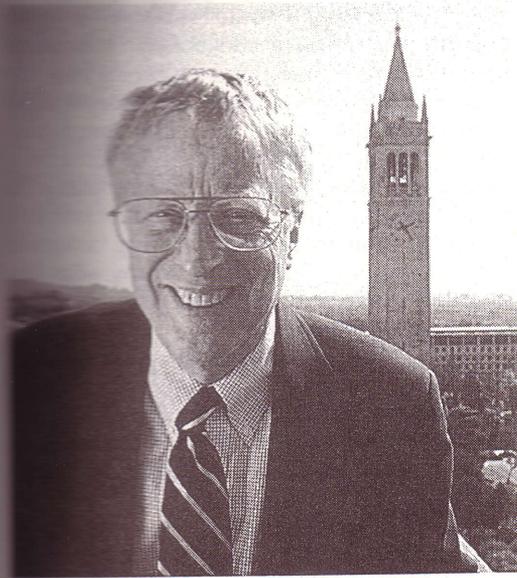


NOBEL PRIZE WINNERS

1997–2001 Supplement



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Akerlof, George A.

(June 17, 1940–) Nobel Prize for Economics, 2001 (shared with A. Michael Spence and Joseph E. Stiglitz)

The economist George A. Akerlof was born on June 17, 1940 in New Haven, Connecticut. He attended Yale University in New Haven. Having grown up in the shadow of the Great Depression, he wanted to understand the root causes of poverty—an interest that drew him to the study of economics. “I’ve always been interested in why people are poor,” he told a writer for the *Berkeley Campus News* (October 10, 2001, on-line). “What economics is about is trying to prevent poverty insofar as that is possible.” Akerlof cited in particular his interest in the economic disparity between blacks and whites, which he feels is one of the most important issues in America, yet one that is insufficiently addressed by contemporary eco-

nomic theory. He received his B.A. from Yale in 1962, and earned a Ph.D. in 1966 from the Massachusetts Institute of Technology, in Cambridge. After graduation he accepted an assistant professorship at the University of California at Berkeley. From 1967 to 1968 he served as a visiting professor at the Indian Statistical Institute, in Calcutta, India, and in 1969 he was a research associate at Harvard University, in Cambridge, Massachusetts. In 1970 he became an associate professor at Berkeley.

In “The Market for ‘Lemons,’” Akerlof’s groundbreaking paper published in the *Quarterly Journal of Economics* (1970), he developed the notion of “information asymmetry.” In the market for used cars, the potential buyer has less information than the seller about the quality of the car. The buyer, forced to make inferences about the car, will naturally be suspicious of its quality, and accordingly will only be willing to offer a low price—even if he or she would be willing to pay a higher price for a car that was in good condition. This results in adverse selection, where only the poor-quality cars come on the market, since the owners of cars that are in good condition will choose to keep their cars rather than sell them at such low prices. Under these circumstances, the quality of available products is lowered for everyone involved, and owners retain cars that they should have been able to sell. The asymmetrical nature of information prevents deals that would benefit both buyers and sellers.

In the same paper Akerlof discussed an example that was based on his studies of credit markets in India in the 1960s, where rural moneylenders charged interest rates that were twice as high as the rates in the cities. Akerlof explained that a middleman who borrows money in cities and lends it in rural areas—without knowledge of the borrowers’ ability to repay—is induced to raise interest rates to cover the risks of lending to those who may default. Akerlof’s analysis also applies to the health-care market,

where individuals seeking insurance coverage know more about their health than insurance companies do. Insurance providers, accordingly, are compelled to raise rates to avoid the possible losses that would be incurred by insuring too many high-risk customers. By doing so, however, the companies may discourage the healthy—and therefore desirable—potential customers from purchasing their services.

