LETTERS

Editors' Addition

We inadvertently omitted from "Mormon Polyandry in Nauvoo" by Richard S. Van Wagoner (Autumn 1985) the fact that it had received DIALOGUE's first prize in the History division.

Serious About Godhood

Your essays relating to *The Godmakers* leads me to ask Christians who challenge our concepts, "Don't all Christians believe that every man and woman may become a god or goddess? How do you not believe Romans 9:26 which says the faithful shall 'be called the children of the living God'"?

Is it only the lawyer in me which sees that heirship as literal? Paul had earlier argued, "The Spirit itself beareth witness with our spirit, that we are the children of God and if children, then heirs; heirs of God, and joint-heirs with Christ" (Rom. 8:16–17).

If the Holy Spirit bears witness to our spirits, then we risk depriving ourselves of that heritage (that heir-i-tage) if we quench that spirit.

I suspect that some offended by Mormons' insistence on literal heirship have on their shelves books by that great Christian expositor, C. S. Lewis. Lewis disclaimed any personal or private interpretation of scripture; in fact, he tried to avoid anything that might even be thought of as peculiarly Church of England. He thought he was expounding basic universals, upon which Anglicans, Methodists, Presbyterians and Roman Catholics among others, could and would agree (*Mere Christianity* [New York: Macmillan, 1974], p. 8). As "the very centre of Theology" (p. 138), he identifies the doctrine of redemption — of godhood:

"Now we begin to see what it is that the New Testament is always talking about. It talks about Christians 'being born again'; it talks about them 'putting on Christ'; about Christ 'being formed in us'; about our coming to 'have the mind of Christ' (pp. 163–64).

"A real Person, Christ, here and now, in that very room where you were saying your prayers is doing things to you. . . . It is a living Man, still as much a man as you, and still as much God as He was when he created the world, really coming and interfering with your very self; killing the old natural self in you and replacing it with the kind of Self he has (p. 164).

"Finally, if all goes well, turning you permanently into a different sort of thing; into a new little Christ, a being which, in its own small way, has the same kind of life as God; which shares in His power, joy, knowledge, and eternity (p. 164).

"God looks at you as if you were a little Christ: Christ stands beside you to turn you into one" (p. 165).

"He said (in the Bible) that we were 'gods' and He is going to make good His words. If we let Him — for we can prevent Him, if we choose — He will make the feeblest and filthiest of us into a god or goddess, dazzling, radiant, immortal creature, pulsating through with such energy and joy and wisdom and love as we cannot now imagine, a bright stainless mirror which reflects back to God perfectly (though, of course, on a smaller scale) His own boundless power and delight and goodness" (pp. 174–75).

"It is a serious thing to live in a society of possible gods and goddesses, to remember that the dullest and the most uninteresting person you talk to may one day be a creature which, if you saw it now, you would be strongly tempted to worship, or else a horror and a corruption such as you now meet, if at all, only in a nightmare. All day long we are, in some degree, helping each other to one or other of these destinations. It is in the light of these overwhelming possibilities, it is with the awe and the circumspection proper to them, that we should conduct all our dealings with one another, all friendships, all loves, all play, all politics. These are no *ordinary* people. You have never talked to a mere mortal. Nations, cultures, arts, civilization — these are mortal, and their life is to ours as the life of a gnat. But it is immortals whom we joke with, work with, marry, snub and exploit — immortal horrors or everlasting splendours" (*The Weight of Glory* [Grand Rapids, Mich.: Eerdmans, 1973], p. 14–15).

And at his most ironic, he has Screwtape noting the disappearance of Great Sinners. Speaking of the need for young devils to make their living off those who merely follow, Screwtape observed that "It is a change for the better. The great (and toothsome) sinners are made out of the very same material as those horrible phenomena, the great Saints. The virtual disappearance of such material may mean insipid meals for us. But is it not utter frustration and famine for the Enemy? He did not create the humans — He did not become one of them and die among them by torture — in order to produce candidates for Limbo; 'failed' humans" (*The Screwtape Letters and Screwtape Proposes a Toast* [New York: Macmillan Publishing Co., 1975], p. 158).

There may be room to criticize Mormons collectively. It may be that all of us, despite our dedication to missionary work, are not always fully sensitive to the needs of our neighbors. As Mormons we ask our neighbors to know us and to love us; as Christians we have a duty to know our neighbors and to love them. I see evidences that we are learning and are working at learning how to do the broader task. And I hope that we Mormons, who qualify as the most earnest of born-again Christians, can find some advantage in the unfortunate publicity generated by those who consider themselves our enemies.

William L. Knecht
Moraga, California

Godmakers *Response*

I show *The Godmakers* and thus read your essays on the topic (Summer 1985) with great interest. Since one of the repeatedly discussed aspects was the motives of those connected with it, I would like to briefly set forth my own motives for showing *The Godmakers* and doing other work involving Mormons.

First, if a person's beliefs are meaningful, he or she should want to share them with others. Methods differ. Donald A. Eagle apparently holds to a live and let live philosophy while others, including me, feel that they must take a more active role. Agreed, one's freedom of speech ends at the hearer's ears; but one's conviction to speak begins in the heart.

Second, Mormonism from the First Vision to the present represents an offensive launched against the beliefs of traditional Christians in general, including those I hold. Mormons have every right to believe whatever they wish, but when Mormon missionaries tell me in my own home from their scriptures that my beliefs are an "abomination" and that I am "corrupt" (JS — H 1:18–19), I feel the call of Jude 3 to "contend for the faith that was once delivered to the saints." That conviction — that I must defend myself — becomes all the greater as the Mormon Church and its missionaries misrepresent my beliefs as a Christian to people world-wide who don't know any better.

Third and most important, I do this out of love for the Mormon people. Allen D. Roberts says *The Godmakers* "radically departs from the loving, forgiving, constructive spirit of Christianity" (p. 32). I would change some things in the film's methodology if I could, but the heart of the matter is not methodology; rather, the key issue is whether Mormon beliefs represent the gospel that it claims to be the restoration of. That issue is dealt with at length in the film, and I have not yet heard any convincing and authoritative answers or refutations.

What would you as Mormons expect us to do? If we remain silent under the attacks made on us as Christians (1 Ne. 13:26–28; 14:9–10), our own beliefs condemn us, and any professions of love for Christ and those he died to redeem become meaningless. If we speak out for what we believe, confronting what we believe to be your deadly error, we are condemned as hateful and unloving. Do not your own missionaries do this very thing but from their own perspective. Why, then, is it so evil for us to do the same things?

As a Christian who loves and is concerned for his Mormon fellowbeings, I do not wish to dictate, but to dialogue. While I disagree with your beliefs, I welcome your missionaries as guests and friends, while seeking to converse intelligently with them about our respective beliefs. Indeed, on a "mission" of my own in Utah this summer, the returned missionaries I met gave me the most cordial welcome, the best dialogue, and the best representation of Mormonism in all ways of all the people I contacted. Do not integrity and maturity compell us, Christian and Mormon alike, to deal with our differences honestly?

Eagle quotes an anonymous "missionary to the Mormons" as writing, "I happen to care about the Mormons too much to allow them to go on in their deception. They need to be saved." Although he calls such a statement "spiritual paternalism at the least or spiritual dictatorship at the worst," I do not feel that either description represents the writer's intent. If I were to express my convictions that way, I would say, "I happen to care about the Mormons too much to allow myself to be silent about their deception."

The Christian church has been largely silent about Mormons and Mormonism for 150 years. While I fully respect the reaction of Mormons to the end of that silence and would gladly discuss it with them, I must point out both the reaction and *The Godmakers* stem from the same conviction: the heart-deep conviction that one's beliefs are right and valid.

That conviction should motivate all of us to reach out to others of different beliefs in love and in truth; for while truth without love kills and love without truth deceives, the two combined cannot but reveal the one who alone is truth incarnate, the Lord Jesus Christ.

Thomas Berry
Sacramento, California

"Land" or "Continent"

Most of the arguments and questions raised in the letter by George D. Smith (Spring 1985) are answered in John L. Sorenson's *An Ancient American Setting for the Book of Mormon* (Deseret Book, 1985). However, one of his arguments is too ridiculous. Smith claims that Ether 2:5 (". . . into that quarter where there never had man been") and Helaman 11:20 (". . . they did cover the whole face of the land, both on the northward and on the southward, from the sea west to the sea east") mean that the Jaredites, Nephites, and Lamanites were the only inhabitants of the American continent, and no other peoples were there.

