#### Stanford University

# CISAC

Center for International Security and Arms Control

The Center for International Security and Arms Control, part of Stanford University's Institute for International Studies, is a multidisciplinary community dedicated to research and training in the field of international security. The Center brings together scholars, policymakers, scientists, area specialists, members of the business community, and other experts to examine a wide range of international security issues. CISAC publishes its own series of working papers and reports on its work and also sponsors a series, *Studies in International Security and Arms Control*, through Stanford University Press.

Center for International Security and Arms Control Stanford University 320 Galvez Street Stanford, California 94305-6165

(415) 723-9625

http://www-leland.stanford.edu/group/CISAC/

# Can the Nation Afford a Senior Citizen As President? The Age Factor in the 1996 Election and Beyond

Herbert L. Abrams

**April 1997** 

Herbert L. Abrams is Professor Emeritus of Radiology and Member-In-Residence at the Center for International Security and Arms Control, Stanford University.

The Center is grateful to the Carnegie Corporation of New York for supporting this project. The opinions expressed here are those of the author and do not represent positions of the Center, its supporters, or Stanford University.

## **Executive Summary**

Disabling illness has been widely observed among national leaders. This is hardly unexpected because many of them govern at an age when there is a high incidence of debilitating disease. Age became an important issue during the presidential campaign of 1996 because Senator Dole was the oldest candidate ever nominated for a first term. Polls demonstrated a substantial level of concern in the electorate, particularly among older Americans.

The heightened risk of disability or death from heart disease, stroke, and cancer at age 70 and over was one important consideration. It raised doubts as to whether a 73-year-old president would be able to fulfill his implicit contract to serve 208 weeks in office. A second related element was the profound change in cognitive capacities known to be associated with those diseases, even when the symptoms and physical impairment are stable or have improved. Finally, quite separate from the cognitive impairment of illness, age itself carries with it on average a decline in mental acuity, efficient information processing, memory, problem solving, and other requisites of effective decision making. Many older voters reacted to Dole as they did because of their awareness that their own memory, concentration, and energy levels had diminished over the years, sometimes drastically.

In spite of the national concern about job discrimination of any kind, including that based on age, it seems clear that mandatory retirement for chief executive officers at the age of 65 will continue to be an important tenet of our great corporations. Similarly, the most demanding job in the world—the U.S. presidency—need not be imposed on senior citizens. Congress should craft a resolution expressing its conviction that 65 should be the upper age limit for candidates running for a first term as president of the United States.

# Can the Nation Afford a Senior Citizen as President? The Age Factor in the 1996 Elections and Beyond

There is a drumbeat of hype in the air on the pleasures of joining the ranks of the elderly. It is a heady mix that goes well beyond longer life expectancy to include better health, more security, and the joys of the new passage. Ill health, disability, memory loss, poverty, and all of the afflictions of old age are somehow set aside in the thrust to paint a romantic picture of seniors that unfortunately corresponds to reality for only a fraction of the group.

It is true that the life span is steadily increasing. In 1900, life expectancy at birth was 47 years, while in 1997 it is 76. The proportion of the population 65 years of age or older will virtually double by 2030, to reach the staggering figure of 20 percent. But even while some enthusiastically herald the graying of America, the conversation of others focuses grimly on Social Security and Medicare, and how quickly or slowly they will drive us to bankruptcy. Somewhat less attention goes to the potential political impact, or the fact that even today seniors represent more than 20 percent of both the voting population and those who actually cast their ballots.

Was the power of this voting bloc reflected in the Republican nomination for president and in the election of 1996? After all, Senator Dole was the oldest man ever to seek a first term. The answer is a mixed one, compelling us to plunge into the issues of aging leaders and our choices in the years ahead.

## Illness in Aging Leaders

When François Mitterrand died of carcinoma of the prostate at the age of 79, his achievements were generally acclaimed, but his health history also attracted worldwide attention. Here was a president who had criticized a predecessor, Pompidou, for the secrecy that surrounded his cancer and disability. He had pledged to convey to the public all aspects of

his health and well-being when he assumed the presidency. Nevertheless, when his physicians discovered late in 1981 that his prostate cancer was widespread, he demanded absolute confidentiality from them. His own doctor, Claude Gubler, believed that in the final years "Mitterrand was no longer capable of carrying out his duties . . . He no longer did any work, because nothing interested him except his illness." <sup>2,3</sup>

More recently, the health of Boris Yeltsin has captured the attention of the world, and properly so. He was first hospitalized for chest pain in November 1987 and subsequently had an episode of what his aides called "minor heart trouble." In April 1995, in a rare statement detailing his health, Yeltsin's spokesman said that he suffered from high blood pressure. In July, he was rushed to the Kremlin hospital with "acute heart problems," later refined to "coronary ischemia." <sup>6</sup> Three months later, he was again hospitalized, and it later became known that before the election, in the spring of 1996, he had another heart attack, which was kept secret. <sup>7</sup>The reassurance from his physicians both before and after quintuple coronary bypass surgery<sup>8,9</sup> meant only that if Yeltsin survived surgery, he would be able to return to his presidential desk sooner or later, but his effectiveness as a leader and decision maker would certainly be impaired for many months. As it turned out, during the six months following his election, he was able to work in his office only two weeks as the situation in Russia deteriorated. A motion to impeach him on the grounds of disability failed in the Duma, and a suggestion that he be examined by an impartial medical board went unheeded. 10 However, 70 percent of Russians polled in January 1997 believed that Yeltsin could no longer do his job well, and 69 percent were convinced that they were not receiving reliable information about his health. 11

Disabling illness has been widely observed among older national leaders, and its effects have been accorded substantial recognition. In the final years of his leadership, while Hitler rearmed in violation of the Versailles treaty, the British Prime Minister Ramsey MacDonald suffered not only from depression but almost certainly from Alzheimer's disease. Winston Churchill during his second term as prime minister suffered a series of cerebrovascular events—with a disabling stroke in 1953—that altered his leadership skills significantly. In the late 1980s, at age 73, President Botha of South Africa resigned as leader of the National Party because of a stroke. The 70-year-old Prime Minister Andreas Papandreou of Greece was incapacitated by his serious heart disease for a long period before he had open heart surgery in London. Ayatollah Khomeini's cancer in 1988, was publicized almost at the same time that we learned from El Salvador that President Duarte's stomach cancer had spread to his liver.

#### U.S. Presidents

In the United States, fourteen of the eighteen presidents of this century have had significant and numerous illnesses while in office. <sup>19</sup> Franklin D. Roosevelt (63) and Harding (57) died; Wilson, FDR, Eisenhower, Johnson, and Reagan were incapacitated by illness and/or surgery. Nine presidents have suffered from heart disease, and five have had high blood pressure. Three experienced strokes (Wilson at age 62, FDR at 63, Eisenhower at 67), six had major surgery at least once, and two had cancer. Kidney disease (two), gastrointestinal disorders (seven), and respiratory illness (five) have been common. Other health problems included diabetes, adrenal insufficiency, hyperthyroidism, and prostate disease. <sup>20</sup> This wide-

ranging catalogue of illness should not be surprising: most of our presidents were 50 years old or more at the time of their first election, with an average age of 57 in this century.

Mitterrand, Yeltsin, MacDonald, Churchill, Brezhnev, Andropov, Wilson, FDR—all were major national figures suffering from serious illness, yet they remained in office during their seventh decade of life and beyond. The aging leader may have enormous reluctance to relinquish power and, if the institutions permit, he will frequently remain in office long after his capacity to function effectively has peaked.<sup>21</sup> In an analysis of this issue in China, Russia, and Indonesia last year, the Economist observed, "For the citizens of these three countries, which together account for over a quarter of the world's population, a sickly gerontocrat means perpetual speculation and uncertainty." <sup>22</sup>

#### Age and the Election of 1996

The issue of age and illness resonated throughout the U.S. presidential election of 1996. Senator Dole was four years older than Ronald Reagan was at the time of his first presidential campaign. If Dole had won the election, he would have been 77 years old at the end of his first term, 81 at the end of a second.

Was age a legitimate issue? After all, there are numerous examples of Supreme Court justices and legislators who have made major contributions when in their 80s. But they are seldom confronted with crisis situations demanding rapid decisions that may affect the outlook for the nation. The motif of age arose early in the primary campaign and Dole himself kept it on the front burner by repeatedly emphasizing the "maturity" that had provided him with the experience to lead.