Akerlof's focus on market imperfections presented a bold break from mainstream economic thought, which held that in unregulated markets the agreed-upon price must be the right price. The traditional view that competition and rational behavior lead to market "equilibrium," Akerlof argued, had presupposed that both buyers and sellers were fully informed. By incorporating the effects of informational inequalities in market transactions, it becomes possible to explain the existence of certain institutions that aim to correct the market. Used-car dealerships, for example, can be seen as attempting to bridge the informational gap by offering guarantees and establishing a positive reputation with consumers. Other institutions that the theory seems to explain include brand names, chain stores, franchises, and different types of contracts. Akerlof's fellow economics laureates, A. MICHAEL SPENCE and JOSEPH STIGLITZ, developed theories to account for the various ways institutions adapt to the information inequality. Spence introduced the idea of "signaling" to explain how participants in a market transaction use observable practices to convey the value or quality of their products. Spence looked at education, for example, as a signal to potential employers of productivity. Stiglitz investigated the "screening" processes adopted by insurance companies to gather information about their customers.

In 1977 Akerlof became a full professor at the University of California at Berkeley. In that same year he met his wife, Janet Yellen, in Washington D.C. Yellen was an economist for the Federal Reserve Board at the time, where Akerlof was a visiting researcher. They were married in July 1978. Yellen became the head of the Board of Governors of the Federal Reserve System in the mid-1990s and served as the chair of the Council of Economic Advisers from 1997 to 1999.

Akerlof recently collaborated with Rachel E. Kranton, a professor of economics at the University of Maryland in College Park, on

a research project examining the effects of an individual's sense of self on economic outcomes. In such areas as gender discrimination, the economics of poverty, and the division of labor, Akerlof and Kranton argued that including factors of personal and social identity significantly alters the conclusions of traditional economic analysis. As a part of their work they examined how group identity among black children in inner-city schools affected employment prospects. They argued that some schools in poor neighborhoods have succeeded in improving student performance by altering conceptions of identity, and therefore expectations. They cited the Central Park East Secondary School, in the Harlem neighborhood of New York City, as an example. Mainstream economic theory, which maintains that training and education are the determining factors in a child's success, fails to acknowledge the role that identity plays in shaping students' success and job prospects.

Akerlof has become well known for his practice of incorporating the perspectives of social sciences other than economics in his work. In a paper titled "An Economic Theorist's Book of Tales" (1984), as quoted in the *Berkeley Campus News*, he explained that "economic theorists, like French chefs in regard to food, have developed stylized models whose ingredients are limited by some unwritten rules. Just as traditional French cooking does not use seaweed or raw fish, so neoclassical models do not make assumptions derived from psychology, anthropology, or sociology. I disagree with any rules that limit the nature of the ingredients in economic models." Henry Aaron, a senior fellow at the Brookings Institution, told a writer for the *Berkeley Campus News* that "more than any other person in economics, [Akerlof] has worked to show how the insight from sociology and psychology could broaden, enrich and increase the power of economics. He is, in my opinion, perhaps the most imaginative and creative applier of insights from other disciplines."

In a statement posted on the Nobel e-Museum Web site, the Nobel committee praised Akerlof's paper as "the single most important study in the literature on economics of information. It has the typical features of a truly seminal contribution—it addresses a simple but profound and universal idea, with numerous implications and widespread applications."

Akerlof has received many honors and awards. He is the recipient of a Guggenheim Fellowship and Fulbright Fellowship. He is a fellow of the Econometric Society, the American Academy of Arts and Sciences, and the Institute for Policy Reform. He is vice president of the American Economic Association and a senior adviser for the Brookings Panel on Economic Activity. He is the former vice president of the American Economic Association. Akerlof and his wife, who is now also an economics professor at Berkeley, live in Berkeley, California. Their son, Robert, is working toward a degree in math and economics at Yale University.

ABOUT: Denver Post October 17, 2001; New York Times October 11, 2001, October 14, 2001; Nobel e-Museum Web site.



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Alferov, Zhores I.

(March 15, 1930–) Nobel Prize for Physics, 2000 (with Jack St. Clair Kilby and Herbert Kroemer)

The physicist Zhores I. Alferov was born on March 15, 1930 in Vitebsk, Belorussia, in the former Soviet Union. He studied in Leningrad at the Department of Electronics of V.I. Ulyanov (Lenin) Electrotechnical Institute (now St. Petersburg State Electrotechni-

cal University) and received his degree in 1952. Later he earned two additional scientific degrees, both from the Ioffe Physico-Technical Institute: a candidate of sciences in technology in 1961 and a doctor of sciences in physics and mathematics in 1970.