But Ether 2:5 describes the very beginning of the Jaredites' long march, while they were still in the Old World, long before they even came to the ocean. And if we were to interpret "land" as "continent" we should have to conclude that there are only four lands in the world — Eurasia, America, Africa, and Australia.

Anywhere from the isthmus of Darien to Tehuantepec, Mesoamerican lands (in the real sense of the word, "land", not George Smith's) extend from sea to sea without any of them being a whole continent, only a small land.

Benjamin Urrutia
Provo, Utah

Ku Klux Klan of Mormonism

I converted to Judaism in 1977 after being a Mormon for eighteen active years including a full-time mission. I was a Seventy when my studies caused me to determine I was no longer a Christian. However, I never became embittered toward Mormon authorities, practices, or doctrines though I disagree with them. I've had many enjoyable discussions (debates?) with my Mormon relatives and friends. I think that America has room for divergency in religion as well as in politics.

The ancient rabbis believed that there were as many paths to the world to come and exaltation as there were nations of differing peoples. They taught that one must remain true to the religion of his forefathers, unless God led him to do otherwise and then he was to question all authority in light of Torah teachings and if it was found wanting, he was to know that he was being misled.

My wife and eight children did not share my enthusiasm towards Judaism and, with my blessings, remain faithful to Mormonism. Although they have suffered more pain than I feel necessary from my decision, they have my total support in their religious beliefs. I am positive that there must be other former Latter-day Saints who do not feel the need to convert Mormons. We cannot stand idly by and allow anti-Mormons to use deceit and subterfuge to undermine the faith of decent, true believing Latter-day Saints like my own children.

The Saints Alive group and other anti-Mormon groups should be seen for what they really are; they are to the Mormons what the Ku Klux Klan is to the Jew! They wish not only to "save the souls" of the LDS people but also to totally destroy the Church infrastructure.

I cannot allow their poisonous attitudes and lying fundamentalism without raising my voice in dissent.

It is a shame — worse, it is a sin, that so many radical Christians believe that any means is justified, including falsehood deception, to destroy "Satanic" Mormonism.

I think that it is extremely important for all religious peoples to make a concentrated effort to understand the concepts of belief and to accept the legitimacy of others not believing exactly as we do.

I look at religion as a great symphony orchestra being led by God. Just as any good conductor would not wish everyone in the orchestra to play the kazoo even the lowly kazoo has a place in an orchestra that has many other instruments in it.

George Caudill, Sr.
Boise, Idaho

Even the Typos

I relish the appropriateness of a typographical error in Levi Peterson's review of Orson Scott Card's *Woman of Destiny* (Winter 1984): "Considering the unending flood of prudish and unrealistic G-rated Mormon novels, this work is to be commended for deserving, if not quite an R rating, at least a full-blown PG. In particular, Card deals candidly with sexual *maters*."

That delightful glimpse of your Freudian slip reflects for me the high quality of the journal generally. In DIALOGUE even the typos are worth reading.

Steven C. Walker
Provo, Utah

Not Fresh, Not Insightful

Your recent issue on war and peace (Winter 1984) fell far short of my hopes

and expectations for fresh insights into LDS history and theology, as stated in your Spring 1983 call for papers.

The opening essay by D. Michael Quinn was well written but failed to say anything really new. In fact, the article was simply a reprint (without revision) of an article originally published in August 1974. I also take exception to Quinn's use of "pacificism" (especially as applied to Mormon's behavior in the Book of Mormon), and feel his conclusions are overly simplistic.

The next three essays (Chernus, Kane, Bock) were particularly disappointing because they had nothing to say about LDS beliefs. Although some of the ideas expressed were noteworthy, I have many other forums for studying such viewpoints. The articles contributed very little to your announced purpose in producing an "issue on Latter-day Saints in war and peace" (Spring 1983, p. 46).

Although many of the articles were critical of current U.S. deterrent strategy, I am sure many members of the Church feel such a strategy is totally consistent with LDS teachings. Yet, nowhere in DIALOGUE was this viewpoint represented.

The concepts outlined by Chernus are familiar to all who have studied the issues of war and peace. The idea of symbols, myths, and "psychic numbing" apply to many circumstances and are generally recognized as only a partial explanation for current nuclear policies. The article is somewhat useful in reviewing these concepts but does not address many other factors contributing to international conflict.

I agree with Blais that it is important to remind people of their individual responsibilities, but I feel Blais weakened his position through the use of familiar rhetoric, lack of objectivity, stereotyping, revisionist history, and misrepresenting some Mormon theology. Basing an essay of this type on "impressions" resulting from twelve years of Church membership seems rather unreasonable to me considering the kind of conclusions Blais obviously wants the reader to accept. Are my impressions based on thirty-six years of Church membership better?

In my opinion, the essay by Kent Robson is seriously flawed. He has grossly distorted many facts about nuclear arms and is completely wrong in some cases. This is unfortunate because the essay deals with a topic of grave concern to all of us. Here are only a few of the problems with Robson's article:

1. Robson's comments about "nuclear winter" are extremely misleading (pp. 55–56). Although a few studies suggest that a cooling effect could occur following a large-scale nuclear exchange, many uncertainties remain concerning the potential extent of this phenomenon. In claiming Soviet scientists agree with the concept of "nuclear winter," Robson also fails to note that Soviet research to date has been very limited and relatively shallow. There is no indication these studies are yet being taken seriously in the USSR (Department of Defense report on "Potential Effects of Nuclear War on the Climate," March 1985; report of the National Academy of Sciences, Dec. 1984; report by the Center for Atmospheric Research, March 1985).

2. Robson states that the USSR "is more susceptible to a first-strike than is the United States" (p. 56). This is absolutely false. The Soviet Union is clearly *less* susceptible to a first strike, and *more* capable of conducting a first strike, than is the United States. The Soviets maintain a much larger percentage of their nuclear forces in modern land-based ballistic missiles. These ICBMs are generally as accurate as U.S. missiles, have greater yields, carry more warheads, and are deployed, for the most part, in silos several times harder than U.S. facilities.

In addition, the Soviets have developed or deployed at least two types of ICBMs, in violation of existing arms agreements. About half (668) of the Soviet ICBM force (over 1,350) includes MX-class missiles. The United States has plans to eventually only deploy forty to fifty such missiles. As

a result, the Soviets currently possess a significant potential to destroy time-urgent, hard targets, while the U.S. lacks a comparable capability.

The Soviets also have made major strides in preparing two new mobile ICBMs for deployment. At least three new ICBMs will be flight-tested in the 1986–90 time period. (Testimony before a joint session of the Subcommittee on Strategic and Theater Nuclear Forces of the Senate Armed Services Committee and the Defense Subcommittee of the Senate Committee on Appropriations by Robert M. Gates, 26 June 1985.)

Bombers take several hours to reach their targets and can be intercepted by conventional defenses, which makes them unlikely first-strike weapons. The U.S. has a larger percentage of its forces in bombers than does the USSR. The Soviets also have the world's largest and best air defense network consisting of thousands of interceptor aircraft and surface-to-air missiles. The U.S. has only a few hundred aircraft and no operational SAMs.

Further, the U.S. bomber force consists primarily of aging B-52s (the last plane was built in 1962), while the Soviets have been rapidly modernizing their fleet with Backfire bombers (produced at a rate of more than thirty per year for over the past five years), and have recently begun mass producing an entirely new version of the Bear bomber as a cruise missile carrier (*Soviet Military Power*, 1985). Although the U.S. is beginning to produce the new B-1 bomber, the Soviets have a similar aircraft under development (the Blackjack) (*Soviet Military Power*, 1985).

In addition, because U.S. bombers are no longer kept on airborne alert (again contrary to Robson's claim, p. 56) and only a portion are kept on ground alert — mostly near the coasts — some would undoubtedly be destroyed on the ground in a surprise first-strike, especially if attacked by Soviet ballistic missiles from Yankee-class submarines constantly stationed off both U.S. coasts.

