two and three students. Having more countries with smaller delegations is much better than having fewer countries with larger delegations. Large delegations leave too many supporting players, who gain less from the

experience.

Goals for a group running the game should be to both continue the efforts in proving the game as a good pedagogical device, as well as try to bring balance to the Intuitive advantage. The Intuitive advantage is one that disproves the game as a balanced device for all cognitive styles, so working to improve the difference in grades between Sensing and Intuitive students is a step in the direction of reaching both goals.

Game Box

Delivering the game as a product, our group has worked to define a "game box" that encompasses the definition of exactly what is needed for the game to be implemented. The idea of the game box is that whoever is implementing the game can call upon the documents from the games run previously, and also can contribute their own documents to the box. This will allow the game to grow into whatever situation it is being adapted to, growing and settling its issues over time. The hope is that over time the game will become a more and more effective tool for a teacher to have in their options for class material.

The game box should include:

1. Character Sheets
2. Country Sheets
3. Past Country Presentations as Examples
4. Past Opening Statements as Examples
5. A Sample Itinerary
6. A List of Variables to Observe

7. Sample Journals
8. Optional Content
9. Briefing Papers

This group recommends that if while implementing the game you decide not to give out pre-made character sheets, that you should have the students write up their own. Give them enough time to have a rough draft and at least one revision before the start of the game. Then you have an entirely new set of character sheets to put in the box for the next use of the game.

Another task this group recommends, and undertook in their own implementation, is the updating of the country sheets to the current year, with larger news reported as well. Then, update or rewrite the briefing papers to match the topic at hand to current issues in the media. If you wish to represent a specific time in history it would provide for a more structured game to use information from the time, but this group, as well as the past two groups, recommend using current issues as information to the players, as it adds for a better chance of fresh ideas.

Chapter 9

Dissemination

Dissemination proposals

Dissemination of the game was a difficult process. The first step to dissemination was to identify what groups would dissemination be possible in. Early on there were three main groups that could potentially encourage dissemination of the game, high schools, colleges, and consciousness raising groups. Each of these groups had advantages and disadvantages for attempting to disseminate the game and each would require separate strategies to promote dissemination.

There were several factors that would affect the dissemination of the game. Working in favor of the game was the game's adaptability and that there is a working model to build from. The early development of the game started with the subject of warding off asteroid impacts, and through each iteration has changed to the topic of nuclear proliferation. The framework of the game is such that almost any topic can be covered using the game. For example it would be possible to change the topic of the game from nuclear proliferation to global warming. To do this may be as simple as changing the delegation's military advisor to an environmental advisor. In this example the environmental advisor would do in depth research into what sort of environmental impact their country has on the environment, and how they may be contributing to global warming. The scientific advisor would do research into what technology from their country is being used, and what could possibly be used instead. The economic advisor and the head delegate roles would require no change. Finally the country briefing papers would focus on the impact each country has on global warming. These changes have effectively changed the topic of the game, but how the game is run is no different. Having a working model helps as it

requires no change. Adapting the game as it is requires the game master to be trained on how to run the game. The working model can be used to learn how the game works before attempting to change it.

Working against dissemination is the unusual curriculum development, and that people may not want to use the topic of nuclear dissemination. In a college setting especially, the game requires an unusual curriculum development. Many teachers are used to the way in which they present material. Most often the instructor will lecture and assign reading and other assignments, such as term papers. The assignments and term papers are the basis for a student's grades. The game looks at this aspect very differently. The students are more in charge of what they need to research, and different students are in charge of researching different things. The students are graded on their participation in the game, as well as their in character and out of character journals. This shift of focus may make some teachers uneasy, as it is much different than their usual methods. If a teacher does not want focus on nuclear proliferation, then it can be hard to convince them of the game's value. While the game can be adapted, a teacher may not want to put in the effort of changing the game. The work needed to change the game may take more time than they could possibly devote to the game.

Dissemination through the high schools was considered as the history of the game shows that one of the original intents of the asteroid impact game was to put it into the high schools. In a high school setting teachers have a lot more time for preparation of the game. A high school teacher typically has the entire academic year to cover the topics of the class. This is advantageous as taking a few weeks of preparation will not impact the coverage of topics in the class. The asteroid impact game was intended to be used in AP level classes after the AP exam was taken. After the AP exams there is usually a few weeks left in the year, and it can be hard to

motivate the students to learn, as they have accomplished what they really need from the class. The game would help alleviate this as it would be a fun way for the students to engage and learn after the exam. The students would be engaged and would become more aware of the world around them as they leave high school and move on to higher education. As promising as the high school sounds for dissemination there are a few problems in trying to gain interest. The introduction of the game to a class can be daunting. There is a lot of prep work needed by both the teacher and the students. In a teacher's first run of the game, the best resource would be an experienced game master from WPI who could lead the game itself as well as instruct the teacher how to run the game on their own. While that would seem to be a feasible solution, the academic year of a high school runs much later than WPI's academic year. By the time most teachers would be ready to run the game, most available game masters may be out of contact from the school, or have already made plans for the summer break.

The next major venue of dissemination that was considered was college courses. The Pakistan Connection was developed and used in college courses showing that the game works well in the college setting. WPI's four term schedule makes it tight for the necessary material to be taught. In the most recent run of the game it made up half of the course it was in. However, colleges with semester long courses could integrate the game more easily. College professors also generally have teaching assistants that can help with the preparation of the game materials, as well as running the game. The game would benefit from its adaptability most here. Professors who are less interested in nuclear proliferation would be able to take the game and adapt it to their topic of interest. The game will, as it would with high school students, engage more students than would traditional assignments, and provide students with a memorable experience from the course. Colleges also have similar academic calendars to WPI, making it a little more

feasible for a game master to travel from WPI to help a professor with their first run. Unfortunately the game would require a very different curriculum development as compared to a normal course. With the amount of preparation needed for the game, it may not fit well into an existing course. College professors have a lot less time during the year with their students compared to high school teachers. Integrating the game into an existing course may require extensive modification to the course and in some cases there may not be an existing course to fit the game into. While it would be possible to integrate the game into a course, many professors may be unwilling to change their methods and style of teaching to accommodate the game.

The final major venue of dissemination was through consciousness raising groups on college campuses, specifically disseminating through the Pugwash chapters. Consciousness raising groups are always looking for ways to raise awareness of what is going on in the world. These groups try to help people understand what they see on the news and how it can affect them. The game is a very good way to reach out to people and see in a personal way what is going on and how it affects them. After the game had been run a few students noted that the IAEA was suddenly all over the news. The reality of the situation was that when they heard about the IAEA before the game they had no clue what it was, but after the game they were not only aware of what the IAEA was, but also what they are involved with. The students were more aware of what was happening in the world after the game than they were before it, and that is what these awareness raising groups want. They are looking to hold events that will make people think, and see what is going in the world. The game would be a good way to raise awareness, but the game would have to be modified. In a classroom setting getting the students to do research on their country, and how they should be acting as a delegation means assigning homework. As an event the game needs to be modified so that only a little prep work is required by the people

participating in the game. Students may be put off by an event if they find out that they have to do research before it. While the event would be a good experience for those who attend, the research and prep work must be done by the group hosting the event to get a good turn out.

Of these three the most promising venue was through college courses. Of the three groups college professors would be more involved in regional conferences. This would allow us to get people thinking about the game. The conferences would allow us to get feedback from the attendees in order to help promote the game. The potentially wide base of professors would allow us to follow up with professors in local colleges, and to assist them if they decide to implement the game.

The Student Pugwash network was considered a good possibility. Pugwash has been looking for an event that they could use, and the game seemed like a good event for them to use. Unfortunately there were a few factors that made the prospect less appealing. The interests of any particular Pugwash chapter are typically in line with that chapter's president. Interest in the game as it is would vary from chapter to chapter, and individual chapters may not have the time and resources to allow them to adapt their own version of the game. There are few chapters in the region, making it difficult to give support to any chapters that adopt the game. It was also difficult attempting to contact the chapters. While the national office and website list what schools have Pugwash chapters, there was little contact information for the chapters.

Dissemination methods

For this phase of dissemination it was decided to focus more on generating awareness of the game, and finding out what parts of the game interested professors, as opposed to having the game run outside of WPI. For this approach it was decided to make a presentation of the game at

three conferences. The conferences where the game was presented were the International Association for Science, Technology & Society (IASTS) conference in Baltimore, the New England Undergraduate Student Research Conference at Holy Cross, and the New England Sociological Association conference in Bridgewater. The presentation covered a brief history of the game, what the current game was about, information about the "Intuitive Advantage", the results of the latest run of the game, and proposals for dissemination. The presentations given at the IASTS conference and the NESA conference were given by Timothy Corsetti, and the presentation at Holy Cross was given by the entire group.

While the presented material was the same, preparation for each conference was different. The IASTS conference was the first conference where the presentation was given. Preparation for this conference took the longest, as the presentation had to be created. This presentation was intended to find what groups and what ways would be best for dissemination. This was handled by allowing time for a small discussion after the material had been presented. To allow for the time, the presentation had to give all the necessary data quickly and easily. This also limited the scope of what would be presented. There were four main topics that needed to be covered before the discussion would be of merit. The first topic of the presentation was what the game was. The audience needed to understand what kind of game was developed, and what the preparation for a run of the game entailed. The game's setting and a general overview of how the game was run was presented here. The next topic in the presentation was the results of the last run of the game. These data were necessary to show the value of the game, and how it was able to reach out to the students. While the first part showed the game in theory, this part showed the game in practice. The next part of the presentation was presenting the "Intuitive Advantage." Since some of the data collected from the game relied on the Myers-Briggs Type Indicator, it was necessary to

inform the audience what these data would mean. The presentation closed with what could help with dissemination, and some proposals of how to disseminate. This would steer the audience to thinking of what would help bring the game into their classrooms.

The Presentation at the IASTS conference yielded mixed results. The presentation had a very small audience, only four people who were not also presenting at the session. This small group was very interested in using games for teaching. They all liked the idea of using games to engage students. However there was almost no interest in the game at hand. The discussion brought up very few ideas to help with dissemination. While this did little to help in the dissemination of the existing game, it showed that there is a lot of interest in using games as teaching tools in the classroom.

The next conference was the New England Undergraduate Student Research Conference that was hosted by Holy Cross. The close proximity of this conference allowed the entire group to present. This conference had a much different expected audience than the IASTS conference. Since this was an undergraduate research conference most audience members would be students rather than teachers. With this in mind the discussion section would be used to identify faculty members from the schools the students were from. The plan was to present the materials and then interview students for possible contacts. However since most of the students presenting were also local, very few went to other sessions. The session we presented in had two audience members who were not also from WPI and presenting in the session. There was a student who left before an interview could be taken, and Professor Yvonne Vissing, from Salem State College. Initially this seemed like very little would be taken from the session, but it turned out that Yvonne was very interested in the project. Like the teachers at the IASTS conference Yvonne was interested in using games for teaching, but she was also very interested in the

evaluation tools that were used for data collection. At the conference she requested a copy of the game materials that she could look over, and possibly discuss with her department. Not only did this mean that the game would be looked at from outside of WPI, but it also presented another selling point of the game. The game not only provides a way to engage otherwise uninterested students, but it provides a means of evaluation of the student's progress. This could be a deciding factor for a professor in determining whether or not to adopt the game. While the conference seemed like it would help very little at first, it proved to be a step forward for dissemination.

The New England Sociological Association conference required a very different approach and preparation. The NESA conference in Bridgewater, MA was focused on the topic of immigration. For this conference the presentation was coupled with Peter Campisano's paper on the case of A. Q. Khan, the man who was able to bring nuclear technology to Pakistan. Professor Campisano's presentation was a lead up to the presentation on the game. The results of the conference were better than could be hoped for. Almost all attending were interested in the game at hand. All the copies of game materials were given out, and all the professors received the contact information for Professor John Wilkes, who can give further information about the state of the game. These are the results that would best further the dissemination of the game.

The game shows a lot of potential and there are many interested professors who could use the given game, or modify it to suit their needs. Conference presentations have so far worked well for generating awareness of the game. The current presentation materials give the audience the information they need in order to decide if this game would work for them. Allowing time for discussion after the presentation is invaluable. The discussions have yielded valuable feedback that has improved the presentations. The most important thing to learn from the discussions is what parts of the game are the most appealing. The biggest find from these discussions was

learning how desirable the evaluation tools were. When the presentation was originally developed, talking about the evaluation tools was not viewed as an important topic of discussion. While this allowed more time to talk about the game itself, it overlooked an important part of the game materials. Opening a discussion of the evaluation tools would bring up more potential benefits to dissemination. At the IASTS conference while discussing the intuitive advantage, two of the audience members revealed that they preferred other learning style indicators over the MBTI. Had the evaluation material been discussed, those teachers may have seen that while we used the MBTI data for evaluation, it would be possible to use a different learning style indicator for that data. As useful as the game is inside the classroom, the evaluation data is what will be used for determining grades and student progress.

While the future of this game is beyond the scope of the current project, there are a few possibilities of dissemination from this point. On November 1, 2008 NESA will be holding another conference. This conference's theme will be Teaching and Learning. The focus will be teaching and learning techniques. This is the conference this game needs to be presented at. With the game developed as a way of reaching out to students who would otherwise not engage in the class, this is the perfect conference to present the game. Previous presentations have already showed that there is a high interest in using games as teaching tools. In a conference where professors will be looking for new and interesting ways of engaging their students, this game will be what they are looking for. The timing of this conference also helps. This conference will happen before the game will be run in C-term 2009. This will open invitations for interested professors to come see the game firsthand. They will learn about the game, have time to look over the game materials, and then be invited to an actual run of the game. This will improve interest as it opens the possibility of seeing firsthand how the game is run, and how the students

engage in the game. For professors who are on the fence, this could be a deciding factor. More importantly, for the professors who have decided that they want to adopt the game for their own use, this run can be training for them. For these professors watching the game would show them what they must do for their run. While a professor may not be able to incorporate the game into a course by the end of the 2008-2009 academic year, this would allow more time to train game masters at WPI. The game masters trained at WPI would either be WPI students who would travel to other schools and help run the game there, or they would be traveling to WPI to learn the game so they can run it when they return to their school. The game master trained at WPI would be able to bring the game to more schools, and would be able to train other game masters. The game shows that it has a lot of potential and while this project is nearing its end, the game will continue on.

For information regarding the current state of the Pakistan Connection, contact Professor John Wilkes by e-mail at jmwilkes@wpi.edu or by phone at 1-508-831-5578

Bibliography

Armstrong, Thomas. Multiple Intelligences in the Classroom [Electronic Resource]. Alexandria, Va.: Association for Supervision & Curriculum Development, 2000, 2000. 1 Mar. 2008 <http://library.wpi.edu/cgi-bin/Pwebrecon.cgi?BBID=223752>.

Bennet, Benjamin and Caprio, Michael V.," Analysis of the AEGIS S.T.S. Laboratory Module" WPI IQP Project, April, 1996.

Berkhout and Feiveson: Securing Nuclear Materials in a Changing World. 1992.

Boldrick, Michael R. "The Dangerous Myths of START II." Parameters Spring (1994): 78-87.

Borg, Mary O., and Stephen L. Shapiro. "Personality Type and Student Performance in Principles of Economics." The Journal of Economic Education 27 (1997): 3-25. JSTOR. 1 Mar. 2007 <http://www.jstor.org/sici?sici=0022-0485%28199624%2927%3A1%3C3%3APTASPI%3E2.0.CO%3B2-O>.

Corera, Gordon. Shopping for Bombs. USA: Oxford University Press, 2006.

Crozier, W. Ray. Individual Learners [Electronic Resource] : Personality Differences in Education. London; New York: Routledge, 1997. 1 Mar. 2008 <http://library.wpi.edu/cgi-bin/Pwebrecon.cgi?BBID=215700>.

Danesi, Marcel. Puzzle Instinct: the Meaning of Puzzles in Human Life. Bloomington & Indianapolis: Indiana UP, 2002. 1 Mar. 2008 <http://site.ebrary.com/lib/wpi/Doc?id=10005065>.

Dewhirst, Brian, Dunn, Christopher and Townsend, Glenn "Global Nuclear Diplomacy: An LRPG", WPI IQP Project, 2001.

Duke, R.D. Toward a general theory of gaming. Simulation and Games, 5 (2), 1974

Furth, Hans G., and Harry Wachs. Thinking Goes to School: Piaget's Theory Into Practice. New York: Oxford UP, Incorp., 1975. 1 Mar. 2008 <http://site.ebrary.com/lib/wpi/Top?id=10103507&layout=document>.

Gardner, Howard. (1993) "Multiple Intelligences: The Theory In Practice." New York: Basic Books.

Gilfoyle, G. P., and J. A. Parmentola. "Using Nuclear Materials To Prevent Nuclear Proliferation." Science & Global Security 9 (2001): 81-92.

Hamilton-Jones, Lynne T. Why the US Must Shift Its North Korea Policy From Disarmament to Deterrence. Ft. Belvoir: Defense Technical Information Center, 2003.

Helfland, Ira, Lachlan Forrow, and Jaya Tiwari. "Nuclear Terrorism." British Medical Journal 324 (2002): 356-57.

Holdren, 1998: Getting To Zero: Is Pursuing a Nuclear-Weapon-Free World Too Difficult? Too Dangerous? Too Distracting?

