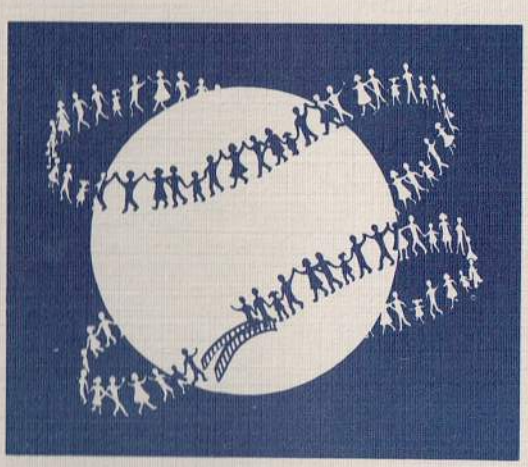
THE GREAT PEACE MARCH



by

Carl Sagan

Booklet 11

WAGING PEACE SERIES

Nuclear Age Peace Foundation

WAGING PEACE SERIES

As far as is known, the term "Waging Peace" originated with Warren Wells, late husband of Ethel Wells of Santa Barbara, in a letter to President Eisenhower. It was a long-standing practice of Mr. Wells to keep in close touch with key national figures and give them his views on peace issues as well as other vital matters. This series is dedicated both as a memorial to him and in gratitude to Mrs. Wells for her continued efforts in this cause.

Just as peace is more than the absence of war, waging peace is more than supporting arms reductions. In addition, it embraces positive steps toward genuine harmony. In this series the Foundation will distribute short booklets stressing ideas for attaining peace. Some publications will be scholarly, others more popular in style—most will combine elements of both. Concepts expressed will include views of many authorities, and will not necessarily be those of the Foundation.

Suggestions for topics and your reactions to this issue are welcome. Quantity lots are available at minimal charge from the Nuclear Age Peace Foundation.

NUCLEAR AGE PEACE FOUNDATION
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WAGING PEACE SERIES

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WAGING PEACE BOOKLETS

1. **Can We Change Our Thinking?** by Charles W. Jamison
2. **Creating a New Institution: A United States Academy of Peace** by Frank K. Kelly
3. **Preventing Accidental Nuclear War** by David Krieger
4. **Nuclear Strategy and the Defense of Europe** by Robert C. Aldridge
5. **Needed: A Nuclear Age Peace Corps—An Alternative to Annihilation** by Frank K. Kelly
6. **The Role of the Military in the Nuclear Age** by Admiral Gene R. LaRocque
7. **Accidental Nuclear War Dangers of the "Star Wars" Proposal** by Dean Babst, Robert Aldridge and David Krieger
8. **The Psychology of Peace** by Roger Walsh, M.D., Ph.D
9. **No First Use of Nuclear Weapons** by Dietrich Fischer
10. **Honest Language, Semantics of the Nuclear Debate** by Hannes Alfven
11. **The Great Peace March** by Carl Sagan
12. **Mediating the Nuclear Stalemate** by Theodore Becker

INTRODUCTION

Of the many innovative citizen actions for peace in recent times few have been as arduous and grand in scale as the Great Peace March for Global Nuclear Disarmament. It was a march which began in California on March 1, 1986 and ended in Washington, D.C. in November 1986. For nearly nine months some 400 determined individuals walked across the United States in an attempt to draw greater public attention to the "imperative" of global nuclear disarmament. They wrote in their **Statement of Purpose**: "By marching for nine months across the United States we will create a non-violent focus for positive change; the imperative being that nuclear weapons are politically, socially, economically and morally unjustifiable, and that, in any number, they are unacceptable."

Of course, the peace marchers did not solve the problem of nuclear weapons in our midst by their 3700 mile march. They did, however, deepen awareness of the issue where they went, and by their commitment set an example for others to speak out rather than remain silent. "It is the responsibility of a democratic government to implement the will of its people," the peace marchers wrote, "and it is the will of the people of the United States, and of many other nations, to end the nuclear arms race."

