August 6, 1945, has been called “the day man lost,” for regardless of race, nationality, beliefs, economic and or military strengths and weaknesses, and political ideologies, we all lost. Considering the character and consequences of that day in which man’s history was completely changed, it is imperative that the issues that led to August 6 be known as broadly as possible, and that Hiroshima and Nagasaki be studied from different but interconnected points of view. In this article I discuss scientific, historical, political, literary, and artistic perspectives on Hiroshima and Nagasaki that colleagues and I used in a Coordinated Studies Program (CSP) at Seattle Central Community College. Coordinated Studies Programs are interdisciplinary courses offered through my institution that typically are of three months duration. The Hiroshima unit constituted the first portion of the CSP in which I was involved.

The Scientific-Historical Perspective

Anyone discussing the two atomic bombs should have a clear picture of atomic and nuclear structures and of the theoretical and experimental approaches taken towards their understanding. At the most basic level, atoms are seen as similar in configuration to our planetary system, with a nucleus made of protons and neutrons, surrounded by electrons in orbit. While electrons are associated with chemical reactions, the nucleus determines the placement of an element in the periodic table of the elements, the existence of isotopes, and their radioactive decay.

Richard Rhodes’ The Making of the Atomic Bomb includes only three illustrations from atomic/nuclear physics: the periodic table, a diagram of energy relationships between orbiting electrons and the lines of spectral light, and a diagram of a cyclotron. Therefore the book is not technically oriented, as it emphasizes a historical account of the theoretical and experimental studies of radioactive substances from the nineteenth century to Alamogordo, the personalities involved, and the events that led to the atomic bombs. However, it provides enough scientific information that the reader gets a clear picture of the difficulties involved.

The Historical Perspective

The historical perspective provides a multinational viewpoint that is both chronological and non-linear. Presented as a tightly knit mesh, it includes such issues as technological advances in warfare, scientific discoveries, and the political and military decisions that led to World War I, World War II, the Pacific War, and to Hiroshima and Nagasaki. When in late March 1933 the Nazi regime began a systematic campaign of anti-Semitism, Jewish scholars and scientists fled to England. After England, increasing numbers of physicists immigrated to the United States bringing with them a stream of scientific knowledge. Central to this knowledge was the realization “that the splitting of the atom, if it could be arranged and controlled, would result in a chain reaction that could produce an explosion incalculably greater than anything the world had ever known.”

Nazi Germany, Great Britain, the United States, and the Soviet Union were fully cognizant of the possibility to produce an atomic bomb. Rhodes describes the experimental and theoretical steps in the race to build the bomb against a background dominated by war, political suspicions, and maneuvers among the “great powers,” interlacing science, history, and the personalities of those involved. Japan was also in this race, but the incendiary bombings of Tokyo and other major cities, lack of natural resources, military defeats, and malnutrition of the people did not allow it to play an important role in the bomb’s development. Japan’s contributions towards the understanding of the bomb’s effects came from the victims. Culling accounts from hibakusha (witnesses/survivors of Hiroshima and Nagasaki atomic bombings), Rhodes provides a very sobering picture of the bombs’ effects. Though very painful to read, these accounts raise the issue of whether or not the Hiroshima and Nagasaki bombs had been necessary. Considering the present proliferation of nuclear weapons and reactors for energy production, the possibility of another atomic war (or at least another Chernobyl), and with it the number of future hibakusha, has increased.

An earlier and much shorter account is The Day Man Lost. It shows the Japanese viewpoint of the events that led to Hiroshima and Nagasaki, including the race between the United States, Germany, and Japan to separate U-235 from the heavier U-238 in sufficient amounts to produce a controlled chain reaction. It does not provide, like Rhodes does, the basic scientific approach, but presents the inner workings of the Japanese government and diplomats, Hirohito’s role in the war, and the experiences of those who had been at Hiroshima August 6, 1945, for that day another story began: not the stories of the dead and the dying, but of the survivors.

