

Most legislators predict there will be few concrete changes on the books after the dust clears.

"There's no question there will be election-generated bills . . . but it will just be wind-down-dressing," said Rep. Kurt Granberg, D-Carlyle. "Mainly, I think it's going to be a budget year."

AMONG THIS YEAR'S LIKELY TOPICS OF DEBATE
IN THE LEGISLATURE: HMOs

The House last year passed several bills that would have regulated how HMOs deal with their patients and member doctors. Most of that legislation has remained stalled in the Senate but could be called up again through the end of this year.

One measure, labeled the "Patient Bill of Rights" by its supporters, would require that insurance companies provide certain information to patients, would set up a formalized grievance process and would make other changes to the HMO industry.

"There seems to be a real ground swell about this," said Holbrook, a co-sponsor of the bill. HMO expenses and alleged lack of responsiveness to patients have "become such a glaring atrocity."

Not everyone agrees with that assessment. But even Republican Senate President James "Pate" Philip of Wood Dale, who has prevented most HMO-related legislation in the past year from coming up for a Senate vote, is likely to open the subject to debate this year.

"We're going to find out what's out there," in the way of legislation, said Patty Schuh, Philip's spokeswoman. "This is an issue that hits everyone."

Proponents of the changes believe public frustration will work in their favor in an election year.

"That truly has a chance at moving forward," said Rep. Jay Hoffman, D-Collinsville. "I see bipartisan support."

Mr. INOUE addressed the Chair.

The PRESIDING OFFICER. The Senator from Hawaii is recognized.

Mr. INOUE. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. ABRAHAM. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

DEPARTMENT OF DEFENSE
APPROPRIATIONS ACT, 1999

The Senate continued with the consideration of the bill.

AMENDMENT NO. 2964

(Purpose: To provide for improved monitoring of human rights violations in the People's Republic of China, and for other purposes)

Mr. ABRAHAM. Mr. President, I call up my amendment No. 2964 and ask for its immediate consideration, and I ask unanimous consent Senator HUTCHINSON from Arkansas be added as a co-sponsor to the amendment.

The PRESIDING OFFICER. The clerk will report.

The clerk will report the amendment.

The legislative clerk read as follows:

The Senator from Michigan [Mr. ABRAHAM], for himself and Mr. HUTCHINSON proposes an amendment numbered 2964.

Mr. ABRAHAM. Mr. President, I ask unanimous consent reading of the amendment be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment is as follows:

Add at the end the following new titles:

TITLE —MONITORING OF HUMAN
RIGHTS ABUSES IN CHINA

SEC. . SHORT TITLE.

This title may be cited as the "Political Freedom in China Act of 1998".

SEC. . FINDINGS.

Congress makes the following findings:

(1) Congress concurs in the following conclusions of the United States State Department on human rights in the People's Republic of China in 1996:

(A) The People's Republic of China is "an authoritarian state" in which "citizens lack the freedom to peacefully express opposition to the party-led political system and the right to change their national leaders or form of government".

(B) The Government of the People's Republic of China has "continued to commit widespread and well-documented human rights abuses, in violation of internationally accepted norms, stemming from the authorities' intolerance of dissent, fear of unrest, and the absence or inadequacy of laws protecting basic freedoms".

(C) "[a]buses include torture and mistreatment of prisoners, forced confessions, and arbitrary and incommunicado detention".

(D) "[p]rison conditions remained harsh [and] [t]he Government continued severe restrictions on freedom of speech, the press, assembly, association, religion, privacy, and worker rights".

(E) "[a]lthough the Government denies that it holds political prisoners, the number of persons detained or serving sentences for 'counterrevolutionary crimes' or 'crimes against the state', or for peaceful political or religious activities are believed to number in the thousands".

(F) "[n]onapproved religious groups, including Protestant and Catholic groups . . . experienced intensified repression".

(G) "[s]erious human rights abuses persist in minority areas, including Tibet, Xinjiang, and Inner Mongolia[, and] [c]ontrols on religion and on other fundamental freedoms in these areas have also intensified".