Hussain, Faheem. "Nuclear Proliferation in South Asia." 2units.it. (2001). 19 Feb 2009 <http://www2.units.it/~cusrp/presentazioni/AmbGue/AmbGue_06.pdf>.

Ikle, Fred Charles. Defending the U.S. Homeland. Calabasas: Center for Strategic & Intl Studies, 1998.

Ives, Sean M, and Ripps, Harrison N., " AEGIS: AN LRPG Simulating a Space Policy conference…" WPI IQP Project May, 1995.

Knock and Gagnon, "Engagement and MBTI Types in A Role Playing Game", WPI IQP Project, 2005.

Marsh, Colin J. "Simulation Games and the Social Studies Teacher." Theory Into Practice. 20 .(1979): 187-193. JSTOR. 1 Mar. 2008 <http://www.jstor.org/sici?sici=0040-5841%28198122%2920%3A3%3C187%3ASGATSS%3E2.0.CO%3B2-N&cookieSet=1>.

"MBTI - Further Information." MBTI Online. Oct. 2007. 1 Mar. 2008 <http://www.mbtionline.net.au/page4.htm>.

Negin, Evgeny A., and Yuri N. Smirnov. "Did the USSR Share Atomic Secrets with China?" Parallel History Project on Cooperative Security. Parallel History Project. 02 Mar. 2009 <http://www.php.isn.ethz.ch/collections/coll_china_wapa/negin_smirnov_engl.cfm?navinfo=16034>.

Orbach, E. Some Theoretical Considerations in the Evaluation of Instructional Simulation Games, Simulation and Games, 8 (3), 1977.

Palmore, Julian; Melese, Françoise. "A Game Theory View of Preventive Defense Against Ballistic Missile Attack" Defense & Security Analysis 17.2 (2001).

Perry, Richard M. "Rogue or Rational State?: A Nuclear Armed Iran and US Counter Proliferation Strategy." Thesis. Air Command and Staff College, 1997. <http://www.globalsecurity.org/wmd/library/news/iran/1997/97-0388.htm>

Piaget, J. (1953) The Origins of Intelligence in Children. London: Routledge and Kegan Paul

Pierfy, D. A. (1977). Comparative simulation game research: Stumbling blocks and stepping stones. Simulation and games

Roberts, Michael J. and Lane, Joshua " The Pakistan Connection Game", WPI IQP Project, October, 2006.

Carvalho, Joshua, Gladu, Jefferey, and Spino, George " Revision of the AEGIS Space Policy Game Country Briefing Papers" WPI IQP Project, January, 2002.

Taylor and Francis, 2001: Using Nuclear Materials to Prevent Nuclear Proliferation

Walonoski, Jason. Visual Feedback for Gaming Prevention. Dept. of Computer Science, Worcester Polytechnic. Institude. 2005. 1 Mar. 2008 <http://www.wpi.edu/Pubs/ETD/Available/etd-010806-205001/unrestricted/jwalonoski.pdf>.

Willis, Judy. Brain-Friendly Strategies for the Inclusion Classroom [Electronic Resource] : Insights From a Neurologist and Classroom Teacher. Alexandria, VA: Association for Supervision and Curriculum Development, 2007. 1 Mar. 2007 <http://library.wpi.edu/cgi-bin/Pwebrecon.cgi?BBID=276311>.

Appendix A

Game Materials

First off, we highly recommend passing out copies of the Non-Proliferation Treaty. You can find it online here http://www.fas.org/nuke/control/npt/text/npt2.htm.

Character Sheets

Bernard / Bernadette Devereux
France Head Diplomat

Description:

You were born and raised in Rennes. Your father was descended from a long line of French nobility and the mother is part of a large family of wealthy businessman and venture capitalists. You grew the third oldest among five children. Many of your early skills of negotiation developed from settling disputes between your siblings. You were quite a troublemaker in your youth but you took advantage of your family's political position and your own personal ability of talking yourself out of a corner.

You were educated in Paris at the College Stanislas, Harvard in the United States and than the École Nationale d'Administration (ENA). Your father pushed you to enter military college and you attended Saint-Cyr for one year before dropping out. This crushed your father but you severely disliked the rigid structure of military school. You instead decided to work your way up the ladder of civil service.

After various low level civil servants jobs, you begin to rise quickly through the ranks and catch the eye of the current Prime Minister. The Prime Minister appoints you head of his staff. This move effectively shoves you into the political and public eye. In a few years you become head of the Ministry of Social Affairs, a post that you did not enjoy but remained in for 4 years. You then spent 2 years as a member of the National Assembly as representative to Paris.

You were then offered the post of head of Ministry of Agriculture and Rural Development. You antagonized other countries for there conflicting policies against your own and scrutinized heavily the current policies of your administration. You make heavy changes that have a significant effect on the farming community.

The Prime Minister chooses you to attend the meeting of the IAEA for your negotiating skills, your ability to defuse a situation but also your ability to shake things up. You are known by your peers for a superior ability to cut through the clutter right to heart of the problem.

Views:

You believe that your country can never disarm all of their nuclear weapons. You feel that peace between superpowers can be contingent on mutually assured destruction, and that losing that disincentive could lead to a new World War.

You also believe that your country cannot allow other countries to develop nuclear weapons. You feel that additional proliferation to less developed nations will

lead to global political instability. Additionally, the more widespread nuclear weapons are, you feel, the more likely a radical nation or extremist group could acquire one.

Goals:

Mutually assured destruction is a functional doctrine, but as more and more countries acquire nuclear weapons, the chances of a rogue nation eschewing it increase. As a result, your government wants countries currently developing nuclear weaponry to cease additional development. Additionally, it would like to see no new nations develop nuclear weapons. Your goal at this conference is to espouse this viewpoint and give the IAEA the powers necessary to make it a reality.

Daniel / Danielle Garnier
France Chief Military Advisor

Description:

You were born in Villeneuve-le-Roi in the Val-de-Marne. You grew up in a political family - your father was the mayor of Biarritz and your mother was a city councilor in Paris. During a period of personal rebellion you joined the French Armed Forces for 5 years and returned as a more disciplined and determined person. You attended the University of Paris, where you got your doctorate in ethnology, law and political science. You became a senior lecturer at that university before returning home and using your father's political position to springboard yourself on the French political scene.

You became a municipal councilor for Biarritz and then Ciboure. You were then elected to the National Assembly to represent Pyrénées-Atlantiques. You then made a lateral move to become mayor of Saint-Jean-de-Luz. You then became Minister of Defense, working closely with the Prime Minister on many occasions.

Your close friendship with the Prime Minister has led him to send you to the IAEA Special Assembly to represent France's military interests. You consider yourself more of a politician then a military expert but you have served in the armed forces and you are extremely knowledgeable of the French military and are aware of the important use of French Military Intelligence or the Service de Documentation Extérieure et de Contre-Espionnage and you tend to contact them regularly. You hate to be ignored, interrupted or downplayed. Your opinion is important and you make sure that everyone knows it.

Views:

You believe that your country can never disarm all of their nuclear weapons. You feel that peace between superpowers can be contingent on mutually assured destruction, and that losing that disincentive could lead to a new World War.

You also believe that your country cannot allow other countries to develop nuclear weapons. You feel that additional proliferation to less developed nations will lead to global political instability. Additionally, the more widespread nuclear weapons are, you feel, the more likely a radical nation or extremist group could acquire one.

Goals:

Your goal in this conference is to support the head diplomat and advise him in any military aspects of discussion that may arise.

Léon / Luce Noel
French Chief Science Advisor

Description:

You were born in Rue Lamartine in Paris. Your parents were mainly of Polish and Jewish decent whose families escaped the Holocaust. While your early childhood was spend with your parents in London but you went with them across the English Channel and settled in Cherbourg. You learned how difficult it is to live in the lower class of society and you strived to break out and make money. You showed an extreme inclination towards mathematics and science but also natural history.

You attended the Lycée Condorcet where you won a prize for some of your scientific work and also you were published by 20 in the Annales de Mathématiques for your solution of a mathematical problem dealing with non-linear differential equations. You became relatively famous in the scientific community very quickly but decided to pursue a research project in the field of natural history and biology.

You then decided to take various teaching appointments around the globe at vastly different educational institutions. You enjoyed the difference in culture and learned a lot about the way the world works and interacts. After many years of travel you decided to settle back down in your hometown of Cherbourg and begin working for the upper portions of the French government as a scientific advisor. You eventually catch the attention of the Prime Minister who chooses you to provide technical expertise to the other French representatives at the IAEA conference. You choose your battles carefully, staying out of conversation and debate until you are sure that you are in the right and you launch into an intense lecture of the true reality of the situation. You are also a good listener and quick to adapt to other people's attitudes, even abrasive ones.

Views:

You believe that your country can never disarm all of their nuclear weapons. You feel that peace between superpowers can be contingent on mutually assured destruction, and that losing that disincentive could lead to a new World War.

You also believe that your country cannot allow other countries to develop nuclear weapons. You feel that additional proliferation to less developed nations will lead to global political instability. Additionally, the more widespread nuclear weapons are, you feel, the more likely a radical nation or extremist group could acquire one.

Goals:

Your goal in this conference is to support the head diplomat and advise him in any scientific aspects of discussion that may arise.

Gérard / Geneviève Neville
France Chief Finance Advisor

Description:

Your parents left Hungary at the end of the Second World War and crossed Europe during a very chaotic time to settle in France near the border. You signed up for the French Foreign Legion as soon as your age permitted and served 5 years in French Algeria.

After serving your military term, you returned to France to settle in Marseilles. You used your sharp wit and logic to attend law school at the Université Paris X Nanterre. You joined the law practice your father had set up while you were away and made great strides in furthering the wealth and reputation of that law practice.

Several years later, you moved to Paris to become a city councilor in Neuilly-sur-Seine and soon became mayor. Later you moved in to a seat in the National Assembly and then became the Minister of the Budget. The Prime Minister considers you a personal friend and political ally because of your performance in your former political positions. He has chosen you to represent France's financial interests at the IAEA Special Assembly.

Your military and law career gives you great respect for discipline and articulation. You consider yourself a no-nonsense, straight-to-the-point person, but you know how to spin words and phrases to achieve the desired effect on your political adversaries. You are new on the international stage and a little nervous about your fellow French delegates. You are familiar with no other delegate from your country and you wish to prove your importance and make meaningful contributions.

Views:

You believe that your country can never disarm all of their nuclear weapons. You feel that peace between superpowers can be contingent on mutually assured destruction, and that losing that disincentive could lead to a new World War.

You also believe that your country cannot allow other countries to develop nuclear weapons. You feel that additional proliferation to less developed nations will lead to global political instability. Additionally, the more widespread nuclear weapons are, you feel, the more likely a radical nation or extremist group could acquire one.

Goals:

Your goal in this conference is to support the head diplomat and advise him in any financial aspects of discussion that may arise.

Badrinath/ Bageshri Malek
Indian Head Diplomat

Description:

You grew up in Calcutta - one of the largest cities in India. In this place, you learned to speak your mind and how to get others to listen to you. You learned that these two things complement each other because when you speak your mind, people listen.

Your school career was not a great one. You did not excel in any scientific, technological or mathematical subject. You barely scraped by because you got fairly good grades in history and language classes. These were your favorite subjects and they catapulted you into Central Calcutta College where you attained a degree in history.

You spent your days afterward at the University of Calcutta where you taught history and foreign policy. Your teaching on foreign policy is what brought you to the attention of the Indian government. They offered you a position as a head diplomat to the IAEA special conference on halting nuclear proliferation.

This interested you because now you had a chance to put your great speaking and people skills to the test. You want to use your great knowledge of history and language to make your voice heard.

Views:

Most of your views are taken from lessons you have learned from history. Historically, nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used - when there is no chance of reprisal.

Goals:

Mutually assured destruction is a terrifying doctrine, but a functional one. However, it only functions if all involved nations are on equal nuclear footing. As a result, your government would like to see a push for equalization of nuclear stockpiles. Since your country is in the somewhat unique position of being "in the middle" with respect to nuclear development, you would like to see the larger world powers reduce their stockpiles, see smaller nations allowed to develop nuclear weapons for their own safety, and have the whole process public so no nation can secretly gain an advantage. You will try to give the IAEA the power to make this a reality.

Hemadri/ Harsha Parekh
Indian Chief Military Advisor

Description:

You were born in Gah, Pakistan. Your family moved to India and your father was an entrepreneur. You watched your father build a business from the ground up and become a respected member of the community. He made a lot of money and made a great deal of investments in you. He sent you to the University of Cambridge in the United Kingdom where you got a First Class Honours degree in Economics.

You returned home to your father and became a senior lecturer at Punjab University. You began to advise certain friends in government positions in the Ministry of Foreign Trade and the Ministry of Finance on their decisions when dealing with the economy. They took your advice which proved to be useful and productive. It was they who convinced you to leave the university and work for the government.

You had many unorthodox but amazingly useful ideas about economic reform. Some say you single handily turned the Indian economy into a powerhouse, but you are extremely humble and would never take such extreme credit. You left the government to serve as the governor of the Reserve Bank of India but continued to serve as chairman of the Planning Commission of India.

After several years the Minister of Defence position opened up. The President of India recalled the dramatic changes and your determined attitude and offered you the position. You were skeptical if you were qualified, but the President insisted. You took the position and quickly learned all the necessary information to make well informed decisions. The President was confident of your aptitude to the task at hand and has asked you to represent the military interests of India at the Special Assembly of the IAEA. The President feels that this will cement your knowledge of the Minster of Defence position as well as quell any fears you have remaining.

Views:

The best way to prevent the use of nuclear weapons is for nuclear weapons to not exist. Since this is clearly an impossibility, the next best thing, you feel, is for everyone to have them. The doctrine of mutually assured destruction will prevent their use.

Goals:

Your government's official push is for nuclear equality. Your job at this conference is to support your head diplomat and advise in military matters that may arise during discussion.

Manishankar/ Manorama Vysetty
Indian Science Advisor

Description:

You group up in Cochin, India. You went to school there and immediately excelled in science and math. You showed great promise as you graduated first in your class from high school and then went on to attend the Cochin University of Science and Technology. Here you studied quantum mechanics. You spent many years studying quantum mechanics and finally received a PhD in the field.

During your college years, Indian research into nuclear weapons was beginning to gather steam. With your knowledge of particle and sub particles, you were the perfect candidate to become a nuclear scientist. You went to the Bhabha Atomic Research Centre where you worked on India's nuclear weapon program. Finally, enrichment was successful and the device to detonate the weapons was underway.

With the weapons created, you decided to retire and perhaps even try your hand in politics. You attempted to become the mayor of Cochrin, but it did not pan out. Instead you received attention from the Indian government. They saw that you were interested in politics and decided to offer you a position as the scientific advisor to one of India's head diplomats. This is where you are today.

Views:

You believe that your country should have the means to develop and create nuclear weapons. You also believe that the countries that already have nuclear weapons should have to disarm before they can begin to suggest what your country should do with its own nuclear weapons program. You will attempt to disguise your nuclear program as just a program for power and not for weapons because you know how the rest of the world would react.

Goals:

Your government's official push is for nuclear equality. Your job at this conference is to support your head diplomat and advise in scientific matters that may arise during discussion.

Personally, you want your government to succeed in creating nuclear weapons because you believe it will give you power in the Middle East and across the globe. You also need to push nuclear powerhouse countries to disarm so that they do not have a huge weapons stockpile compared to that of your country. You also do not mind if other countries develop nuclear weapons because it is a natural way to balance the power of the nations.

Bahman/ Banafsheh Hassan
Iranian Head Diplomat

Description:

You grew up in the capital city of Iran, Tehran. Here you learned to speak well, but always feared to speak your mind. After years of growing up and always having to agree with the Iranian government or face punishment it was ingrained in your mind that Iran's views were best. You grew up as a single child and forced yourself through the drudgery of school. You did not particularly like science and math courses so you mainly focused on history, which was skewed by Iran, and public speaking.

You continued your education at the University of Tehran where you obtained a degree in history and subsequently taught the subject at the University. You have spent 30 years teaching history and voicing the opinions of Iran to your students and have served your country well. Recently you became the head of the history department and this gained you the attention of the Iranian government.

The government recognized that you know much about both Iran and its international situations. You are one of the most knowledgeable people about the goals of Iran and its view about nearly every subject. The government knows that you are loyal to Iran because of the Iranian skew you put on all of the areas you taught.

Now they have selected you to represent the country to a special assembly of the IAEA. You will be going there to defend the rights and honor of Iran.

Views:

Unequal development of technology only leads to the oppression by the countries that have against the countries that have not. Technology is a global resource, and all countries have a right to access it. Attempts to prevent this are merely another example of the western world's attempt to supress Islamic nations. You have little to no trust in western organizations like the IAEA to protect your country.

Goals:

Your country has the right to develop nuclear weapons. Your government has sent you to make this point clear to the IAEA and other assembled nations. Though it has little trust in the western world to do right by Iran, if at all possible, it would like you to preserve this right for Iran.

Firouz / Forough Mofrad
Iran Military Advisor

Description:

You were born in a village outside of Babol in the province of Mazandaran but you parents moved into the Tehran, the Iranian capital, when you very young. You were an old child. Your father was a scientist and also very religious. He took your education into his own hands with some help from your mother. You admired him and took on his love of science and religion.