The Soviets also have a larger submarine-launched ballistic missile (SLBM) force than does the U.S., and only a portion of the current U.S. SLBM force is ever on station at a given time within range of Soviet targets. In contrast, Soviet SLBMs usually have greater range than U.S. SLBMs and can therefore fire from home ports into the continental U.S. All of this gives the Soviets a massive first-strike potential against the U.S.; the U.S. does not possess an equivalent capability by any means. Additionally, all elements of Soviet strategic offense forces will be extensively modernized by the mid-1990s, including probable deployment of 2,000–3,000 air-launched, sea-launched, and ground-launched cruise missiles. Also, Soviet warfighting doctrine is certainly not defensive in nature.

3. U.S. B-52s employ some electronic countermeasures, but it is an *extreme* stretch of the imagination to say, as Robson does (p. 56), these aircraft employ "stealth" technology.

4. There are at least six nuclear powers (Robson claims there are only five, p. 57). India has detonated a nuclear device. There is also a possibility that Israel and South Africa have this capability, and several others could detonate a nuclear weapon within one to three years, if they desired.

5. By 1984, the U.S. nuclear stockpile was at its lowest point in twenty years, one-third lower than in 1967. Also, total U.S. megatonnage was at its lowest level in twenty-five years, only about one-fourth of its peak in 1960. The same cannot be said for the Soviet nuclear arsenal.

In addition, as a result of NATO decisions in 1979 and 1983, the nuclear stockpile in Europe will decline by one-third from its 1979 level. Robson further fails to mention that the Soviet Union has the world's largest, best-equipped, and best-trained force for waging chemical warfare. They likewise possess an active research and development program for biological weapons (in violation of the 1972 treaty ratified by the Soviets) (Casper Wein-

berger, *Annual Report to the Congress*, FY 1985; *Soviet Military Power*, 1985).

6. Robson's comments about current strategic defense efforts are greatly distorted (pp. 58–59). He fails to understand the true nature of current research and the technologies involved, and lacks the competence and details necessary to perform an accurate vulnerability analysis.

The U.S. Strategic Defense Initiative is a technology research program designed to study the feasibility of developing a survivable, cost-effective defense against ballistic missiles. The concept is probably quite compatible with LDS teachings about defensive war. The SDI program is currently studying a vast array of technologies, including directed energy and kinetic energy devices. This is not a nuclear-weapon system.

The Soviets have been doing similar work for years, and probably lead the U.S. in some technologies. They have the world's only operational antiballistic missile defense system, which is being upgraded with new, improved missiles and radars, and have violated the ABM treaty by building a radar network for a potential nation-wide ABM defense system. They likewise have the world's only operational antisatellite systems. Even if the U.S. concludes that a ballistic missile defense is not feasible within the next ten to twenty years, it will still benefit from the research now underway in such areas as computers, optics, command and control, electro-optical sensors, propulsion, radar, software, telecommunications, and guidance systems. Current SDI research does not violate any treaty.

7. Finland's policy of neutrality has been forced upon it by the Soviet Union; it is not completely by choice as Robson implies (pp. 59–60). Finnish armed forces are limited by a treaty forced upon Finland by the Soviets following World War II. The United States could hardly pursue a similar policy and still help ensure the freedom and security of its allies, an obligation implied in Doctrine and Covenants 101:77. History also shows that neutrality is no guarantee of peace. For example, neutral Finland was invaded by the Soviets in November 1939, only seven years after signing a nonaggression treaty with the USSR.

8. Robson's reference to Soviet comments about the U.S. as the "only nation on earth to have used nuclear weapons on people" is correct but misleading. While hindsight casts doubt on Truman's wisdom in ordering the bombings of Hiroshima and Nagasaki, historians generally agree the decision was made in a sincere attempt to quickly end a very bloody war and to prevent the extensive casualties which would have occurred if the U.S. had invaded the Japanese mainland. This bombing of Japan resulted in about 210,000 killed or wounded. An attack against the mainland could easily have resulted in far more casualties (estimated into the millions).

Soviet criticism seems particularly hypocritical. If they had possessed nuclear weapons in World War II, they would certainly have used them against Nazi Germany, and any country capable of murdering approximately twenty million of its citizens in purges is probably ill-suited to condemn U.S. actions in ending the war with Japan.

9. Contrary to Robson's assertion (p. 60), the Soviet record of arms control compliance is not as good as our own. They have not only violated the established limitations but have consistently attempted to deny U.S. verification of these treaties ("President's Unclassified Report to the Congress on Soviet Noncompliance with Arms Control Agreements," 1 Feb. 1985).

Robson may claim anyone can understand nuclear arms issues by reading a few reports (like claiming to be a doctor after reading a medical journal), but his article strongly suggests otherwise (p. 57). Practically my only agreement with Robson is that "negotiations to reduce the levels of every kind of nuclear weapons need to be pursued vigorously" (p. 60). However, to achieve an agreement which truly enhances

U.S.-Soviet security, a complete and correct understanding of the current nuclear balance is necessary. Robson's article does not satisfy this requirement.

I very much enjoyed the four "Personal Voices." They did not attempt to manipulate most facts and clearly represented individual perspectives on important issues. I would have liked, however, to have seen some of Drews's opinions about "alternative modes of defense to the present reliance on nuclear weapons" (p. 81).

I have spent one-third of my life working daily with matters related to war and peace. I know from first-hand experience that we face some very challenging questions as world citizens and as members of the Church of Jesus Christ in these "last days." It is important that the dialogue continue.

A. Brent Merrill
Woodbridge, Virginia

Leftist Naivete?

Kent Robson's article on the magnitude of the nuclear arms race (Winter 1984) is most interesting but ultimately leaves me unconvinced that he really understands the issues or possesses the ability to assess critically the arguments of the left wing of the American political spectrum, which he obviously endorses.

Robson notes, for instance, that the United States is the only nation which has ever used nuclear weapons in warfare. Yet he neglects to observe that we are also the only nation which has enjoyed a monopoly in the possession of such weapons and yet has refrained from using them to disarm our most menacing adversary. Does anyone honestly believe the Soviets would have acted with similar restraint?

We are also told that the Soviet record of honoring arms control agreements is as good as our own. I find that hard to believe in light of President Reagan's most recent report to Congress, a report he found somewhat embarrassing because of its timing with respect to the arms control negotiations in Geneva. Soviet use of poison gas and explosive toys in Afghanistan, in clear violation of international compacts to which the Soviets are signatories, suggests that any peace-loving and law-abiding sentiments which may exist among the Soviet people are not reflected in Soviet policymaking.

Even if the U.S. has also violated nuclear arms control agreements, it would be hard to draw the conclusion that the United States and the Soviet Union should trust each other: that arms control agreements alone offer a realistic hope for ending the nuclear arms race. Indeed, America's three greatest scholars in strategic defense strategy—Zbigniew Brzezinski, Henry Kissinger, and Jeanne Kirkpatrick — seem at present to be essentially in agreement that, both politically and technologically, we are fast approaching the day when verifiable nuclear arms control agreements will be impossible.

Robson tells us that the Soviets are more vulnerable than we to a surprise first strike because a greater proportion of their nuclear warheads are on land-based ICBMs at a fixed location. Yet nothing is said about the disturbing possibility that the Soviets have developed (or are very close to developing) the capacity to give intercontinental range to their medium-range ballistic missiles, presently used to terrorize Europe and Asia. An article by William Kucewicz appearing on the editorial page of the *Asian Wall Street Journal*, 6 September 1984, recently reported a Soviet test of such missiles employing an azimuth which would have taken them over Alaska and into the American heartland where so many of our ICBMs are based. Please note that these intermediate range missiles are mobile: they are not easily detectable. And these mobile launchers may be used to fire more than one missile.

Robson also tells us that the U.S. submarine-based ballistic missile force is "invulnerable to detection, a situation estimated as likely to prevail for at least twenty

years." Would that were true! Kuscewicz reminds us that half of our nuclear submarines are in port at any given time and are therefore "sitting ducks" for a Soviet first strike. As for those at sea, Kuscewicz reports successful tests by the Soviet Union of a satellite-based radar system (called "synthetic aperture radar" (SAR), capable of locating submerged submarines by discerning subtle effects on the water's surface, on water moving around the submarine and even in the color and radioactivity of the plankton. Kuscewicz reports that SAR could make all submerged U.S. submarines vulnerable within a decade, and other reports I have read (but cannot locate, at present) suggest that SAR is already capable of detecting a submarine at the depth to which it must rise if it wishes to fire its missiles with any degree of accuracy. The information supplied by the Walker spy ring may have significantly advanced SAR development, and with it the threat to our submerged submarines ("Spy vs. Sub," *Asian Wall Street Journal*, 5 June 1985, p. 6).