The book is divided into three parts: the first deals with the Pacific War between 1941 and 1944 and the race to produce the bomb. The second is a month-by-month account, between January 1 and August 5, 1945, of Japan’s increasing military, political, and economic deterioration. The third deals exclusively with August 6, beginning sometime around 7:00 AM. A short epilogue carries the story to Nagasaki, bombed three days later. The events are built from personal hibakusha accounts, and while the perspectives are individual, together they provide a vivid description of the horrors experienced. A companion book to The Day Man Lost is Japan’s Longest Day, an hourly account of the backstage maneuvers that led to Hirohito’s momentous decision to end the war.

More detailed, and much longer, is Herbert P. Bix’s Hirohito and the Making of Modern Japan, a comprehensive and impression study of Hirohito’s life, assembled from a wealth of materials, from

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which emerges the controversial issue of whether or not Hirohito was “a politically impotent, innocuous figurehead” or a leader facing accountability for Japan’s behavior in that war. This issue is still alive and is presently connected with the current Prime Minister Koizumi Junichiro’s visits to the Yasukuni Shrine. These books emphasize personal interactions, both positive and negative, that in the long run are the basis for historical decisions, for history does not repeat itself; we repeat history in a series of human chain reactions whose outcomes, unlike those of the atom, cannot be foreseen and are much less controlled. Political decisions fall in this category.

The Political-Ihistorical Perspective
In his book Atomic Diplomacy: Hiroshima and Potsdam,11 Gar Alperovitz examines the A-bomb in relation to the US confrontation with the Soviet Union and the political maneuverings between Truman, Churchill, and Stalin, connected with Germany’s capitulation, the problem of Russian hegemony in Eastern Europe, and the fear that Russia could emerge with a major role in the postwar reconstruction of China and Japan. As he indicates, by early summer Japan was already defeated, the better part of her Navy sunk, and her Air Force “reduced to the impotence of sporadic kamikaze attacks.”12 The Alamogordo explosion, “brighter than a thousand suns,”13 has brought forth the issue as to whether Hiroshima and Nagasaki were bombed primarily to impress the USSR with the need to accept US plans for a stable and lasting peace.14 Since its publication, Alperovitz’s book has become increasingly controversial. Historian Richard B. Frank has questioned several of Alperovitz’s assumptions in a 1999 book, and in a 2005 Weekly Standard article (Volume 010, Issue 44) titled “Why Truman Dropped the Bomb.” Tsuyoshi Hasegawa’s view that the decisive event leading to Japan’s surrender was the USSR declaration of war against Japan appeared in 2005 in book form, and The National Security Archive published a highly detailed electronic briefing book entitled The Atomic Bomb and the End of World War II: A Collection of Primary Sources, based “on a broad range of U.S. and Japanese documents from the spring and summer of 1945.”15

In 1918 the victors believed that World War I had been fought to end all wars; 1945 saw a reiteration of the same beliefs, but victims’ voices were also heard, and in Hiroshima and Nagasaki they spoke through literature and the arts.

The Literary Perspective
John Whittier Treat’s Writing Ground Zero: Japanese Literature and the Atomic Bomb is a basic introduction to the subject and includes writings by both hibakusha and non-hibakusha. Treat questions the role of the imagination in linking “the violence itself, and the act of writing about the violence.” The issue at stake is whether the literary imagination “allows us to move towards August 6 and 9, or takes us (the reader) ever further away.”16 Can literary works reflect exceedingly personal experiences that have been set down in diaries or recorded in interviews? To what extent does elapsed time from the initial event affect the remembering? Does the novelized approach, such as Masuji Ibuse’s Black Rain and John Hersey’s Hiroshima, distort the event’s reality? Can a non-hibakusha like Ibuse react to August 6, 1945, in the same manner as a hibakusha? Can a Western, i.e., foreign, sensitivity capture the Hiroshima experience? The written or spoken word is a strong but ambivalent means of communication, but the visual image is not.