When the peace marchers arrived at Lafayette Park, across the street from the White House on November 15, 1986, Carl Sagan was among those on hand to welcome them. This issue of **Waging Peace** is based upon Dr. Sagan's remarks on that occasion.

For one of the world's most prominent astronomers, Carl Sagan has an extremely down-to-earth point of view. That is, that our species is threatened, and therefore extraordinary measures and dedication are necessary to end this threat. Dr. Sagan's own commitment has been both professional and personal. He led a team of researchers in studying the long-term environmental effects of a nuclear war, which drew

widespread public attention to the possible consequences of a "Nuclear Winter." He also traveled to the Nevada Nuclear Test Site, and joined others in committing non-violent civil disobedience there in opposition to continued U.S. nuclear testing during the Soviet Union's 19-month moratorium on testing.

As we might expect of an astronomer, Dr. Sagan's vision is broad. It is also hopeful. He is convinced that we will learn the lesson—before it is too late—"that nuclear weapons are not snowballs." While more snowballs may make one safer in a snowball fight, the same principle does not apply to nuclear weapons. More nuclear weapons simply increase the threat that one day—by accident or design—they will be used.

Unlike snowballs, nuclear weapons will not simply melt away in the warm sunshine. If we are to have a world that is safe from the threat of nuclear holocaust, we must work to achieve that end—by marching, by learning, by educating, by political action, by writing, by speaking out and, when necessary, by protesting. Each of us must choose his own path for Waging Peace. This booklet, like others in this series, is offered to stimulate, inspire and provoke new and personal forms of action aimed at reversing the nuclear arms race.

David Krieger
President
Nuclear Age Peace Foundation

THE GREAT PEACE MARCH

by Carl Sagan

Human beings come from a long nomadic tradition. For hundreds of thousands of years, before we invented cities, we were hunter/gatherers. We marched, often over long distances, to survive. I think the Great Peace March has tapped into that ancient tradition.

Another thing that has happened since a few hundred thousand years ago is that our technology has given us enormous powers both for good and for evil. And in the latter category the United States and the Soviet Union together have contaminated this planet with 60,000 nuclear weapons. Always done in the cause of national security. Always done because of some abuse on the other side. And since each side has committed a list of abuses as long as my arm, each side can always point to a reason for further escalation of the arms race. The circumstances now are that there are an obscene number of nuclear weapons on the planet, far more than are needed for any conceivable purpose, and certainly far more than are needed to dissuade the other side from doing something stupid.

The number of cities on the planet Earth, if you define a city as having 100,000 people or more, is only 2,300. The United States and the Soviet Union have a number of strategic weapons, that is, nuclear weapons attached to delivery systems which can carry them halfway across the planet, approaching 25,000. That means that if the United States and the Soviet Union wished to dedicate two nuclear weapons to every city on Earth, they could demolish every city on the planet and have almost 20,000 strategic weapons left over. These two nations also have some thirty to thirty-five thousand tactical nuclear weapons, most of which are more powerful than the bombs that destroyed Hiroshima and Nagasaki. This is madness! There is no reason to have

such weapons in such numbers, even from the most narrow perspective of national security.

An Extraordinary Danger

The prompt deaths from a major war between the United States and the Soviet Union are variously estimated as between a few hundred million people killed outright to an estimate by the World Health Organization of 2.2 billion people killed outright. Beyond that there are long-term effects from persistent radioactivity, from epidemics and pandemics associated with the lowering of resistance to disease and the destruction of hospitals and physicians, and then the long-term consequences of nuclear war called Nuclear Winter. The additional deaths from these longer-term causes are estimated again in the billions. If you kill one or two billion people outright and then you kill billions more through the longer-term consequences of nuclear war, you are approaching the total number of people on the planet, which is only about 5 billion people. **This is the first time in the history of the human species that we have had this capability of destroying the global civilization, and possibly the species itself. It calls for extraordinary measures. It calls for extraordinary dedication. This is not business as usual.**