When you took the national university entrance exam you placed within the top 100 and were immediately granted admission to the elite Elm Va Sanat University Of Tehran. You decided to study physics, graduated and went on to get your PhD in electrical engineering. Your graduate program was sponsored by the Revolutionary Guard with whom you began consulting. You began your tenure as a professor of electrical engineering and the Iran University for Science and Technology.

The President of Iran has asked you to represent Iranian military interests at the Special Assembly of the IAEA.

Views:

Without nuclear weapons, Iran cannot guarantee its own safety. Thus, Iran must be allowed to pursue its nuclear program. At the very least, Iran's nuclear weapons would server to neutralize the nuclear weapons of other nations, particularly Israel. However, you hold little trust in the western world to listen.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to military discussion.

ArAd/ AlAleh Bahadur
Iranian Science Advisor

Description:

You grew up in the capital city of Iran and like most people in Iran you were very interested in science and technology because you believe it is a way to enhance your country. In grade school you did very well in mathematics and in secondary school you found a great love for physics. You transferred this love over to college.

You went to Amirkabir University of Technology in Tehran. Here you took physics classes that pertained to nuclear power. You enjoyed them very much and in no time at all you had your PhD in nuclear physics. Since you went to a school focusing on technology you were very interested in creating machines that could begin to enrich uranium up to a grade that can be used for power.

This focus on enrichment technology is what landed you a job in a top secret Iranian facility that was dedicated to the Iranian nuclear program. Here you worked on attempting to enrich uranium, but most of the scientists at the facility found it near impossible to create. The facility obtained information about the devices from Pakistan from sources that are unknown to you.

You have begun to suspect that the enrichment process you are working on will be further so that weapons grade material can be produced. You brought this up with your manager and he did not deny your claims. He then told you the government was looking for a scientific advisor for an upcoming special assembly of the IAEA. You gladly accepted, but were told to keep quiet about the facility and weapons.

Views:

You believe that your country should have the means to develop and create nuclear weapons. You also feel that all countries that follow the religion of Islam should the ability to develop their own bomb.

You also believe that the countries that already have nuclear weapons should have to disarm before they can begin to suggest what your country should do with its own nuclear weapons program. You will attempt to disguise your nuclear program as just a program for power and not for weapons because you know how the rest of the world would react.

.

Goals:

Your role is to support your head diplomat and advise in scientific matters relevant to current discussion points.

Personally, you want your government to succeed in creating nuclear weapons because you believe it will give you power in the Middle East and across the globe. You also need to push nuclear powerhouse countries to disarm so that they do not have a huge weapons stockpile compared to that of your country. You also do not mind if other countries develop nuclear weapons because it is a natural way to balance the power of the nations.

Eitan / Eliana Asher
Israeli Head Diplomat

Description:

You were born in a small town in the Hafia District of Israel. Your parents were immigrants who escaped from Russia and Ukraine before finding refuge in northern China. They eventually left China and came to Israel to help build and be a part of the new Jewish state.

Your family was often treated differently because if it's particular religious views which tended to differ with that of the Israel Labour Party or Mapai. Your parents were vocal and active political figures.

You joined the Israel Defense Force as required by law but suffered a serious injury that has not healed correctly and you were discharged before your service was officially over. After attending the University of Jerusalem, you opened up a law practice. However, you grew bored and joined the legislative branch of the government or Knesset. You served as a member of many committees including the Foreign Affairs and Security committees.

Determined to take a more active role you ran for the Mayor of Jerusalem and won. Serving many years at this post the current Prime Minister asked you to represent Israel at the IAEA special assembly. You are a fierce and determined diplomat; you do not stand down from what you think is right. You believe that a well defended difference of opinion is something to be respected, but you have little tolerance for ignorance of the subject at hand and disrespect when it comes to diplomatic discussions.

Views:

Mutually assured destruction works, when all nations can be assumed to be reasonable, and reasonable people can be assumed to be in charge of the government. You believe most government powers see how foolish it would be to launch a full nuclear strike, even some of the more radical Islamic ones. However, it is too often been shown that the leadership of countries like Iran, Iraq, and Lebanon are not in control of their country. Disarmament of these countries - which have shown themselves to be unstable - is critical to ensure the survival of Israel and world peace as a whole.

Goals:

Israel's nuclear capabilities must be maintained as a deterrent to Islamic nations that would like nothing more than to eliminate Israel from the map. Your government would like to see states that have proven to be unstable actively prevented from holding or developing nuclear weapons. Additionally, it would like to see the larger nations begin the disarmament process they promised to undergo.

Chanan / Chana Cohen
Israeli Chief Military Advisor

Description:

Born and raised in Jerusalem, you were the son/daughter of two extremely patriotic Iranian-Jewish parents. You, however, did not share the extremely patriotic nature that your parents did. They claimed that you were taking Israel for granted. You excelled in school and studied abroad at a Russian university. Upon furthering your education and broadening your horizons your realized why your parents were in love with Israel and you apologized to them. You returned home and joined the Israel Defense Force (IDF). You served in several public and covert operations as a member of Sayeret Matkal.

You were promoted to infantry brigade commander. The IDF then sent you to attend the United States Marine Corps Command and Staff College in Quantico, Virginia. You returned back to Israel to command the Paratroop Brigade. Your tenacity and intolerance of nonsense propelled your rapid rise through the ranks of senior military positions. You have commanded the military stationed in every region of Israel. Your operational record is impeccable and you were promoted to Chief of the General Staff. Your record and reputation has caught the eye of the Prime Minister of Israel. The Prime Minister has asked you to attend the Special Assembly of the IAEA and represent Israeli military interests.

Views:

Mutually assured destruction works, when all nations can be assumed to be reasonable, and reasonable people can be assumed to be in charge of the government. You believe most government powers see how foolish it would be to launch a full nuclear strike, even some of the more radical Islamic ones. However, it is too often been shown that the leadership of countries like Iran, Iraq, and Lebanon are not in control of their country. Disarmament of these countries - which have shown themselves to be unstable - is critical to ensure the survival of Israel and world peace as a whole.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to military discussion.

Meir / Maytal Jacobson
Israeli Science Advisor

Description:

You born in Jerusalem and your parents are both natives of Palestine. Your parents have always lived poor, barely getting by. Both were somewhat self-educated but were barely able to read. You respected your parents for working hard and getting by throughout your child despite the fact that you lived on the edge of poverty and malnutrition. You knew early on that you wanted to get out of poverty and get an education so you made your whole focus on your childhood education.

You were not particularly gifted in mathematics and science but you tried very hard and got excellent grades. You were eventually accepted into the Hebrew University of Jerusalem where you got your doctorate in computer science doing your thesis on quantum computing and nanotechnology. You lectured for many years as a professor of computer science. You then entered a joint professorship at Tel Aviv University in Israel and the University of South Carolina in the United States of America. You continued your work on quantum computing and eventually received the Wolf Prize for you international studies in the field.

The current Prime Minister has chosen you to represent Israel at the IAEA Special Assembly because of your knowledge of physics and your international experience. You are confident and proud of your life and feel secure in your abilities. You feel that you are one of the best educated people at the Assembly, a mentality that is sometimes exposed in discussion.

Views:

Mutually assured destruction works, when all nations can be assumed to be reasonable, and reasonable people can be assumed to be in charge of the government. You believe most government powers see how foolish it would be to launch a full nuclear strike, even some of the more radical Islamic ones. However, it is too often been shown that the leadership of countries like Iran, Iraq, and Lebanon are not in control of their country. Disarmament of these countries - which have shown themselves to be unstable - is critical to ensure the survival of Israel and world peace as a whole.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to scientific discussion.

Alon / Alona Thomas
Israeli Chief Financial Advisor

Description:

You parents were Jews who migrated from Lithuania. Your family moved to Pennsylvania where you graduated from a local high school. Your older brother stayed behind with family members. You attended the Massachusetts Institute of Technology graduating from the Sloan School of Management. You then went to Yale to study political science but decided it wasn't for you. Your older brother died serving the as an element of Sayeret Matkal in the Israeli Defense Force in Operation Entebbe.

After a brief career in business you reached back to Israel and used a few friends to become the Chief of Mission at the Israeli Embassy in Washington, D.C. After a few years of flawless service the current government appointed you to Chief Ambassador to the United Nations for four years. You then became a member of Knesset or the legislature of Israel. During a string of suicide bombings in Israel you personally managed the crisis and responded aggressively to the threats.

The Prime Minister has appointed you to represent the financial interests of Israel at the IAEA Special Assembly. You have the most experience of anyone in your delegation.

Views:

Mutually assured destruction works, when all nations can be assumed to be reasonable, and reasonable people can be assumed to be in charge of the government. You believe most government powers see how foolish it would be to launch a full nuclear strike, even some of the more radical Islamic ones. However, it is too often been shown that the leadership of countries like Iran, Iraq, and Lebanon are not in control of their country. Disarmament of these countries - which have shown themselves to be unstable - is critical to ensure the survival of Israel and world peace as a whole.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to economic discussion.

Jaffar/ Jehan Salahuddin
Pakistani Head Diplomat

Description:

You grew up in a small town in Pakistan. You wanted to make a good life for yourself, so you studied hard through all of your school years. You made a good impression on all of your teachers simply because that is your way. You were a great public speaker and a great friend to nearly anyone you met. You were seen as a good person by your teachers and schoolmates simply because you are always in a pleasant mood.

Since you were such a good speaker and everyone seemed to support you, you decided to run for a public office. You became mayor of that small town that you grew up in. You took a firm stance on every issue that came your way, but that stance was always influenced by what the people wanted. What others wanted is what you did and stuck to it.

The Pakistani Government saw how you well you were doing with the small town and decided to offer you a post as a diplomat for their government. Your first assignment for them is to go to the special conference of the IAEA and fight for the rights of Pakistan. Of course you will fight for them because that is what you always do.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used; when there is no chance of reprisal.

Goals:

Your goals at this special conference are to maintain the nuclear arms of your country while getting the large nuclear powers to begin to disarm their vast stockpiles of nuclear weapons. You also do not want nuclear developing countries to be completely stopped although you would like to see some limitations imposed on them. Since you are in a unique position of have weapons and still attempting to develop more and better weapons, you will try to create a compromise between large powers and developing countries. You want to see the large countries reduce their huge stockpiles and at the same time see limitations put on developing countries so that they cannot secretly develop stockpiles.

Tamonash /Tanmaya Barakzai
Pakistani Chief Military Advisor

Description:

You were born in Daryaganj in Delhi, India. Your family immigrated to Pakistan and settled in Karachi. Your father was a diplomatic clerk and you were raised in a middle class environment. You saw the need for balance in life at an early age and your father was your hero. He often worked long hours to keep you in school and support your family. You attended Saint Patrick's High School in Karachi and attended the Forman Christian College in Lahore.

When you got out of college you had a hard time deciding what to do. After a short period of indecision you decided to join the military and entered the Pakistan Military Academy at Kakul. You continued your military education at the Royal College of Defence Studies in the United Kingdom, as well as the National Defense College in Rawalpindi.

You commanded an artillery regiment for many years. There was several tense situations with India and even one with China but you never saw combat. You were promoted to Company Commander of the Special Services Group (SSG). You later took the post of Infantry Division Commander. The Prime Minister pulled you ahead of other senior officers as the Chief of Army Staff position opened up due to a resignation.

In this position, though largely administrative, you took the training of the SSG commandos personally and created one of the finest groups of its kind in the world. The Prime Minister, a close personal friend and ally, has asked you personally to attend the Special Assembly of the IAEA and represent Pakistan military interests.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used - when there is no chance of reprisal.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to military discussion.

Farook/ Massima Elahi
Pakistani Scientific Advisor

Description:

You grew up in one of the greatest times in the history of your country. You were schooled by some of the greatest scientific minds that your nation has every seen. Like any scientist, you excelled in the sciences. You went to school to be a chemist and graduated with a PhD in the field.

During this time nuclear development was underway in Pakistan and although you were not a nuclear physicist you knew enough about the atom to begin research for a local Pakistani laboratory.

This laboratory was run by a man called A.Q. Khan. During your time at the laboratory you learned much about nuclear weapons and was even a key figure in creating them for your country. Your knowledge of nuclear enrichment, weapons and power is of the top tier in you country.

After Khan was found to be selling nuclear secrets to other countries you decided to retire from being a scientist because you did not think nuclear weapons should be spread in such a way. Knowing your position on the matter your government has selected you to be the scientific advisor to a delegation which will be convening to discuss the IAEA and nuclear proliferation.

Views:

You believe that your country should have the means to develop and create nuclear weapons. You also feel that all countries that follow the religion of Islam should the ability to develop their own bomb.

You also believe that the countries that already have nuclear weapons should have to disarm before they can begin to suggest what your country should do with its own nuclear weapons program. You will attempt to disguise your nuclear program as just a program for power and not for weapons because you know how the rest of the world would react.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to scientific discussion.

Aditya/ Akuti Kayani
Pakistani Chief Financial Advisor

Description:

You were born in Isfahan in Iran. Your parents migrated to India and then to Karachi in Pakistan. Your father was a photographer and your mother was a chef. You attended Saint Patrick's High School and Abbottabad Public School. Your parent's love of art pushed you away from abstract thinking and you decided to go to school for something well grounded. You attended Gordon College in Rawalpindi and then the Pakistani Business School at the Institute of Business Administration in Karachi.

You made a move to join a private bank firm. You started as at an entry level position but worked your way up quickly. Your upward mobility moved you around the globe to places like Sweden, Switzerland, the US, UK, China and Singapore. You left lasting impressions at every place you visited that thrilled your superiors. You were handpicked for the position of Corporate and Investment Banking for the Asia-Pacific Region at Citibank.

After the election in Pakistan, a friend of yours had become the President of Pakistan and had asked you as a personal favor to him if you would become the Minister of Finance which you accepted. Based on your friendship and experience the President has asked you to attend the Special Assembly of the IAEA to represent Pakistani financial interests.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used - when there is no chance of reprisal.

Goals:

Your job at this conference is to advise the head diplomat in matters pertaining to financial discussion.

Viktor/Veronika Dosteyev
Russian Head Diplomat

Description:

Hardship began early in your life. You were born and immediately lost the person who loved you most in the world. As you were growing up, you felt the weight of this loss bear on your shoulders and found it very difficult to make friends in the orphanage. Luckily, you simply directed all of your energy into schoolwork and received a full scholarship and admittance into Oxford.

When you were accepted you decided to attain your law degree. Now that you are becoming successful you find it easier to relate to the other students in the college and begin making friends. You love the English people and their ways.

After you receive your law degree, you decide to go back to Russia and defend people who can not defend themselves. It is your way of saving the people who you easily could have become yourself.

Nuclear weapons begin to interest you because you know that Russia or the US could easily trigger the mass annihilation of the human race. You attempt to become mayor of Vladivostok in order to make the city a better place and help out the innocent. You lose by a small margin, but you catch the eye of a influential man.

Vladimir Putin supported you through your campaign though you did not know it. He agreed with your ideas. He arranges a meeting with you and you have a long and insightful conversation with him. He decides to make you his advisor on nuclear affairs. When he eventually becomes president, he appoints you to be his head diplomat on nuclear affairs to the UN and the IAEA.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

- Disarm Small Nations
- Prevent Disarmament of your country.

Oleg / Olga Dimitrinoff
Russian Military Advisor

Description:

You grew up as a boy in the Soviet Union under the Cold War. You quickly became engulfed in the Soviet Union military. In order to beat the United States, you had to become very involved in your job. You were one of the greatest men in the military during the Cold War, but lost some respect when the Cold War ended and nuclear weapons were no longer a hot topic.

When the Soviet Union fell the Cold War pretty much ended and took you down with it, but key members of the Russian government now see you as a great asset in diplomacy. You grew up with nuclear weapons and learned many military advantages and disadvantages of these weapons. You know what they can bring to a country and at the same time what they can take away.

You have regained the respect the you once garnered and now you are seen as a key advisor in anything to do with nuclear arms. You are one of the highest authorities in the world on the Russian military and its nuclear weapons. You always voice your opinion on any military benefit of nuclear weapons to Russia.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to create an image of your country that people feel is not over powering and condescending. This is not to say that you can become overpowering with treats if you wish. You wish to not have total disarmament of your country, but you want no new nations to be able to build nuclear arms.

You will always try to keep the support of the western nations and try to get Islamic nations and what seem to be radical nations to never be able to create and keep nuclear weapons.

Orders:

You will try to give the IAEA powers to make developing countries give up their weapons or at the very least suspend their creation of more nuclear weapons. You will also try to give the IAEA powers to prevent all other countries from developing a bomb. You want to get this done without having your country totally disarm.

Boris/ Natalia Oromuv
Russian Scientific Advisor

Description:

You are a hot shot scientist who has quickly worked his way up from the bottom of the scientific world, up to the top. You went to a very prestigious college in the United States called Yale. From there you began work at CERN laboratories in Europe.

You were very quick to move your way up the latter at this research institute and became highly regarded by your peers. Russian intelligence took note of this and recently you were offered a position as the chief scientific advisor to the president of Russia.

This was great news to you, but there was a small catch. First, you need to be the scientific advisor to a delegation which is heading to a special conference of the IAEA. Although this is not the best job for your skills and knowledge you begrudgingly accept because you want that chief advisor position.

Now it looks like it is off to the conference. It seems like it will be a terribly boring and uneventful time in a room full of dusty old dinosaurs who can't get anything done.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to scientific discussion.