Since 1953, Alferov has been a staff member of the Ioffe Institute, where he has held the following positions: junior researcher, from 1953 to 1964; senior researcher, from 1964 to 1967; head of the laboratory, from 1967 to 1987; and director of the institute, since 1987. The institute has a prestigious history as a preeminent center for physics. Founded in 1918 by Abram Ioffe, a student of Wilhelm Conrad Röntgen, who discovered the X-ray and won the first Nobel Prize for physics in 1901, the institute has been on the forefront of technological developments since its inception. One area in which the institute is particularly strong is semiconductor research; Abram Ioffe himself took up semiconductors as an area of study in the early 1930s.

During the Cold War, when the Soviet Union and the United States were competing for supremacy in all things, especially technological advancements, the Ioffe Institute and other scientific research organizations benefitted from strong governmental support. It was during this period that Alferov developed a semiconductor-based laser, the groundbreaking work for which he was awarded the Nobel Prize. Since 1962 he has worked in what was then the relatively new field of semiconductor heterostructures, and in 1963 he outlined the principles for using these heterostructures to create a new type of laser and applied for a Soviet patent. (Working independently, Kroemer applied for a U.S. patent that same year for the same concept.) Semiconductors are materials whose ability to conduct electricity lies between that of conductors and insulators. A semiconductor's band gap, an indicator of whether the semiconductor more resembles a conductor or an insulator, is the amount of energy needed to produce moving, charge-bearing particles—either negatively charged electrons, or “holes,” which behave like positively charged particles but are actually spaces vacated by electrons as they move through the semiconductor. By the late 1950s the semiconductor silicon was becoming the material of choice for many electronic components, particularly transistors. It was Kroemer who discovered

in 1953 that by combining layers of different semiconductors, the performance of silicon transistors could be greatly improved. These composite, or heterostructured semiconductors, are made of complementary semiconductors; a common combination is gallium arsenide and aluminum gallium arsenide. Heterostructured semiconductors are called such because they are made from several thin layers, which differ in thickness from a few atom layers to micrometers, of semiconductors with differing band gaps. Researchers select such layers so that their crystal structures fit together, thereby allowing charge-bearing particles to move almost freely from one layer to another.

It took a number of years to develop methods of building heterostructured semiconductors efficiently, an effort in which Alferov played a major role. He was the first to produce what is known as a lattice-adapted heterostructure that exhibited distinct borders between the semiconductor layers. This in turn led to the development by Alferov and his team of researchers of many types of components using heterostructures, including the injection laser, the device he patented in 1963. In the early 1960s, both Alferov and Kroemer realized that heterostructured semiconductors could be used to create lasers by arranging the materials in such a fashion that the moving electrons and holes become trapped together in a specific region of the heterostructure. As Charles Seife described the process in *Science* (October 20, 2000): "When an electron and a hole meet inside this trap, they recombine, releasing light. This light, in turn, incites more trapped electrons and holes to recombine. It's just like a traditional laser, but it can be made out of semiconductors." Conventional lasers, invented in 1960, were created using expensive, specially made crystals, and lasers based on heterostructures gradually made laser technology more accessible and opened up a number of important applications. They are used in the reading heads in compact disc players, bar-code readers, laser markers, and optical data storage, among other things. Light-emitting diodes based on heterostructures are found in car brake-lights, traffic lights, and other warning signals, and some researchers believe that they may one day replace electric bulbs. Perhaps the most significant application for heterostructured-semiconductor lasers evolved after 1970, when Alferov and

his team became among the first to develop lasers that were able to work continuously at room-temperature. This refinement enabled the practical development of fibre-optic communication technology, a vital component of the Internet.

In 1970 Alferov was one of the "trusted elite of young scientists," according to Quirin Schiermeier for *Nature* (November 23, 2000), who were given permission to visit the West. Alferov spent six months in the U.S. working at the laboratory of Nick Holonyak at the University of Illinois at Urbana-Champaign, where Alferov did important new work on the structure and properties of semiconductor lasers. In 1973 Alferov became the chairman of optoelectronics at St. Petersburg State Electrotechnical University and in 1988 he became dean of the faculty of physics and technology at the St. Petersburg Technical University.