(H) "[o]verall in 1996, the authorities stepped up efforts to cut off expressions of protest or criticism. All public dissent against the party and government was effectively silenced by intimidation, exile, the imposition of prison terms, administrative detention, or house arrest. No dissidents were known to be active at year's end."

(2) In addition to the State Department, credible independent human rights organizations have documented an increase in repression in China during 1995, and effective destruction of the dissident movement through the arrest and sentencing of the few remaining pro-democracy and human rights activists not already in prison or exile.

(3) Among those were Li Hai, sentenced to 9 years in prison on December 18, 1996, for gathering information on the victims of the 1989 crackdown, which according to the court's verdict constituted "state secrets"; Liu Nianchun, an independent labor organizer, sentenced to 3 years of "re-education through labor" on July 4, 1996, due to his activities in connection with a petition campaign calling for human rights reforms; and Ngodrup Phuntsog, a Tibetan national, who was arrested in Tibet in 1987 immediately after he returned from a 2-year trip to India, where the Tibetan government in exile is located, and following a secret trial was con-

victed by the Government of the People's Republic of China of espionage on behalf of the "Ministry of Security of the Dalai clique".

(4) Many political prisoners are suffering from poor conditions and ill-treatment leading to serious medical and health problems, including—

(A) Gao Yu, a journalist sentenced to 6 years in prison in November 1994 and honored by UNESCO in May 1997, has a heart condition; and

(B) Chen Longde, a leading human rights advocate now serving a 3-year reeducation through labor sentence imposed without trial in August 1995, has reportedly been subject to repeated beatings and electric shocks at a labor camp for refusing to confess his guilt.

(5) The People's Republic of China, as a member of the United Nations, is expected to abide by the provisions of the Universal Declaration of Human Rights.

(6) The People's Republic of China is a party to numerous international human rights conventions, including the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.

SEC. . CONDUCT OF FOREIGN RELATIONS.

(a) Release of Prisoners: The Secretary of State, in all official meetings with the Government of the People's Republic of China, should request the immediate and unconditional release of Ngodrup Phuntsog and other prisoners of conscience in Tibet, as well as in the People's Republic of China.

(b) Access to Prisons: The Secretary of State should seek access for international humanitarian organizations to Drapchi prison and other prisons in Tibet, as well as in the People's Republic of China, to ensure that prisoners are not being mistreated and are receiving necessary medical treatment.

(c) Dialogue on Future of Tibet: The Secretary of State, in all official meetings with the Government of the People's Republic of China, should call on that country to begin serious discussions with the Dalai Lama or his representatives, without preconditions, on the future of Tibet.

SEC. . AUTHORIZATION OF APPROPRIATIONS
FOR ADDITIONAL PERSONNEL AT
DIPLOMATIC POSTS TO MONITOR
HUMAN RIGHTS IN THE PEOPLE'S
REPUBLIC OF CHINA.

There are authorized to be appropriated to support personnel to monitor political repression in the People's Republic of China in the United States Embassies in Beijing and Kathmandu, as well as the American consulates in Guangzhou, Shanghai, Shenyang, Chengdu, and Hong Kong, \$2,200,000 for fiscal year 1999 and \$2,200,000 for fiscal year 2000.

SEC. . DEMOCRACY BUILDING IN CHINA.

(a) AUTHORIZATION OF APPROPRIATIONS FOR NED.—In addition to such sums as are otherwise authorized to be appropriated for the "National Endowment for Democracy" for fiscal years 1999 and 2000, there are authorized for the "National Endowment for Democracy" \$4,000,000 for fiscal year 1999 and \$4,000,000 for fiscal year 2000, which shall be available to promote democracy, civil society, and the development of the rule of law in China.

(b) EAST ASIA-PACIFIC REGIONAL DEMOCRACY FUND.—The Secretary of State shall use funds available in the East Asia-Pacific Regional Democracy Fund to provide grants to nongovernmental organizations to promote democracy, civil society, and the development of the rule of law in China.