I am most puzzled, however, by Robson's uncritical endorsement of the report of the Union of Concerned Scientists on the feasibility of President Reagan's Strategic Defense Initiative (SDI). He must be aware that this group has a consistent and obvious left-wing ideological bias, and that a great many capable scientists (Soviet and American) do not share the pessimism expressed in that report, among them Edward Teller, the father of the hydrogen bomb. The list of scientists supporting the SDI is growing ever more impressive, according to Gregory Fossedal, writing on the editorial page of the 19 June 1985 *Asian Wall Street Journal*. That list includes George Keyworth and Robert Jastrow (prominent physicists and converted skeptics), Fred Seitz (former president of the National Academy of Science), Bill Nierenberger (director of the Scripps Institute for Oceanography and head of the panel that debates key issues of defense science for the government), Lowell Wood and Gregory Canovan (the "young entrepreneurs" conducting SDI research), and James Fletcher, former head of NASA and the LDS scientist with greatest expertise in space technologies. Fossedal notes that the momentum in the scientific debate over the SDI is clearly with the SDI supporters: the opponents have been forced to make embarrassing concession after embarrassing concession.

This observation should not be surprising to any serious student of military history. If we had abandoned every weapons development program deemed impossible by one or more scientists with impressive credentials, we would have abandoned the tank, the Manhattan Project, the jet fighter, and the nuclear submarine. Indeed, it is hard to find any innovative weapons system which has not been criticized as wishful thinking by some respectable scientific authority in the field.

Despite Soviet opposition to U.S. efforts to develop a strategic nuclear defense, it appears that they are spending more than we are in the attempt to develop one ("Star Wars over Moscow," *Asian Wall Street Journal*, 11 April 1985, p. 8). They may in some ways be ahead of us in this program, since their laser and space station technology may be more sophisticated. On the other hand, our computer technology, perhaps most critical to the successful deployment of a strategic defense against ballistic missiles, is more sophisticated. Therefore, we may have something to teach each other about how to build such a system, if we may put aside our mutual distrust. And if this is impossible, perhaps we could agree to entrust the deployment of such a system to the Swiss, the Japanese, the Indians, or any combination of nations we both trust, with the understanding that it would be used against ballistic missiles of whatever origin.

Amid Carl Sagan's warnings about the possibility of nuclear winter and after viewing the horror of *The Day After*, it amazes me that anyone would seriously oppose changing the focus of nuclear deterrence

away from offensive weapons and toward defensive weapons. President Reagan has clearly indicated that he is willing to give the Soviets access to any system we develop: they need not fear nuclear blackmail from us. He has spoken of international control of such a system. Indeed, it appears that he will try, through the negotiations in Geneva, to persuade the Soviets that we should cooperate in an attempt to move mankind away from the horror of Mutual Assured Destruction and toward the more humane goal of Mutual Assured Survival.

This effort responds honorably and courageously to the plea of the First Presidency, set forth in the last sentence of the 5 May 1981 statement concerning the MX missile: a plea that "our national leaders . . . marshal the genius of the nation to find viable alternatives" to the stockpiling of ever-more-awesome nuclear missiles, alternatives which will "secure . . . with fewer hazards, the protection from possible enemy aggression, which is our common concern."

Strategic nuclear defense is an issue on which left and right should be able to agree. Let us argue about whether the MX missile should be built, about whether we need more B-1 bombers and cruise missiles. But let us not fritter away, in shortsighted partisan debate, humankind's best hope for a shield against the most dangerous sword in our nuclear arsenal.

Gregory S. Hill
Seoul, Korea

Robson Replies

It is clear from the responses to my essay, "The Magnitude of the Nuclear Arms Race," (Winter 1984) that sensitive nerves have been struck. In any essay I write, I always welcome corrections to the information or to the argumentation of the essay. I never pretend to be infallible. However, I always want to see the evidence so that I may put it alongside of my evidence.

Brent Merrill is apparently no casual observer of the nuclear arms race. It would have been interesting to know what Merrill does for a living and whether he has a vested interest in defending a certain position.

In Merrill's letter, he first claims that Soviet scientists have done little work on the nuclear winter phenomenon and that there is no evidence that these studies are taken seriously in the USSR. He gives no evidence for these judgments. I have heard Soviet scientists in the USSR say that they have run computer simulations of the nuclear winter phenomenon and have been able to confirm its affects. These same scientists say they are seriously concerned about nuclear winter.

Second, Merrill claims that the Soviet Union is clearly less susceptible to a first strike and more capable of conducting a first strike than the United States. He correctly observes that a much larger percentage of Soviet nuclear forces is in ICBMs. I agree. As I pointed out, 73 percent of Soviet nuclear forces are in land-based ICBMs. However, I cannot agree with Merrill that the Soviet ICBMs are generally as accurate as U.S. missiles. As Merrill himself should know, the CEP (Circular Error Probable, the standard measurement of accuracy of weapons) is about double that of Minuteman IIIs.

Soviet missiles have greater yields than U.S. missiles because the Soviets have not been able to make them smaller. However, the Soviets have reduced their total megatonnage by one-third since 1970 and are steadily decreasing the size of their warheads and their missiles as their technology improves. Incidentally the United States is doing the same. When it comes to assessing whose silos are harder, it is difficult to be certain, since there has been no testing of silo hardness. Above-ground tests of nuclear weapons to test silo hardness are prohibited by the Limited Test Ban Treaty.

When the Reagan administration first began to claim that the Soviets had a greater first-strike ability than the United

States, the assumption was made that the only first-strike weapons the United States possessed were the Minuteman missiles. Since then, the United States has deployed Pershing II missiles in Europe and Cruise missiles which have CEP figures of a first-strike accuracy. In addition, the MX missiles clearly have first-strike accuracy and the C-4 missiles on Trident II submarines are also as accurate as the Russian missiles. The D-5 missiles to be deployed on the Trident IIs are much more accurate than the Russian missiles. Overall, Merrill will have to admit the U.S. missiles are more accurate than Soviet missiles. Given that the U.S. has more total warheads than the Soviets and greater accuracy in those warheads, it seems hard to claim that the Soviets are obviously ahead of the United States in first-strike capability.

Since most first-strike calculations have not taken account of reliable yields of the weapons, atmospheric conditions that are less than ideal, silo hardness, the vagaries of CEP, and the effects on incoming warheads of a first explosion caused by a first-strike missile that can cause "fraticide," the likelihood of either side being successful in a first-strike attack has been enormously overestimated. These matters were discussed in the *Scientific American* article, "The Uncertainties of a Preemptive Nuclear Attack" (Nov. 1983).

The most important consideration lies in the fact that 73 percent of Soviet ICBMs are in known locations. Over 50 percent of American missiles are on submarines and cannot present first-strike targets. It is on this basis that the hardness of the silos, the yield of the weapons, and the accuracy of the incoming warheads is irrelevant since the largest part of the U.S. arsenal of missiles is invulnerable to detection and successful attack. That is not true of the Soviet silos or of the Soviet submarine tenders where most submarines are kept in port, nor of the Soviet air fields where Soviet bombers armed with missiles are stationed on the ground.

Furthermore, the U.S. has 98 percent of its ICBMs on alert status whereas the Soviet Union's mostly liquid-fueled ICBMs are believed to have a much lower alert rate.

Merrill comments that the Soviets have two mobile ICBMs, the SS-16 and the SS-25, and claims, in addition, that they violate existing arms agreements. The SS-16 is a three-stage, solid propellant, single reentry vehicle missile that the Soviets say has not been deployed. In 1983 General Gabriel, Air Force Chief of Staff, said, "We do not believe mobile SS-16s are deployed at the Plesetsk Test Range." To my knowledge, it has not yet become clear that there are *two* new missiles, the SS-24 and SS-25, (one is allowed under SALT II) or that they do violate existing arms agreements. The Soviets are working on a new missile, an SS-X-24, comparable to our MX and have notified the U.S. that this is their one new missile. The Soviets claim that the SS-25 missile is a "modernization" of an old missile, the SS-13. A loophole in the SALT II treaty allows a second new type if it is within 5 percent of an existing ICBM in size and payload. Our test data for the SS-13 do not seem accurate enough to be sure of this.