Dimitri / Vladia Chezkoff
Russian Financial Advisor

Description:

You grew up when the Soviet Union was by far one of the most respected and feared countries in the world. In your time everyone thought that the Soviet Union was an enormous financial powerhouse. This was until the Soviet Union just completely collapsed.

The most hated part of your time as a financial advisor to the president was just after the collapse of the USSR. As the financial advisor you almost always had to give him bad news. Russia had a long recuperation time and is beginning to become a financial success again, albeit slowly.

These times ahead are very exciting for you and because of your optimism you were recognized by many people and then appointed to the head diplomat to the IAEA of your country as one of his advisors. As his advisor you will continue to be optimistic and tell him of the financial greatness of your country.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to financial discussion.

Gwembeshe/ Gbemisola Meikle
South African Head Diplomat

Description:

You were born in the Eastern Cape province of South Africa. Your father was a member of the African National Congress and the South African Communist Party. Both your parents were teachers and anti-apartheid activists. You went to high school at Lovedale. Your father pushed for you to become extremely well educated and politically active.

You obliged your father by studying abroad. You studied at the University of Sussex in the United Kingdom earning a degree in Economics, as well as Russia and the United States. At the University of Sussex you met your friend and colleague Baako Seralina. Around this time, your father passed away. You took it upon yourself to continue his legacy and take his advice. You returned home, joined the African National Congress and became the head of the ANC's information department and international affairs department. As a member of the international department you worked to solidify relations with Zimbabwe and help there ailing economy.

You succeeded and earned the respect of many South African and Zimbabwe officials. You choose to take the offered position of Minister of Foreign Affairs. You continued to receive support from Zimbabwe and from within your own government. The praise from your colleagues caught the attention of the President of South Africa. The President has asked you to represent South Africa in a Special Assembly of the IAEA. You are extremely tolerant and accepting of different races and beliefs. You practice patience in debate. You tend to let people that disagree with you make mistakes that serve your means rather then attack them directly. You command respect from the people that know you but your quest to take the higher road sometimes agitates opposing parties.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used; when there is no chance of reprisal.

Goals:

Your goals at this special conference are to maintain the nuclear arms of your country while getting the large nuclear powers to begin to disarm their vast stockpiles of nuclear weapons. You also do not want nuclear developing countries to be completely stopped although you would like to see some limitations imposed on them. Since you are in a unique position of have weapons and still attempting to develop more and better weapons, you will try to create a compromise between large powers and developing countries. You want to see the large countries reduce their huge stockpiles and at the same time see limitations put on developing countries so that they cannot secretly develop stockpiles.

Baako Seralina

South African Assistant Diplomat

Description:

You were born in Hanover in the Northern Cape province of South Africa. Your family was large and composed primarily of mineworkers. Your father was active in the National Union of Mineworkers and you grew up around gold and uranium mining men. Unlike your family, you were extremely driven to attain an education. You worked extremely hard in the Vaal Reefs mine to finance this education.

After your hard work paid of, your family pulled what few strings they had to land you a job in the Congress of South African Trade Unions. You started as a clerk but worked your way up to regional secretary before departing South Africa entirely to study economics at the University of Sussex in the United Kingdom where you met (Gwembeshe/ Gbemisola) Meikle. After working briefly in several small companies in the United Kingdom you returned to South Africa and joined the African National Congress (ANC). You kept your eye on the Ministry of Finance position trying to use the ANC as a means to launch yourself into such high office. However, you became extremely critical of some of the ANC's policies and left the ANC. You were picked up but the Congress of South African Trade Unions as a sponsor and they supported you in your campaign for Finance Minister which you won. As Finance Minister you reformed a great many policies within the South African government, weeding out corruption and increasing the wealth of the nation.

Your fall and return to political power as well as your aide to the South African government caught the eye of the South African President. The President has asked you to represent the financial interests of South African at the Special Assembly of the IAEA. You are extremely confident but you exercise self control when wanting to speak of controversial matters. Your tenacity and stamina when you are the center of attention is something that many of your fellow delegates admire. You recognize the necessity of support and alliances. You rarely disagree with delegates that share your views and are very cautious when disagreeing with your fellow delegates.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used; when there is no chance of reprisal.

Goals:

Your goals at this special conference are to maintain the nuclear arms of your country while getting the large nuclear powers to begin to disarm their vast stockpiles of nuclear weapons. You also do not want nuclear developing countries to be completely stopped although you would like to see some limitations imposed on them. Since you are in a unique position of have weapons and still attempting to develop more and better weapons, you will try to create a compromise between large powers and

developing countries. You want to see the large countries reduce their huge stockpiles and at the same time see limitations put on developing countries so that they cannot secretly develop stockpiles.

Orders:

Use your knowledge and skills to convey your points to the rest of the assembly.

Qinisela /Qhikiza D'Ewes
South African Military Advisor

Description:

You were born in Matatiele, KwaZulu-Natal to a small family of dairy farmers. You mother and father were both simple people with little education. You attended Emma Farm School and went to Mariazel High School in your hometown. You do reasonably well and attended St. Francis College in Marianhill and the University of the North where you enrolled for a social science degree.

In college, you became a larger supporter of the South African Student' Organization which is aligned with the African National Congress (ANC). This got you into a lot of trouble because of its sometimes controversial activities. Seeing that your life was going down a dangerous road you took action. You entered the South African National Defense Force (SANDF) where you took part in many campaigns including missions in the Democratic Republic of the Congo and Lesotho as well as many UN peacekeeping task forces.

You entered the SANDF as an officer and quickly rose higher in rank. You learned of and are currently aware of the nuclear weapons program that South Africa started in the 1970s but dismantled in the 1990s. You agreed with the South African government's decision to voluntarily dismantle its nuclear weapons arsenal. You view nuclear weapons as an abomination and a complete divergence from conventional weapons and traditional combat.

When you left the SANDF you called upon old friends in the ANC to help you win a position in the government. You were elected the premier of the Free State province. A few years later you were promoted the chairperson of the National Council of Provinces. Your political and military career caught the eye of the President of South Africa. The President has granted you the position of the Minster of Defense of South Africa and asked you to attend the Special Assembly of the IAEA and to represent South African military interests.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used; when there is no chance of reprisal.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to military discussion

Zuberi/Zulu Lehmkuhl
South African Science Advisor

Description:

You were born in Tzaneen in the Limpopo Province. You father was a biologist who studied the wildlife in the tropical and subtropical regions surrounding your home. Your mother was a teacher at a local school. You parents both stressed education at an early age but you were deeply in love with your village and the environment and did not wish to stray far from home.

You enrolled in Hebron Training College gained a BSc in Physics and an MSc in Applied Mathematics. You took an opportunity to teach at the University of Zululand. Several years later you left Africa completely to study in Germany and France gaining a doctorate degree in Physics.

Your research center mostly around nanoscale physics which you performed at the University of Birmingham in the United Kingdom. You continued to keep in touch with your parents and you were often home sick. You decided to travel home and change focus to astronomy. You studied deep space physics and worked for the National Research Foundation of South Africa at the South African Astronomical Observatory in Sutherland.

Continued discussion with your mother and father got you active in politics. Your father happened to be old friends with the President of South Africa who got you the position of Minister of Education and then soon after the Minister of Science and Technology. Your personal connection and research has the attention of the President of South Africa. The President has asked you to advise and represent the scientific community of South Africa at the Special Assembly of the IAEA.

Views:

You believe that your country should have the means to develop and create nuclear weapons. You also believe that the countries that already have nuclear weapons should have to disarm before they can begin to suggest what your country should do with its own nuclear weapons program. You will attempt to disguise your nuclear program as just a program for power and not for weapons because you know how the rest of the world would react.

Goals:

Your goal in this conference is to advise your delegation about matters pertaining to scientific discussion.

Baako Seralina
South African Financial Advisor

Description:

You were born in Hanover in the Northern Cape province of South Africa. Your family was large and composed primarily of mineworkers. Your father was active in the National Union of Mineworkers and you grew up around gold and uranium mining men. Unlike your family, you were extremely driven to attain an education. You worked extremely hard in the Vaal Reefs mine to finance this education.

After your hard work paid of, your family pulled what few strings they had to land you a job in the Congress of South African Trade Unions. You started as a clerk but worked your way up to regional secretary before departing South Africa entirely to study economics at the University of Sussex in the United Kingdom where you met (Gwembeshe/ Gbemisola) Meikle. After working briefly in several small companies in the United Kingdom you returned to South Africa and joined the African National Congress (ANC). You kept your eye on the Ministry of Finance position trying to use the ANC as a means to launch yourself into such high office. However, you became extremely critical of some of the ANC's policies and left the ANC. You were picked up but the Congress of South African Trade Unions as a sponsor and they supported you in your campaign for Finance Minister which you won. As Finance Minister you reformed a great many policies within the South African government, weeding out corruption and increasing the wealth of the nation.

Your fall and return to political power as well as your aide to the South African government caught the eye of the South African President. The President has asked you to represent the financial interests of South African at the Special Assembly of the IAEA. You are extremely confident but you exercise self control when wanting to speak of controversial matters. Your tenacity and stamina when you are the center of attention is something that many of your fellow delegates admire. You recognize the necessity of support and alliances. You rarely disagree with delegates that share your views and are very cautious when disagreeing with your fellow delegates.

Views:

Most of your views are taken from lessons you have learned from history. Historically nuclear weapons have ensured, ironically, that nuclear weapons cannot be used. The concept of MAD is a frightening one, but you think it keeps countries in line with their weapons. You think that nuclear weapons are not a danger unless one country has them and another country does not. This is the only time nuclear weapons will be used; when there is no chance of reprisal.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to financial discussion.

John / Jane Hammond
United Kingdom Head Diplomat

Description:

You were born in Edinburgh, Scotland. Your father was the child of two atheist Irish actors and your mother came from a long line of traditional Catholic Englishmen. Religion was often an intense subject of debate in your home and you never got involved but did listen too much of what your parents had to say. Your father was attempting to get a law degree and your mother was a tax inspector for the government.

You moved to Durham, England were you attended Oxford at St. John's College where you taught yourself law and then Cambridge where you studied foreign policy and international relations. You entered politics immediately by joining the Labour Party and representing the constituency of the cities of London and Westminster in the House of Commons of the Parliament of the United Kingdom.

You publicly supported unilateral nuclear disarmament but you later rethought your position. You also spoke publicly against the 'closed shop' practice of some businesses as the Shadow Cabinet's Secretary of Employment. After several terms in that role where you made several controversial and influential changes to the Labour Party's policy, you ran for the leader of the Labour Party which you won narrowly.

However, your influence and rise in politics caught the eye of the Prime Minister who has asked you to represent the United Kingdom in the Special Assembly of the IAEA. You are new to this international stage but you do not fear it. You are confident in your country and your knowledge and you did not like to be outspoken. Many of your colleagues find to rude and annoying at some of your interjections but you feel that you are bringing important truths and insights to the table.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

You will try to give the IAEA powers to make developing countries give up their weapons or at the very least suspend their creation of more nuclear weapons. You will also try to give the IAEA powers to prevent all other countries from developing a bomb. You want to get this done without having your country totally disarm.

John / Jane MacGregor
United Kingdom Head Military Advisor

Description:

You were raised in an only child in a small town outside of Carlisle. Your mother passed away very early in your life and you become very close to your father. As a child you did not care much for school but enjoyed the mountains and the outdoors. Your father taught you many traditional skills and values including hunting, some farming and a somewhat extreme form of patriotism.

You wanted to go straight into the military but your father pushed you in school and you to attend the Royal College of Defence Studies in London. Your father's pride and your personal sense of patriotism allow the making of serious intellectual gains. College affirms you sense of patriotism and you enter the British military. You accelerate through the ranks of the military using a sharp wit and a complete and total hatred for skirting issues. You attack every problem head on and are rarely concerned with finding easier solutions when there is one solution clear to you.

The majority of your military career is spent in the Land Command but as your career progress you spend time as a command element in the Royal Air Force, MI5 and MI6. You soon find yourself in a high position in the Ministry of Defence where you become close friends of the Minister of Defence as well as the Prime Minister.

You are admired for your ability to seek and attack problems without warning or concern. This drive sometimes gets you in trouble because of the implications of your direct action and your aggressive methods. You are however chosen to represent the Ministry of Defence's interests at the IAEA special assembly. It is your first appearance on this global platform but you're quite confident. You respect everyone in discussion but are quick to use aggressive and direct measures when it comes to private meetings and conversations.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to military discussion.

Rupert / Rachel Mansfield
United Kingdom Chief Science Advisor

Description:

You were born in North London. Your father was a research biologist and your mother was a Polish immigrant. You were the youngest of four children where you were favored the most by your parents. Your family moved to Oxford shortly after you were born because of a research opportunity for your father. You bonded very closely with your mother whom you saw the most. Your father did not spend much time at home though you admired him. Your father tried to get you into the field of biology and natural science but you did not enjoy the field. Instead you took an interest in pure mathematics and physics.

You enrolled in University College at Oxford studying mathematics and physics. After graduating you took a research opportunity to study sunspots but decided that you did not like studying things that you could not see very accurately and instead turned your attention to atomic physics and quantum mechanics. You were published in the Bulletin of Atomic Scientists and later became a member of the Board of Sponsors. You did intense work on atomic physics but later went on to research fusion with the Joint European Torus (JET) at United Kingdom Atomic Energy Association (UKAEA) and European Union (EU) laboratory. You made significant improvements to the JET design and operation, published several papers on the project and caught the eye of the public and the scientific community.

You were inducted as one of the youngest Fellows to the Royal Society. The Prime Minister chose you to represent the United Kingdom in the IAEA Special Assembly because of your research relevance and because of your recent successes. You feel very comfortable with discussing and collaborating with other countries delegates because of your experience with the EU and UKAEA JET project. You become agitated by imprecise and assumed values but you rarely speak out against them. You find it easier to relate and confer with the members of other delegations then with your own.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation in matters pertaining to scientific discussion.

Paul / Pamela Campbell
United Kingdom Head Financial Advisor

Description:

You were raised in London, one of the largest financial centers in the world. You grow up in a large, middle class family. Your father is a college professor and teaches you the value of education and calculations throughout your childhood. From an early age you took had a vested interest in gaining respect and taking on responsibility. The first paycheck you received when you were 16 was invested in fast growing stock. You excelled in school, particularly in the fields of applied mathematics and social science. You take a personal pride in your ability to manage risks, especially in crisis situations. You attend the London School of Economics and Political Science (LSE), Merton College, Oxford, and the Manchester Grammar School. At LSE you become friends with John/Jane Hammond who becomes a respected colleague and family friend.
You begin working in HM Treasury but branch off in to the Commonwealth and Foreign Offices and join the Council of International Advisers of the China Banking Regulatory Commission. After taking on the role of Special Secretary to the British Ambassador to France, you leave government office for a brief stint in the private sector and a senior office at the Back of England. You return to government office at the request of the Chancellor of the Exchequer in order to smooth the transition of the financial structure of the United Kingdom from the British Pound to the Euro.
For your performance during the currency conversion process you are knighted by the Queen of England and gain much respect in the eyes of your peers. The Prime Minister asks you to call upon your brief foreign relations experience as the financial representative of the United Kingdom at the IAEA Special Assembly.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to military discussion.

Mitchell / Michelle Townes
United States Head Diplomat

Description:

You grew up in the suburbs of New York City. In order to grow up in such a bustling place you needed to be loud and be able to get yourself heard by your peers. You excelled at learning in all of its forms. You graduated at the top of your class in high school and since you did so well you were accepted to Harvard University.

At Harvard you study political science and again you learned very quickly and again graduated in the top tier of your class. You were a whiz with relations and could get nearly anyone to see your point of view and even get some opponents to subscribe to your ideas.

This was noted when you were working in the Whitehouse as an intern. The people there saw how great a speaker you were and how patriotic you were. They knew you would never betray your country and would stand up for its ideals. This is why you became their head diplomat to the IAEA in 1997. Now you are a veteran of the IAEA conferences and are looking forward to the special conference in which you can represent your country.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to gain the nuclear disarmament of all other nations. This does not include the US.

Michael/ Michelle Roberts
United States Chief Military Advisor

Description:

You were born in Pawtucket, Rhode Island. You were raised in an upper class family. Your father was a wealthy engineer and your mother ran a successful advertising company. Your parents taught you how to confront your problems and how to face your fears. You attended Bishop Keough Regional High School where you got excellent marks. Your family used its limited influence to United States Military Academy at West Point, New York.

After graduating you were taken under the wing of a General Dwight in charge of a military base in the Middle East. General Dwight taught you a great many things about the Middle East as well as military history and theory. He became your mentor and you maintain contact with him to this day.

You left the Middle East to attend the Command and General Staff College at Fort Leavenworth, Kansas. You education there cemented what General Dwight had taught you and you felt yourself ready for any situation. You went on to serve as a battalion commander at Fort Benning, Georgia.

You served under many other generals, taking the training of their troops as personal task. However, you sustained a bad injury to your left knee during a training accident. You considered retirement before taking a staff position in Washington, D.C.

You served on the General Staff in Washington for many presidential terms and you worked in close proximity with the Department of Defense. The current president sees your experience and hands-on approach to be an invaluable asset and has asked you to represent the military interests of the United States at the Special Assembly of the IAEA.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to military discussion.