SEC. . HUMAN RIGHTS IN CHINA.

(a) REPORTS.—Not later than March 30, 1999, and each subsequent year thereafter, the Secretary of State shall submit to the International Relations Committee of the House of Representatives and the Foreign

Relations Committee of the Senate an annual report on human rights in China, including religious persecution, the development of democratic institutions, and the rule of law. Reports shall provide information on each region in China.

(b) PRISONER INFORMATION REGISTRY.—The Secretary of State shall establish a Prisoner Information Registry for China which shall provide information on all political prisoners, prisoners of conscience, and prisoners of faith in China. Such information shall include the charges, judicial processes, administrative actions, use of forced labor, incidences of torture, length of imprisonment, physical and health conditions, and other matters related to the incarceration of such prisoners in China. The Secretary of State is authorized to make funds available to nongovernmental organizations presently engaged in monitoring activities regarding Chinese political prisoners to assist in the creation and maintenance of the registry.

SEC. . SENSE OF CONGRESS CONCERNING ESTABLISHMENT OF A COMMISSION ON SECURITY AND COOPERATION IN ASIA.

It is the sense of Congress that Congress, the President, and the Secretary of State should work with the governments of other countries to establish a Commission on Security and Cooperation in Asia which would be modeled after the Commission on Security and Cooperation in Europe.

SEC. . SENSE OF CONGRESS REGARDING DEMOCRACY IN HONG KONG.

It is the sense of Congress that the people of Hong Kong should continue to have the right and ability to freely elect their legislative representatives, and that the procedure for the conduct of the elections of the legislature of the Hong Kong Special Administrative Region should be determined by the people of Hong Kong through an election law convention, a referendum, or both.

SEC. . SENSE OF CONGRESS RELATING TO ORGAN HARVESTING AND TRANSPLANTING IN THE PEOPLE'S REPUBLIC OF CHINA.

It is the sense of Congress that—

(1) the Government of the People's Republic of China should stop the practice of harvesting and transplanting organs for profit from prisoners that it executes;

(2) the Government of the People's Republic of China should be strongly condemned for such organ harvesting and transplanting practice;

(3) the President should bar from entry into the United States any and all officials of the Government of the People's Republic of China known to be directly involved in such organ harvesting and transplanting practice;

(4) individuals determined to be participating in or otherwise facilitating the sale of such organs in the United States should be prosecuted to the fullest possible extent of the law; and

(5) the appropriate officials in the United States should interview individuals, including doctors, who may have knowledge of such organ harvesting and transplanting practice.

Mr. President, let me speak a little bit about this amendment. I don't intend to take up too much of the Senate's time discussing it, because I know other Senators, including Senator HUTCHINSON, are interested in speaking as well to the amendment.

Essentially, this amendment sets forth concrete steps by which the United States would support the improvement of human rights in the People's Republic of China. Its provisions

regarding human rights are identical to those included in the legislation that was recently passed by the other Chamber by an overwhelming vote of 394-29.

The amendment I am offering is based on the recognition that the United States can conduct meaningful engagement with China only if we are honest with Chinese leaders, and only if we are willing to stand up for our principles. And chief among the principles on which our nation was founded is an abiding commitment to fundamental human rights.

The current regime in China suppresses fundamental human rights on a daily basis:

Women pregnant with their second or third child are pressured to have abortions and even subjected to forced abortion and sterilization.

Religious exercise is violently suppressed among Christians in China, and among indigenous Buddhists in Tibet.

Proponents of democracy and human rights are imprisoned under inhumane conditions and often denied necessary medical treatment.

I could go on, Mr. President. The list of human rights abuses in China is as long as it is deplorable.

Let no one in this body be mistaken, the current Chinese regime does not respect fundamental human rights.