Accidental Nuclear War

We live in the time of **Chernobyl** and **Challenger**, which remind us that high technology—into which enormous amounts of national prestige have been invested—can nevertheless fail spectacularly. And the lesson is clear: that nuclear weapons systems are also vulnerable. In fact, they are probably more vulnerable because nuclear weapons systems, by and large, cannot be tested, except by having a trial nuclear war. And few people wish to do that. **Chernobyl** and **Challenger** could be tested, and they were. They failed, nevertheless.

This is also the century of Hitler and Stalin, a reminder that madmen can achieve the highest offices in modern industrial states.

You put these together and I think you see that there is a circumstance, perhaps not with us at the moment, but that sooner or later will come, when some concatenation of machine failure and human failure will result in a catastrophe of unprecedented proportions.

America has been slowly waking up to the fact that this administration has a more than passing acquaintance with incompetence and dishonesty. We who are concerned about the nuclear arms race have known about this for years. Maybe you can recall the comment of Mr. Reagan within the first year of his achieving office in which he said that ballistic missiles could be recalled in case you changed your mind after they were launched. Maybe you can recall that after an attempt to negotiate a proportional decline in the land-based arm of the nuclear triad with the Soviets, the President admitted that he had not realized that while the bulk of the Soviet strategic forces was land-based, the bulk of the U.S. forces was submarine based. This is the most elementary fact about the disposition of strategic forces. No one told him. No Secretary of Defense, no Secretary of State, no National Security Adviser, no Presidential Science Adviser, could tell the President this elementary fact.

Maybe you can also recall something called the window of vulnerability; the supposed vulnerability of the U.S. strategic forces to a massive Soviet attack. Maybe you can remember that those big boosters that supposedly caused the window of vulnerability were on the table at the meeting of Reagan and Gorbachev in Reykjavik and were not thrown away because the President had a passion for Star Wars.

Nuclear Testing

As a clearer example, and a recent one, let's consider the issue of nuclear testing. On August 6, 1985, the 40th anniversary of the demolition of Hiroshima, the Soviet Union announced a unilateral moratorium on further underground nuclear testing. There is no claim that the Soviets cheated. There is excellent evidence that they abided

by this self-imposed moratorium.* But the American response has been contemptuous. Far from joining the Soviet moratorium, as the Soviets did in 1963 when the United States proposed a moratorium on above-ground tests, the United States has instead exploded some 25 nuclear weapons, one of which was exploded during a demonstration I participated in at the Nevada Nuclear Test Site.

What is the reason that the United States doesn't join the moratorium? It is interesting to look at the excuses handed to us. First there was the claim that the Soviets were insincere, that they had done a "flurry" (that was the Administration's word) of testing just before they announced their moratorium. If you look at the Administration's own records of how many tests there were by the Soviets you find that in the first seven or eight months of 1985 there were nine Soviet weapons exploded; just the average for both nations for this period. There was no "flurry."

No, the Administration then said, that wasn't the reason. The reason was that the Soviets will never permit on-site verification. They might blow up a very little weapon, and we couldn't detect it with seismometers outside the Soviet Union. Then an American environmental organization, the Natural Resources Defense Council, made an arrangement with the Soviets, because of which there are American scientists and American seismometers in place at this moment at the Soviet test center in Semipalatinsk. So now we do not hear about Soviet reluctance about on-site verification.

The Administration has had to go on to other excuses. First of all, we are told, the Soviets might wait until there is a

*The Soviet Union extended its unilateral moratorium several times, continually asking the United States to join them. Finally, the Soviet Union ended its moratorium on testing in February 1987 after the United States continued to test in 1987.

natural earthquake in Soviet Central Asia and then explode their nuclear weapons. Can you imagine the Soviet scientist with his finger on the button waiting for a natural earthquake?