Tobias/ Anne Owens
United States Scientific Advisor

Description:

From early childhood you always thought you knew more than anyone else. This confidence, or perhaps arrogance, has served you well in life. You were top of your class in high school and excelled at any class that had to do with science or technology. This knowledge and love for science boosted your grades to extraordinary levels and attained you admittance into Princeton University where you study nuclear physics and quantum theory.

Again you were one of the brightest minds at the school and turned quite a few heads with how quick you caught on and the sheer amount of material you learned about nuclear physics.

After you graduated with a PhD in nuclear physics and quantum mechanics you received a job at the coveted Los Alamos National Laboratory. Although the lab has been around since American nuclear experimentation began it is still a thriving hub of knowledge and research. You become a senior scientist at the laboratory and this position comes with quite a lot of respect. You garner so much respect that when the United States was looking to send a science advisor to a nuclear conference they chose you.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on matters pertaining to scientific discussion.

Joshua/ Samantha Lane
United States Chief Financial Advisor

Description:

You were born in the small town of Waterville, Maine. Your father was a union paper worker and a police officer and your mother was an administrative clerk. Your father taught you the meaning of hard work and your mother taught you how to be polite and personable. You attended Waterville High School, got high marks and attended the Massachusetts Institute of Technology where you enrolled in the Sloan School of Management.

After college you desired to stay close to home but there was little job openings so you moved to Washington, D.C. where began working as a civil servant performing the duties of a diplomatic clerk. Your devotion to your job and your education allowed you to rise quickly through a serious of promotions. After you felt like you had no more opportunities to rise you left government service to work in the private industry. After you had managed to make a lot of powerful friends and a lot of money you returned to government service as Special Assistant to the current President of the United States.

You proceeded to advise the President on a great many issues including foreign policy and the economy. You took a personal interest in the huge federal deficit and advised the President intensively on ways to bring the deficit down. Your ideas proved effective and the President found himself in great favor. The President has asked you to attend the Special Assembly of the IAEA to represent the United States financial interests.

Views:

You believe that your country can never disarm all of their nuclear weapons. You believe that peace between superpowers can be contingent on mutually assured destruction and that if disarmament occurs world war may again break out.

You also believe that your country cannot have other countries developing nuclear weapons. When more nations create nuclear weapons then the stability of the world may break down. If a radical nation gets a nuclear weapon it may actually use it or an Islam bomb may be given to radical extremist groups.

Goals:

Your goal in this conference is to advise your delegation on all topics of which you have knowledge.

United Kingdom (England)

England has a population of about 60 million people, living in a land of rugged hills and mountains. It is impossible to get very far from the sea in England, and the sea has always been part of their history.

Ethnically, the people of United Kingdom have descended from various Celtic and Teutonic tribes, all of whom have maintained their own traditions, and until comparatively recently, their own nations. Thus, no one claims the United Kingdom as their nationality or ethnicity but they are rather English, Scottish, Irish, Welsh or one of the few others. The official language of the nation is English, though a portion of the population also speaks Welsh and Gaelic. Anglican and Roman Catholicism are the most common religions, although there are also large numbers of Muslims, and other variants of Christianity.

The government of England is one of the first modern republics, one that came about by use rather than constitution, and in fact they are still a constitutional monarchy. Her Majesty Queen Elizabeth is the symbolic head of the government, while The Right Honorable Gordon Brown is Prime Minister.

England has a GDP of $1.93 trillion, with a per capita GDP of $31,800. The economy is mostly service based, with industry of major importance. Major trade partners include the United States and the rest of the European Union.

The average British citizen has a life expectancy of 76 years if male, and 81 years if female. The birth rate is 1.067% while the death rate is 1.009%. 99% of the population is literate with education being compulsory.

The English are both a proud and humble people. Although they are proud of their cultural heritage, they are friendly to other nations, and they have no real hatreds of any other country. Despite a history of repeated warfare with Scotland, Ireland, France, Germany and tensions with former colonies, they treat people of other nations in a dignified and polite fashion. This attitude has been a hallmark of English society for many years, and is a basis for several American stereotypes.

The United Kingdoms, consisting of England, Scotland, Wales and Northern Ireland, roughly constitutes an area bout the size of California and Nevada combined. Each of the above areas is both a separate entity and a part of the whole, in the same manner that the United States is composed of individual states. The current government of England is a Constitutional Monarchy, which effectively means that all eligible voters (at least 18 years of age and not of nobility) vote for members of parliament. The nobility is represented by the House of Lords, which is now primarily ceremonial. Parliament will vote for a Prime Minister to act as head of the executive government. The Queen will then appoint this Prime Minister to the position. The traditional, indirect system of government is important to the English people.

Each of the separate kingdoms of the United Kingdoms has a state religion: Anglican for England, Catholic for Scotland, Anglican, Methodist or Baptist for Wales and in Ireland there is religious freedom. While some might see this as somewhat

archaic, it has been defended vehemently by the peoples of each kingdom.

England has long been a driving force of the world stage. In earlier periods, it was a force for war, conquest, and violence. During the 1500's and 1600's, England was a force in terms of military supremacy, at land and at sea, to be feared throughout Europe. As time marched on and the Renaissance began, the moved to a more peaceful form of conquest: colonial imperialism. They established colonies and trading posts throughout the known world, staking claims in some of the best territories, including India, South Africa, and much of the North American continent.

This led to conflict, and there were several wars between England and other colonial countries during this period. The more notable ones include the French-English war (the French-Indian War in North America) and the subsequent American Revolution. While England had the military resources to re-conquer the American Colonies, it felt the endeavor would require troops that were needed elsewhere. Also, they felt that the United States would fall apart on its own. In 1812, England again went to war with the United States and would probably have re-conquered it if the Napoleonic War hadn't provided a distraction.

During this period, the British Commonwealth expanded through trade and industry, and thus grew economically. In the early stage this still involved violence, as demonstrated by the Opium War to open China to trade. Hong Kong was also seized by demanding a 99-year lease which only recently expired. The English were the first to experience an Industrial Revolution under a capitalist philosophy, and it was their textile innovations that triggered America's won Industrial Revolution. The Commonwealth was a shift from Empire to cooperating independent nations that forestalled repeated revolution by former colonies. India's peaceful revolution led by Gandhi was the critical moment in this evolution into partner nations.

In World War I and II, England suffered blows to public spirit, military might, and financial solvency. The blockade around England put in place by the German submarine navy forced England to go to the United States to help produce weapons of war. England shared many if not all of its technological military secrets, leading to the post-war military strength of the United States. After World War II, many of its colonies expressed a desire to break away and to convert their English currency for dollars. England was in no condition to go to war with all of its colonies, so it allowed its empire to fade away. It also bore the economic burden of allowing its satellites to convert their English pounds for American dollars.

Since then, England has continued to expand in the economic sense. They were the initiators of both NATO and the growing Euro-community movement, which is slowly but surely binding all of Western Europe into a single economic superpower. England's active intervention in the Middle East has involved securing the Suez Canal, the occupation of Egypt, Palestine, war against Turkey in alliance with the Arabs, and the creation of Kuwait to limit the power of Iraq in an effort to control oil prices.

The United States has to some extent adopted England's role as a colonial power. The United States has tried to frustrate the nationalistic liberation movements on several occasions, most notable Vietnam. The United States has experienced complications from interfering with foreign governments, such as the consequences of propping up the Shah of Iran. Learning from history, the English have learned that one should never try to hold the reigns of power in a country that you are not willing to go to

war with. They have chosen to lead a movement to foster nuclear disarmament. The English have done what they could in light of recent events to bring about a peaceful end to the trouble with nuclear weapons and international tension, especially in areas involving former colonies such as Israel, India, and Pakistan. (Dewhirst et al, 2001)

The Islamic Republic of Iran

The Islamic Republic of Iran has a population of 70.5 million people. Much of Iran is desert, and this leads to crowding in urban areas, concentrated along the rivers and the Caspian coastline. 51% of Iran is of Persian decent, with another 24% being Azeri. The remainder of the population is a large blend of other ethnic groups, including the Kurds. Parsi, the Persian language, is the official language, but Turkish is another widely spread tongue. 89% of the country is followers of Shiite Islam, while another 10% follow Sunni Islam.

The government of Iran is an Islamic Republic, dominated by the Imamas and the Ayatolla. During the Cold War it was an absolute monarchy, but corruption and a rejection of Western ideals brought about the Islamic Revolution in 1978. The government backed by the United States was overthrown. The United States then backed Iraq in a seven year long war with Iran. This war was very damaging to Iran. The president of Iran is Mahmoud Ahmadinejad, but ultimate power rests in the hands of Ayatollah Ali Hoseini-Khamenei as Supreme Leader.

Iran has a GDP of 610 billion dollars, which means it has a per capita income of $8,900 dollars. Major trading partners include Japan and Italy. Life expectancy for men is 70 years, and life expectancy for women is 72 years. The birth rate is 1.7% and the mortality rate is 0.565%. The literacy rate is 77%.

Cradled in the birthplace of human history, Iran possesses one of the oldest cultures of mankind. However, this history will not begin until 1978, with the Islamic revolution that overthrew the Shah.

Unhappy with the effects of an industrialization process pushed too far too fast by the ruling Shah, and his American aides, an emerging middle class, an oil rich economy, and a Royal family trying to control everything and scornful of religion, revolution came to Iran. Many radicals began to oppose the government, in support of the traditional values espoused by Shiite Islam. Directed by Ayatollah Khomeini from afar, masses of comparatively peaceful protesters forced the Shah to flee Iran in 1979. On April 1, 1979, after a national referendum in which only one choice was offered, the Ayatollah created a constitutional republic in Iran.

This constitution was imbued with Khomeini's ideals for an Islamic government, and encouraged a massive wave of fundamentalism, with patrols to enforce anti-Western codes. When the old Shah was admitted to America for medical treatment in July of 1980, activists seized an American embassy. They held it until January of 1981, releasing them in part due to the changeover of authority in America.

For Iran, the next 8 years were filled with war, a trial by fire for the new government. A fair amount of territory was lost to Iraq, and then regained, and the war soon settled into a war of attrition. Oil production, and thus income, in the region plummeted, as refineries were assaulted, and the Persian Gulf became unsafe for travel. Iran and Iraq signed a UN sponsored cease-fire in 1989.

The cease-fire brought to light a deal with the Ayatollah's 'Great Satan,' America, in which weapons were exchanged for assistance in the release of hostages, held in Lebanon. The US had equipped the Persian Army during the period of the Shah's rule,

and spare parts had reduced the Iranians to human wave assault tactics, while Iraq halted with dug in tanks and the use of poisonous mustard gas. With no air force left to ward of Iraq's bombers and terrible loss of life in the field, Iran sought peace by treaty after having been invaded, a humiliation. What Iraq wanted was control of its one oil right peninsula.

With the Ayatollah's death by natural causes in 1989, a smooth and peaceful transfer of power occurred, the old president becoming the new Ayatollah, and a new president being elected, nearly unopposed.

The new more moderate president began to modernize Islam, allowing capitalism, and creating diplomatic ties with certain Western countries, while still holding strong ties to the idea of an Islamic state.

This situation continues to the present day, although a few attempts by the most recent president to soften some of the hardest regulations of the nation, particularly in the area of women's right, have been met with harsh resistance. Iran is still controlled by the radical fundamentalist Shiite priests, and they will resist any Westernization of their people.

Iranians are mainly Shia Muslims, who support the existence of a priest class to read and interpret the Koran. (Dewhirst et al, 2001)

Islamic Republic of Pakistan

The Islamic Republic of Pakistan has a population of 157 million people. Much of Pakistan is hot, dry desert, with temperate areas in the northwest and an arctic north in the mountains. Ethnically, Pakistan is a blend of Punjabi, Sindhi, Pashtun, and others. Urdu is the official language of Pakistan, while Punjab is the widest spread tongue, spoken by 48% of the population. There are a wide variety of other languages spoken by the rest of the people, including Sindhi, Siraiki, and English as well. 97% of the country is followers of Islam, about 77% Sunni, and the rest are Shia.

The government of Pakistan is a semi-presidential system, with a government consisting of a prime minister and a president who are both active participants in the day-to-day administration of the state. Pakistan has had a long and rocky history of martial law, which it is currently under. The president of Pakistan is Pervez Musharraf and the Prime Minister is Shaukat Aziz. The Quaid-e-Azam or the founding father of the nation is known as Muhammad Ali Jinnah.

Pakistan has a GDP of $475.6 billion dollars, which means it has a per capita income of 3,004 dollars. Major trade partners include the United States, China (Hong Kong), and Japan. Life expectancy for men is 63 years, and life expectancy for women is 64 years. The birth rate is 2.75% and the mortality rate is 0.823%. The literacy rate is 49%, who are mostly men.

The history of modern Pakistan begins in the 1930s, during British colonial domination of the area. The previous Muslim rulers found themselves unsuited to colonial control, and as the British plans for eventual independence under a parliamentary government became clear, the Islamic minority became worried about being mistreated at the hands of this majority government.

Under the leadership of Mohammed Ali Jinnah, the Muslim community began to agitate for an independent state in the north of India, to be known as Pakistan. The British disliked this, not wishing to destroy the unity they had created during their own rule, but Jinnah would not accept any other proposals, and India could not stand on its own with the active resistance of the Muslim people. Mahatma Gandhi was in jail at the time, so Jinnah was not effectively challenged.

And so, in 1947, Pakistan became a separate state with 2 parts, West and East, in what is called the Bengali Region. It was divided geographically, in much the same manner as Germany was before World War I. The separating area, Kashmir had not submitted its popular vote on which nation to join and immediately became disputed territory. This territory is nominally Indian. The division and India's control over several of Pakistan's waterways threatened to cripple the new nation.

All of this was not aided by the 1948 death of Jinnah, and temporary leadership passed to Liaquat Ali Khan, Jinah's lieutenant. He began the drafting of a constitution based on Islamic values, despite the objections of the Hindu members of the parliament.

With Khan's assassination in 1951, Pakistan's politics, and thus its leadership, dissolved into a murky mess of chaos, as various regional, economic, and religious factions struggled for power, and the chance to define the constitution. This chaos

ended with the ascent of Iksander Mirza.

Mirza and his fellow, Chaudri Mohammed Ali, finally succeeded in creating a constitution, and getting it accepted. Chaudri was appointed the new Prime Minister, while Mirza became president with very restricted powers.

Politics interfered again, and Chaudri was soon replace din office, and legislation ended as the government began to fall apart. The East Pakistan legislature demanding almost total autonomy.

With Pakistan disintegrating, President Mirza declared martial law, with General Mohammed Ayub Khan as the chief administrator. The martial government shortly exiled Mirza, who ended up in London.

General Ayub began to construct a political system with the intent of expressing Islamic ideals, while a committee began to create a constitution. Under Ayub's leadership, the economy of Pakistan slowly improved, but the first ting to recover was industry.

In 1969, Ayub passed the leadership of Pakistan to General Yahya. Yahya set about holding a general election to draft a constitution but the results of the election led to a civil war, as East Pakistan again demanded virtual independence. An army from West Pakistan began a brutal occupation with considerable looting, rape, and murder involved. With vast numbers of refugees streaming across the borders, India intervened militarily in this war, and East Pakistan became the fully independent but desperately poor nation of Bangladesh thanks to interference from India.

Yahya resigned in 1971, passing power to Bhutto of the Pakistan people's party. Bhutto's policy of socialist Islam brought about no real change, but he was popular. A constitution was adopted in 1973, with elections to be held in 1977. This program also reverted to martial law within months, not to be lifted gain until 1985.

Pakistan found itself caught in the war between Afghanistan and the USSR in 1979, as guerillas used refugee camps within Pakistan as a base of operations. This was stepped up, as the United States began to funnel assistance to the Afghanistan guerillas, and became an ally of Pakistan, given India's neutral stance combined with taking aid from the Soviet Union.

After India successfully test detonated a nuclear weapon, Pakistan followed with their own tests a few days later. Pakistan and India have fought a number of wars since both states came into being in their present form, and both nations have vowed never to lose a war to their neighbor again. They are currently locked into a sort of cold war in miniature. Pakistan has the capability to launch missiles at India, and India has the capacity to reciprocate, but they are both presently unable to threaten nations further away. China is another nuclear neighbor nearby, and India, Pakistan, and China all have disputed territory in the regions where their countries meet.

As martial law was lifted, the power struggles began anew, over a background of heavy narcotic use, and civil unrest, continuing until the mid 90s, when the issue became graft in government and economic growth in the private sphere. Pakistan remains a major player in world drug trade, and illicit sales of drugs are a major factor in their economy. The United States has tried to change this, but to no avail.

In addition to these social factors, Pakistan is religiously fundamentalist. Recently, someone said that Mohammed was probably a member of a pagan tribe before he became the Prophet. While possibly historically accurate, this man is being

tried and will most likely be executed for his opinion. (Dewhirst et al, 2001)

The Russian Federation

The Russian Federation has a population of 142 million and a population density of 22 people per square mile. Russia is the largest country in the world. 82% of the citizens of Russia are Russian, 4% are Tartar, and the rest are of various ethnic backgrounds thanks to multiple relocations and numerous migrations. The two most widely practices religions are Russian Orthodox Christianity and Islam. The Government is a Semi-presidential Federal Republic whose President is Vladamir Putin and Prime Minister Mikhail Fradkov.