Since the collapse of the Soviet Union in 1991, Alferov's Ioffe Institute, along with virtually all scientific research in the former nation, has suffered drastically from a lack of funds. Although in 1985 the Soviet Union's electronics industry was the world's third largest, following those of the U.S. and Japan, research and development in the U.S.S.R. were geared towards the military-industrial system, with little emphasis on consumer electronics. Once that system disappeared, so did the country's electronics industry, as well as research funds for the Ioffe Institute and other organizations like it. Foreign investment has kept the Ioffe Institute afloat, and its ability to attract such funding has been attributed to Alferov's international reputation for scientific excellence. Both private companies and foundations, some formed for the purpose of fostering international scientific collaboration, have contributed grants. The International Science and Technology Center (ISTC), for example, founded in 1992 as a joint venture between Russia, the United States, Japan, and the European Union, seeks to redirect money that had originally been allocated to weapons research into civilian projects. Another contributor, the International Science Foundation, funded by the Hungarian-born billionaire George Soros, gave \$2 million in the form of 80 research grants to scientists at the Ioffe Institute between 1994 and 1996.

"Despite all our difficulties," Alferov remarked to Quirin Schiermeier, "the Ioffe institute is still home to some high quality re-

search, particularly in plasma physics, astrophysics and semiconductor physics.” Some of this research includes the development of nanotechnology—the engineering of electronic components on the scale of individual atoms. Another major area of research involves uncovering the physical properties of spherical plasmas, part of an effort to decrease the costs of fusion reactors. The institute’s division of nanoheterostructures, closely linked with Alferov’s own research, has contracts with companies in China, Germany, and South Korea; Alferov has lamented the lack of Russian microelectronics companies, which might otherwise be first in line to capitalize on his discoveries. In addition to its research facilities, the Ioffe has an educational center that takes talented secondary school students and helps to shape them into the next generation of researchers. Around a quarter of the students stay in the sciences, and many of the finest graduates become part of the institute’s staff. In Russia, education and scientific research rarely overlap as they do in the U.S., where much research is carried out at universities. The Ioffe’s educational center is a rare exception, and Alferov intends to use a large portion of his Nobel Prize money to support the center—an investment, as Alferov sees it, in the future of science in Russia. “We may have an abundance of problems,” Alferov told Schiermeier, “but we certainly have no lack of scientific talents.”

Shortly after receiving the call from Stockholm telling him that he had won the 2000 Nobel Prize for Physics, Alferov received a second call from Russian President Vladimir Putin offering congratulations. Some days after the announcement the two men had a confidential meeting, in which Putin, at Alferov’s suggestion, agreed to set up an advisory council of science and technology experts, presumably to provide advice on how to improve Russia’s scientific research and development sectors. In his *Nature* article, Schiermeier noted: “Although the full significance of this move remains unclear, Russian researchers are monitoring keenly Alferov’s emerging status as Putin’s unofficial science advisor.” Alferov believes the Russian president is ready to put more emphasis on research, and indeed Putin has agreed to a 10 percent increase in funding in the hope that new research will help stimulate Russian industry. Alferov himself is a Communist member of the Rus-

sian state parliament, the Duma, and at his urging that body has allocated an additional \$16 million in the 2001 budget to fund development in electronics particularly. Alferov has expressed confidence that Russian scientific research will experience a renaissance.

In addition to the Nobel Prize, Zhores I. Alferov has received many international awards for his work, including the Stuart Ballantine Medal from the Franklin Institute in the United States (1971); the Lenin Prize (1972); the Hewlett-Packard Europhysics Prize (1978); the State Prize from the Soviet Union (1984); the Ioffe Prize from the Russian Academy of Science (1996); and the Nicholas Holonyak, Jr. Award (2000). He has been a member of the Russian Academy of Sciences since 1979 and its vice president since 1989. He is the editor-in-chief of a Russian journal that is also published in English under the title *Technical Physics Letters*, and a member of the editorial board of a Russian journal whose title has been translated as “Science and Life.” The author of 400 articles and 50 inventions in semiconductor technology, Alferov has also written four books. In his article for *Nature*, Schiermeier described Alferov as “engaging and charismatic, expansive in his gestures and quick to laugh,” also noting, “it is clear that junior colleagues regard him with a respect that approaches awe.”