The question I think we have to ask is, Should that influence how American policy toward China is shaped? Obviously, there are some who say the only way for us to change those policies in China is to have a complete and total engagement with the People's Republic of China. Obviously, that is one point of view. But I subscribe to the view that we can take constructive steps designed to try to change things and to try to make things more consistent with America's views of appropriate human rights behavior.

And the Chinese regime's recent conduct gives us no reason to expect improvement any time soon. Indeed, Mr. President, since President Clinton returned from his trip to China this June, that government has detained 21 prominent human rights activists. At least three remain in custody today.

Through this amendment, Mr. President, we would make clear to the Chinese government our opposition to its oppressive practices and initiate concrete steps by which we can monitor human rights abuses and assist those seeking to promote human dignity and civil society.

Among the provisions in this amendment: First, it contains findings detailing the deplorable human rights record of the Chinese government. Second, the amendment calls for greater efforts on the part of our Secretary of State to improve the behavior of the current Chinese regime:

It calls on the Secretary of State, during official meetings with the Chinese government, to call for the release of political prisoners in China and Tibet.

The amendment also calls on the Secretary of State to seek greater access for international humanitarian organizations to prisons in Tibet and China—access that will ensure that prisoners are not being mistreated and that they are receiving necessary medical treatment.

And the amendment calls on the Secretary of State, during official meetings, to request that China begin serious discussions with the Dalai Lama or his representatives, without preconditions, on the future of Tibet.

Third, the amendment authorizes funding for several programs intended to improve human rights conditions in China. These include: \$2.2 million in 1999 and 2000 for additional personnel at diplomatic posts to monitor human rights in China; \$4 million in 1999 and 2000 for the National Endowment for Democracy to promote democracy, civil society, and the development of the rule of law in China, and permission for funds in the East Asia-Pacific Regional Democracy Fund to be used to provide grants to nongovernmental organizations to promote democracy, civil society, and the development of the rule of law in China.

Fifth, the amendment contains provisions aimed at improving our monitoring of human rights in China.

These include: A call for preparation of an annual report on human rights, religious persecution, and the development of democratic institutions and the rule of law in China that includes specific information on each region, and establishment within the State Department of a Prisoner Information Registry for China to provide information on all political prisoners, prisoners of conscience, and prisoners of faith in China.

Finally, this amendment includes several sense of Congress resolutions, including: A sense-of-the-Congress resolution concerning the establishment of a Commission on Security and Cooperation in Asia; A resolution concerning democracy in Hong Kong; and a resolution condemning organ harvesting and transplantation for profit from prisoners executed by the Chinese government.

Mr. President, these provisions will make clear our determination to stand up for the fundamental human rights of the Chinese people.

As the world's first free nation, and the continuing leader of the free world, we have a responsibility, in my view, to defend people's basic rights wherever they are endangered or violated.

We cannot, without undermining freedom in our own nation, turn our backs on those who suffer oppression in China, or in any other nation.

Our principles as well as our national interest demand that we pursue meaningful engagement with the current government in China. And that requires, at a minimum, an open discussion of human rights abuses and concrete steps aimed at bringing those abuses to an end.

These amendments will not destroy our current relationship with China. None of the amendment's supporters seek an isolationist policy. I for one support normal trade relations with China because I see them as a necessary element of effective engagement.

But this amendment serves an important function in our effort to achieve and maintain meaningful engagement with China. It signals this Congress' continuing concerns for human rights, democracy, and freedom in China. It signals our determination to speak up and support the fundamental principles of civilized society.

Through this amendment we can stand with oppressed people of conscience in China, for our sake as well as theirs.

I yield the floor.

Mr. President, I yield the floor.

Mr. INOUE addressed the Chair.

The PRESIDING OFFICER. The Senator from Hawaii is recognized.

Mr. INOUE. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The bill clerk proceeded to call the roll.

Mr. HUTCHINSON. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. HUTCHINSON. Mr. President, I rise in support of the Abraham amendment 2964 to the Defense appropriations bill. The Abraham amendment would authorize additional human rights monitors at the embassy in Beijing, China, as well as our other consulates around China. I think it is exceptionally warranted. It is very, very much needed.