The Artistic Perspective
From the visual arts, I have selected three examples of human protest. The first is a documentary on the paintings and lives of Iri and Toshi Maruki, whose murals depict the suffering experienced in Hiroshima and Nagasaki. In 1953 their work grew to include Japan’s atrocities in Nanjing and Germany’s Auschwitz, thereby carrying the theme of man’s inhumanity to man away from nationalistic-based viewpoints to human-oriented ones.17

Kihara Toshiko’s large scale painting As Far as the Eye can See, A Sea of Flames hangs at the Peace Museum by the entrance to the exhibit. It is a powerful statement of expressions, many times recorded in journals and diaries, visually taking shape. Flames, painted in a semi-abstract manner, cover most of this huge painting, but within them there is an image of Red Fudo.18

The anime Barefoot Gen is the autobiographical story of manga artist Keiji Nakazawa, who was seven when the bomb was dropped. First serialized in Shukan Shonen Jump during 1972–73, it was released as a full-length anime in 1983.19 It is a powerful, disturbing, and at times extremely graphic film in which reality and unreality are combined to such an extent that it approaches the surreal, except that the damage inflicted was, and continues to be, real. The anime is not simply a story; it has symbolic content. Nakazawa explained: “I named my main character Gen in the hope that he would become a root or source of strength for a new generation, one that can tread the charred soil of Hiroshima barefoot, feel the earth beneath its feet, and have the strength to say “NO” to nuclear weapons.”20 The anime introduces multiple personal and communal perspectives that include a bird’s eye view from the Enola Gay, and faces upturned towards the blinding flash of the bomb’s explosion.
All these have taken physical shapes in the art and architecture in Hiroshima Peace Park.

**Peace Park Perspective**

At the Hiroshima Peace Park, the A-bomb Dome (Fig. 1) is visually and symbolically connected to the Peace Arch and to the Peace Museum across the river. Walking towards the Dome, one first encounters the museum, then the Peace Arch straight ahead (Fig. 2), which in turn frames the A-bomb Dome (Fig. 3). The three structures interact in a complex dialogue of several and at times opposite perspectives: historical, political, and ethical. The dome stands for Japan’s westernization, but Tange Kenzo’s museum, built on piloti (posts), and his Peace Arch are modern-day interpretations of traditional shapes. The museum can be traced back to the sun goddess (Amaterasu’s) shrine at Ise and the shrine at Izumo, both associated with Japan’s proto-historical period and both periodically rebuilt (Compare Figs. 2 and 4). The Peace Arch is based on the Haniwa model of a house found on keyhole tombs from the Kofun period, third to seventh centuries CE (Compare Figs. 5 and 6). The Peace Arch is based on the Haniwa model of a house found on keyhole tombs from the Kofun period, third to seventh centuries CE (Compare Figs. 5 and 6).

The Peace Bell and the Children’s Peace Monument provide additional perspectives. The bell’s sound for peace literally travels in all directions, and through recordings it has become international. The vertical emphasis of the Children’s Peace Monument (Fig. 7), honoring Sadako Sasaki, appears to be merely a response to the Enola Gay, but it provoked a peace movement through which thousands of paper cranes are still sent to be placed on the monument. Bell and Monument are thus physical foci of two opposite perspectives in a dialogue for peace.

**The Coordinated Studies Perspectives**

Considering the numerous and complex issues involved, education about Hiroshima and Nagasaki is therefore a tremendous challenge for any instructor. In 1996 at Seattle Central Community College we met that challenge via an eighteen credit Coordinated Studies Program (CSP) entitled Fallout: Wars, Sex, and Revolutions. Two other instructors (of History and English/Literature) and I (Art History) conducted the program; seventy-five students participated.

Coordinated Studies Programs are thirteen to eighteen credit hour courses in which a topic or issue is studied from several disciplines; they constitute what has been called “learning communities” and are highly interactive. Students are expected to reflect on readings and lectures, exchange opinions, and show their understanding through the written word and via art projects of their choice that are shared with all participants at the end of the quarter. Instructors range in number from two to four, depending on the number of credits offered, and together are present at all times.

The CSP was in retrospect too broad, as it covered diverse issues and events from Hiroshima/Nagasaki to 1995, but the approach then taken is still valid: the magnitude of the Hiroshima and Nagasaki bombings is so great it can never be completely understood through the lens of one academic discipline.