I agree with Merrill that the USA has a larger percentage of its forces on bombers than does the USSR, but I have little confidence in his claim that the Soviets have the largest and best air defense network in the world. An unarmed, civilian Korean Airlines 007 jet flew for more than two hours in Soviet air space over one of the most heavily defended areas of the Soviet Union before it was finally contacted by Soviet interceptors. Despite the tragic results of that encounter, the circumstances do not suggest that the Soviets can have great confidence in their ability to detect and shoot down planes.

The claim that the United States is using only aging B-52s ignores the fact they are G and H models which have been continuously updated and modernized. I

know of no one who seriously believes that the U.S. bomber fleet is inferior. The Soviet bomber fleet is much smaller and its bombers in use, slower. In fact, in its bomber force, 100 are still propeller aircraft, according to *The Defense Monitor* (vol. 13, no. 6). Although the Pentagon has talked a great deal about a Soviet Blackjack bomber, in April 1985, the Defense Intelligence Agency said the Blackjack might be ready by 1988 (*Defense Monitor*, vol. 14, no. 6). The 130 Backfire bombers in the Soviet fleet are medium-range bombers and, like our FB-111A bombers, do not fall under the provisions of the SALT treaties. It is not even clear that they have deployed nuclear missiles on their so-called Backfire bomber.

Merrill notes that Soviet submarines are stationed constantly off both U.S. coasts. Although this does now seem to be true, it was done in retaliation for positioning Pershing II and Cruise missiles in Europe. Merrill would also have to admit that Soviet submarines are noisier and easier to detect than U.S. submarines and do not have the deadly accurate punch of U.S. submarines. All but seventy-two of the Soviet SLBMs use liquid fuel, in contrast to only solid-fueled SLBMs for the United States.

Merrill goes on to claim that the Soviets have a larger SLBM force than does the United States. This is simply not true. The Soviets do have a larger number of submarines, 61 to 37, but only 2,178 warheads on these submarines compared to 5,728 warheads for the United States (*Defense Monitor*, vol. 14, no. 6).

Merrill claims that the Soviet war-fighting doctrine is not defensive in nature. This is a claim that is not obviously true and would require a great deal of substantiation. One consideration in this matter would be that the Soviets have declared a "no first-use policy," that they would never be the first to use nuclear warheads. The United States has refused to make this declaration.

Merrill claims the U.S. B-52s employ some electronic countermeasures but that this could not be interpreted as stealth technology. Since at least a portion of the stealth technology involves the use of electronic countermeasures, Merrill's statement is self-refuting.

Merrill goes on to say that there are six nuclear powers in the world. In addition to those I listed, he adds India and suggests that Israel or South Africa may have the capability of making nuclear weapons. Of course, I am aware that India has exploded a nuclear device and may be building a nuclear warhead because of fear that Pakistan may be developing nuclear weapons. In fact, fifty-four countries in the world operate nuclear reactors which produce a total of 500 pounds of weapons-grade plutonium per year from which about 7,000 nuclear warheads could be manufactured (Ruth Leger Sivard, *World Military and Social Expenditures*, 1982, p. 10). By this kind of definition, one could list a large number of nuclear powers. The relevant question, however, is which of these powers have the capability of delivering these weapons against other countries?

Merrill claims by 1984 our nuclear stockpile was at its lowest point in 20 years, one-third lower than in 1967. What is he counting? Is he counting total U.S. megatonnage which he also said was at its lowest level in twenty-five years, only about one-fourth of its peak in 1960? If so, it is clear that the United States has been reducing the size of its warheads and the size of the missiles needed to carry those warheads as technology to do so has improved. Since World War II, our ability to reduce the size of those warheads has increased approximately 150 times. If weapons are more accurate, total megatonnage is a poor measure of the effectiveness of the weapons. The Soviet megatonnage does exceed that of the United States. However, the Soviets are constantly reducing the size of their missiles and warheads as their technology improves. In this, they are far behind the

United States and their total megatonnage is therefore larger. However, in numbers of warheads and accuracy of the warheads they have been consistently behind the United States.

If one is counting numbers of warheads, in 1984 the U.S. nuclear stockpile substantially exceeded that of 1967. During the 1970s when the current U.S. administration claimed that the United States was doing nothing in developing nuclear weapons, the potency of the U.S. forces more than doubled. In warheads, we went from 3,742 in 1970 to the present number of 11,466 (*Defense Monitor*, vol. 14, no. 6).

Merrill claims that the SDI or Star Wars Initiative, is a defensive capability and therefore compatible with LDS teachings about defensive warfare. The Soviets do not consider the SDI to be defensive in nature. They consider it to be offensive. If SDI were to work and if they were unable to mount any kind of successful attack, the U.S. would be able to use tactical nuclear warheads without fear of massive retaliation. The Soviets consider this provocative. In addition, the best response to SDI would be to increase the numbers of missiles and warheads. This comes at a time when we are asking the Soviets in Geneva to substantially reduce total missiles and warheads while we press on with SDI.

The claim that the Soviets have been doing similar work for years and that they lead the U.S. in some technologies demands substantiation. The Soviet anti-ballistic missile defense system is clearly antiquated by the MIRVing of warheads on American missiles. As General Charles A. Gabriel, Air Force Chief of Staff, said in 1984, "The 100 missile interceptor defense projected for the ongoing Moscow upgrade would quickly be exhausted in a large-scale attack." The Soviets do have an ASAT (anti-satellite) missile which has been observed not to be as accurate and reliable as the U.S. ASAT missile.

Merrill claims that the Soviets have violated the ABM treaty by building a radar network for a potential nation-wide ABM defense system. He is referring to an installation the Soviets have been building near Krasnoyarsk in Siberia. That installation will not be completed until 1988 or 1989 and has never been in operation. The Soviets claim that it is a space tracking radar. A classified CIA report in 1984 found the radar to be "not well designed" (*Defense Monitor*, vol. 14, no. 6). As a result it is clearly premature to claim this as a violation.

Merrill claims that even if an SDI system were not feasible, the U.S. would still benefit from the research in computers, optics, and other matters. This point is obvious. The United States will benefit by any research in any area whether it is computers, optics, radar, or whatever. We are not, however, talking just about research with its comparatively small costs. We are talking about the over $1 trillion cost of a working SDI system. Article V of the 1972 ABM treaty states that "each party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, *space-based*, or mobile land-based" (italics mine). The planned SDI system is, therefore, presumptively illegal.

Merrill's point about Finland's neutrality has to be put into the context of my observations about deterrence. Deterrence has to be put into the broader, political context of intentions to use weapons as well as the weapons possessed. It is still not clear whether American superiority in numbers of warheads, their accuracy, and their worldwide deployment has contributed to the security of the United States. As long as the nuclear weapons are not used, one can argue that the deterrence is effective. One could also argue that voluntary restraints are working that have had nothing to do with deterrence. The situation is a little like the story of the man who was snapping his fingers to keep the elephants away. When told there were no elephants in the neighborhood, the man said, "There, you see. Darned effective, isn't it?"

Merrill, in commenting on the bombing of Hiroshima and Nagasaki, says that

"my claim that the United States is the only nation on earth to have used nuclear weapons on people is correct but misleading." In what way is it misleading? I did not claim that the United States was not justified in using the weapons although I do have doubts about that. I did not claim that the United States did not save casualties by the bombings. I did not claim that the Soviets have never considered using nuclear weapons. In fact, Shevchenko's new book, *Breaking With Moscow*, suggests that they may have considered doing so. Other information suggests that the United States also considered using nuclear warheads on other occasions. The important point to remember is that to other countries in the world the United States is still the only country to have used nuclear weapons on people. This frightens Soviets as well as others since, in addition to having the weapons, Americans have found, at least in one circumstance, the will to use them.

Merrill is right in pointing out that the Soviets murdered close to 20 million of their own citizens in purges. I did not claim, nor does anyone else that I know of, that this action, under Stalin, should not be taken into account in determining Soviet intentions. Let me, however, remind Merrill that Stalin is no longer in office in the Soviet Union and that those purges occurred over forty years ago.

When I suggest that arms control compliance on the part of the Soviets is as good as our own, Merrill claims "that they have violated established limitations and consistently attempted to deny U.S. verification of treaties." Former Chief Arms Control negotiator Paul Warnke, in discussing recent alleged Soviet violations of arms limitation agreements, claimed that the report was in the President's office for eight months without any attempt to verify its allegations, then was released to the public — still unverified — just before the commencement of the Geneva Arms Control negotiations. At that time, the Pentagon reported that it had not had opportunity to assess the alleged violations. Among the allegations was the claim that the Soviets have violated the ABM treaty by building the Krasnovarsk installation. Recently Soviet ambassador Dobrynin suggested that the Soviets might allow the Americans to visit the Krasnovarsk site to see if it violates the treaty.