Russia spends 5.8% of its GDP on defense. With a GDP of 1.576 trillion dollars, its citizens have a per capita GDP of 4,200 dollars. This is a fraction of the GDP of the United States, indicating the Russia is one of the less economically well off nations. Major trade partners include Germany, the United States, and China. The life expectancy of a Russian man is 59 years, and the life expectancy of a woman is 72 years. The birth rate is 0.995% and the death rate is 1.465%. This makes Russia one of the few European countries where the death rate outpaces the birth rate. Education is mandatory between the ages of 7 and 17 and Russia has a 97% literacy rate.

In the 19th century, Russia expanded eastwards until it hit the Pacific. In 1905, Russia's pacific fleet was defeated soundly by Japan. This was rather embarrassing defeat for Russia, but the government survived a negotiated peace. WWI ended economic progress and Russia sent 2 large armies against 1 German army in the opne3ing days of WWI. Reinforcing that army cost the Germans and stopped any chance success on the western front, but the Germans held the Russians for 2 years. Then the Germans sent Lenin 'home,' releasing him from prison to do so. Soon, the troops were going home and the provisional government in Russia was threatened. Russia took very heavy casualties and its mean were poorly equipped. This led to revolt. In 1917, the revolution began with strikes by workers. A democratic provisional government was put in place after the Czar was deposed, but Russia had yet to withdraw form the war. Communists led by Lenin overthrew this provisional government. Lenin arranged for peace with Germany in exchange for a portion of the western territories. Following Lenin's death, Stalin took power in 1924. Trotsky was supposed to be Lenin's successor, but Staling had the backing of the army. Many years later Trotsky was murdered in Mexico. Stalin's purges of political rivals began shortly after he came to power. Stalin's army support was ironic, as some of his earliest purges were with the army. These early purges of experiences officers cost Russia when war with Germany finally came about. In 1939, Russia and Germany signed a non-aggression treaty. Stalin didn't trust Hitler any further than he could throw a boulder, but Stalin was caught unprepared and went into hiding for 2 years, initially offering little direction. In 1941, Germany attacked Russia. Russia moved its factories out before the German troops moved in. As a result of errors that were Hitler's personal decisions, the Russian winter, and the mud that followed, the German army was unable to subdue Russia. The USSR sent 10 million men against the Germans, tying up many German troops and adding another front to the war. The Kazaks and Turks that Russia sent to face Japan in China turned the tide on that front. Following WWII, the United States

and the Soviet Union eyed each other cautiously. The United States feared Russia intended to invade the rest of Europe, and the USSR soon had nuclear weapons of its own. The next 50 years were of course the Cold War.

In 1953, Khrushchev became Party Chairman and also assumed control of the USSR. Khrushchev was anything but a fan of Stalin, and began a process of de-Stalinization. This involved correcting mistruths spread during Stalin's administration, destruction of posters and statues of Stalin, renaming things named after Stalin's administration, destruction of posters and statues of Stalin, renaming things named after Stalin something else, and so on. On becoming President, Kennedy found that the Eisenhower administration was planning to invade Cuba using Cuban refugees as shock troops. He pulled back from the overt intervention and moved the invasion site, support and other arrangements trying to mask US involvement. As a result, the invasion failed an the survivors of the Bay of Pigs were captured a rather than being able to escape into the interior and start guerilla activities. Castro turned to the USSR to protect Cuba from a second more serious attempt at the invasion. The USSR responded by providing nuclear missiles. The Cuban missile crisis came about when the United States discovered the USSR was trying to place missile silos in Cuba, which would allow the USSR to bomb Washington in a matter of minutes. The United States had missiles in Turkey which were already as threatening to Moscow as the Cuban missiles would be to the United States, but the United States didn't feel the situation was balanced. Khrushchev was hoping that both sides could withdraw their missiles after he matched US by placing missiles in Cuba, and was guaranteed that Cuba would be left alone. Khrushchev was under pressure from hard-liners in the Communist party to be thought with the West. In return of Russia not placing missiles in Cuba, the United States agreed to remove the Turkish missiles. The United States removed the missiles from Turkey and replaced them with better missiles, after allowing the Russians to save face and avoid nuclear war.

In 1964, Brezhnev replaced Khrushchev. During the 60's and 70's, the USSR and China extended massive amounts of aid to North Vietnam. The United States "got back at" the USSR by arming and training Afghanistan rebels when they attempted to drive out the Soviet troops propping up a puppet regime of the USSR in 1979. In 1988, Soviet troops were withdrawn from Afghanistan, ending brutal and bloody conflict. The rebels trained by the CIA didn't necessarily like America. Terrorist groups in Afghanistan which are opposed to the United States are able to draw on the same resources that the United States provided them with.

After Brezhnev, the leaders chosen for the USSR kept dying of the old age after short periods of time in office. Older leaders were chosen because they held more conservative views. Eventually, they appointed Gorbachev, who was much more liberal. He held summit meetings with President Reagan, helping to relax tensions. In 1987, a number of peace treaties were signed with the United States. At home, he attempted to expand freedoms and cause the government to become more democratic. He also wished to bring about economic reform. This was Glasnost (openness) and Perestroika (restructuring). Many of the more conservative Communists opposed these changes, leading to an attempted Coup in 1991. Then Major of Moscow (later president) Yeltsin opposed the coup, and saved the captured Gorbachev, who was restored to power, but still he and Yeltsin clashed. Gorbachev remained a Communist

in a nation where the party was discredited, and tried to go slow on economic reform. Yeltsin wanted to see a capitalist democracy established and rejoin the western world. Gorbachev was in control of the Soviet Union, a multi-state nation, and the leaders of several states wanted to get rid of him. Yeltsin was now President of Russia, so he proposed the dissolution of the Soviet Union in favor of a Confederation of Independent Sates. This left him in charge of the largest chunk of the former Soviet Union. While portions of the Confederation still work together and negotiate as a diplomatic block, Russia does more or less what it wants. In 1992, subsidies on goods were eliminated, causing prices to rise far above the ability of average citizens to pay. Under the old system goods such as bread, cigarettes, and cabbage were priced artificially low. After restrictions were lifted, people charge as much as they could get for their goods. This was massively inflationary. In 1993, many of the state run industries were privatized. In 1995, troops were sent in Chechnya to prevent it from breaking away from the rest of Russia. Russia pulled its troops out two years later, only to send them back after several terrorist episodes and a threat to keep doing so until Chechnya was recognized. In 1998, Russia's economic problems grew worse, leading to a number of cabinet positions being re-arranged and officials resigning. This has been likened to re-arranging the deck chairs on the Titanic to try to prevent it from sinking. This eventually led to the resignation of president Yeltsin, in favor of ex-KGB leader Putin. (Dewhirst et al, 2001)

South Africa

South Africa has a population of about 47 million people living on the edge of the African Savannah, most of which is used as pastureland.

South Africa is divided ethnically. About 75% of the population is of assorted black descent including a major block of Zulu people, 14% are Europeans, while various mixtures of the two comprise about 9% of the population. There are 11 official languages, including Afrikaans, English, and various native dialects. Christianity is the religion of about two-thirds of the people, while another quarter follows native religions.

The government of South Africa is a Republic, presided over by President Thabo Mbeki.

South Africa has a GDP of 570 billion dollars, with a GDP per capita of $12,161. The economy is mostly service based, with industry and mining of Gold, Uranium, and diamonds of major importance. Major trade partners include the United States, Germany, and Japan.

The average South African citizen has a life expectancy of 43 years if male, and 42 years if female. The birth rate is 1.82%, while the death rate is 2.2%. 85% of the population is literate. AIDS is a major factor in the low life expectancies in South Africa. The disease has reached epidemic proportions there, and shows no sign of decreasing its spread. There are also a large number of orphaned children who have AIDS as a consequence of the infection and subsequent deaths of their parents.

South Africa was originally a colony founded by the Dutch. The entire southern half of the continent was originally claimed as South Africa, back in the mid 1700s, but a tribe of Africans called the Zulu challenged that claim. The Zulu warriors were the best fighters on the continent. They were partially nomadic and partially agricultural. They began a thousand years ago on the North side of the continent and would move a village at a time south, staying in place for a few years, and continuing on to the next village south. Entire tribes took on the Zulu and lost. Eventually, it became a regular pattern. The Zulu would march on a tribe, that tribe would retreat south. After a thousand years of this, both the retreating tribes and the Zulu hit the southern shore of Africa, but by this time that area had been claimed by the Dutch. Since South Africa is so far south, agriculture there mimics that of the North Hemisphere. Crops grown in Central Africa won't grow far to the south. The Dutch brought European crops capable of surviving in South Africa, as well as herd animals suited to the environment.

A battle ensued. The Dutch has muskets and masted boats. The Zulu had spears and reed canoes. The Zulu nearly won, but the Dutch managed to hold the Zulu back from their encampments. By the time they were finished, the Dutch controlled only the very tip of Africa, and their colony was surrounded by several tribes of various origins who had been retreating from the Zulu.

From these origins came the nation of South Africa. After freeing themselves from Dutch rule, the same area was colonized by the British. They set up a government to control the native population and maintain a colony for trade purposes. Eventually, in 1910, South Africa declared independence from the United Kingdoms. This allowed the Dutch population to retake control, but disenfranchised the black population.

In order to do this, South Africa maintained an oppressive Apartheid government. It used the native population of Africans effectively as slave labor, giving them a few rights, little land, and harshly putting down any resistance. The form of government was termed apartheid, and became a major point of conflict, both nationally and internationally.

The battle against apartheid in South Africa has been considered one of the major milestones of the last century. The key to the entire struggle was Nelson Mandela, who was a socialist rebel imprisoned by the government between the years 1963 and 1990. During these years, there were protests and violent uprisings throughout South Africa. It was during this period of time that the South African government went through a very serious and thorough transformation. Before giving the black population of South Africa the right to vote, the government of South Africa systematically changed itself, though slow by steady bills and legislation, from a apartheid government into a constitutional republic.

Finally, with the release of Mandela and other party leaders in 1990, the black population of South Africa was given voting rights. That led to Mandela's election to presidency of the African National Congress in 1991, and the presidency of South Africa in 1994. Since these events, South Africa has been relatively peaceful, with only a few small retributive actions against the oppressive white population.

The economy of South Africa is one of the strongest on the African continent. With a GDP of nearly three hundred billion, South Africa has more buying power than any other country in Africa. While the unemployment rate in South Africa is high, the export industry, South Africa's biggest enterprise, has not slacked since it first became a colony in the 17th century. The standard exports of South Africa are gold, diamonds, heavy machinery, and most importantly Uranium. In fact, South Africa is the third largest source of Uranium in the world, and the largest source outside of either Russia or the US. (Dewhirst et al, 2001)

Republic of France

France has a population of about 64 million people. Geographically, the areas of France that are not mountainous are mostly plains or rolling hills, suitable for either agriculture of inhabitation, and has several desirable regions of great beauty for living and vacationing.

This was the land of Gaul in the time of the Roman Empire, captured at the time of the fall of the empire by the invading Franks, a Germanic people. Mostly Celtic, Roman and Germanic in origin, the French people have been a relatively tolerant community in the same location long enough that the rest of the world considers French an ethnicity. There are smattering of minorities of course, Teutonic, Slavic and others, but most of France is, indeed, French. The official language of the nation is French, and Romanic Language, and the few other dialects spoken are in decline. The vast majority of Frenchmen profess Roman Catholicism as their religion, as the French Protestants, called Huguenots, was unable to capture Paris, and their leader converted to Catholicism in order to be allowed to become King of the Nation, with the famous phrase “Paris is worth a mass.”

The government of France is a Unitary Republic, with President Jacques Chirac and Prime Minister Dominique de Villepin presiding over the Republic. The monarchy was overthrown in a bloody revolution shortly after the American Revolution.

France has a GDP of 1.83 trillion dollars, and the GDP per capita is $29,316. The economy is mostly service based, with industry of major importance. Major trade partners include the United States, and the rest of the European Union.

The average French citizen has a life expectancy of 74 years if male, and 72 years if female. The birth rate is 1.20% and the death rate is 0.904%. 99% of the population is literate, with compulsory education.

The French are, above all else, a proud people. They take great care and effort both to preserve and display their cultural heritage, so that everyone can know the greatness of France. It is this pride in their own culture that makes France a leading country in world affairs, more than anything else. However, France is also a country of immigrants. Its borders are relatively open to immigration, and nearly 6% of France’s total population consists of immigrants. Despite this, everyone in France feels that they share in France’s rich cultural heritage.

While France is not a large country, possessing an area approximately as large as Texas, it is fairly heavily populated. The population of France mainly reside sin its cities and urban centers. In fact, approximately 89% of its people live in one of France’s major cities and 49% of the total population lives in Paris itself. Other major cities include Lyon, Marseilles, Lille, Bordeaux, Toulouse, Nantes, and Strasbourg, in order of population size.

Many countries border France, each having a long and often troubled history with France. Germany, Switzerland, Italy, and Spain are it’s largest neighbors, as well as its smaller neighbors Belgium, Luxembourg, Monaco and Andorra. Across the English Channel is the United Kingdom. Historically, France has been both allies and enemies with nearly all of its neighbors. However, Switzerland has nearly always remained

neutral and unassailable in the Alps. In particular, the French people still feel strongly about both the Hundred Years War, a conflict that lasted throughout the 14th and into the 15th centuries with Britain. France also found itself at war with Germany no less than five times since participating in the 30 years war from 1618 to 1648. These countries are considered to be bitter rivals by the French.

The history of France was also filled with great leaders and victories. In the 8th century Charlemagne, named Emperor of the Western world, nearly succeeded in recreating the Roman Empire with France as his seat of power. The Renaissance, while not started in France, greatly impacts the views and philosophies of the French, and it is a time when many of the nation's greatest cultural treasures were created. Lastly, Napoleon, named emperor of France in 1804, was known to be the greatest military mind of his time. He was eventually defeated by the English and exiled. After he escaped and returned to France, the English defeated him again and sent him to a less comfortable exile. England reinstated a monarchy to France afterwards, in an effort to return to a state of normalcy.

The rather bloody history of France led eventually to its present state, known as the fifth republic. Like America, the government of France is based on a Constitution that was adopted in 1958, by a referendum of the people. It has been revise several times, most notably in 1962 when another referendum called for direct universal suffrage of the people. The president of the French republic is elected to seven-year terms. He appoints the Prime Minister and he presides over the cabinet. Like America, the French president is the head of the Executive branch, making him the head of armed forces, as well as giving him the power to pardon and also allowing him, if necessary, to dissolve parliament.

The Prime Minister determines the nation's policy and runs the administration, submits bills to Parliament and is responsible for the execution of these bills once they are ratified. The cabinet determines general policy, and also has the ability to submit bills to Parliament. The French Parliament consists of two houses: The National Assembly (577 members), who are elected by direct suffrage to 5 year terms, and the Senate (321 members), who are elected by indirect suffrage to 9 year terms, 1/3 of whom are reelected every 3 years. France has a multi-party system, which has at least 5 different strongly supported parties. Historically, a different party has been in power at every election of the National Assembly, while the Senate has remained, for the most part, evenly split.

The French economy is one of France's greatest strengths. France has the sixth largest economy in the world, totaling more that 8 trillion francs in 1997. While the economic growth in the US has been more vigorous, France is an economic powerhouse in the European community. A great deal of this wealth comes from foreign investors and supporters of the booming French economy. Direct foreign investment counts for a third of France's industrial production in almost every sector of its economy. France is also one of biggest exporters of products and services in the world. Among other items, France is also one of the biggest exporters of products and services in the world. Among other items, France is the number on exporter of luxury goods, mainly due to its reputation for excellent, if costly, products ranging from wine and cheese to perfume and high culture designer clothing, especially for women. (Dewhirst et al, 2001)

The United States of America

The United States of America is one of the most affluent and powerful countries in the world. It has a population of over 300 million people, with a population density of 80 people per square mile.

The government of the United States is a Federal Republic, with a separation of powers into three branches of government, Legislative, Judicial, and Executive. The head of the government is President George W. Bush and Vice President Dick Cheney. The United States has one of the longest standing democratic governments in the world. The United States has not had a war on its own soil since its civil war in the 1860's.

With a Gross Domestic Product (GDP) of 13.05 trillion dollars and a per-capita income of $43,555, the United States is one of the most prosperous nations in the world. Major trade partners include Canada, Western Europe, and Japan. The US spends 4% of its GDP on defense, but since its GDP is so large, this is quite a bit of money.

Education in the United Sates is free and compulsory from the ages of 7 to 16, and the literacy rate is anywhere from 99%. The life expectancy of men is 75 years, and the life expectancy of women is 80 years. The birth rate is 1.414% and the mortality rate 0.826%.

The citizens of the United States value personal freedom, particularly freedom of expression. The entertainment and communications industries of the United States have had a profound cultural impact on other countries. Other countries often view the United States as imperialist bullies, and have been known to view American citizens as ungrateful for they have, ignorant of the world outside their borders, as well as loud and rude. This combination of generally isolationist attitude of on the part of the citizens and imperialism on the part of the government might go a long way towards explaining why people don't like the United States.

The United States began as 13 colonies of the British Empire, which rebelled because legislation affecting them was being written without any representation on the part of those affected. Additionally, the citizens of the United States didn't feel like paying taxes. The British Empire had put high taxes in place to try to recoup some of the large costs of having colonies in the first place, such as its seven year war with France. The Revolutionary War began as a guerilla action on the part of the United States, but as other nations lent support in an effort to irritate Britain, the war became more conventional. The war ended when Britain withdrew because it considered the war too expensive to pursue. In addition, the war was not popular at home.