Then we are told the Soviets might do what's called decoupling. They might construct a large underground cavern, hang the nuclear weapons from the cavern and explode it so there would be a damped seismic wave. Yes, you can do that with small nuclear weapons, so small that it would have very little bearing on the nuclear test ban. But for big weapons you can't. And the excavation of the cavern would be detectable to satellite reconnaissance.

Then there is the excuse which really tops them all, and I'm sorry to say it is an excuse echoed even by the Chairman of the Joint Chiefs of Staff, namely that the Soviets will test on the other side of the Sun. I maintain that when the justification for continued U.S. testing reaches such a level, we can clearly see that the arguments are bankrupt.

There is a contention that further testing is necessary to keep the bombs "safe," just as we heard in the 1960's that we had to do further testing to keep the bombs "clean." There is more than a bit of an irony in the idea of a "safe" nuclear weapon. In any case, those who constructed U.S. nuclear weapons have repeatedly testified that you do not have to blow up nuclear weapons in order to guarantee their safety. **So the Administration's argument reduces itself to the need to test nuclear weapons to develop further generations of nuclear weapons. I say that our highest priority should be to develop future generations of human beings, not further generations of nuclear weapons.**

Star Wars

Let me say a word about Star Wars, because Star Wars is clearly one of the reasons why continuing U.S. nuclear testing is advocated by this administration. (If there were a moratorium on both sides on further nuclear weapons

testing, then a major propellant for the continuing escalation of the arms race would be undone. While a moratorium isn't enough by itself—you would also have to reduce nuclear weapons—it is a very important and easily verifiable step, and therefore very important.) The Administration is pursuing what the President calls his "vision" of Star Wars. The idea, as the President and the Secretary of Defense repeatedly tell us, is to have a shield which would protect the civilian population of the United States against a Soviet attack.

The Administration's own technical people (who are not hostile to Star Wars, but people in favor of it), tell us that in some decades, if all goes well, after the expenditure of one or two trillion dollars, we might have a system which could shoot down 70 or 80 or 90 percent of Soviet strategic warheads. If you shoot down 90 percent of them, guess what? Ten percent get through. Ten percent of 10,000 is one thousand strategic weapons. One thousand Soviet strategic weapons landing on American territory are enough to utterly destroy the United States as a functioning political entity and to kill tens of millions of Americans. This is the shield on behalf of which a historic agreement was thrown away in Reykjavik. What could the President be thinking of?

We should also remember that one to two trillion dollars is an awful lot of money. For example, two trillion dollars is the national debt. **The** national debt. The one that all those people concerned for fiscal responsibility tell us about. Two **trillion** dollars, to be spent on a system which cannot accomplish its objective. What are we thinking of? By the way, it's an interesting question to ask, how much money has been spent on the cold war all in all by the United States? In constant 1977 dollars, by the time that this Administration leaves office, the United States will have spent 3.7 trillion dollars on the arms race. This is enough money to buy everything in the United States except the land—every house, every skyscaper, every automobile, every boat, every truck, every toy, every diaper, everything in the United States. This is what we have spent on the arms race. So I ask you, is this the most effective use of the national treasury?

The Responsibility is Ours

It is easy to criticize President Reagan. And it is amazing that there has been so little of it since he is so worthy of criticism. But I think it's important not to be too hard on the President. We have much more responsibility than he has. We let this happen. We, all of us, including the press, did not speak out, did not criticize, did not effectively present alternative and constructive points of view. Let us try to take such constructive attitudes to blaze a new trail for the United States.

What will it take? What peaceful, loving ways are available to cut through the denial and the self-propagating paranoia which drives the arms race? These Peace Marchers have just walked across the United States. They know the dangers of the nuclear arms race. They recognize its seriousness. They have embraced Albert Einstein's call for a new way of thinking. There are other people who have taken other actions. We heard from Charles Heyder, an astronomer who's fasting unto death because of this nuclear arms race. There are some of us who have committed non-violent civil disobedience at the Nevada Nuclear Test Site in another attempt to call attention to what must be done. There are people across the country who fully understand what is needed, and the dangers that the policies of this administration and previous administrations have put us in. But there are a group of extremists across the street* who have not yet understood. It is our job to explain it to them.