Similar allegations have been equally loosely made. To assess Merrill's claim, one wants to see what the alleged violations are and what the denied verification is. This discussion occurs at a time when the United States, which failed to ratify the Salt II although Jimmy Carter signed it, is currently considering unilaterally abrogating that treaty which has been observed by both the United States and the Soviets. The treaty was signed by the President of the United States, President Jimmy Carter.

Representing the current administration is Richard N. Perle, Assistant Defense Secretary for international security policy, who recently was quoted as saying that the negotiations are *not* for the purpose of reaching agreements with the Soviets, but simply to take the pressure off the United States in the world propaganda war so that we can go on building without any serious intention of ever signing any arms control agreements with the Soviets. In Perle's view negotiations help maintain political support for military spending (*Salt Lake Tribune*, 12 May 1985).

Although I would like to personally believe that this is not the United States' position, the intransigence of the current administration to put forward serious negotiating positions (as personally communicated to me by Inge Thorson, Assistant Secretary of State for Sweden) leads one to wonder whether Perle's position is not the official administrative position.

Gregory Hill's letter does not attempt to report information as does Brent Merrill's. Instead, he employs the ad hominem tactic of aligning me with the American political left. George Kennan, former ambassador to the Soviet Union, has been arguing the same position as mine. So does Paul Warnke, former Chief U.S. Negoti-

ator to Arms Treaties. Paul Nitze, our recent Chief INF negotiator and a current member of our Geneva negotiating team, in his famous "Walk in the Woods," reached what seemed to me a fair agreement with the Soviets on SS-20 missiles in Europe. The Soviets accepted it until our administration refused to honor Nitze's negotiated position. Does any attempt to arrive at a deescalation of the nuclear arms race align one automatically with the political left wing?

Hill observes in response to my claim that the United States is the only nation to use nuclear weapons against people and that the United States is the only nation which has enjoyed a monopoly of such weapons, yet has refrained from using them. In one sentence, he has refuted himself, for we did not refrain from using them in Hiroshima and Nagasaki. Furthermore, our monopoly only lasted until 1949 when the Russians tested their first nuclear device. I, like Hill, am opposed to Soviet aggression but everyone must concede that they have never used nuclear devices in their aggressive endeavors.

I find doubtful Hill's claim that the three greatest scholars in strategic defense strategy are Brzezinski, Kissinger, and Kirkpatrick. On the nuclear arms race, I consider many other scholars equally or more knowledgeable than these individuals. Furthermore, I would like to see their statements that verifiable nuclear arms control agreements are impossible.

Hill discusses the medium-range ballistic missiles such as the SS-20s currently used in Europe and Asia. He claims that these missiles are "used to terrorize." What counts as terrorism? The Soviets deployed SS-20s on their own soil before we placed our Pershing II and Cruise missiles in Europe. In response to their deployment, the Soviets moved their missiles westward. Is anyone terrorized? Are the Soviets terrorized? Even before deploying our Pershing II and Cruise missiles, we had over 7,000 tactical, theater and strategic nuclear warheads deployed in Europe. We were hardly lacking arms.

I am, of course, aware that the SS-20s are mobile and can be reloaded on their launchers. I suppose that is what Hill means when he says that they can fire "more than one missile." Even if test firings are on an azimuth which would take them to the United States, the current data of Soviets missile tests does not indicate that these *theater* nuclear weapons have the range to hit the United States. Yes, it is possible that they could develop such capability. In any case and in the meantime, U.S. spy satellites passing continuously over the Soviet Union monitor the ground movements of these mobile launchers as well as the missile silos. The report from the *Asian Wall Street Journal* concerning a Soviet satellite-based radar system is interesting. This "breakthrough" story concerned a satellite sensor called synthetic aperature radar (SAR). NASA orbited such a radar called SEASAT, and the U.S. Navy reported last year to Congress that "the synthetic aperature radars cannot detect submarines" (*Defense Monitor*, vol. 14, no. 6). On 6 June 1985 the CIA reported in its National Intelligence Estimate that "we do not believe there is a realistic possibility that the Soviets will be able to deploy in the 1990s a system that would pose any significant threat to U.S. SSBNs (missile submarines) on patrol."

Hill is also concerned about what he considers to be the left-wing ideological bias of the Union of Concerned Scientists. It just so happens that the most detailed, timely report of the strategic defense initiative (SDI) or Star Wars available anywhere is the paperback, *The Fallacy of Star Wars*, put out by the Union of Concerned Scientists (New York: Vintage Books, 1984, 293 pp., $4.95). I suggest reading this book, then deciding whether the Union of Concerned Scientists is left wing or whether it is simply concerned about an enormous new cost and strategic escalation in the nuclear arms race.

I acknowledge that Edward Teller believes that we should pursue SDI. Edward Teller also believes that we should be testing nuclear weapons above ground, a position that even Henry Kissinger finds silly.

I am aware that Reagan indicated that he would give the Soviets access to any Star Wars system we developed. If we were able to develop such a system, it would contain the highest technology that the United States government is capable of developing with the most elaborate and intricate computerized system of steering, targeting, and firing of this system that we have ever developed. To imagine that the military would allow any president, let alone our government, to give away such a system is far-fetched.

It is easy to talk in metaphorical terms about beating swords into plowshares and the meek inheriting the earth. We live, however, in a world in which estimates for a Star Wars system are well over $1 trillion. Such an amount would cost every American family over $15,000 to build. I ask each reader this simple question: is it likely, after this expenditure of money, that we will be any closer to beating the swords into plowshares? Will the Russians allow us to pursue this kind of advantage while they do nothing? Does this not represent simply the latest in a long line of escalations in cost and danger in the nuclear arms race that makes the world less safe and less secure?

What I find in Richard D. Terry's letter (Fall 1985) is argument by name calling. If he has read only my article in the winter 1984 issue, he is probably not aware that for years I have been a most vigorous critic of the Soviet system. I am keenly aware of the illegality and the immorality of the invasion of Afghanistan. Having lived for a year in Poland, I am aware of the brutal repression of the Solidarity movement and of the Polish people. As an observer of the Soviet Union for over twenty-five years, I assert that I am definitely not a "Soviet apologist."

I am, however, deeply concerned about the continuing escalation in the arms race between the two super powers. The last five presidents of the United States — John Kennedy, Lyndon Johnson, Richard Nixon, Gerald Ford and Jimmy Carter — were able to negotiate important arms control treaties with the Soviet Union. It is only during the last five years of President Reagan's administration that no progress has been made toward any important arms control treaty. I still have hope; but while I wait and hope, the arms escalation is reaching new levels of sophistication and costing far more money.

During the first term of Reagan's administration, $1.1 trillion went to the Department of Defense, an increase over inflation of 38 percent in defense expenditures. A serious, non-polemical question to ask is, "Do we feel any more safe or secure vis-a-vis the Soviets as a result of these expenditures?"

Several steps could be taken immediately without waiting for further negotiations. The policy of not undercutting the SALT agreements on offensive weapons could be reaffirmed by the administration, instead of discussing as it has recently done whether the unratified but signed SALT II treaty should be abrogated. Reagan and Gorbachev could work to strengthen provisions of the 1972 anti-ballistic missile (ABM) treaty. Reagan could pick up on Gorbachev's lead in agreeing to a moratorium on the testing of nuclear weapons (Gorbachev announced a unilateral moratorium on underground nuclear testing from 6 August 1985 to 1 January 1986) and agreements could be struck at the Geneva Summit concerning an in-principle, interim strategic arms agreement with reductions in both launchers and warheads with details subject to further negotiation at later meetings in Geneva.

It was Reagan himself who during his 1984 State of the Union Address said, "Nuclear war cannot be won and must never be fought," for which he received a

sustained ovation. It seems to me that now is the time for the President to demonstrate that his remarks were more than rhetoric.