Despite the gray-haired clients on exercycles who fill health clubs, age carries with it more baggage than "experience." The issue became so pervasive that a University of Maryland study during the primary found 884 news stories linking Dole with references to age, and 204 other articles calling him old. Age was virtually never mentioned in articles on the other candidates.<sup>23</sup>

In December 1995, voters were asked to convey their impressions about the various candidates. The most common comments about Dole were related to his age, and the reactions to his age were generally negative. A nationwide survey in March 1996 requested a single-word description of Dole; 66 percent of those sampled replied "old," 22 percent "too old." Among Connecticut voters who were asked to identify which candidates fit the description has the health and stamina we need in a president, 60 percent said that only Clinton had that quality. Nine percent cited Dole alone.

Other polling data demonstrated how the perception of Dole's age swirled around his candidacy. An exit poll in the New Hampshire primary found that 43 percent of Republican voters thought Dole was too old to be president. In most primaries, one in three GOP voters queried believed that Dole's age would hurt him as president.<sup>27</sup> Fewer than 2 percent of the public considered 70 and above the best age for a president.<sup>28</sup>

Older Americans, who might well have thought that someone their age could represent them best, instead had less confidence in Dole's abilities than did younger voters. Fewer than half of those in Dole's age group surmised that he would make a good president.<sup>29</sup> Two in five older Americans believed that because of his age, he would be less able to handle the

office.<sup>30</sup> In March, Clinton was leading 62 percent to 34 percent among all voters over the age of 60.<sup>31</sup>

What worried seniors was whether Dole had the mental and physical stamina to do the job. When asked to comment about his age, some said: "I think he's great. I like him a lot. But I'm afraid he won't make it the four years." He was "past retirement age." "I'm 73 years old . . . Anybody my age, you just can't do it." He was too "chronologically challenged" to handle the presidency. 35

Dole's age may have been a liability in part because of his bearing. Some considered him cantankerous or confused and unable to articulate clearly his program for the country. "When you're 72, voters tend to lump it all in with the age factor." <sup>36</sup>

In interviews conducted on election day, voters were as likely to cite Dole's age as they were the president's achievements as a reason for voting for Clinton.<sup>37</sup> Exit polling showed that only 39 percent of voters aged 65 or over voted for Dole, compared with 52 percent for Clinton.<sup>38</sup> An election postmortem by a Dole supporter concluded, "It all came down to two things . . . one was the economy, the other that Dole was too old."<sup>39</sup>

Clearly, the doubts and the questions remained to the end. But was there really sufficient reason to be concerned? If elected, could Dole have confronted the complex problems of this turbulent era, the pressure-cooker atmosphere of the White House? Would he have survived his term in good health? What were the probabilities?

#### The Likelihood of Organic Disease in the Elderly

The average man has a 13 percent chance of contracting a new cancer between the ages of 70 and 75; during the five years from 75 to 80, the figure rises to 16 percent. In the 60 to 79 age group, 34 percent (or one in three) of all men will develop an invasive cancer. A man aged 75 to 84 is 34 times more likely to die of stroke, seventeen times more likely to die of heart disease, and twelve times more likely to die of malignancy than one aged 45 to 54. Although life expectancy has increased strikingly in this century, 19 percent of Americans will die between the ages of 70 and 74, and 26 percent of men aged 75 will die before they reach the age of 80. One out of six men aged 45 to 64 has some form of heart disease or stroke; at age 65 and beyond, the ratio rises to one in three. After age 55, the incidence of stroke more than doubles in each successive decade.

The rate of surgical procedures per 100,000 men, with all of their disabling complications and sometimes death as the outcome, is 60 percent higher in the 65- to 74-year-old group than among those aged 55 to 64. More than twice as many coronary artery bypass grafts and more than three times as many open heart surgical procedures are performed in men during the decade after they reach 65 than in the preceding decade. The mortality rate in the first month after surgery is twice as high for those over 65 as under, and the complication rate is also much higher.

What about Alzheimer's disease? Coming on slowly at times, altering concentration, memory, and temperament, with a certain effect on decision making, it can readily be hidden from the public in the early stages. For the over-65 age group, its incidence doubles every five years. Among those who are 65 to 74 years old, Alzheimer's develops in 3 percent; it jumps to 19 percent in those aged 75 to 84.51

When voters choose a president over the age of 65, they must come to grips with the possibility that he will be unable to fulfill the 208-week contractual obligation to them that is implicit in his candidacy. Even if the senior-citizen president survives the first term, there is a heightened probability that illness may impair his intellectual powers and leadership ability.

## The Cognitive Impact of Illness

Dominating the template of organic disease that affects the elderly are heart disease, stroke, cancer, infection, and the complications of major surgery. All of these have both acute and chronic phases, with varying periods of convalescence or recuperation. Although the acute condition may be profoundly disabling, the cognitive effects in the short, intermediate, and longer term are pivotal. Heart attacks, for example, are accompanied by anxiety, depression, difficulty in concentration, and problems with sleep in a large percentage of patients. <sup>52,53</sup> (In the depths of the depression that President Eisenhower experienced following his heart attack in 1955, he reflected that time had passed him by.) <sup>54,55,56</sup> Four months after a heart attack, over half the patients exhibit psychological disturbances <sup>57</sup> and depression persists. <sup>58,59</sup> One-third of patients are subject to fatigue, impaired memory, inability to concentrate, and emotional instability and irritability for six to twenty-six months afterwards. <sup>60,61</sup> The presence of heart disease by itself has been found to be a predictor of significant intellectual disability. <sup>62</sup>

Subsequent to a stroke, depression, anxiety, and emotional lability characterize many patients.  $^{63}$  Forty to 60 percent are cognitively and emotionally impaired; 97 percent suffer from headaches, and there is memory loss in 28 percent.  $^{64}$  Depression may remain severe six months to two years later.  $^{65,66,67}$  Insomnia and feelings of hopelessness are often experienced.  $^{68,69,70}$ 

Major surgery, no matter how well it goes, is a traumatic assault on the organism. Afterwards, anxiety, difficulty in concentration, and memory impairment are frequently observed. Feelings of helplessness, excessive dependence, and loss of control may be intense. Feelings of helplessness, excessive dependence, and loss of control may be intense. A major sequel of surgery is confusion severe enough to impede the patient's ability to think clearly, at times associated with an altered perception of time and space. (President Reagan required chest surgery after John Hinckley's assassination attempt in 1981. On the second postoperative day, Mrs. Reagan noted, to her distress, that the president was disoriented as to time. Postsurgical patients may lose the ability to grasp concepts or to use deductive and inductive logic. The elderly are especially susceptible to confusion. Among those aged 65 or older, over 50 percent experience disabling postoperative depression. Str. Feet following so common a procedure as coronary artery bypass surgery, adverse effects on the brain are "common and serious" and a significant number of patients have neurologic deficits postoperatively.

Expectedly, the most common emotional complication of cancer is depression.<sup>80,81,82</sup> It is accompanied by anxiety, regressive behavior, and anger in many patients.<sup>83,84</sup>

In patients with hypertension, depression, anxiety, irritability, and emotional instability may interfere with function.<sup>85</sup> Standard psychometric tests demonstrate slowness in comprehension, memory impairment, and delayed mental processing.<sup>86,87</sup> When on medication,

hypertensive patients perform significantly more slowly than do individuals with normal blood pressure.<sup>88</sup>

### **Drug Effects**

Even the drugs administered to Bob Dole had their potential side effects. He received a daily dose of 20 milligrams of Pravachol to keep his cholesterol down. <sup>96</sup> Pravachol, although generally well tolerated, may cause headache, fatigue, dizziness, and blurred vision as well as chest pain, vomiting, diarrhea, heartburn, and liver dysfunction. The 500 mg of niacin in Dole's regimen may produce dizziness, transient headache, increased heart rate, flushing, warmth, burning, nausea, vomiting, and blurred vision. <sup>97</sup>

Zantac, a drug which Dole took for his esophagitis, is also capable of producing central nervous system and gastrointestinal (GI) effects such as nausea and abdominal pain. In some patients it may decrease the white and red blood cell counts, as well as the platelets. Ibuprofen (for his shoulder pain and rotator cuff injury) evokes a number of complications involving the central nervous system, GI tract, and genitourinary tract. 98,99 Patients over the age of 60 may be more susceptible to its toxic effects, especially the adverse GI reactions. 100

While any patient receiving these drugs is at risk for their widely documented complications, the drugs are generally well tolerated, less so in the older age group.

If illness, surgery, and drugs produce cognitive changes, so what? Why worry about it?