In the following decades, the United States cemented its form of federal government by writing a Constitution and Bill of Rights designed to protect the rights of the individual citizen and to ensure a balance between the rights of individual states and the powers of the nation as a whole. In 1812, confident due to the success of the Revolutionary War, the United States went to war with Britain over the impressments of United States citizens into the British Navy. Britain would probably have reduced all of the United States to ashes, much as it did to the US capitol, but Napoleon presented

himself as a greater threat, and the United States survived its adolescence.

Over the next hundred years, the United States continued to expand westward, purchasing land from foreign governments in some cases, cheating the native population for it in others, and sometimes driving the same population off by force.

Many southern states generated a large portion of their income from agricultural pursuits, and these same states had a vested interest in cheap labor that slavery provided. When an election didn't got the way that the southern states liked and a president who was a member of a political party which supported abolition was elected, the southern sates rebelled. In the war that follow, the southern states scored many early victories thanks to talented generals, but the war was eventually won by the superior industrial capacity and greater population of the northern states, setting a precedent for future conflicts. As a result of the civil war, the question of state's rights was settled. The states did not have the right to separate themselves from the United States with the consent of the Federal Government.

During the two world wars, the United States was able to advance technologically thanks to the help from allied nations, and was able to advance economically since none of its infrastructure came under attack. The United States could have become a global player after World War I, but popular isolationist opinion lead to dodging that particular responsibility until after World War II.

Following World War II, the United States was locked in a Cold War with the USSR. Both nations obtained nuclear weapons technology and missile technology following World War II and the conflicting political viewpoints of the two superpowers led to a very high state of tensions. The two nations came into conflict through proximity wars in Cuba, Korea, Vietnam, Afghanistan and other nations.

As a result of a policy of arming which were allies against either the USSR or allies of the USSR, Iran found itself armed by the United States while the USSR armed Iraq. When a religious movement opposed to the corrupt western government overthrew the government of Iran, the United States backed Iran in a seven year long war against Iraq. Iraq received oil rights from the war, and looked to the south at oil rich Kuwait. When Great Britain had dissolved its colonies, it's had broken up the region into smaller countries to try to ensure that oil would be available. Iraq and other states viewed this as great wrongdoing, and Saddam Hussein had decided to correct that action. Iraq was eyeing the next major oil producer, Saudi Arabia. Saudi Arabia called upon its powerful sponsor, the United States, for support. In Desert Storm, a coalition of nations reduced Iraq's military capacity to a manageable level and liberated Kuwait.

Since the decay of the former Soviet Union, the United States has found itself involved in a number of peacekeeping actions, many of which have met with limited success. Both the United States and the members of the former Soviet Union possess millions of megatons of nuclear weapons, and the number of confirmed nuclear powers has recently risen again, as Pakistan, India, and North Korea have recently developed their own nuclear bombs. Together with China and a number of nations suspected but not confirmed to possess nuclear weapons, there are a great number of nuclear weapons in the world today.

In 2003, the United States led a coalition to invade Iraq comprised mostly of the United States and Great Britain and arrest Saddam Hussein. The main reason for the war as given by President Bush was that Iraq was developing weapons of mass

destruction. As of 2007, no nuclear weapons have been found, but the US and its coalition members still continue to occupy Iraq in an attempt to stabilize the region.

It is worth mentioning that the United States is not on good terms with the United Nations General Assembly. After a failed attempt to oust the President of the General Assembly, the United States started to withhold its dues to the UN. The United Nations has been contemplating ejecting the United States from the General Assembly as a consequence, but the United States retains a permanent seat on the UN Security Council with veto rights. (Dewhirst et al, 2001)

The Republic of Japan

Japan is an island country situated in the East Pacific, stretching from the Sea of Okhotsk in the north to the East China Sea in the south. Japan is to the east of China, Russia, and Korea, and has a population of more than 127 million people. Japanese society is culturally and linguistically homogenous, with almost all of the population speaking Japanese, the country's official language. Several minority groups such as the Ainu and Ryūkyūans, and social minority groups like the burakumin, can be found riddled throughout the country.

The government of Japan is a constitutional monarchy, in which a constitutional system acknowledges an elected or hereditary monarch as head of state. The current Emperor of Japan is HIM Emperor Akihito, whose role is similar to that of the Royal British family in that it is more of a formality than a position of power and consequence. The emperor only serves as a symbol of the state, and he does not have any effective power in the government. Effective power is retained however by the Prime Minister. However, Japan's current Prime Minister, Shinzo Abe, resigned abruptly on September 12, 2007 due to mounting political pressure. His resignation will take effect upon the election of his successor by an LDP party conference on September 23, 2007. The current Japanese constitution was promulgated on November 3, 1946 during the occupation by the Allied powers from World War II, and went into effect on May 3, 1947. It replaced the old Meiji constitution of 1889. Laws are discussed and passed by parliament, known as the Diet. The Diet is a bicameral legislature, consisting of a House of Representatives and a House of Councillors, who are all elected by the Japanese people. Elections for the House of Representatives are structured similar to that of the United States, being carried out every four years, whereas half of the House of Councillors is elected every three years. Beside the national elections, there are prefectural and municipal elections as well. The minimum voting age is 20 years, and women recently received the right to vote in the new constitution implemented following World War II.

Japan has the second largest economy in the world, with a GDP of $4.22 trillion, which means it has a per capita income of $33,100. This is in part due to a strong worth ethic, close government-industry relations, decreased military spending, and being at the forefront of breakthroughs in new technology. Japan is home to one of the largest industrial centralized operations, including the production of technologically innovative motor vehicles, electronic equipment, and machine tools. Japan's geographical features forces the country to maintain a small agricultural sector to which the government has highly subsidized and protected. Japan must import about 50% of its requirements of grain and fodder crops, with the exception of rice crops, and it relies on imports for most of its supply of meat. Only about 15% of Japan's land is suitable for cultivation, leading the country to implement a system of terrace farming, used to build up farms in small areas. This system generates one of the world's highest levels of crop yields per unit area. Additionally, Japan maintains one of the world's largest fishing fleets and accounts for nearly 15% of the global catch. Japan is ranked second in the world behind China in tonnage of fish caught. Japan relies on foreign countries for almost all oil and food. Japan's main export partners are the United States, China, South Korea, and Taiwan. Japan imports most of their goods from China the United States, Saudia Arabia, and

South Korea.
Japan has one of the highest life expectancy rates in the world, at 81.25 years for males and 84 years for females. This is in part due to high health and sanitary standards. Japan initially had one of the highest growth rates of any country at the beginning of the 19th and 20th centuries, which has more recently declined because of falling birth rates and almost no net immigration. Japan's birth rate is currently at 0.81% and falling, where the death rate is currently at 0.898%. The birth rate began to decline in 2005, and is currently exceeded by the death rate. Japan's population is projected to decline to around 100 million people by the year 2050. 21.2% of Japan's population is elderly citizens, creating a higher ratio of nonworking young and old compared to working ages. This is called a dependency ratio, which although is relatively low by global standards, could create a possible financial problem in the immediate future.

People's Republic of China

China has a population of about 1.3 billion people, making them the single most populous nation in the world. Like many Eastern nations, China has large areas of rugged desert land, where little can be scratched from the land and even fewer people live, leading to crowded cities and riverbeds.

Ethnically, China consists of almost 92% Han Chinese, with a handful of other related cultures. This has lead to a very uniform nation, free of many of the discontinuities that appear in more multicultural nations. The official language of the nation is Mandarin Chinese, though many people also speak Cantonese as well as several other minor languages. An estimated 2% each of Chinese citizens are Taoist, Islamic, or Buddhists, while another 1% is Christian. However, all citizens are officially atheists.

The government of China is once of the last remaining communist regimes, though its economy is increasingly capitalist. Sun Yat-Sen led a successful democratic revolt against the former government of China, and after his death the government was taken over by Chain Kai-Shek. Chaing drove communists in his country almost to the brink of destruction, but at the last moment the United States stepped in to stabilize the country. The communists later recovered and overthrew the democratic government. The former democratic government moved to Taiwan, along with the portion of the army loyal to them. The current president of China is Hun Jintao and the current premier is Wen Jiabao.

China has a GDP of $8.86 trillion, making it the second richest country in the world, behind the United States. However, the GDP per capita is still only $3,840. The economy is mostly service based, with industry of major importance. Major trade partners include United States, Japan, Germany, North and South Korea.

The average Chinese citizen has a life expectancy of 70 years if male, and 74 years if female. The birth rate is 1.325%, while the death rate is .697%. Chinese law discourages a woman from bearing more than one child, in attempt to control the population of the nation. 91% of the population is literate with compulsory education.

China is an ancient nation, steeped in history, and while the current communist government does not embrace the old culture, it does acknowledge that past. The old feudal system was swept away by the Revolution after WWII and the current communist government was put into place in 1949. These revolutionists, calling themselves the People's Liberation Army (PLA) drive the armies of General Chiang Kai-Shek off of mainland China to Taiwan, after a long, bitter period of civil warfare. In 1949, Jiang declared Taipei, Taiwan, as the temporary capital of the Republic of China, while the PLA went to work creating the People's Republic of China (PRC) under the leadership of Mao Zedong.

Like the other communist governments being established at the time, one of the PRC's first acts where to organize agriculture and industry, in order to feed and employ the surprisingly large population of 583 million people enumerated in China's first

modern census. This process occurred quickly and was over 90% complete by 1956.

Unlike many other communist governments, China at first allowed 'constructive criticism' of the government and it's programs. As soon as its people became used to the idea, the government came under a surprising amount of fire from those who lest the most during the revolution, the more capitalistic sections of its populace. However, this policy was soon left by the way side. Unsure of Soviet support, Mao launched a major program designed to incite ideological fervor, and enhance China's economy by enhancing the commune. The resultant economic disaster in China led to Mao stepping down as official chairman of the nation, as well as an institution of hard line foreign policy.

In the beginning of the 1960's, the suspension of Soviet aid to China forced major reforms with in the nation, put into effect mainly by Mao's underlings. Most important of these were releasing production control from government authority, as well as a strengthening of the military. In China, the military became peasant elite. Only one in four volunteers are accepted and one in ten ever become anything but a foot soldier. The PLA build roads and help at harvest time. While apparently just a huge pool of manual laborers and soldiers, the PLA is a road of advancement for commoners in China. By 1965, China was headed towards recovery under Deng Xiaoping.

In the late 1960's, Mao lead an ideological purge of the nation, one which eventually lead to his downfall as leader of the PLA, and later as leader of the Communist Party. Deng Xiaoping slowly emerged as the new leader of the nation, and despite heavy political attacks by the radicals of the party, had solidified his power base by the late 1970's.

Deng's first act once he was no longer vulnerable to his enemies was to reverse the iron grip that Mao once held on Chinese policy, weaning China away from the policies that Mao carried to his death. Deng took further steps to moderate his nation, placing economic progress over the class warfare ideals of Mao. Economic reforms, capitalist policies and social inequalities followed.

These reforms have carried China far, despite the murky politics of the 1980's and 90's, and have created a unique blend of capitalism and communism and perhaps the label of communism is no longer truly appropriate for the current Chinese government.

A diplomatic cloud still hangs over China, its unique government laden with corruption and inefficiency despite repeated attempts to reform, and its poor record on the recognition of the Western version of human rights.

China has also seemed to be an active partner with Brazil in space technology and the Islamic nations on other technology. China is suspected of supplying Iran and Saudi Arabia with medium range missiles. (Dewhirst et al, 2001)

The State of Israel

The State of Israel has a population of about 5.8 million people, living on a thin strip of land bordered by the Mediterranean. Large portions of Israel are desert, and only a very small portion of the land is arable, leading to a highly urbanized nation.

Ethnically and religiously, 80% of Israel is Jewish. The two main branches of Judaism are Sephartic and Ashkernazie. Christianity and Islam also have a presence here, due in part to holy places for all three of these religions being located in Jerusalem.

Israel is a parliamentary democracy with a constitution designed to ensure that minority views have a voice. This sometimes leads to an unstable state of affairs where the party in power shifts more often than one might expect. President Moshe Katsav is currently the head of state, while Prime Minister Ehud Olmert directs the nation.

Israel has a GDP of about 163.45 billion dollars, with the GDP per capita being $23,416. The economy is mostly service based, with industry of minor importance. Major trade partners include the United States, Benelux, and the UK.

The average Israeli citizen has a life expectancy of 77 years if male, and 82 years if female. The birth rate is 1.79%, while the death rate is .618%. 95% of the population is literate, with education being compulsory.

First and foremost, Israeli is the homeland of the Jews. Israel is based upon the notion that the Jewish people need a country where they are in the majority and can protect themselves. According to the Jewish religion, Israel is located were God promised the Jewish people a homeland thousands of years ago. The Jews, as a people, have not had a true homeland since the rule of King David. After the Roman Empire expanded into the Middle East, the Jewish people led two revolts. They were unhappy with the requirement that in addition to whatever local religion they might have, they must worship the Emperor. Following the second revolt, the Roman Empire enslaved and scattered the Jewish people throughout their Empire in what is known as the Diaspora. This caused there to be small communities of Jewish people throughout the area once controlled by Rome. At first, the Roman Empire rejected Christianity. One missionary, Paul, set about converting a great many people. He was largely responsible for Christianity blaming the death of Christ on the Jewish people for 1500 years. Later, when Christianity became the state religion, the Jewish people were in a poor position. Following the fall of the Roman Empire, they were continually oppressed and discriminated against. Until quite recently, Islamic countries were not overly oppressive to Jewish citizens. They were seen as having a common religious background, as Islam accepts the Old Testament. Jews and Christians were allowed to live as second class citizens, but pagans had to either convert or die. In more recent times, Islamic countries have come to associate Israel with the Crusades and western intrusion into the Middle East.

Throughout these troubles, the main population of Judaism remained near Jerusalem. Despite being an oppressed people, the Jews remained strong and continued to struggle for survival. With the coming of the 20th century, Jews began to talk about a homeland and a place to live in peace, away from oppression. On May 14,

1948, the Jewish people as a whole declared their independence from the oppression of Britain. Because it was embroiled in World War II at the time, Britain was unable to respond with force, and thus Israel was formed.

As World War II wound to a close, many of Britain's colonies demanded independence and received it. At the same time, Israel declared itself the homeland of the Jewish peoples around the world, and any Jew that wished it would receive sanctuary in Israel. This brought in millions upon millions of refugees from the previously German occupied territories and other countries. While not all Jews migrated to Israel, many were tired of the oppression so readily directed towards them. The United Nations stepped in and tired to negotiate between the Jewish people and the neighboring Arabic factions. The United Nations had put forward a peaceful compromise, but the Arabic nations rejected it and tried to invade. The Arab nations lost, thanks in part to financial support from Jews living in the United State. In the end, Israel became the Jewish homeland.

There followed, between the years 1948 and 1967 a period struggle for recognition and to retain independence. Many battles were fought, entire wars started and ended over the course of this struggle, but eventually there was peace. The wars included the 6 Day War, where Israel attacked surrounding countries that were preparing to attack Israel and were very successful thanks tot heir air support. The Yon Kippur War was also a victory, but it was less one sided. Conflict continued with the PLO, which use Lebanon as a hiding place. In 1967, Egypt, and Arabic country, recognized Israel as an independent nation. Israel has been continuing to achieve peaceful coexistence with neighboring nations despite the numerous tensions that exit. Recently, Israel has shown a renewed willingness to trade land for peace. Israel has achieved peace with Jordan and Egypt, and has mixed relations with Lebanon, but relations with Syria are still poor at best. The group of people who had been living where Israel now stands is known as Palestinians, as the region was previously known as Palestine. These Arabs are unhappy with Israeli rule and desire autonomy, if not the return of the entire country. Multiple terrorist organizations exist to bring about an end to Israel, but many Palestinians simply wish for peace. Israel has reacted strongly to terrorist strongly to terrorist attacks, and has been criticized at times for how the Palestinian community is treated.

Several struggles have ensued since. Terrorist attacks by Palestinians based in surrounding nations still plague the country. However, for the most part, Israel has maintained a careful balance between peace and watchful readiness. One of its greatest strengths is the network of satellites that Israel has managed to assemble above itself and the surrounding nations. With it's state of the art imaging technology, the Israel Intelligence Agency has been able to keep very close track of the troop movements, bomb and missile placements, and to a certain extent the counter-espionage activities of its neighbors. This, along with a very well trained army, makes the Israeli military one of the best, for its size. While their standing army is small, there are many talented reservists. Israel is also an economic power in the region, but the Arabic countries are oil rich.

Currently, Israel has produced several nuclear bombs worth of weapons grade material from the Domina plant. It is unclear exactly how many operations devices Israel actually has, but one reasonable estimate is three low-yield man portable nuclear

bombs have been produced for use in an “Ein brera” or no alternative scenario. Thus Israel has enough nuclear capability to act as a threat and a deterrent, but not enough to really be perceived as a major nuclear threat to it’s many hostile neighbors.