Terry criticizes my use of the publication *Scientific American* because he says its editors are devoted to anti-defense and political advocacy of unilateral disarmament and therefore is not a reliable source. His source for making this claim is the very conservative publication *Commentary* published by the American Jewish Committee whose articles provide most of the criticism Terry uses in his letter. In the very article he refers to, Jeffrey Marsh's "Politicizing Science" (*Commentary* 77 [May 1984]), Marsh, a journalist who writes about science, says that *Scientific American*'s "articles are written by acknowledged leaders of the scientific disciplines" (p. 51). He adds, "Many of the articles are sufficiently authoritative to have given birth to a profitable spinoff activity of individual reprints and topical analogies for high school and college classroom use" (p. 52). *Scientific American* was originally founded as an organ for the American Association for the Advancement of Scientists (AAAS), the nation's most prestigious body of scientists. As Marsh's article indicates, the articles are written by acknowledged leaders in the scientific disciplines. I know of no responsible writer who has ever claimed that *Scientific American* is in favor of "unilateral disarmament." Even though Marsh's article indicates that *Scientific American* reports on issues in ways that Marsh does not like, he still indicates a respect that Terry fails to convey.

In regard to my discussion of nuclear winter, Terry says that "the *Swedish* World Health Organization" predicts such and such. The World Health Organization is an organ of the United Nations and not of Sweden. His key evidence against my discussion of nuclear winter is a *1975* study published by the National Academy of Sciences reporting that a 10,000-megaton blast would still preserve the biosphere for humans. I hope it is not disingenuous to remind him that this ten-year-old study was completed without the benefit of the concerns expressed by Turco, Toon, Ackerman, Pollack, and Sagan (TTAPS) in their study of the nuclear winter effect (*Science*, vol. 222, 1983). Furthermore, the baseline 5,000-megaton study done by the TTAPS group indicates that the effects of a nuclear exchange would not be limited to the northern hemisphere, as indicated in my article. The Department of Defense and the National Research Council are among those who take the nuclear-winter effect seriously enough to undertake further studies. In addition, the Soviets have conducted their own studies which they claim reaffirm the conclusions of the TTAPS group.

Terry suggests that I equate tons of explosives with numbers of civilians killed. I made no such equation. I *correlated* tons of explosives used with millions of deaths, a correlation that is both interesting and striking. One of the striking things about nuclear weapons is that they do not discriminate between soldiers and civilians. Terry missed the moral point that has to do with the international conventions of warfare.

The point of the Finland example remains still the same. What *does* deter? Is it the perceived intentions of the leaders of a country? Is it the number of weapons? Is it one big weapon? Is it a "credible deterrent"? What counts as being credible? Is it the amount of money spent in research and development?

Terry's comparison of Afghanistan with Finland only obscures the issue. Afghanistan has never had relations with the Soviet Union — let alone good relations and has never attempted to discuss, coordinate, or mediate conflicts between the two countries. I am appalled at the invasion of Afghanistan but I do not see that their having had nuclear weapons as opposed to Finland's not having nuclear weapons would have protected them from such an invasion.

Terry's section, in which he claims that I have no comprehension about science,

can most understandably be read as an ad hominem attack. My point in putting scientists and government officials together is that the government officials are supposed to have classified information available to them and that scientists have technical information from their own disciplines available to them. No one else is supposed to be able to understand the nuclear arms race. I happen to believe that there is so much information available that no one can be excused for not understanding the nuclear arms race.

Furthermore, I have been teaching philosophy of science courses for years that discuss the foundational assumptions underlying all of the sciences and would be happy to compare my comprehension with Terry's.

As I earlier indicated in the comments on the letter to Merrill, there is an enormous difference, not only between weapons and weapons delivery systems, but a difference between those countries who have the *capability* of developing weapons and those countries that actually have developed weapons and weapons delivery systems.

Fifty-four countries in the world have such capability by virtue of possessing nuclear reactors which produce enriched plutonium. Not all of them have made, fortunately, weapons. It is clear that some of them have and may be prepared to use them. Five of these nations, however, are known to have weapons-delivery systems. Although India has exploded a nuclear device, it is not clear that it has a weapons delivery system. Although Pakistan may be working on nuclear devices, it is unclear whether it has a weapons delivery system. Israel and South Africa clearly have the scientific and technical capability of producing weapons and delivering them. Still, the five nations in the world with known nuclear weapons and delivery systems are the USSR, the USA, France, Great Britain, and China.

Also like Merrill, Terry belabors the fact that the United States's bomber force is made up of mostly B-52s. He fails to mention that 100 of the Soviet bomber planes are propeller aircraft. Furthermore, an additional 130 are Backfire bombers which are medium range bombers and like our FB-111A bombers do not fall under the provisions of the SALT treaty. Incidentally, he failed to mention our FB-111A bombers.

As for the Blackjack bomber, as I have indicated to Merrill, the Defense Intelligence Agency claims that it will be ready possibly by 1988. There are currently no Blackjack bombers in the Soviet bomber force. The range of the Backfire bomber, which Terry lists at 8,900 kilometers is indicated in *Soviet Military Power 1985* put out by the U.S. Defense Department, page 34, as being 5,500 kilometers or 3,400 miles. This is medium-range capability, not the long-range capability Terry indicates.

Terry recklessly claims that the production of the Backfire bomber is illegal. By what international treaty, by what convention, or by what law is it illegal for a country to build new planes? In all of his discussion about the B-52s, he fails to mention the Advanced Technology Bomber (ATB) or "Stealth" that will be coming on line about 1992. In addition, there is no mention of the Advanced Cruise Missiles (ACM) being placed on B-52s. The ACM is an entirely new type of cruise missile being placed on B-52 bombers.

The point of my article was to give a reasonably objective account of the state of the nuclear arms race between the two great super powers. It was not to make debating points for the United States or against the Soviet Union, or for the Soviet Union and against the United States. From the United States's point of view the Soviets are the danger. From the Soviets's point of view, we are clearly the danger. Something must be done to lower the perception of danger on both sides.

Terry goes on to say that the United States has never attacked or started a war by surprise. I begin to wonder what kind of historian Terry is. Did we attack in

Grenada? Was that a surprise to Grenada? Did we attack anything in Vietnam?

Much of Terry's material in this letter comes from Edward Pipes's articles in *Commentary*. Pipes is known as a highly conservative, right-wing Sovietologist. In both the *Commentary* article and his book, Pipes makes the outrageous claim that since 1700 Russia has fought only two defensive wars, the war with Napoleon in 1812 and World War II. These are by no means minor skirmishes since Moscow was burned under Napoleon and the Soviets lost 20 million people in World War II. Terry further repeats that in this century the Soviet Union was attacked only once, by Germany. At the time of the Bolshevik Revolution, both Japan and Germany attacked the Soviet Union, and both the United States and Great Britain were involved. I mention this not to defend the Soviet Union but only to show it is not true that the Soviets are always the oppressor and no one else has ever been the aggressor.

Terry claims that the United States has 8,000 fewer weapons and 60 percent less megatonnage than in the 1960s. Both the Soviets and the United States have been phasing out their largest weapons and replacing them with smaller, more accurate and more potent weapons since the 1960s. As a result, the total amount of megatonnage has selectively diminished. Tactical warheads have been taken out of use but the record for strategic warheads is as follows in the last eighteen years: The Soviet Union has gone from 1,861 warheads to its current 9,208 warheads as of July 1985. From 1970 to the present, we have gone from 3,742 strategic warheads to 11,466 warheads (*Defense Monitor*, vol. 4, no. 6). This still gives us a clear-cut advantage in total numbers of warheads.

In addition, it is well-known that our warheads are more accurate than the Soviets. Terry's comparison of just ICBM forces is naive because most of our forces, over 50 percent of them, are SLBM forces and they make up the difference between the intercontinental ballistic missiles in hardened silos on the ground. To fairly compare forces, one must compare all forces available to the USSR and available to the USA.

As for an ABM defense, Terry claims the Soviets will deploy a full-scale ABM system in ten years. The most recent National Intelligence Estimate published by the CIA this year reports as follows: "Soviets air defenses during the next ten years probably would not be capable of inflicting sufficient losses to prevent large scale damage to the USSR." The Defense Intelligence Agency (DIA) noted in 1984 to Congress that "Soviet air defenses have not been effective for about two decades." Also in 1984, then "Under-Secretary of Defense Dr. Richard D. DeLauer said the Soviets could "get 10 percent" of attacking US cruise missiles (*Defense Monitor*, vol. 14, no. 6).