No one says this is an easy job. It isn't easy because it involves a change in our way of thinking—for example, the idea that more nuclear weapons don't make you safer. This idea is in defiance of the conventional wisdom. **If you grow**

*This talk was given to the Great Peace Marchers in Lafayette Park, across Pennsylvania Avenue from the White House.

up in a place where there are snowball fights, you rapidly learn that the more snowballs you have, the safer you are. But the essential lesson for us is that nuclear weapons are not snowballs. It's a hard lesson.

It Can Be Done

It's difficult, but it can be done. The reason I say it can be done, and I am positive it can be done, is because we humans have done much more difficult things in the past. Let me remind you of just one, the institution of chattel slavery. The idea was that it was fitting and proper and just and even God-given that some human beings should own other human beings; that people were property; that you could own people lock, stock, barrel, spouse, and child. This was not a view of only a few evil people. This was the worldwide standard of belief. Today we are embarrassed by it. We look back on it and wonder how our ancestors could have done it. But they did it, and not just a few people, not just a small slave-owning class, but the Church, and the political leaders, and the famous intellectuals and academics and scholars. (Aristotle, for example, believed that some people were naturally slaves and some people were naturally masters.) Today there is no more chattel slavery, or almost none, on the planet Earth. We have made a stirring worldwide change in our way of thinking on this issue.

The vested interests in slavery were far greater than the vested interests in continuing the nuclear arms race. Generals and presidents and Communist party leaders have children. They, too, have hopes for the future. They are vulnerable to the same appeals as we are. Reason ultimately will prevail because the alternative is simply that there would be no one left to do either reasoning or emoting.

I salute you, I welcome you, and I assure you that there is a change happening at this moment—changing opinion, new sorts of political action—and we are going to see a significant change in U.S. policy on nuclear weapons and on many other issues. ■

The Great Peace March for Global Nuclear Disarmament

STATEMENT OF PURPOSE

The Great Peace March for Global Nuclear Disarmament is an abolitionalist movement. We believe that great social change comes about when the will of the people becomes focused on a moral imperative. By marching for nine months across the United States we will create a non-violent focus for positive change; the imperative being that nuclear weapons are politically, socially, economically and morally unjustifiable, and that, in any number, they are unacceptable. It is the responsibility of a democratic government to implement the will of its people, and it is the will of the people of the United States, and of many other nations, to end the nuclear arms race.

Our specific objectives are:

1. A verifiable Comprehensive Test Ban Treaty
2. No militarization of space
3. Enforcement by all governments of the Non-Proliferation Treaty
4. Continuous, intensive negotiations between the U.S. and the U.S.S.R. leading to agreements on nuclear weapons control
5. A 'No-First-Use' pledge by all the nuclear nations of the world
6. A verifiable global freeze on the testing, production and deployment of all nuclear weapons, missiles and their delivery systems
7. A nuclear weapons free Europe and the Pacific
8. Systematic reductions leading to the elimination of nuclear weapons stockpiles
9. Immediate action directed toward safe disposal of nuclear waste resulting from the manufacture of nuclear weapons
10. Redirection of resources from nuclear weapons manufacture to socially useful, fuller employment projects.

We walk together to call attention to a danger so urgent and so serious that we have given up jobs and homes, our incomes and comforts, for nine months as we cross the United States. Our purpose is to educate and to demonstrate our conviction that there is hope, and that each individual can make a difference. As citizens of the world it is our responsibility to our children, our planet and ourselves to eliminate the danger of nuclear war.