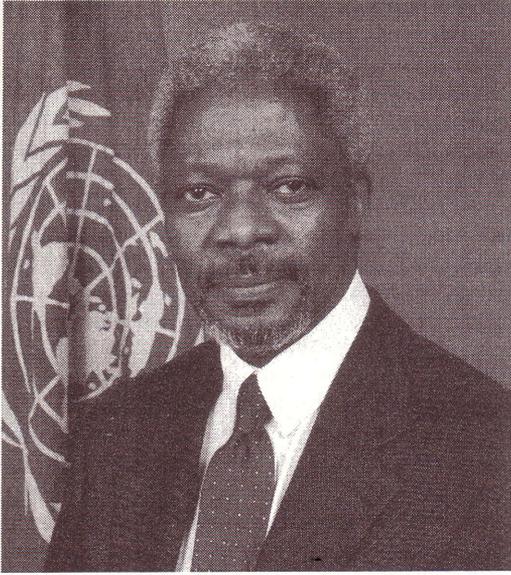
ABOUT: Ioffe Institute Web site; *Nature* November 23, 2000; Nobel e-Museum Web site; *Science* October 20, 2000; *Science News* October 14, 2000.

Annun, Kofi

(AN-non, KO-fee)

(April 8, 1938–) Nobel Prize for Peace, 2001 (shared with the United Nations)

The diplomat Kofi Atta Anna was born in Kumasi, Ghana, on April 8, 1938, a member of an upper-class merchant family descended from tribal chiefs of the Fante group. His penchant for activism and leadership skills became apparent early on: friends have recalled a successful hunger strike that he organized at the Ghanaian boarding school he attended in the 1950s, during which he and



United Nations

Kofi Annan

fellow students demanded—and got—better food. After attending the University of Science and Technology at Kumasi, he enrolled at Macalester College, in St. Paul, Minnesota, where he completed his bachelor's degree in economics, in 1961. In the following year he continued his education, at the Institut des Hautes Études Internationales, in Geneva, Switzerland.

In 1962 Annan accepted a position as an administrative and budget officer at the World Health Organization (WHO), a branch of the U.N. with headquarters in Geneva. After serving in various other U.N. posts in Geneva, New York City, and Addis Ababa, the capital of Ethiopia, he was named Alfred P. Sloan fellow for the 1971–72 academic year at the Massachusetts Institute of Technology, in Cambridge, where he received a master's degree in management. Except for a two-year stint between 1974 and 1976, when he served as managing director of the Ghana Tourist Development Company, Annan has been on the U.N.'s staff since 1972.

Building his career primarily in a variety of behind-the-scenes, low-profile bureaucratic jobs, Annan has acquired unusually broad expertise in peacekeeping and refugee issues as well as in management, administration, budgeting, and finance. Considered an honest, straightforward manager and negotiator with a singular ability to remain cool and good-humored under fire, Annan

has, in four decades with the UNITED NATIONS, gained the respect of diplomats and national leaders alike. He is known for his kindness and politesse among people at the grassroots level as well as among high-ranking diplomats, and he is said to command unusual loyalty from lower-echelon U.N. staffers. Between 1976 and 1983 he worked in the personnel department at the Office of the U.N. High Commissioner for Refugees, eventually rising to deputy director of administration and head of personnel. He was then reassigned to the U.N. headquarters, in New York City, where he held an array of managerial positions, including director of budget in the Office of Financial Services (1984–87), assistant secretary-general in the Office of Human Resources Management, security coordinator for the U.N. (1987–90), and assistant secretary-general for program planning and controller of budget and finance (1990–92).

In 1992 Annan advanced to the U.N.'s high-profile peacekeeping division. Early in the post-Cold War period, when regional conflict and ethnic strife seemed the order of the day, he quickly distinguished himself, first as assistant secretary-general of peacekeeping operations and then, from March 1993 until his appointment as secretary-general, under-secretary-general of peacekeeping operations. In that last, highly sensitive position, Annan oversaw 17 military operations and a \$3.5 billion budget, more than 15 times the size of the 1988 budget. Although he was noted for his smooth diplomacy regarding U.N. involvement in the civil wars that erupted in Somalia and Bosnia, Annan expressed clear frustration at governments—chief among them that of the U.S.—that were unwilling to throw military and financial support behind the Security Council's peacekeeping resolutions. "Peacekeeping is always cheaper than war," he said at a press conference in March 1994.