Cognition is the sophisticated interaction of mental processes that produces human thought. Among the host of functions the term embodies are concentration, attention, inventiveness, intuition, memory, foresight, reflection, deliberation, and abstract and logical thought. All are applicable to meaningful decision making, and many are essential when the time for decision making is short. Under the pressure of time, there is a heightened need to make measured assessments, to weigh evidence, to be rational, to remember, and to organize and integrate information from disparate sources promptly and effectively.<sup>101</sup>

# Age and Cognition

But illness and its effects are not the only concern. Cognitive psychologists have explored the degree to which mental acuity declines with increasing age, a change not always acknowledged in the testimonials to the blessings of aging. <sup>102</sup> Rybash has demonstrated that older adults "process less information in a progressively less efficient manner and become less adept at acquiring new information . . . . " <sup>103</sup> Tests measuring verbal memory and reasoning

ability reveal a significant decline with aging. <sup>104,105,106,107,108,109</sup> Powell compared the cognitive abilities of a group of doctors of different age groups using a comprehensive psychometric test. The average 60-year-old doctor scored only 8 percent lower on the test than a young doctor, but the score difference nearly doubled with each decade after 60. This change occurred regardless of the individual's physical health or whether he continued to work or retired. <sup>110</sup>

The changes observed in the normal elderly—the decline in their ability to learn and remember—have been variously labeled "benign senescent forgetfulness," <sup>111</sup> "age-associated memory impairment," <sup>112</sup> and "age-related cognitive decline." <sup>113</sup> The deficits have been carefully measured by objective tests that mimic real-life situations. <sup>114</sup> A finding that is highly germane to the presidency is that older individuals are more sluggish at processing and retrieving information from their short- and long-term memory. <sup>115,116,117</sup> There is a 60 percent slowing in the rate of memory search between the ages of 20 and 50. <sup>118</sup> Among the old, a longer exposure time is required to register a given amount of information and commit it to memory. <sup>119</sup>

Creativity, or the ability to think of alternative solutions to problems, reveals a similar pattern of decline. Persistence, flexibility, and the capacity for abstract thought diminish, decline as does organizational skill. Denney and Denney, using a quantitative test to measure organizational ability, found that the 70- to 79-year-old age group scored only 44 percent of the maximum score, compared to 74 percent of those aged 50-59, and 100 percent of those 30-39.

The effects of reduced memory and creative and organizational capacities were apparent in the results of tests measuring logic and problem-solving skills, so important to effective leadership and decision making. The old consistently fared worse than younger adults. Arenberg found that 60 to 75-year-olds, asked to solve a series of logic or detailed word problems, had far more trouble than younger individuals in analyzing them efficiently and organizing their approach to the questions. Difficulty separating irrelevant from relevant information and deficiencies in attention or concentration were frequently observed. In all of the so-called decision-making skills, age decrements have consistently been found. Physical function also slows and the stamina required to deal with a prolonged crisis situation may be lacking.

Aging is frequently accompanied by cerebral arteriosclerosis, of which strokes are one manifestation. In the absence of catastrophic events, a number of psychological changes occur that impinge on leadership and decision making. Rigidity of thought, impairment of intellect and judgment, emotional lability, exaggeration of earlier personality reactions, and denial of disability when it is present have been described as part of a pattern of functional disturbances. Such traits in leaders and their effects on behavior have been viewed as potential causes of precipitous political actions. <sup>134,135</sup>

Awareness of the changes associated with aging helps explain why older voters were concerned about Dole's ability to handle the presidency. While they were hardly conversant with the large body of research on aging and cognition, they knew perfectly well that their own memory, concentration, and energy levels had changed, sometimes drastically.

#### Dole's Health Risks

Beyond the likelihood of the disabling disorders associated with aging and their cognitive effects, beyond the impact of age itself on decision making, could we have been reassured by Dole's apparent good health? He seemed to be in excellent general condition, watched his diet and his weight, and exercised intelligently and systematically. But the oldest candidate ever to undertake a first run for the presidency was not exempt from the risk factors associated with aging. He released detailed records of his health status, and both he and his physicians responded to appropriate questions about his past history. Here is what we knew. 136,137

His widely discussed war injuries left him with residual atrophy of the right arm and hand, which is virtually useless. During convalescence, he required the removal of his right kidney because of stones and infection. In 1981, he developed stones in the remaining left kidney, necessitating surgery to remove them. Twice subject to stones in the past, he may well form them in the future, particularly in light of his somewhat elevated uric acid levels.

Dole's cholesterol level was as high as 288, but became normal after ten years of Pravachol and niacin treatment. His triglyceride level, another risk factor, has been slightly elevated. In fact, his cardiac status has been clouded by some ambiguity. During the 1980 presidential campaign, Dr. Freeman H. Cary, the attending physician for the Congress, reported that Dole's electrocardiogram showed changes suggestive of an old inferior myocardial infarction. <sup>138</sup> In 1981, the electrocardiogram again showed abnormalities suggestive of a heart attack; after a transfusion it reverted to normal. At Duke University, a series of tests in July 1982 was thought to be negative, but in November an isotope scan at Walter Reed was considered positive once more. Apparently because of the uncertainty, Dole underwent coronary arteriography in December 1982, which was said to be normal. <sup>139</sup> Unfortunately, the arteriogram was no longer available for independent review.

Prostate cancer was diagnosed by biopsy in 1991 following the detection of a high prostate specific antigen (PSA) level. No evidence of spread to bone or other organs was found, and total radical prostatectomy was performed in December 1991. Follow-up PSA tests have been normal, with no indication of recurrence. By December 1996, he became a "five year survival," and there is a reasonable likelihood that it will trouble him no more. Nevertheless, prostate cancer may recur in unpredictable fashion long after a symptom-free interval and years of apparent absence of disease.

In 1985, adenomatous polyps were found in his colon and removed. Although these had low-grade dysplasia, they are always potentially pre-malignant. Periodic surveillance colonoscopy has been performed, the most recent one showing a single benign hyperplastic polyp. <sup>140</sup>

Smoking? It is not clear how many pack-years Dole smoked. He stopped in 1982 after about forty years, and has no residual respiratory symptoms. But smoking is always a risk factor for lung cancer, bronchitis, and emphysema. (His brother, a lifelong smoker, died of emphysema at age 68.)

His mother died at age 80 of a heart attack and is known to have been troubled with coronary disease in the period before her death. According to the Framingham Study, this would increase his risk of having coronary disease by 37 percent. It father died of a ruptured aortic aneurysm at the age of 75. Statistically, this heightens the likelihood of his having an abdominal aortic aneurysm. And his sister, 75, has a lymphoma, now in

remission after chemotherapy. Siblings of those with a history of lymphoma have an increased risk of developing a number of different cancers.<sup>145</sup>

Those are the specifics, many of them related to age and justifying serious concern. In 1944, a man ten years younger than Dole, and ambitious to continue serving the country, ran for a fourth term at the age of 63, in spite of malignant hypertension and known congestive heart failure. It was predictable that he would not survive his term. Harry Truman knew when he ran for vice president that he was really running for the presidency, according to his daughter. Truman moved to the White House thirteen weeks after the inauguration, when FDR died from his massive stroke.

## **Concluding Comments**

If the leader becomes ill, camouflage or denial is too often the pattern. It has been true not only of Mitterrand, Yeltsin, Papandreou, and other modern heads of state. In this country, Cleveland, Wilson, Harding, Roosevelt, Eisenhower (at the time of his stroke), Kennedy, and Reagan all had serious illnesses that were either kept secret or underreported. Years after the assassination attempt on President Reagan, Mrs. Reagan acknowledged that "There was kind of an unspoken agreement that none of us would let the public know how serious it was and how close we came to losing him." <sup>147</sup> President Jimmy Carter has pointed out that there is a reluctance in any case to reveal facts, an inclination on the part of the president's intimates not to be frank about the seriousness of his difficulties, whether it is the loss of mental capability, a heart condition, or perhaps a stroke. <sup>148</sup> If history is any guide, when future presidents suffer from strokes, heart attacks, cancer, or Alzheimer's disease, there may well be concerted efforts to conceal the facts.

Why take a chance? Why did Bob Dole push the odds and run for the most demanding job in the Western hemisphere at an age when illness abounds, memory suffers, and energy flags? This is the period when the elderly need their afternoon nap, and the absent-minded become more so. Although he appeared to be in fine shape, the job is daunting, stress runs high, and the risk was significant.

There is a corollary question that merits serious and continuing debate. In Australia, all recent prime ministers have taken office well below the age of 60. We have a lower limit on age for our presidents; given our knowledge of the changes that generally accompany aging, why not set an upper limit of 65 on candidates for a first term?<sup>149</sup> This is, after all, the culturally accepted retirement age, the moment when Social Security begins. Such a constraint need not be embodied in a constitutional amendment: a "sense of the Congress" resolution would have a powerful impact on the political parties and their nominating process.