The Chinese Government has repeatedly flaunted its lack of respect for human rights. We have seen how the Government controls its people through registration, through coercive and repressive practices. We have seen how the Chinese Government punishes those who would dare to worship by the dictates of their conscience. We have seen how the Government punishes those who would speak in the name of democracy, those who would seek to register an opposition political party. They punish those who simply seek to fulfill normal human aspirations, aspirations that we too often take for granted.

We have seen that in the last two, at least the last two annual State Department reports on human rights that China was found to be one of, if not the worst human rights abuser in the world today. I think that fact alone, the fact that our State Department, in monitoring the countries of the world, the nations of the world, issuing reports on human rights conditions in the various nations of the world, found China as the greatest abuser of human rights justifies the Abraham amendment in establishing additional human rights

monitors, additional personnel in the embassy to monitor situations like this: "Chinese Resume Arrests," so that we will have the kind of knowledge about what is going on in the area of human rights within China that will allow us to, I think, engage China in the correct way.

Mr. President, we do not expect that China will change overnight, nor do we expect that the amendment that I have offered dealing with forced abortions and religious persecution, or the amendment that Senator ABRAHAM has offered will magically produce the change that we all desire. But it is essential that we shed light on the kind of human rights abuses, the dark practices that have become too evident for too many years. And it is essential that we engage those abuses with a substantive response.

This is part of that substantive response. The question before us is not whether we contain and isolate China. We cannot do that. We should not do that. We would not want to do that. The question before us is whether or not we will engage them on issues of human rights, as well as trade, as well as national security issues, whether we will actually engage them, and in so doing support the cause of freedom.

Frankly, I am puzzled by those who would excuse themselves and pardon themselves by saying that they, too, are opposed to the human rights abuses in China but then would oppose any effort to have a substantive response to those human rights abuses.

So I believe that this is not only a well-intended but a well-drafted amendment. It is, once again, part of the package that passed in the House of Representatives now almost a year ago with overwhelming bipartisan support, and it is long past time for the Senate to weigh in on that; to support the monitoring of human rights abuses in China, as we seek to do throughout the world; to give the kinds of personnel to our State Department, to our diplomatic people to assure that we have the best intelligence, the best reporting possible.

It is, I think, evident that this is needed in light of this latest round of arrests of political dissidents in China. It is puzzling to me that we can talk about the great improvement in China and the reforms that are taking place, and that this administration could put so much faith in President Jiang and his regime in Beijing when all of the evidence that is forthcoming, whether it is in the media, through our intelligence agencies, or the State Department itself indicates that, in fact, those abuses are as bad as ever, and that the crackdown on religious believers is now only most recently exceeded by the crackdown on political dissidents. I do believe, as the President has expressed, that eventually China will be free. I believe that. I think someday China will be a country in which free expression is tolerated and the freedoms that are not American

values, but are fundamental human values, will exist in China. But I think it will not be through the regime that rules with an iron fist in Beijing, China, today. So, let us engage, but let us engage thoroughly and on all fronts.

The package of amendments that is before the Senate today will enable us to do that. So it is essential that we not table the China amendments, that we support them, that we agree to them as part of the appropriations bill. I believe, because the House passed these measures by such an overwhelming vote, they will be preserved in the conference and we will be able to give the President an opportunity to truly involve this administration in an engagement policy that will reflect the values that are precious to us and help to bring about the change that we desire to see in China and to give support to the freedom fighters, freedom lovers in China today who risk the limited freedom that they have to go about their daily activities by speaking out, by seeking to form an opposition political party, by seeking to worship according to the dictates of their conscience.

I think it is so imperative that we go on record with these amendments, to stand shoulder to shoulder with those who are putting their lives and their limited liberty at stake by taking a far more dangerous stand there, in China, today.