An exhibition of Yosuke Yamahata’s Nagasaki photographs at the college art gallery provided the initial background, since the disturbing images were in effect primary historical sources. We also listened to personal recollections from a US-born Japanese hibakusha whose family had returned to Hiroshima prior to the war, as well as from a Washington state resident who lived near the Hanford nuclear weapons production site, whose health had been damaged from the radioactive fumes that escaped during the chemical separation of plutonium from uranium, for the Nagasaki bomb. We read and discussed Masuji Ibuse’s Black Rain, though we did not see the film. Students were required to provide both oral and written responses to the readings, visuals, and speakers’ presentat-
The CSP format introduced two opposite perspectives: one went from general considerations (class lectures) to specific examples, the other vice versa. The latter is a more holistic approach, as the Peace Park exemplifies, for in the real world everything is the end result of many interconnections, and Hiroshima, Nagasaki, and the atomic bombs are no exceptions.

NOTES
1. Protons are considered as positively charged particles, electrons as negatively charged, while neutrons have no charge.
2. In the periodic table elements are placed in order of increasing weight beginning with the lightest, hydrogen, which consists of a proton in the nucleus and an electron revolving around it. The atomic number (placement in the table) for hydrogen is therefore 1, while uranium has an atomic number of 92. Isotopes, elements that have identical chemical reactions, have different atomic weights. Thus “heavy hydrogen” (used in the hydrogen bomb) consists of a nucleus with one proton and one neutron and one orbiting electron. Uranium atomic weight 238 naturally decays to its isotope U 235, used in the Hiroshima bomb; it was also artificially bombarded to produce plutonium for the Nagasaki bomb.
5. One well known hibakusha is Sadako Sasaki, who is commemorated by The Children’s Peace Monument, Hiroshima Peace Park. The selections also include excerpts from A-bomb literature. Rhodes, 679–747.
8. Hirohito’s role in World War II remains controversial.
13. For an account of the scientists’ reactions to the Alamogordo explosion, see Rhodes, 617–78. J. Robert Oppenheimer recalled the line from the Bhagavad-Gita when Krishna (the principal avatar of Vishnu), trying to impress the warrior prince Ajurna, says: “Now I have become Death, the destroyer of worlds.” Rhodes, 676.
17. John Junkerman’s Hiroshima no Pika and Hellsfire: A Journey from Hiroshima (New York: First Run Icarus Films, 1986) are two films about Ira and Toshi Murak. The first is a 2005 video version of Toshio Muraki’s widely published 1982 pacifist children’s book; the second is a 1986 documentary on the Muraki’s artistic collaboration. I thank EAA editor Lucien Ellington for bringing the Murakis to my attention.
18. There are five manifestations of the luminescent wisdom of the Buddha called Fudo, but only three remain: the Blue Fudo, the Red Fudo and the Yellow Fudo. Originally Hindu deities, in Japan they were incorporated into Esoteric Buddhism. Their functions as guardians are to subdue evil and their fierceness is directed only to evildoers. Lacking a color illustration of the painting, I refer the reader to Writing Ground Zero, whose cover shows a small section of the work.
19. The Shukan Shonen Jump was the largest Japanese weekly comic of its time.
21. Designed by Czech architect Jan Letzel and completed in 1915, it was first named Hiroshima Prefectural Commercial Exhibition Hall; in 1921 it became the Hiroshima Prefectural Products Exhibition Hall, and in 1933 was renamed the Hiroshima Prefectural Industrial Production Hall. See at http://en.wikipedia.org/wiki/Hiroshima_Peace_Memorial.
23. The National Geographic 1980 video Living Treasures of Japan includes Masahiko Katori, the bell’s designer, and the bell’s sound.
24. Sadako Sasaki was two years old when the bomb was dropped, and though she lived outside Hiroshima, she died of leukemia ten years later. See: Takayuki Ishii, One Thousand Paper Cranes: the Story of Sadako and the Children’s Peace Statue (New York: Dell Laurel-Leaf, 1997).
25. These photos are available in Rupert Jenkins, ed., Nagasaki Journey: The Photographs of Yosuke Yamahata, August 10, 1945 (San Francisco: Pomegranate Artbooks, 1995). The catalogue also includes drawings by Eiji Yamada, who accompanied Yosuke Yamahata.
26. The issue of postwar radioactive poisoning has been recently revived. The September 2005 issue of Columns, The University of Washington Alumni Magazine includes an article on epidemiologist Scott Davis, who for fifteen years has been studying the relationship between Chernobyl and outbreaks of thyroid cancer in the surrounding population. In addition, the National Geographic issues of August 2001 and November 2, 2005, deal with the effects of radioactive waste on the environment.

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