Concerning whether the Soviet ABM system is a violation of treaties, let me quote General John A. Wickham, Jr., Army Chief of Staff, who in 1984 said "the Soviets are up-grading and expanding the ballistic missile defense system at Moscow but are thus far remaining within the limits of the treaty." (For further information, please see the Merrill letter above. Also relevant is the discussion of the Krasnoyarsk radar in Central Siberia, which is also discussed in the Merrill response.) At present, the Soviet Union's Galosh system around Moscow has thirty-two missiles. Given the number of MIRVed warheads available on each side, this anti-ABM defense system is inconsequential.

The serious question Terry raises is whether arms control has been a dismal failure. It is true that during the last fifteen years and two SALT agreements the USSR has quadrupled the numbers of weapons it can explode on the United States to 9,208 strategic warheads. In doing so, it has remained within the limits of the SALT treaties. The latest CIA report on Soviet capabilities, however, indicates that "while the Soviets would not necessarily expand their intercontinental

attack forces beyond some 12,000 to 13,000 warheads in the absence of arms control constraints, they clearly have the capability for significant further expansion to between 16,000 to 21,000 deployed warheads by the mid-1990s." Arms control is never perfect but it is the only means we have had to impose some rules of the road on this most dangerous nuclear arms race.

I wish to suggest to Terry and others concerned about these issues an expanded reading list, also, if possible, a trip to the Soviet Union to talk to some "person-in-the-street" Soviets about their feelings on the nuclear arms race. Even though this action will not defuse the arms race, it will aid us in learning to love our enemies as the Savior implored. It will not convince anyone that the Soviet Union is not to be taken seriously, feared, and understood. The dimensions of the enormous, continually escalating nuclear arms race, suggest the wisdom of mutual restraint.

Kent E. Robson
Logan, Utah

A Very Lonely Life

Thank you for John Bennion's story (Summer 1985) "The Interview." For those of us who are homosexual and committed to the restored gospel, life can be difficult at times.

I have "solved" my problem by living and working in an area far from either an organized ward or temptation. It is a very lonely life, but it beats the alternatives. I was the first member of the Church in my family and joined only after a very strong spiritual witness of the mission of Joseph Smith and the Church he founded. Since my baptism, I have studied everything I could find on the Book of Mormon and concluded that no mortal could have written that book alone. I believe Joseph Smith's account of the matter.

It is a knowledge that just makes things more difficult for me. I carry on in the hope that at some time in the future, not in this lifetime I suspect, all things will be made clear. In the meantime, I endure.

Raymond M. Beaumont
Berens River, Manitoba

Manipulated Facts

Richard Terry (Letters, Autumn 1985) pointed out some of the problems with the liberal positions on arms control and relations with the Soviets as exemplified by Kent Robson's "The Magnitude of the Nuclear Threat" (Winter 1984) but, in the process, underscored the deficiencies of the traditional conservative posture. The facts are manipulated (or ignored) by all sides in an attempt to support predetermined conclusions. See, for example, defense analyst Andrew Cockburn's "Graphic Evidence of Nuclear Confusion" in *Columbia Journalism Review*, May–June 1983.

The Pentagon and its conservative allies particularly indulge in such distortions right around budget (or fundraising) time, as Carl Jacobsen, chairman of the National Security Program Committee at the University of Miami's Center for Advanced International Studies has shown (Los Angeles *Daily News*, 20 March 1983).

That the United States has actual superiority (aside from the absurd "overkill" potential of both sides) and a huge lead over the Soviets in virtually every area was noted by none less than General John Vessey.

For a thorough deflating of militarist rhetoric about the relative strengths of our nations see Cockburn, *The Threat: Inside the Soviet Military Machine* (New York: Random House, 1984) and Tom Gervasi, *The Arsenal of Democracy II: American Military Power in the 1980s and the Origins of the New Cold War* (New York: Grove Press, 1981). That Soviet hawks opposed SALT II precisely because it would have prevented them from pulling even with us is never mentioned by their American counterparts. The debate over the Strategic Defense Initiative has made

it clear to many that scientific opinion is not, as hawks suggest, entirely in the corner of Pentagon orthodoxy.

Those who want to keep up with dissent from the technical and military point of view should keep informed through the Center for Defense Information (303 Capitol Gallery West, 600 Maryland Avenue, Washington, D.C. 20024). It has done a tremendous job in trying to correct the misinformation supplied by well-funded defense contractor and right-wing lobbies.

To a critical extent, the debate between liberals and conservatives is dangerously irrelevant because of the erroneous assumptions made about U.S. strategy. Sanity is gradually entering the discussion through the growing "military reform" movement best described in James Fallows, *National Defense* (New York: Random House, 1982). See also the introduction in "Winds of Reform," *Time*, 7 March 1983, with analysis of Pentagon purchasing in *Washington Monthly*, April 1982.

Scott S. Smith
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Ultimate Patriarch

When George A. Smith died, the widowed Bathsheba W. Smith sent for their eight-year-old granddaughter, Alice, to keep her company. Alice's funeral, like her grandfather's and grandmother's, was held on Temple Square when she died in 1945. The Assembly Hall was filled to capacity as the First Presidency delivered eulogies honoring one of the best-known women in the Mormon world.

Alice Smith Merrill Horne was my grandmother. She lived with us on Twelfth East in Salt Lake City late in her life. She wielded an awesome spiritual influence on the Smiths, Merrills, and Hornes. *She* was the ultimate patriarch of the families. *She* was the one everyone visited to receive important family blessings. The blessings didn't necessarily pertain to illnesses either; in fact, they were rarely of that character. They were more like patriarchal blessings—blessings sought by family members from the person in the family closest to the Lord. Sometimes Grandmother would initiate the activity by summoning a family member she deemed in need of the laying on of hands.

As a boy I remember walking through the living room of our home and finding Grandmother giving these blessings to whoever happened to be visiting. Although I don't recall it as happening, I wouldn't have been at all surprised to have found her standing over her first cousin, her eyes closed and her hands on his head, blessing George Albert Smith, President of the Church. (He came over for dinner on occasion.)

Some years after Grandmother's death in February 1964 I wrote to Joseph Fielding Smith, then president of the Quorum of the Twelve, explaining Grandmother's blessings, and asking, "In your opinion, what is the difference in the efficacy (if any) between her blessings and those of a Priesthood holder?" His hand-written reply: "She had no authority to bless as she had no Priesthood. She did *have* the right to pray and *ask* for blessings" [emphasis his].

Joseph Horne Jeppson
Woodside, California

Irish Understanding

After returning from speaking at a commemoration of the Easter 1916 Rising in Ireland, I read Claudia Harris's "Making Sense of the Senseless: An Irish Education" (Winter 1984).

I, too, have been to Ireland North and South, and I recently interviewed Douglas Hurd, then British Secretary for Northern Ireland. While I agree with Harris that one can come to understand why people act the way they do, I would not agree that there are no villains in Northern Ireland. Belfast city councilor George Seawright and right-hand man of the leading Unionist

politician, Rev. Ian Paisley, was quoted twice as saying on 12 August 1984, "All Catholics and their priests should be incinerated." The militant Protestant Orange Order, which has so controlled events in the North, is similar to the Ku Klux Klan, with the violent "racism" directed at Irish Catholics. Anyone who had a glimpse of the 800 years of British misrule through Leon Uris's *Trinity* (New York: Bantam Books, 1976) certainly understands why the English appear to be the serpents yet to be driven from the island.

I would recommend the following books for further reading:

Liz Curtis, *Ireland: The Propaganda War* (1984), London: Pluto Press, $8.25, available from Midnight Special, 1350 Santa Monica Mall, Santa Monica, CA 90401. It documents why the British people have no idea what is really happening in the Six Counties. American information on the subject generally derives from these censored English sources.

Kevin Kelley, *The Longest War* (1982), Lawrence Hill & Co., 520 Riverside Avenue, Westport, Conn., 06880, $9.95. It is the definitive work on the subject, perhaps supplemented by Sean MacStiofain, *Revolutionary in Ireland* (1975), Fianna Eireann, 44 Monterrey Blvd., San Francisco, CA 94131, $7.95.

Now that the British and Northern Protestants have managed to enflame Irish patriotism, the IRA will not end its struggle until occupied Ireland is free, a goal that now seems within reach since English public opinion has shifted to favor the reunification of Ireland. All arguments against reunification have been answered, and it is the only way to a just and lasting peace.

Scott Smith
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