We welcome and encourage representatives from Peace and Justice organizations throughout the world to join us in a dialogue of cooperation and education as an alternative to the rhetoric of confrontation. We believe that by walking together we will be one step closer to a world free of nuclear weapons and a world free of war. ■

THE AUTHOR

Carl Sagan is the David Duncan Professor of Astronomy and Space Sciences and Director of the Laboratory for Planetary Studies at Cornell University. He has played a leading role in the Mariner, Viking and Voyager expeditions to the planets, for which he received the NASA Medal for Exceptional Scientific Achievement; the Prix Galabert, the international astronautics prize; the NASA Medal for Distinguished Public Service (twice); and the John F. Kennedy Astronautics Award of the American Astronautics Society. He is currently President of The Planetary Society, a 100,000 member organization which is the largest space-interest group in the world.

Dr. Sagan is author, co-author or editor of more than twenty books, including **Broca's Brain**, **Comet**, **Contact** and **The Dragons of Eden**, for which he was awarded the Pulitzer Prize. His Emmy and Peabody Award winning television series COSMOS became the most widely watched series in the history of American public television, and has now been seen in 60 countries by over 300 million people. The accompanying book, also called **Cosmos**, is the best-selling science book ever published in the English language.

In recent years, Dr. Sagan and his colleagues have been engaged in research on the long-term consequences of nuclear war, uncovering previously unsuspected dangers for our civilization and our species. Partly for this work, he has been given the Annual Awards for Public Service of the Federation of American Scientists and of Physicians for Social Responsibility, as well as the Leo Szilard Award for Physics in the Public Interest of the American Physical Society. Dr. Sagan has also received the Explorer's Club 75th Anniversary Award "for achievements in furthering the spirit of exploration," the Joseph Priestley Award "for distinguished contributions to the welfare of mankind," and the Honda Prize "for contributions towards . . . a new era of human civilization." ■

NUCLEAR AGE PEACE FOUNDATION

Making the Nuclear Age an Age of Peace—How Can We Do It?

All of us are aware of the perils and problems of this Age—the threat of nuclear annihilation, the ruinous national debt, and the environmental contamination. We are called upon to make a fundamental turn—a turn toward peace. In this time of enormous danger, more and more people are seeking ways to understand what needs to be done—and how to do it.

The Nuclear Age Peace Foundation—What Does It Offer?

The Nuclear Age Peace Foundation is a nonpartisan educational organization which supports innovative thinking geared for action to meet the unique problems of this Age. It is dedicated to reversing the nuclear arms race and to finding non-violent solutions to complex global problems.

What Are the Foundation's Main Activities?

It plays a leadership role in analyzing and publicizing the dangers of accidental nuclear war, and its prevention. It publishes the quarterly **International Accidental Nuclear War Prevention Newsletter.**

It publishes 4 to 6 **Waging Peace** booklets each year—offering positive steps toward achieving peace. These are distributed to members and opinion leaders throughout the country.

It administers **annual essay contests** for students on peace-related themes, awards $3,000 in prizes, and publishes the winning essays.

It presents an annual **Distinguished Statesman Award** for courageous leadership in the cause of peace. Recipients thus far include Senator Claiborne Pell, Admiral Gene LaRocque, and Rodrigo Carazo, former president of Costa Rica.

It distributes the **Parents and Grandparents** (and other friends of children) **Call to Reverse the Nuclear Arms Race.**

It sponsors **symposia, conferences and educational programs** on issues related to peace in the nuclear age.

Who Directs the Foundation?

Its directors include leaders with wide experience in law, business, education, psychology and journalism. Its distinguished Advisory Council and Consultants Group include Nobel Laureates, scientists, physicians, religious and business leaders.

How Can You Take Part in Its Work?

We seek your active involvement, your ideas and your financial support. Tax deductible donations to the Foundation come from people in all walks of life—people who want to seize the constructive opportunities of the Nuclear Age by ending the threat of annihilation and moving toward a secure future for our children and grandchildren.

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