Annan drew notice as the special representative for the U.N. peacekeeping operations in the former Yugoslavia, where, between November 1995 and March 1996, he supervised the transfer of peacekeeping duties from U.N. to NATO-led forces. People with whom he worked in Yugoslavia applauded Annan for his negotiating skills, which he demonstrated in his frequent discussions with the U.N. ambassadors from the U.S., Great Britain, France, and Russia. As one American official commented to a re-

porter for *Newsweek* (December 23, 1996), "To come out of that, with all four [ambassadors] feeling that they had never been misled, is what's called diplomacy."

By the fall of 1996, it had become clear that the U.S., alone among the members of the Security Council, was firmly opposed to Boutros Boutros-Ghali's reelection as U.N. secretary-general, and the council, which makes that appointment, began considering other candidates—specifically, African diplomats, primarily because no African diplomats had yet served as secretary-general. Most countries came out in support of Annan, who enjoyed an international reservoir of good will and was frequently touted as the only candidate who could successfully extinguish the widespread resentment triggered by the U.S.'s refusal to consent to Boutros-Ghali's reappointment. The French government stated its preference for a leader from a francophone country, but in late December, when all three African nations on the Security Council—including Egypt—threw their support behind Annan, France withdrew its dissent.

Soon after his appointment, on December 17, 1996, Annan remarked, as quoted in *Newsweek* (December 23, 1996), "I have 185 masters," referring to the U.N.'s 185 member nations and thus indicating his keen appreciation of the U.N. as a truly international organization. (The number of member nations has since risen to 189.) His dedication to consensus-building became clear when he announced that a comprehensive U.N. reform package—upon which the U.S. Congress had predicated the payment of its massive debt to the organization—would not be announced until at least mid-summer 1997, after all U.N. members had been consulted. "A good leader must also be a good follower," he was quoted as saying by Elaine Sciolino in the *New York Times* (February 9, 1997). Earlier, an editorial in the *Chicago Tribune* (December 18, 1996) had expressed optimism about his chances of successfully instigating organizational reform because of his "insider's ability to read between the lines of the U.N. organization chart and [to see] . . . where the skeletons are buried—so they can be dug up and exposed." But others expressed doubt about whether a career U.N. civil servant like Annan could summon the political will to change the very bureaucracy that had nurtured his advancement.

In July 1997 Annan unveiled a plan for streamlining the U.N.'s bureaucracy, which at the time supported 50,000 employees in 30 agencies worldwide. His proposal included the consolidation and regrouping of 24 agencies that reported to the secretary-general into five divisions—peace and security, humanitarian affairs, economic and social welfare, development programs, and human rights—that would report to the secretary-general and also to a deputy secretary-general, with the creation of the latter position being part of the plan. (On January 12, 1998 Louise Frechette, Canada's deputy minister of national defense, was appointed to the post.) While some viewed this effort as an important step toward saving money, others contended that the plan "simply reshuffles the deck at a time when the number of cards needs to be reduced," as Minnesota senator Rod Grams, the Republican chairman of the Senate Foreign Relations Committee, expressed it. Despite such objections, in November 1997 the General Assembly approved the first package of proposed reforms, which were designed to save the U.N. \$123 million. (Even after it was approved, the United States remained intransigent regarding its refusal to clear its debt. Failure to pay a specified percentage of the arrears by January 1, 2000 would have resulted in the loss of the United States' seat in the General Assembly. Finally, in November 1999, Congress passed budget legislation earmarking \$819 million for repayment of the back dues, which by then totaled some \$1 billion.)

Annan has expressed a strong commitment to economic development and the pursuit of social justice everywhere. "Intolerance, injustice, and oppression—and their consequences—respect no national frontiers," he declared in an address to the U.N. General Assembly shortly after his appointment as secretary-general, as quoted by the Council for a Livable World (January 10, 1997, on-line). He also said, "We now know more than ever that sustainable economic development is not merely a matter of projects and statistics. It is, above all, a matter of people—real people with basic needs: food, clothing, shelter, and medical care."