One of the best known twentieth-century journalists, James Reston of the New York Times, addressed this issue on at least three occasions. Writing about the Nixon presidency in 1975, he suggested that younger presidents might be more resistant to the stresses of the job, and that presidential and vice-presidential candidates should be screened more carefully. Later that year, he focused on the problem once more. "What is needed is a review and certification by a panel of outside medical experts of the candidate's medical records before the nominating conventions . . . It is not responsible in this violent age to pick candidates for the presidency from men in their 60s." <sup>151</sup> Ten years later, discussing the Iran-

Contra controversy, Reston indicated that North and Poindexter might be correct in their belief that Reagan had agreed to the transfer of money and arms to the Contras, but that Reagan simply did not remember it. He quoted at length from the letter of a physician who had written to him:

I think . . . that what the President is doing may be the result of the aging process . . . When he says he did not hear or know what Donald Regan said about the sale of arms, he may not really remember. When he says that Israel did not send arms and that he never condoned such a thing, he is telling the truth as he remembers it . . . In the elderly, recent memory begins to fail. His staff may brief him immediately before a press conference, but in a few minutes he could honestly forget almost everything that had been prepared.  $^{\rm 152}$ 

In spite of the general understanding that normal aging processes as well as the illnesses of the elderly have a major impact, objections to an upper age limit may be voiced on a number of grounds:

- 1. One of our great newspapers has proclaimed that there "is no intrinsic reason why a 73-year-old cannot be President." <sup>153</sup> The issue is not whether he can, but whether he should. With every year that passes, his chances of experiencing a disabling illness or of dying increase. Although 57 percent of those born seventy-three years ago are still alive, four years from now the percentage will drop to 46. <sup>154</sup> What seems incontrovertible is that age affects everyone in similar fashion, if not to the same degree, and that those changes increase the probability either of a less effective presidency or even one in which the vice president may have to assume power. When it is said that he whom we choose will surely be one of the "young-old" rather than the "old-old," that cannot be taken to embrace the years in office that follow election. Even among the healthy and active "young-old," psychologists have found slowing in the speed of cognitive processes when physical and physiologic parameters appeared normal. <sup>155</sup>
- 2. The health effects and the cognitive changes and memory lapses in those over age 65 are unevenly distributed. We know that old people, compared to young adults, "are less likely to produce unusual solutions to problems; experience more difficulty in shifting from one type of problem to another; are less systematic in their progress towards a solution; and require more information to make logical deductions." <sup>156</sup> But it is certainly true that there are large variations in performance and cognition at a given age. <sup>157</sup> The deterioration of average scores on psychometric tests should not be taken to imply that every old person declines equally. Even if the percentage of decline were equal, the starting point is not the same. <sup>158</sup> The intersecting line between degraded cognitive capacity and the benefits of experience requires consideration. There may be an enormous compensating effect from the kind of wisdom sometimes apparent in elder statesmen. Surely, we want to recognize it and take advantage of it.
- 3. An upper age limit, it is held, would deprive us of the Adenauers and De Gaulles. Leadership is not simply about cognitive ability, resilience, and stamina, the argument continues. Experience, insight, intuition, judgment, and inner strength are dimensions that are not necessarily diminished by age.

Manifestly, there are great leaders who have functioned well beyond the age of 70. The nation could benefit from their wisdom in the kind of consultative role that would allow

them to consider and reflect, unencumbered by the stressful demands of office. That is precisely the pattern followed by some chief executive officers of the great corporations, who continue to advise and consult after their mandated retirement at age 65. But the presidency of the United States is a position that is uniquely demanding. The president's role is not confined to thoughtful, meditative policy decisions. Instead, it embodies a large and pressing operational component, interacting with the White House staff, the Cabinet, the Congress, the media, the public, the international community, and many elements of his political party. It is a stressful, power-packed, exhausting job, requiring not only cognitive competence but also stamina and energy during long days, weeks, and months. The president must respond quickly to emergencies and make decisions that are based on a level of accelerated information retrieval and processing that the elderly may lack. In a crisis, we want a cool head, a clear mind, and an ability to integrate expeditiously the huge number of inputs to which the president is exposed.

- 4. If the president is ill, or cognitively impaired, or unable for any reason to process and sort through the information and options before him in a crisis, surely, it is said, the structural and institutional constraints that bind him will preclude a catastrophic decision. That is what his staff and the Cabinet are all about, so why concern ourselves about the power of the office and its potential abuse by a sick leader? Because it is simplistic to believe that anyone but the president, in the final analysis, can make and assume the responsibility for the great decisions that confront the country. In the small hours of the night, it was John Kennedy alone who determined the course we ultimately pursued in the Cuban Missile Crisis.
- 5. Age discrimination is illegal in the workplace; why introduce it into the highest office in the land? The answer lies in the question: precisely because it is at the very center of governance and national authority. No one suggests that such a limit be placed on the Congress—although it might be salutary—or on the Supreme Court. Senescence in Congress may be balanced and moderated by sheer numbers; in the Supreme Court it may be compensated for by bright young clerks who contribute so much to the ultimate judicial decisions. Why use age as the marker for competence, rather than intelligence, disposition, values, past achievements, and a host of other factors? The anwer is that no criterion other than age is so directly linked to a heightened probability of disability and cognitive decline and hence of a potential failure of leadership at a moment of national need.
- 6. An upper limit on age represents "age prejudice" or discrimination, as well as a violation of the Constitution, which contains no such limit. Change would require a constitutional amendment in order to be enforceable. This argument may seem like a meaningful one, but in fact it establishes a straw man. A "sense of the Congress" resolution would leave the Constitution intact, and of course is not legally binding. As an expression of a better understanding of the effects of aging on national leaders, it would serve as a strong deterrent to seniors wishing to run and politicians who would like to nominate them. Nor is the factor of age as a determinant of presidential eligibility foreign to the Constitution. The young men who labored over these issues in 1787—Madison, Hamilton—may now be accused of age discrimination because they understood that below age 35 (as both were at the time), the candidate might be lacking in the experience and maturity required for strong and wise leadership. Aldrich has pointed out that having set a lower limit, the founding fathers may not have thought "to set an upper limit, since two hundred years ago not many people survived to old age. Furthermore there was little need for emergency decisions in those days because of the slowness of communication." <sup>159</sup>

It is true that only William Henry Harrison (68) (who died one month after his inauguration), Ronald Reagan (69), and Robert Dole (73) were over the age of 65 when they ran for a first term. But the population is growing older, and if 1996 is any precedent, we may soon again confront a candidate whose age might interfere with his capacity to respond to crisis.

It seems reasonable and prudent to grapple with the reality of aging and do what is best for the nation. L'Etang has summarized it in the most straightforward fashion: "Experience suggests that it should be made impossible for Presidents and Premiers to remain in office after the age of 65." <sup>160</sup> A less confining resolution expressing the "sense of the Congress," setting the upper age of first-time candidates at 65, would be forcefully binding on our political parties. It would recognize that the presidency is too demanding—physically, psychologically, emotionally—to place the burden on the shoulders of a senior citizen.

#### References

- <sup>1</sup> "The Age Boom: A Special Issue," New York Times Magazine, March 8, 1997.
- <sup>2</sup> "Mitterrand's Cancer Coverup," San Francisco Chronicle, January 17, 1996.
- <sup>3</sup> C.R. Whitney, "The Secret Mitterrand Couldn't Keep," New York Times, January 17, 1996.
- <sup>4</sup> J. MacKenzie, "Bad Heart Hospitalizes Yeltsin Again," Moscow Times, October 27, 1995.
- <sup>5</sup> "Yeltsin's Long History of Illness, Vanishing Acts," Reuters World Service, October 26, 1995.
- <sup>6</sup> MacKenzie, Moscow Times.
- <sup>7</sup> "Yeltsin Had Heart Attack in June: Russian Cardiologists Confirm," Agence France Presse, September 21, 1996.
- <sup>8</sup> L. K. Altman, "DeBakey Gives a Detailed Account of Yeltsin," New York Times, September 26, 1996.
- <sup>9</sup> ——, "Yeltsin Is Recovering, But Is Warned Not to Rush Back to Work," New York Times, November 7, 1996.
- $^{10}\,$  C. J. Williams, "Bid to Impeach Ailing Yeltsin Fails in Duma," Los Angeles Times, January 23, 1997.
- $^{\rm 11}$  V. Bennett, "Yeltsin Still Too Sick to Work or to Host Planned Summit," Los Angeles Times, January 25, 1997.
- <sup>12</sup> J. M. Post and R. S. Robins, When Illness Strikes the Leader: The Dilemma of the Captive King (New Haven: Yale University Press, 1992); B. E. Park, The Impact of Illness on World Leaders (Philadelphia: University of Pennsylvania Press, 1986); H. L'Etang, Ailing Leaders in Power: 1914–1994 (London: Royal Society of Medicine Press, 1995); R. E. Gilbert, The Mortal Presidency (New York: Basic Books, 1992); R. H. Ferrell, Ill-Advised: Presidential Health and Public Trust (Columbia: University of Missouri Press, 1992); K. R. Crispell and C. F. Gomez, Hidden Illness in the White