I applaud Senator ABRAHAM for bringing the human rights monitors amendment to the floor of the Senate, and I look forward to casting my vote against tabling and for the amendment. I ask my colleagues to do likewise.

I yield the floor and suggest the absence of a quorum.

The PRESIDING OFFICER (Mr. BROWNBACK). The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. WELLSTONE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

PRIVILEGE OF THE FLOOR

Mr. WELLSTONE. Mr. President, I ask unanimous consent that Matthew Tourville, who is an intern in my office, be granted the privilege of the floor while we debate and vote on this bill today.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. WELLSTONE. I suggest the absence of a quorum.

The assistant legislative clerk proceeded to call the roll.

Mr. BYRD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

MAN'S LONGING FOR IMMORTALITY SHALL ACHIEVE ITS REALIZATION

Mr. BYRD. Mr. President, I ask unanimous consent that an article from the July 20, 1998, edition of U.S. News & World Report and an article from the July 20, 1998, edition of Newsweek be printed in the RECORD. The two articles are relevant to the speech that I delivered on Tuesday this week entitled "Man's Longing for Immortality Shall Achieve Its Realization."

I understand the Government Printing Office estimates it will cost approximately \$1,283 to have these articles printed in the RECORD.

There being no objection, the articles were ordered to be printed in the RECORD, as follows:

[From U.S. News & World Report, July 20, 1998]

SCIENTISTS AND THEOLOGIANS DISCOVER A COMMON GROUND

Darwin, Freud, relativity, the mechanics of the big bang—rightly or wrongly, all have been taken as supporting the modernistic conception of a change-based world in which forces devoid of meaning account for all outcomes. Some thinkers have maintained that the big-bang theory shows that no god was necessary at the creation. Intellectuals have wrung their hands in angst about how bang-caused cosmic expansion will result in an inescapable running down of the stars, proving existence to be pointless. A depressing inevitable death of the universe figures prominently in the works of post-modern novelist Thomas Pynchon; while in the movie *Annie Hall*, Woody Allen's character is psychologically paralyzed by his dread of the galaxies expanding until they die.

By contrast new developments in big-bang science are almost supernaturally upbeat: The universe wants us, and the stars will shine forever!

This remarkable change in perspectives is helping inspire a warming trend between scientific and spiritual disciplines. A conference last month in Berkeley, Calif., at which cosmologists discussed the theological implications of their work, is representative. Allan Sandage, one of the world's leading astronomers, told the gathering that contemplating the majesty of the big bang helped make him a believer in God, willing to accept that creation could only be explained as a "miracle."

HERESIES

Not that long ago, such a comment from an establishment scientist would have been shocking. The mere existence of the organization that sponsored the Berkeley event, a well-regarded academic group called the Center for Theology and the Natural Sciences, might have been snickered at. Today, "intellectuals are beginning to find it respectable" to talk about how physical law seems to favor life, notes Ian Barbour, a professor of both religion and physics at Carleton College, in Northfield, Minn.

In this vein, the recent book *Consilience* by Harvard biologist E.O. Wilson argues that there is no need to wall off scientific from moral thought; rather, people should once again pursue the Enlightenment vision of reconciling the technical and the spiritual. A boomlet of serious books with titles such as *A Case Against Accident and Self-Organization* and *God: The Evidence* goes further, suggesting the unknowns of the big bang eventually will be seen as divine latency.

If nothing else, the theological idea of creation ex nihilo—out of nothing—is looking

better all the time as "inflation" theories (main story) increasingly suggest the universe emerged from no tangible source. The word "design," rejected by most 20th-century scientists as a theological taboo in the context of cosmology or evolution, is even creeping back into the big-bang debate. Physicist Ernest Sternglass, among Einstein's last living acolytes, recently argued that the propitious circumstances of the big bang show that the universe is "apparently designed for the development of life and destined to live forever, neither to fly apart into dying cinders nor collapse."