The year 1998 opened with the threat of a violent confrontation between Iraq and the United States over the issue of weapons inspections. Saddam Hussein, the president of Iraq, insisted that unless the U.N. lifted the

economic sanctions that it had imposed in 1990, after Iraq's invasion of Kuwait, his country would continue to bar inspectors from sites (including what were labeled presidential palaces) where, it was believed, Iraq had stockpiled biological and chemical weapons, long-range ballistic missiles, and other weapons of mass destruction. The United States, meanwhile, had warned Hussein that the U.S. was prepared to unleash air strikes on Iraq if he did not cooperate with the inspectors; indeed, in anticipation of such an attack, the U.S. had deployed an armada of warships in the Persian Gulf. Determined to end the deadlock by means of diplomacy rather than force—"I kept asking, 'After the bombing, then what?'" he explained to Crossette—Annan met face-to-face with Hussein in Iraq. "I had to deal with him to avoid a tragedy and to save lives," Annan said during an interview for *Time* (March 9, 1998). "Once I got through to him and explained what was at stake, and what he could do for his nation and his people, and what he would face if he did not agree, he got focused. . . . When he said, 'I know you are a courageous man,' I realized he was probably warming to me, but otherwise I saw no sign. It was at that point that I moved into the critical issues. . . . [The Iraqis] are very keen to get rid of the sanctions. I made it very clear to him that the only way to do that is to cooperate with [the U.N. Special Commission, which was set up in 1991 to ensure the elimination of Iraq's weapons of mass destruction]."

The result was the so-called Memo of Understanding, dated February 22, 1998, whereby Iraq, by accepting all previous Security Council resolutions pertaining to the issue, agreed to "unconditional and unrestricted" inspections and the eradication of various weapons. The Security Council approved the pact on March 2; at the same time, the council raised from \$4 billion to \$7.4 billion the annual limit on Iraq's sales of oil, the money from which was to be used to buy food and medicine and pay for repairs of the country's crumbling infrastructure. In some quarters, Annan was regarded as a hero for securing the agreement; others expressed doubt that Iraq would abide by the agreement for long. The skeptics were right: On August 5, 1998 Hussein again halted inspections, claiming that Iraq had fulfilled its end of the deal and demanding that the sanctions be removed. Annan's renewed

efforts to resolve the issue came to naught, and on December 16, 1998—in what Annan described as a "sad day" for the world and himself—the U.S., with support from Great Britain, bombed targets in Iraq. But Saddam Hussein refused to budge, and no inspections of suspected Iraqi storage sites took place in 1999. "Yes, [the Iraqis] didn't live up to the undertaking," Annan acknowledged to Barbara Crossette. "But does that mean we should not try diplomacy? I know some people have accused me of using diplomacy. That's my job. That's what I'm paid for."

In March 1998 Annan visited the Middle East. In a speech to the Palestinian Legislative Council in Gaza City, he urged patience regarding the Arab-Israeli peace process and nonviolence. Later, addressing the Israeli Foreign Relations Council in West Jerusalem, he said that the U.N. had sometimes acted unfairly toward Israel. But he also accused Israel of purposely undermining the good will of its neighbors by establishing settlements in Palestinian areas and imposing hardships on Palestinians, and he called upon Israeli officials to soften their attitude toward Palestinians. Two months later he went to Africa, where he made stops in eight countries. In what he termed a "healing mission" to Rwanda, he appeared before the Rwandan Parliament. Following a vehement denunciation by Anastase Gasana, the country's foreign minister, of the U.N.'s actions in Rwanda in 1994, Annan—who had then been under-secretary-general for peacekeeping operations—acknowledged the inadequacy of the organization's response to the widespread massacre of Tutsi civilians by Hutu militants. His failure, in that speech, to apologize for the U.N.'s dismal performance or to assume part of the blame himself angered many Rwandan lawmakers, among them the nation's president, Pasteur Bizimungu, and deputy president, Paul Kagame, who refused to attend a reception held in Annan's honor.