- House (Durham: Duke University Press, 1988); E. B. MacMahon and L. Curry, Medical Cover-ups in the White House (Washington, D.C.: Farragut Publishing Co., 1988).
- <sup>13</sup> B. E. Park, Impact of Illness, 92–116.
- <sup>14</sup> Lord Moran, Churchill: Taken from the Diaries of Lord Moran (Boston: Houghton Mifflin Co., 1966), 358–438.
- <sup>15</sup> C. Wren, "Botha Quits Post as Party Leader," New York Times, February 3, 1989.
- <sup>16</sup> P. Anastasi, "Papandreou Scandals: First Casualty Is Popularity," New York Times, December 29, 1988.
- <sup>17</sup> E. Sciolino, "Word of an Ill Khomeini Stirs U.S. Policy Debate," New York Times, June 27, 1988.
- <sup>18</sup> "Salvador Chief Has Stomach Cancer," New York Times, June 3, 1988.
- <sup>19</sup> H. L. Abrams, "The Vulnerable President and the Twenty-fifth Amendment, With Observations on Guidelines, a Health Commission, and the Role of the President's Physician," Wake Forest Law Review 30 (1995): 453–480.
- <sup>20</sup> ———, The President Has Been Shot: Confusion, Disability, and the 25th Amendment in the Aftermath of the Attempted Assassination of Ronald Reagan (New York: W. W. Norton, 1992), 259–60
- <sup>21</sup> Post and Robbins, When Illness Strikes, 144-158.
- <sup>22</sup> "Fit to Rule?" Economist, August 31, 1996, 15–16.
- <sup>23</sup> F. J. Murray, "Selling a Golden Oldie in the Market of Youth: Dole Emphasizes His Health, Not Age," Washington Times, March 11, 1996.
- $^{24}$  A. Elsner, "At 72, Dole Must Confront Age Isue in Campaign," Reuters Limited, December 12, 1995.
- <sup>25</sup> G. Skelton, "Counting Up the Years, And the Votes," Los Angeles Times, March 11, 1996.
- <sup>26</sup> D. Lightman, "Dole Is Walking Advertisement for Issue of Age," Hartford Courant, September 20, 1996.
- <sup>27</sup> Skelton, Los Angeles Times.
- <sup>28</sup> J. Nelson, "Letters from Nixon Shape Dole's Campaign Strategy," Los Angeles Times, May 7, 1995.
- <sup>29</sup> B. Dart, "Age Divide Comes Into Play in Election," Austin American-Statesman, March 16, 1996.
- 30 Nelson, Los Angeles Times.
- <sup>31</sup> Dart, Austin-American Statesman.
- <sup>32</sup> M. J. Layton, "Does Dole's Age Matter?" The Record, April 28, 1996.
- <sup>33</sup> E. Warren and D. Collin, "With Economy Humming, Most Saw No Reason to Change," Chicago Tribune, November 6, 1996.

- <sup>34</sup> W. E. Gibson, "President Captures Florida and the Nation," Sun-Sentinel (Fort Lauderdale), November 6, 1996.
- <sup>35</sup> K. J. Garcia, "Leisure World No Haven for GOP Candidate," San Francisco Chronicle, October 14, 1996.
- <sup>36</sup> Skelton, Los Angeles Times.
- <sup>37</sup> J. Ritter, "Mood of the Voters: Ohio Swing State Was a Bellwether for Dole's Camp," USA Today, November 6, 1996.
- <sup>38</sup> "Profile of the Electorate," Los Angeles Times, November 7, 1996.
- <sup>39</sup> P. Noonan, "Dole's Long Road," Time, November 18, 1996, 66-67.
- <sup>40</sup> D. M. Parkins et al., eds., Cancer Incidence in Five Continents Volume VI, IARC Scientific Publications No. 120 (Lyon: International Agency for Research on Cancer, 1992), 304.
- <sup>41</sup> P. A. Wingo, T. Tong, S. Bolden, "Cancer Statistics 1995," Ca-A. Cancer J. Clin. 45 (January/February 1995): 8–30.
- $^{\rm 42}$  Calculated from statistics in Health United States 1994, DHHS Publication No. (PHS) 95-1232 (Hyattsville, MD: U.S. Department of Health and Human Services, Public Health Services, National Center for Health Statistics), 113–116.
- $^{43}$  C. A. Dorgan, ed., Statistical Record of Health and Medicine (Detroit: Gale Research Inc., 1995), 10–11.
- <sup>44</sup> Heart and Stroke Facts: 1995 Statistical Supplement. (Dallas: American Heart Association, c.1990).
- 45 Ibid.
- <sup>46</sup> R. A. Cohen and J. F. Van Nostrand, Trends in the Health of Older Americans: United States, 1994, National Center for Health Statistics, Vital Health Statistics Series 3(30), (Washington, D.C., 1995), 242–244.
- <sup>47</sup> B. S. Gillum, E. J. Graves, and L. J. Kozak, Trends in Hospital Utilization: United States 1988-1992, National Center for Health Statistics, Vital Health Statistics, Series 13(124) (Washington, D.C., 1996), 50.
- <sup>48</sup> S. C. Farrow et al., "Epidemiology in Anesthesia. II: Factors Affecting Mortality in Hospital," Br. J. Anaesth. 54 (1982): 811.
- $^{49}$  E. D. Loop et al., "Coronary Artery Bypass Graft Surgery in the Elderly: Indications and Outcome," Cleve. J. Med. 55 (1988): 23.
- <sup>50</sup> F. Hatton et al., "Morbidity and Mortality Associated with Anesthesia—French Survey: Preliminary Results," in J. Lunn and W. Mushin, eds., Mortality Associated With Anesthesia 2 (London: Nuffield Provincial Hospital Trust, 1989): 24.
- $^{51}$  D. A. Evans et al., "Prevalence of Alzheimer's Disease in a Community Population of Older Persons," JAMA 262 (1989): 2551–6.
- $^{52}$  E. L. Cay et al., "Psychological Status During Recovery from an Acute Heart Attack," J. Psychosom. Res. 16 (1972): 425–435.
- <sup>53</sup> ———, "Psychologic Reactions to a Coronary Care Unit," J. Psychosom. Res. 16 (1972): 437–447.

- <sup>54</sup> Richard Nixon, Six Crises (Garden City, NY: Doubleday, 1962), 154.
- <sup>55</sup> R. Gilbert, The Mortal Presidency (New York: Basic Books, 1992), 93.
- <sup>56</sup> H. L'Etang, The Pathology of Leadership (London: William Heinemann Medical Books Ltd., 1969), 180.
- <sup>57</sup> E. L. Cay et al., "Return to Work After Heart Attack," J. Psychosom. Res. 17 (1973): 231–243.
- <sup>58</sup> S. R. Doehrman, "Psycho-Social Aspects of Recovery from Coronary Heart Disease," Soc. Sci. Med. 11 (1977): 199–218.
- <sup>59</sup> T. Kavanagh, R. J. Shepard, and J. A. Tuck, "Depression After Myocardial Infarction," Can. Med. Assoc. J. 113 (1975): 23–27.
- 60 Ibid.
- <sup>61</sup> O. F. Leegard, "Diffuse Cerebral Symptoms in Convalescents from Cerebral Infarction and Myocardial Infarction," Acta. Neurol. Scand. 67 (1983): 348–355.
- <sup>62</sup> C. Herzog, K. W. Schaie, and K. Gribbin, "Cardiovascular Disease and Changes in Intellectual Functioning from Middle to Old Age," J. Gerontol. 33 (1978): 872–883.
- <sup>63</sup> P. B. Storey, "Brain Damage and Personality Change After Subarachnoid Haemorrhage," Brit. J. Psychiatry 17 (1970): 129–142.
- <sup>64</sup> M. J. Short, W. P. Wilson, and G. L. Odom, "Psychiatric Sequelae of Subarachnoid Hemorrhage," South. Med. Journal 61 (January 1968): 87–91.
- $^{65}$  S. Ebrahim, F. Nouri, and D. Barer, "Cognitive Impairment After Stroke," Age and Ageing 14 (1985): 345–50.
- $^{66}$  M. F. Folstein, R. Mailberger, and P. R. McHugh, "Mood Disorder as a Specific Complication of Stroke," J. Neurol. Neurosurg. Psychiatry 40 (1977): 1018–20.
- <sup>67</sup> D. N. Levine and S. Finklestein, "Delayed Psychosis After Right Temporoparietal Stroke or Trauma: Relation to Epilepsy," Neurol. 32 (March 1982): 267–73.
- 68 Folstein et al., "Mood Disorder."
- <sup>69</sup> R. G. Robinson and T. R. Price, "Post-Stroke Depressive Disorders," Stroke 13 (May 1982): 635–41.
- W. A. Lishman, Organic Psychiatry, The Psychological Consequences of Cerebral Disorder (Palo Alto: Blackwell Scientific Publications, 1987), 410.
- <sup>71</sup> N. C. Andreasen, "Posttraumatic Stress Disorder," in Comprehensive Textbook of Psychiatry, vol. 2, ed. H. I. Kaplan, A. M. Friedman, and B. J. Sadock (Baltimore: Williams & Wilkins, 1980, 3d ed.).
- <sup>72</sup> J. L. Titchener, "Management and Study of Psychologic Response to Trauma," J. Trauma 10 (November 1970): 974–80.
- <sup>73</sup> John Pekkanen, "The Saving of the President," Washingtonian, August 1981, 125.
- $^{74}$  M. Mesulam and N. Geschwind, "Disordered Mental States in the Postoperative Period," Urol. Clin. North Am. 3 (June 1976): 199–215.