The Jewish people have always been said to have a long memory. This certainly holds true for the Israeli nation. They will not soon forget the horrors of the holocaust or the unwillingness of their neighbors to concede them the right to a homeland. So, in essence, the Israeli mindset can be summed up in two facts. They wish to retain a homeland where they are in the majority and can ensure the protection of their people. They also wish to have peace with their neighbors, but are unsure if their neighbors can be trusted to live in peace. (Dewhirst et al, 2001)

Republic of India

The Republic of India has a population of 1.1 billion people. India has a varied geography, with terrain ranging from high mountains to low deserts to tropical flatlands. 72% of India is Indo-Aryan, while 25% is Dravidian, with the balance made up of people of Mongol decent and others. Despite this relatively simple ethnic make up, India is a melting pot of cultures. Official documents are printed in English and Hindu, while a bedlam of other tongues dominates the streets. 81% of the country's population is followers of the Hindu religion, with the majority of the remaining people being Islamic.

The government of India is a Federal Republic, but has only been independent of England since 1947. Unlike most nations, India gained its freedom through mostly peaceful methods. The president of India is A.P.J. Abdul Kalam, while the Prime Minister is Manmohan Singh.

India has a GDP of 3.633 trillion dollars, which means it has a per capita income of 3,344 dollars. Major trade partners include the United States, United Kingdom, and Germany. Life expectancy for men is 62 years, and life expectancy for women is 63 years. The birth rate is 2.48% and the mortality rate if 0.888%. The literacy rate is 52% but only 37.7% of the women can read.

One of the oldest civilizations in the world, India's modern history begins at the end of British colonial rule in 1947. The parliament of Great Britain gave the colonial era India to two governments, due to the politics of the time. The vast majority of the land and people went to the Hindu state of India, while the remainder went to the Muslim state of Pakistan. England was forced to abandon India during World War II, and this lead to a renewed desire for independence. Since gaining its independence, India has found itself in military conflict with Pakistan and China. Pakistan began its existence as an eastern and western portion separated by disputed territory with India. When the eastern portion attempted to become independent, India interfered on its behalf to weaken Pakistan. India and Pakistan have gone to war multiple times since their creation, and both sides have sworn never to lose another conflict with the other. More recently, India has successfully developed nuclear weapons on its own. It is believed to have the capability to launch its missiles a short distance, but is not capable of striking targets on other continents. There is no small amount of tension between the United States and India about India developing nuclear technology despite an international embargo on the transfer of such technology.

For many years, India was forced to deal with the troubles of separation, including riots, mass migration, and repatriation. Gandhi, who took no office in the new government, wandered the nation, attempting to sue his personal influence with the people to quell the violence, however fruitlessly, and ultimately fell to an assassin's bullet himself.

India is the original crossroads of the world, and as such, cannot really be said to have a single, overarching culture. However, in many cases, when one considers the Indians as a people, the Hindu 'majority' is immediately thought of, and so we will say a few words on the culture of these people.

The Hindus are guided by the religion from which they take their name. This

religion has two important tenets that must be taken into consideration when looking at the people. First, Hinduism sates that one is placed on earth to live life to the fullest and achieve true inner peace. Thus, the religion does not disapprove of many of the dissipations that western Christianity has worked so hard to eliminate in the past, after all, in time even the most corrupt of men will learn that wealth, drunkenness, and other such amusements do not bring lasting happiness. Second, time works in a scale far, far vaster than a man can ever comprehend. It is on this time scale that a man has to reach enlightenment, and he will be continually reincarnated until he does so and reaches Nirvana.

As such, the basic clause of the society reflects these principles rather than the sanctity of life and law.

These two principles have lead to one more development that must be understood. As each soul progresses through the circle of life, it tends to aggregate with those similar in understanding to itself, especially in families. And so, a caste system was born. This caste system placed everyone into their place in life by the family of birth, and although no longer officially accepted by the government, it stratifies the society along the lines of these castes, regardless of rule of law. The castes can be broken into a few major categories, including the priests, soldiers, merchants, laborers, and Untouchables, but there is a caste for almost every profession. The traditional notion was that there would be no social mobility, each son and daughter being taught their place and any necessary skills by their parents.

Special notes: The vast majority of Indians do not have family names, and as such, they are not given here. Usually, the ‘surname’ given by a member of this melting pot culture is a patronym, or caste name. For example, Gandhi is not a surname, but rather, the name of the grocer caste. It is recommended that students do some minimal background reading on castes and sub-castes, and make up a last name on the fly, as many real Indians are forced to do when in contact with Western civilization. (Dewhirst et al, 2001)

Republic of Korea

The Republic of Korea, also known as South Korea, is an East Asian state on the southern half of the Korean Peninsula. South Korea is bordered on the north by North Korea, and across the Yellow Sea is China, and across the Korea Strait is Japan. The country's largest city and capital Seoul has about one half of the population living near or within the city walls.

South Korea has a population of over 49 million people, and save about 20 thousand Chinese, they are primarily all Korean. The ROK is a republic, the major political parties being the Democratic Labor Party, the Democratic Party, the Grand National Party, the People-First Party, and the Uri Party.

In the 1960s, the GDP per capita in south Korea was like that of the poorer countries in Africa and Asia, and is now comparable with the lesser economies in the EU, after South Korea's incredible amount of growth and high-tech integration.

The average life expectancy of a Korean citizen is close to 74 years if male, and close to 81 years if female. The birth rate is almost 10 births per 1000 people, and the death rate is just under 6 deaths per 1000 people.

South Korea was formed after World War II as a republic, as the North became a Communist state. The US and other UN forces intervened during the Korean War, defending South Korea from North Korean attacks, the Chinese also helping North Korea. In 1953 an armistice was signed and a demilitarized zone was put in place at about the 18th parallel to split the peninsula, dividing North and South Korea.

After the Korean War, South Korea began a rapic economic growth, with per capita increasing to about 20 times the level of North Korea. South Korea is now the 3rd largest economy in Asia, and 11th in the world. It is also now recognized as a "High Income Nation" by the World Bank. South Korea is also a global leader in electronics and hightech gadgets, with companies like Samsung and LG, as well as being the world's 3rd biggest steel producer. Led by corporations like Hyundia Heavy Industries and Samsung Heavy Industries, South Korea is the world's largest shipbuilder. Also, they have the world's second humanoid robot, and first cloned dog.

In June of 2000, as part of president Kim Dae Jung's "Sunshine Policy of engagement," a summit took place in North Korea's capital Pyongyang between North and South Korea. The Sunshine Policy will focus on a realistic strategy for peace between the two nations, as no peace politically is likely to be achieved anytime soon. The policy calls for economic cooperation, as well as the construction of a common light-water nuclear reactor in North Korea by South Korea, in exchange for the promise from Pyongyang to freeze their nuclear program.

Other Game Files

The Goals of this conference

The following are four main goals of this conference. You should be focusing on these issues when you do research on your country. You should be asking yourself, how would someone from my country respond to these topics?

1. Review of the present powers of the IAEA to control and enforce the provisions of the NPT, in light of contemporary issues facing the international community of Nation States.

2. Review the ability of the IAEA to enforce NPT provisions relating to Non State Actors. See draft Treaty requirements of previous class.

3. Clarify IAEA's ability to enforce provisions of NPT relating to issues of weapons/energy requirements of Nation States.

4. Review IAEA role in non proliferation of WMD used by potential State and Non State Actors in acts of international State and Non State sponsored terrorism.

5. Delegates will be asked to come to some level of consensus on all these issues in the form of a Comprehensive NPT revision recommended to the Security Council.

Objective Statement from the Director General

Nuclear proliferation is on the rise. Equipment, material and training were once largely inaccessible. Today, however, there is a sophisticated worldwide network that can deliver systems for producing material usable in weapons. The demand clearly exists: countries remain interested in the illicit acquisition of weapons of mass destruction.

If we sit idly by, this trend will continue. Countries that perceive themselves to be vulnerable can be expected to redress that vulnerability – and in some cases they will pursue clandestine weapons programs. The supply network will grow, making it easier to acquire nuclear weapon expertise and materials. Eventually, inevitably, terrorists will gain access to such materials and technology, if not actual weapons.

If the world does not change course, we risk self-destruction.

Common sense and recent experience make clear that the Nuclear Nonproliferation Treaty, which has served us well since 1970, must be tailored to fit the 21st-century realities. Without threatening national sovereignty, we can toughen the nonproliferation regime.

Recently, the founder of Pakistan's nuclear weapons program, Abdul Qadeer Khan has signed a detailed confession admitting that during the last 15 years he provided Iran, North Korea and Libya with designs and technology to produce the fuel for nuclear weapons. Dr. Khan's admission amounts to one of the most complex and successful efforts to evade international controls to stop nuclear proliferation.

Khan has opened our eyes as to just how easy it is to disseminate nuclear secrets to countries around the world. The IAEA needs to create new policy and

broaden its power in order to combat this 21st-century proliferation. This new global community has become irreversibly interdependent, with the constant movement of people, ideas, goods and resources. In such a world, we must take steps to combat proliferation with an infectious security culture that crosses borders.

The first step is to tighten controls over the export of nuclear material, a priority President Bush identified in a speech on nuclear nonproliferation. The current system relies on a gentlemen's agreement that is not only nonbinding, but also limited in membership: it does not include many countries with growing industrial capacity. And even some members fail to control the exports of companies unaffiliated with government enterprise.

We must universalize the export control system, remove these loopholes, and enact binding, treaty based controls – while preserving the rights of all states to peaceful nuclear technology. We should also criminalize the acts of people who seek to assist others in proliferation.

In parallel, inspectors must be empowered. Much effort was expended – and rightly so – in persuading Iran and Libya to give the IAEA much broader rights of inspection. But the agency should have the right to conduct such inspections in all countries. Verification of nonproliferation treaty obligations requires more stringent measures, but to date, fewer than 20 percent of the 191 United Nations members have approved a protocol allowing broader inspection rights. Again, as President Bush suggested, it should be in force for all countries.

In addition, no country should be allowed to withdraw from the treaty. The treaty now allows any member to do so with three months notice. Any nation invoking this

escape clause is almost certainly a threat to international peace and security.

This provision of the treaty should be curtailed. At a minimum, a withdrawal should prompt an automatic review by the United Nations Security Council.

The international community must do a better job of controlling the risks of nuclear proliferation. Sensitive parts of the nuclear fuel cycle – the production of new fuel, the processing of weapon-usable material, the disposal of spent fuel and radioactive waste – would be less vulnerable to proliferation if brought under multinational control. Appropriate checks and balances could be used to preserve commercial competitiveness and assure a supply of nuclear material to legitimate would-be users.

Of course, a fundamental part of the nonproliferation bargain is the commitment of the five nuclear states recognized under the nonproliferation treaty – Britain, China, France, Russia and the United States – to move toward disarmament. Recent agreements between Russia and the United States are commendable, but they should be verifiable and irreversible. A clear road map for nuclear disarmament should be established – starting with the major reduction in the 30,000 nuclear warheads still in existence, and bringing into force the long-awaited Comprehensive nuclear Test Ban Treaty.

If the global community is serious about bringing nuclear proliferation to a halt, these measures should be considered at this special assembly. (ElBaradei, 2004)

On Tuesday, September 25th, the International Atomic Energy Agency will be holding a conference concerning issues and policies pertaining to nuclear proliferation. Specifically, this conference will be to reevaluate the tools the IAEA has to control the spread of weapons of mass destruction among State and Non-state actors. The IAEA's powers were never designed for Non-State actors and we feel they need to be reevaluated in light of current events.
Originally, the IAEA powers to control Weapons of Mass Destruction were primarily aimed at State Actors. Recent Events have demonstrated a need to examine these powers in the light of the emergence of Non-State Proliferators.
The goal of the conference is to propose peer recommendations to the security counsel, representing a consensus of the IAEA's powers to control proliferation in light of recent events.
This conference will be chaired by director general Matthew Duval. He will be assisted by fellow IAEA committee members Brandon Secatore and James Johnson.
The following countries have been invited to attend this conference:

China

France

Great Britain

India

Iran

Israel

Japan

Pakistan

Russia

South Africa

South Korea

United States

The following days have been scheduled for debate and discussion between delegations on the issues presented during this conference.
Tuesday, September 25th 11:00 am – 1:00 pm
Wednesday, September 26th 5:30 pm – 8:30 pm

Friday, September 29th 11:00 am – 1:00 pm

Common Means of Creating Nuclear Fuel

Centrifuge

The most common way of creating enriched uranium is through the use of a centrifuge. The first centrifuges used a uranium gas which was loaded into a cylinder and then spun in a circle at very high speeds. This creates a centrifugal force that allows for the separation of the most important uranium isotopes: U238 and U235. The heavier U238 will be spun to the outside of the cylinder because they are heavier and are affected more readily by the centrifugal force. Since the U235 is a lighter isotope it is kept nearer the inside of the centrifuge and is thusly, separated from the U238. The U235 can then be taken from the cylinder at a slightly higher concentration.

This process was improved upon by the Urenco Company which has research facilities in the Netherlands and Europe. They thought of adding heat to the bottom of these cylinders in order to create an even greater separation of U235. The heat made the lighter gas more prevalent on the top of the cylinders and the heavier gas more prevalent on the bottom of the cylinders. Now, when the centrifuge is done spinning the U235 is more concentrated in the upper, centermost (in terms of the centrifuge not the cylinder itself) quadrant of the container.

Urenco was dismayed to find out that this design had be stolen by a Pakistani know as A. Q. Khan. This design was used in Pakistan to create their nuclear weapons and then Khan began a network to sell this very same design to other countries such as Iran, North Korea and Libya.

Power Reactor

Using a nuclear power reactor can be the simplest way of a country obtaining weapons grade nuclear fuel. Although this is the simplest way to obtain weapons grade fuel it is by far the most public because the IAEA and other nations can easily keep track of fuel rods which are in nuclear power reactors.

Nations can use natural uranium which is prevalent in South Africa and North Korea in heavy water reactors or low enriched uranium in light water reactors. When these reactors begin generating power, neutrons are collided with the nuclear fuel. Natural uranium and low enriched uranium are high in U238 concentration. When U238 is collided with a neutron plutonium is created.

Plutonium can be used in the building of nuclear weapons and can easily become weapons grade simply by leaving the fuel rods in the reactor long enough so that nearly all of the fuel has been converted into plutonium. When it is nearly fully enriched only 5 kilograms is needed to make nuclear weapons where as highly enriched uranium requires nearly ten times that amount.

If one wishes to know more about creating nuclear fuel, a book (Uranium Enrichment and Nuclear Weapon Proliferation by Allan S. Krass, Peter Boskma, Boelie Elzen and Wim A. Smit) can be downloaded at this location: http://www.sipri.org/contents/publications/Krass83.html

Types of Nuclear Fuel

Highly Enriched Uranium

Highly enriched uranium consists of over 20% on U235 of U233. This is not strictly weapons grade however. Weapons grade uranium consists of at least 90% U235 or U233. With such a high concentration less critical mass is needed and a larger explosion will be yielded.

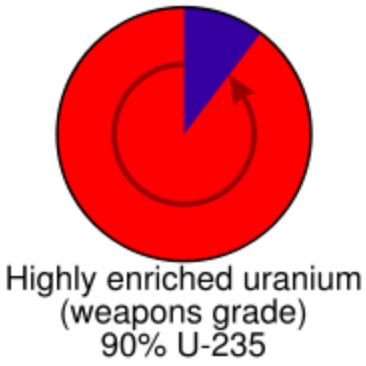

Figure 1: Courtesy of Wikimedia Commons

Weapons can still be made with any uranium which has been enriched to 20% and over, but not necessarily 90%. His is called weapons usable uranium and requires a significantly higher critical mass than weapons grade fuel. Weapons made with weapons usable fuel are often much more crude and are far less reliable because if too much U238 is present the reaction may not take place. They are not ideal for countries to make weapons out of because they require so much uranium.

Low Enriched Uranium

Low Enriched Uranium is uranium which has been enriched to between 2 and 20% of U235 or U233. This is used strictly for power generation in light water reactors which comprise most of the power reactors in the world. When nations are attempting to develop nuclear weapons they often enrich under the guise of making low enriched uranium for power. However, it is quite simple to assemble the cascades of centrifuges from

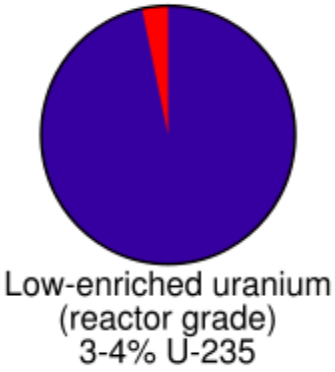

Figure 2: Courtesy of Wikimedia Commons

producing low enriched uranium and high enriched uranium. The most difficult part of enriching uranium is enriching it to 5% U235 or U233 and once a nation has this process they can begin enriching to much higher concentrations. With this being the case it is impossible to know whether a country is developing uranium for power generation or for weapons.

Slightly Enriched Uranium

This is a relatively new term and has very little bearing on nuclear developing countries. This type of uranium cannot be used in weapons and is only used in heavy water plants. This type of fuel is usually developed by countries who have already mastered the enrichment cycle and are using heavy water reactors. It is from about 1% to 2% U235 or U233 and is used so less uranium actually has to be used in reactors. Thusly, less waste is created.

Plutonium

Plutonium is another nuclear fuel and is created in nuclear power reactors. To create Plutonium U238 needs to be bombarded by neutrons in a reactor. When this happens plutonium is created and while the reaction is still underway the plutonium also becomes fuel to the reactor. Plutonium can then be retrieved from a reactor and used for nuclear weapons programs. This also makes it difficult to identify a country that is only concerned about nuclear power or if they are attempting to attain nuclear weapons.