At the opening session of the General Assembly in September 1998, Annan urged the organization to intervene in the growing conflict between Serb forces and ethnic Albanians in the Serbian province of Kosovo. That intervention started to materialize in June 1999, when the Security Council voted to send a NATO-led peacekeeping force of 50,000 troops into Kosovo and to assign temporary responsibility for administering the

province to the U.N. The newly created U.N. Mission in Kosovo (UNMIK), headed by the French minister of health, Bernard Kouchner (a co-founder of DOCTORS WITHOUT BORDERS), was given the formidable task of forming a 3,000-member multinational police force, setting up a judicial system, dealing with human-rights abuses, tackling the problems anticipated with the return of hundreds of thousands of ethnic Albanian refugees, and rebuilding homes and infrastructure. The continuing presence of the Kosovo Liberation Army (a guerrilla group composed of ethnic Albanians) and still-intense animosity between Serbs and ethnic Albanians compounded the difficulties UNMIK faced. As of late November 1999, Steven Erlanger reported in the *New York Times* (November 22, 1999), intolerance and the widespread desire for revenge were thwarting progress toward the creation of a peaceful, multiethnic, democratic, self-governing province.

In June 1998, in what Annan referred to, in an interview with Afsané Bassir Pour for *Le Monde* (on-line), as “a giant step that we have taken for future generations,” the U.N. created the International Criminal Court, in Rome, to bring to justice “those who commit crimes against humanity.” Describing what he termed the “completely unjust situation” that had existed “because the necessary international framework did not exist,” he noted that someone who kills an individual would, “in all likelihood, be tried and punished, but someone who kills a hundred thousand will not be brought to justice; that is unacceptable. We have seen that criminals like the former chief of the Khmer Rouge [in Cambodia], Pol Pot, have never been punished.” Other matters that required Annan’s attention included reported misconduct of U.N. peacekeeping troops (who are citizens of various member nations). In August 1999 Annan issued a directive stipulating that all troops under U.N. command must follow international laws—prominent among them the Geneva Conventions—governing behavior of soldiers during wartime, with the aim of safeguarding civilians and prisoners of war. Signed to date by 188 nations (but not the United States), the Geneva Conventions prohibit the use of land mines, booby traps, and other weapons of indiscriminate destruction.

In April 2000 Annan issued what the U.N. referred to as a millennium report, entitled *We the Peoples: The Role of the United Na-*

tions in the 21st Century. According to a U.N. press release, the report was “the most comprehensive presentation of the UN’s mission in its 55-year history.” In particular, it set forth an ambitious agenda that included reducing by 50 percent, by the year 2015, the number of people living in extreme poverty and lacking safe water; ensuring, also by 2015, that all children complete the primary grades and that females and males have equal access to education; decreasing by 25 percent HIV infection rates among people 15 through 24 years old within the next decade; improving the living conditions of some 100 million slum dwellers in the next 20 years; expanding the access of poor nations to the markets of industrialized countries by phasing out duties and quotas; instituting debt-forgiveness measures for poor countries; taking steps to increase world security, “through firmer enforcement of international humanitarian and human rights law” and programs to encourage disarmament; and ensuring the health of the planet for future generations. “We must put people at the centre of everything we do,” Annan declared. “No calling is more noble, and no responsibility greater, than that of enabling men, women and children, in cities and villages around the world, to make their lives better. Only when that begins to happen will we know that globalization is indeed becoming inclusive, allowing everyone to share its opportunities.”

Annan faced many challenges in 2000. Peacekeeping missions in East Timor, Sierra Leone, Kosovo, and the Democratic Republic of Congo, among others, severely strained the resources of the United Nations peacekeeping department, which, with approximately 400 employees, is only half the size of the organization’s public-information staff. In March 2000 Annan appointed an international panel to come up with ways in which peacekeeping missions could be handled more effectively. “Partly it is a question of being clearer about what [the missions] are trying to do. And partly it is a question of getting the nuts and bolts right,” Annan explained, as quoted by Barbara Crossette in the *New York Times* (March 8, 2000). Backed up by the panel, Annan called for strengthening and reorganizing the peacekeeping department and enlarging the U.N. Security Council.