- 75 Ibid.
- $^{76}$  B. R. Simpson et al., "The Effects of Anesthesia and Elective Surgery on Old People," Lancet (October 21, 1961): 887–93.
- <sup>77</sup> E. Blundell, "A Psychological Study of the Effects of Surgery on Eighty-six Elderly Patients," Brit. J. Soc. Clin. Psychol. 6 (1967): 297–305.
- $^{78}$  J. Riis et al., "Immediate and Long-term Mental Recovery from General Versus Epidural Anesthesia in Elderly Patients," Acta. Anaesthesiol. Scand. 27 (January 1983): 44–49.
- <sup>79</sup> G. A. Roach et al., "Adverse Cerebral Outcomes After Coronary Bypass Surgery," New Eng. J. Med. 25 (December 19, 1996): 1857–63.
- <sup>80</sup> J. Hsu, "Depression in Cancer Patients: An Overview," Hawaii Med. J. 45 (August 1986): 272–90.
- <sup>81</sup> P. Maguire, "The Psychological Impact of Cancer," Brit. J. Hosp. Med. 34 (August 1985): 100–103.
- $^{82}$  C. A. Morris, "Self-Concept As Altered by the Diagnosis of Cancer," Nurs. Clin. North Am 20 (December 1985): 611–630.
- <sup>83</sup> L. R. Derogatis et al., "The Prevalence of Psychiatric Disorders Among Cancer Patients," JAMA 249 (1983): 751–57.
- $^{84}$  T. T. Lloyd, A. C. Parker, and C. A. Ludlam, "Emotional Impact of Diagnosis and Early Treatment of Lymphomas," J. Psychosom. Res. 28 (1984): 157–162.
- $^{85}$  N. S. Apter, W. C. Halstead, and R. Heimburger, "Impaired Cerebral Functions in Essential Hypertension," Am. J. Psychiatry 107 (1951): 808–813.
- <sup>86</sup> W. Spieth, "Cardiovascular Health Status, Age, and Psychological Performance," J. Gerontol. 19 (1964): 277–446.
- $^{87}$  C. Eisendorfer, "Pathologic Reaction to Cardiovascular Change in the Aged," Mayo Clin. Proc. 42 (1967): 620–636.
- <sup>88</sup> M. Francheschi et al., "Cognitive Processes in Hypertension," Hypertension 9 (March/April 1982): 226–29.
- <sup>89</sup> J. R. Trounce, Clinical Pharmacology for Nurses (New York: Churchill Livingstone, 1985).
- 90 F. Leavitt, Drugs and Behavior (New York: John Wiley & Sons, 1982).
- <sup>91</sup> K. Korttila et al., "Recovery and Simulated Driving after Intravenous Anesthesia with Thiopental, Methohexital, Propanidid, or Alphadione," Anesthesiology 43 (1975): 291–99.
- 92 Leavitt, Drugs.
- <sup>93</sup> K. Korttila K and M. Linnoila, "Psychomotor Skills Related to Driving after Intramuscular Administration of Diazepam and Meperidine," Anesthesiology 42 (1975): 685–691.
- $^{94}$  Springhouse Corporation, Physicians' Drug Handbook, 6th ed. (Springhouse, PA: Springhouse Corporation, 1995).
- $^{95}$  Canadian Pharmaceutical Association, CPS: Compendium of Pharmaceuticals and Specialties,  $\,31st$  ed. (Toronto: Canadian Pharmaceutical Association, 1996).

- 96 L. K. Altman, "Doctors Call Dole's Health Excellent," New York Times, July 21, 1996.
- <sup>97</sup> J. K. Aronson et al., eds., Side Effects of Drugs, Annual 17 (New York: Elsevier Science Publication Company, 1993).
- 98 Physicians' Drug Handbook, 1995.
- 99 CPS: Compendium of Pharmaceuticals and Specialties, 1996.
- <sup>100</sup> Physicians' Drug Handbook, 1995.
- <sup>101</sup> G. Mandler, "Stress and Thought Process" in Handbook of Stress: Theoretical and Clinical Aspects, ed. L. Goldberger and S. Breznitz (New York: Free Press, 1982), 88.
- <sup>102</sup> A fine example of the romanticizing of senior citizenry may be found in an issue of the New York Times Magazine entitled "The Age Boom" (March 9, 1997). Nowhere in the series of articles is there a serious effort to depict the health consequences, disability, and cognitive effects associated with aging. An unapologetic reference to "living to 100, with . . . brain functions, especially memory, relatively unimpaired" (p. 14) runs seamlessly into a "new stage of life [that] emerges more clearly every day. . . longer, better, healthier." (42,44) One piece is titled "84 Going on 50." (52,53) "'We are living it up,' 81-year-old Mary Coleman said." (63) It is true that Americans are living longer, and that more old people are more comfortable than in the past. What is completely buried in "The Age Boom," however, is the vast number of the elderly whose lives are marginal because of physical, functional, and cognitive changes that are profoundly incapacitating.
- <sup>103</sup> J. M. Rybash, W. Hoyer, P. A. Roodin, Adult Cognition and Aging (New York: Pergamon Press, 1986).
- <sup>104</sup> T. A. Salthouse, Adult Cognition: An Experimental Psychology of Human Aging (New York: Springer-Verlag, 1982).
- <sup>105</sup> D. H. Powell, Profiles in Cognitive Aging (Cambridge: Harvard University Press, 1994).
- <sup>106</sup> T. A. Salthouse and K. A. Prill, "Inferences About Age Impairments in Inferential Reasoning," Psych. Aging 2 (1987): 43–51.
- <sup>107</sup> K. W. Schaie, Schaie-Thurstone Adult Mental Abilities Test (Palo Alto: Consulting Psychologists Press, 1985) in J. Botwinick, "Intellectual Abilities," in Handbook of the Psychology of Aging, ed. J. E. Birren and K. W. Schaie (New York: Van Nostrand Reinhold Company, 1977), 580–603.
- $^{108}$  W. F. Gorman, "Mental Acuity of the Normal Elderly," J. Oklahoma Med. Assoc. 88 (March 1995): 119–123.
- <sup>109</sup> N. W. Denney, "Critical Thinking During the Adult Years: Has the Developmental Function Changed Over the Last Four Decades?" Exper. Aging Res. 21 (1995): 191–207.
- <sup>110</sup> Powell, Profiles in Cognitive Aging.
- <sup>111</sup> C. K. Aldrich, "Memory, Information and Denial in Public Life," in Papers on Presidential Disability and the Twenty-fifth Amendment, ed. K. W. Thompson (Lanham, MD: University Press of America, 1988), 95.

- <sup>112</sup> T. H. Crook, "Diagnosis and Treatment of Normal and Pathological Memory Impairment in Later Life," Seminars in Neurology 9 (1989): 20–30.
- <sup>113</sup> Amer. Psych. Assn., Diagnostic and Statistical Manual of Mental Disorders (DSM IV), 1994.
- 114 Gorman, "Mental Acuity of Normal Elderly."
- 115 Ibid.
- <sup>116</sup> F. I. M. Craik and J. M. Jennings, "Human Memory," in Handbook of Aging and Cognition, ed. F. I. M. Craik and T. A. Salthouse (Hillsdale, NJ: L. Erlbaum, 1992).
- <sup>117</sup> F. I. M. Craik and M. Byrd, "Aging and Cognitive Deficits," in Aging and Cognitive Processes, vol. 8 of Advances in the Study of Communication and Affect, ed. F. I. M. Craik and S.Trehub (NY: Plenum Press, 1982).
- 118 Salthouse, Adult Cognition.
- <sup>119</sup> A. LaRue, Aging and Neuropsychological Assessment (New York: Plenum Press, 1992).
- <sup>120</sup> D. B. Bromley, "Age and Sex Differences in the Serial Production of Creative Conceptual Responses," J. Gerontol. 22 (1967): 32-42, in Salthouse, Adult Cognition.
- <sup>121</sup> P. K. Alpaugh and J. E. Birren, "Variables Affecting Creative Contributions Across the Adult Life Span," Hum. Dev. 20 (1977): 240, in Salthouse, Adult Cognition.
- 122 Salthouse, Adult Cognition.
- <sup>123</sup> LaRue, Aging and Neuropsychological Assessment.
- <sup>124</sup> N. W. Denney and D. R. Denney, "The Relationship Between Classification and Questioning Strategies Among Adults," J. Gerontol. 37 (1982): 190–196, in Salthouse, Adult Cognition.
- $^{125}$  D. Arenberg, "Analysis and Synthesis in Problem Solving and Aging," in Cognitive Development in Adulthood, ed. M. L. Howe and C. J. Brainerd (New York: Springer-Verlag, 1988).
- <sup>126</sup> ———, "Changes in Age in Problem Solving," in Aging and Cognitive Processes, ed. Craik and Trehub, 221–35.
- <sup>127</sup> D. Schonfield, "Attention Switching in Higher Mental Processes," in Aging and Cognitive Processes, ed. Craik and Trehub, 309–15.
- 128 Salthouse, Adult Cognition.
- 129 Rybash et al., Adult Cognition and Aging.
- <sup>130</sup> LaRue, Aging and Neuropsychological Assessment.
- <sup>131</sup> A. A. Hartley, "Attention," in Handbook of Aging and Cognition, ed. Craik and Salthouse, 3–50.
- <sup>132</sup> Salthouse, Adult Cognition.

- <sup>133</sup> L. W. Poon, Handbook for the Clinical Memory Assessment of Older Adults (American Psychological Association, 1992).
- <sup>134</sup> J. M. Post, "On Aging Leaders: Possible Effects of the Aging Process on the Conduct of Leadership," J. Geriat. Psychiat. 6 (1979): 109–116.
- 135 ———, "The Seasons of a Leader's Life: Influences of the Life Cycle on Political Behavior," Political Psychology (Fall/Winter 1980):35–49.
- <sup>136</sup> 1996 medical report on Bob Dole, with the results of physical examination conducted by Dr. JohnF. Eisold, M.D., July 21, 1996. Document obtained through Dole Press Office in Washington, D.C.
- <sup>137</sup> Altman, "Doctors Call Dole's Health Excellent."
- <sup>138</sup> F. H. Cary, "Health Status of the Candidates: Senator Robert J. Dole," Medical World News 21 (February 18, 1980): 89.
- 139 Altman, "Doctors Call Dole's Health Excellent."
- <sup>140</sup> President Reagan was found to have polyps in his colon in 1984 and again in March 1985. In July, a larger polypoid tumor was discovered on colonoscopy. Surgery was performed the following day, with the removal of a cancer of the transverse colon which had developed from a type of polyp known as a "villous adenoma." See H. L. Abrams, The President Has Been Shot, 196–206.
- <sup>141</sup> C. Connolly, "Dole's Health," St. Petersburg Times, July 14, 1996.
- <sup>142</sup> J. M. Schildkraut et al., "Coronary Risk Associated with Age and Sex of Parental Heart Disease in the Framingham Study," Am. J. Cardiol. 64 (1989): 555–559.
- <sup>143</sup> M. W. Webster et al., "Abdominal Aortic Aneurysm: Results of a Family Study," J. Vasc. Surg. 13 (1991): 366–72.
- $^{144}$  K. Johansen and T. Koepsell, "Familial Tendency for Abdominal Aortic Aneurysms," JAMA 256 (1986): 1934–1935.
- $^{145}$  L. M. Pottern et al., "Familial Cancers Associated with Subtypes of Leukemia and Non-Hodgkin's Lymphoma," Leuk. Res. 15 (1991): 305–314.
- <sup>146</sup> Margaret Truman, Harry S. Truman (New York: William Morrow, 1973), 168, 190.
- <sup>147</sup> Nancy Reagan, public statement at George Washington University Hospital, March 28, 1991, in MacNeil-Lehrer Newshour Transcript (March 28, 1991), 13.
- <sup>148</sup> Abrams, "The Vulnerable President," 453-480.
- <sup>149</sup> When I was completing a study of the assassination attempt on Ronald Reagan (see Abrams, reference 20), I was asked by a writer who had observed him closely over a period of years whether I thought he had suffered irreversible brain damage due to shock at the time of the shooting by Hinckley in 1981. (He had lost over half his blood volume as he bled into his chest prior to surgery.) It was a question which could not be answered except by speculation. If an MRI had been obtained before and after, we might have been able to say, 'yes, he had some brain infarcts or ischemia or more atrophy,' if change was observed. But with or without MRI, it seemed highly unlikely to me that he had suffered any brain damage at the time, on the basis of a detailed study of the medical events. Why

the question? I asked my visitor. He had done a detailed study—video, audio, transcripts, etc.—of Reagan's interactions as governor of California with the media, students, the legislature, the public. He was deeply impressed with his skill, facility, deftness of response, and state of preparedness for the exchanges. A similar exhaustive analysis of his comportment as president was so sharply different that he wondered if it could be traced to the event of March 1981. I did my best to remind him that Reagan was older and exhibiting, I believed, the effects of age. Ronald Reagan as president was clearly not the man he had been as governor. Seventy-four years old when he began his second term, he almost certainly had cerebral arteriosclerosis and its signs: distractibility, memory change, and impaired concentration.

- 150 James Reston, "Let the Voters Beware," International Herald Tribune, May 8, 1975.
- 151 ———, "U.S. Needs a Healthy President," San Francisco Chronicle, November 2, 1975.
- 152 ——, "Reagan's Age and Memory," New York Times, December 21, 1986.
- $153\ \mbox{``Passing the White House Physical,''}$  Washington Post, July 23, 1996.
- 154 National Center for Health Statistics, "Mortality," in Vital Statistics of the United States, 1991, vol. 2 (Washington, D.C.: Public Health Service, 1996), part A.
- 155 R. N. Butler, "The Façade of Chronological Age: An Interpretive Summary," Amer. J. Psych.119 (February 1963): 721–728.
- 156 Salthouse, Adult Cognition.
- 157 LaRue, Aging and Neuropsychological Assessment.
- 158 Powell, Profiles in Cognitive Aging.
- <sup>159</sup> Aldrich, Memory, Information and Denial.
- 160 L'Etang, 1995, 135.

#### Center for International Security and Arms Control Stanford University

Please send orders to: Publications, 320 Galvez Street, Stanford, California 94305-6165. Enclose check payable to Stanford University. Add \$2.00 postage and handling for first item ordered (\$5.00 for overseas delivery), \$1.00 for each additional item. Foreign orders must be in U.S. dollars and drawn on a financial institution with branches in the United States. California residents, add appropriate sales tax.

MacArthur Consortium Working Papers in Peace and Cooperation

Tarak Barkawi. Democracy, Foreign Forces, and War: The United States and the Cold War in the Third World. 1996 (40 pages, \$6.00).

Byron Bland. Marching and Rising: The Rituals of Small Differences and Great Violence in Northern Ireland. 1996 (32 pages, \$6.00).

Charles T. Call. From "Partisan Cleansing" to Power-Sharing? Lessons for Security from Colombia's National Front. 1995 (60 pages, \$7.00).

David Dessler. Talking Across Disciplines in the Study of Peace and Security: Epistemology and Pragmatics as Sources of Division in the Social Sciences. 1996 (40 pages, \$7.00).

Lynn Eden and Daniel Pollak. Ethnopolitics and Conflict Resolution. 1995 (21 pages, \$5.00).

Daniel T. Froats, The Emergence and Selective Enforcement of International Minority-Rights Protections in Europe after the Cold War. 1996 (40 pages, \$7.00).

Robert Hamerton-Kelly. An Ethical Approach to the Question of Ethnic Minorities in Central Europe: The Hungarian Case. 1997 (34 pages, \$6.00).

Bruce A. Magnusson. Domestic Insecurity in New Democratic Regimes: Sources, Locations, and Institutional Solutions in Benin. 1996 (28 pages, \$6.00).

John M. Owen. Liberalism and War Decisions: Great Britain and the U.S. Civil War. 1996 (22 pages, \$5.00).

Center reports, working papers, and reprints

Andrei Baev, Matthew J. Von Bencke, David Bernstein, Jeffrey Lehrer, and Elaine Naugle. American Ventures in Russia. Report of a Workshop on March 20-21, 1995, at Stanford University. 1995 (24 pages, \$7.00).

David Bernstein. Software Projects in Russia: A Workshop Report. 1996 (28 pages, \$7.00).

David Bernstein, editor. Defense Industry Restructuring in Russia: Case Studies and Analysis. 1994 (244 pages, \$14.00).

George Bunn. Does the NPT require its non-nuclear-weapon members to permit inspection by the IAEA of nuclear activities that have not been reported to the IAEA? 1992 (12 pages, \$4.00).

General George L. Butler, Major General Anatoli V. Bolyatko, and Scott D. Sagan. Reducing the Risk of Dangerous Military Activity 1991 (39 pages, \$6.00).

Irina Bystrova. The Formation of the Soviet Military-Industrial Complex. 1996 (28 pages, \$6.00).

Cooperative Security in Northeast Asia (text in English and Russian) 1993 (17 pages, \$4.00).

John S. Earle and Ivan Komarov. Measuring Defense Conversion in Russian Industry. 1996 (40 pages, \$7.00).

John S. Earle and Richard Rose. Ownership Transformation, Economic Behavior, and Political Attitudes in Russia. 1996 (40 pages, \$7.00).

David Elliot, Lawrence Greenberg, and Kevin Soo Hoo. Strategic Information Warfare—A New Arena for Arms Control? 1997 (16 pages, \$3.00).

Anthony Fainberg. Strengthening IAEA Safeguards: Lessons from Iraq. 1993 (64 pages, \$6.00).

James E. Goodby. Can Strategic Partners Be Nuclear Rivals? (First in a series of lectures on The U.S.–Russian Strategic Partnership: Premature or Overdue?) 1997 (26 pages, \$6.00).

Seymour Goodman. The Information Technologies and Defense: A Demand-Pull Assessment. 1996 (48 pages, \$9.00).

Lawrence T. Greenberg, Seymour E. Goodman, and Kevin J. Soo Hoo. Old Law for a New World? The Applicability of International Law to Information Warfare. 1997 (48 pages, \$8.00).

John R. Harvey, Cameron Binkley, Adam Block, and Rick Burke. A Common-Sense Approach to High-Technology Export Controls. 1995 (110 pages, \$15.00).

John Harvey and Stefan Michalowski. Nuclear Weapons Safety and Trident. 1993 (104 pages, \$12.00; summary \$2.00).

Ji, Guoxing, Maritime Security Mechanisms for the Asian-Pacific Region, 1994 (25 pages, \$5.00).

Leonid Kistersky. New Dimensions of the International Security System after the Cold War. 1996. (34 pages, \$8,00)

Amos Kovacs, The Uses and Nonuses of Intelligence. 1996 (68 pages, \$10.00).

Allan S. Krass. The Costs, Risks, and Benefits of Arms Control. 1996 (85 pages, \$8.00).

Gail Lapidus and Renée de Nevers, eds. Nationalism, Ethnic Identity, and Conflict Management in Russia Today. 1995 (106 pages, \$12.00).

John J. Maresca. The End of the Cold War Is Also Over. With commentaries by Norman M. Naimark, Michael May, David Holloway, Arthur Khachikian, Daniel Sneider, and Renée de Nevers. 1995 (60 pages, \$8.00).

- Michael May. Rivalries Between Nuclear Power Projectors: Why the Lines Will Be Drawn Again. 1996 (20 pages, \$7.00).
- Michael May and Roger Speed. The Role of U.S. Nuclear Weapons in Regional Conflicts. 1994 (24 pages, \$5.00).
- Michael McFaul, ed. Can the Russian Military-Industrial Complex Be Privatized? 1993 (60 pages, \$6.00).
- Robert F. Mozley. Uranium Enrichment and Other Technical Problems Relating to Nuclear Weapons Proliferation. 1994 (64 pages, \$9.00)
- William J. Perry. Defense Investment: A Strategy for the 1990s. 1989 (43 pages, \$9.00).
- Scott D. Sagan, ed. Civil-Military Relations and Nuclear Weapons. 1994 (163 pages, \$12.00).
- Scott D. Sagan and Benjamin A. Valentino. Nuclear Weapons Safety after the Cold War: Technical and Organizational Opportunities for Improvement (text in English and Russian). 1994 (25 pages, \$5.00).
- Capt. Alexander Skaridov, Cmdr. Daniel Thompson, and Lieut. Cmdr. Yang Zhiqun. Asian-Pacific Maritime Security: New Possibilities for Naval Cooperation? 1994 (28 pages, \$5.00).
- Song, Jiuguang. START and China's Policy on Nuclear Weapons and Disarmament in the 1990s. 1991 (29 pages, \$5.00).
- Konstantin Sorokin. Russia's Security in a Rapidly Changing World. 1994 (95 pages, \$10.00).
- Roger D. Speed. The International Control of Nuclear Weapons. 1994 (59 pages, \$11.00).
- István Szönyi. The False Promise of an Institution: Can Cooperation between OSCE and NATO Be a Cure? 1997 (34 pages, \$6.00).
  - Terence Taylor. Escaping the Prison of the Past: Rethinking Arms Control and Non-Proliferation Measures. 1996 (65 pages, \$10.00)
  - Terence Taylor and L. Celeste Johnson. The Biotechnology Industry of the United States. A Census of Facilities. 1995 (20 pages, \$7.00).
  - Selected books available from other publishers
  - Herbert L. Abrams. The President Has Been Shot: Confusion, Disability, and the 25th Amendment in the Aftermath of the Assassination Attempt on Ronald Reagan. New York: W.W. Norton, 1992.
  - Coit D. Blacker. Hostage to Revolution: Gorbachev and Soviet Security Policy. New York: Council on Foreign Relations, 1993.
  - George Bunn. Arms Control by Committee: Managing Negotiations with the Russians. Studies in International Security and Arms Control. Stanford: Stanford University Press, 1992.
  - Gordon H. Chang. Friends and Enemies: The United States, China, and the Soviet Union, 1948–1972. Stanford: Stanford University Press, 1990.
  - Sergei Goncharov, John W. Lewis, and Xue Litai. Uncertain Partners: Stalin, Mao, and the Korean War. Stanford: Stanford University Press, 1993.
  - Seymour Goodman, Peter Wolcott, and Grey Burkhart. An Examination of High-Performance Computing Export Cont rol Policy in the 1990s. Los Alamitos, CA: IEEE Computer Society Press, 1996.
  - Robert Hamerton-Kelly. The Gospel and the Sacred: The Poetics of Violence in the Gospel of Mark. Fortress Press, 1994.
  - David Holloway and Norman Naimark, editors. Reexamining the Soviet Experience: Essays in Honor of Alexander Dallin. Boulder, CO: Westview Press, 1996.
  - David Holloway. Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–1956. New Haven: Yale University Press, 1994.
  - John Wilson Lewis and Xue Litai. China's Strategic Seapower: The Politics of Force Modernization in the Nuclear Age. Studies in International Security and Arms Control. Stanford: Stanford University Press, 1994
  - Michael McFaul. Post-Communist Politics: Democratic Prospects in Russia and Eastern Europe. Washington, D.C.: CSIS, 1993.
  - Michael McFaul and Sergei Markov. The Troubled Birth of Russian Democracy: Parties, Personalities, and Programs. Stanford: Hoover Press, 1993.
  - Norman M. Naimark. The Russians in Germany: A History of the Soviet Zone of Occupation. Cambridge: Belknap/Harvard University Press, 1995.
  - Scott D. Sagan and Kenneth N. Waltz. The Spread of Nuclear Weapons: A Debate. New York: W W. Norton, 1995.
  - Scott D. Sagan. The Limits of Safety: Organizations, Accidents, and Nuclear Weapons. Princeton: Princeton University Press, 1993.
  - Judith Sedaitis, ed. Commercializing High Technology: East and West. Lanham, MD: Rowman & Littlefield Publishers, 1997.
  - Condoleezza Rice and Philip Zelikow. Germany Unified and Europe Transformed: A Study in Statecraft. Cambridge: Harvard University Press, 1995.