Parallels between cosmology and spirituality may be coincidence. Some fine it significant that the Book of Genesis describes God creating existence out of the "waters," because big-bang science asserts the early universe was mostly hydrogen, the chief component of H₂O. Maybe that tells us something; probably it's just a word choice.

But on more telling issues, the trend line of cosmology unquestionably favors a sense of purpose. Existence may be eternal, prewired somehow for life; consciousness may expand forever, never running out of room or resources; there may be a larger cosmic enterprise waiting for us to join its purpose, if we can just learn wisdom and justice.

Because the cosmos is ancient by our measure, people assume they are latecomers, gazing out into a universe worn down and faltering. But if the firmament will expand for an enormous span of time, or even for an eternity, then our universe glistens with morning dew. Homo sapiens may represent a youth movement, arriving at a time when almost everything is still to come. Dreary projections about ultimate fates may be supplanted by the belief that, like the cosmos itself, the human prospect is, as the physicist Freeman Dyson once wrote, "infinite in all directions."

[From Newsweek, July 20, 1998]

SCIENCE FINDS GOD

(By Sharon Begley)

The more deeply scientists see into the secrets of the universe, you'd expect, the more God would fade away from their hearts and minds. But that's not how it went for Allan Sandage. Now slightly stooped and white-haired at 72, Sandage has spent a professional lifetime coaxing secrets out of the stars, peering through telescopes from Chile to California in the hope of spying nothing less than the origins and destiny of the universe. As much as any other 20th-century astronomer, Sandage actually figured it out: his observations of distance stars showed how fast the universe is expanding and how old it is (15 billion years or so). But through it all Sandage, who says he was "almost a practicing atheist as a boy," was nagged by mysteries whose answers were not to be found in the glittering panoply of supernovas. Among them: why is there something rather than nothing? Sandage began to despair of answering such questions through reason alone, and so, at 50, he willed himself to accept God. "It was my science that drove me to the conclusion that the world is much more complicated than can be explained by science," he says. "It is only through the supernatural that I can understand the mystery of existence."

Something surprising is happening between those two old warhorses science and religion.

Historically, they have alternated between mutual support and bitter enmity. Although religious doctrine midwived the birth of the experimental method centuries ago (following story), faith and reason soon parted ways. Galileo, Darwin and others whose research challenged church dogma were brand-

ed heretics, and the polite way to reconcile science and theology was to simply agree that each would keep to its own realm: science would ask, and answer, empirical questions like "what" and "how"; religion would confront the spiritual, wondering "why." But as science grew in authority and power beginning with the Enlightenment, this détente broke down. Some of its greatest minds dismissed God as an unnecessary hypothesis, one they didn't need to explain how galaxies came to shine or how life grew so complex. Since the birth of the universe could now be explained by the laws of physics alone, the late astronomer and atheist Carl Sagan concluded, there was "nothing for a Creator to do," and every thinking person was therefore forced to admit "the absence of God." Today the scientific community so scorns faith, says Sandage, that "there is a reluctance to reveal yourself as a believer, the opprobrium is so severe."

Some clergy are no more tolerant of scientists. A fellow researcher and friend of Sandage's was told by a pastor, "Unless you accept and believe that the Earth and universe are only 6,000 years old [as a literal reading of the Bible implies], you cannot be a Christian." It is little wonder that people of faith resent science: by reducing the miracle of life to a series of biochemical reactions, by explaining Creation as a hiccup in space-time, science seems to undermine belief, render existence meaningless and rob the world of spiritual wonder.

But now "theology and science are entering into a new relationship," says physicist turned theologian Robert John Russell, who in 1981 founded the Center for Theology and the Natural Sciences at the Graduate Theological Union in Berkeley. Rather than undercutting faith and a sense of the spiritual, scientific discoveries are offering support for them, at least in the minds of people of faith. Big-bang cosmology, for instance, once read as leaving no room for a Creator, now implies to some scientists that there is a design and purpose behind the universe. Evolution, say some scientist-theologians, provides clues to the very nature of God. And chaos theory, which describes such mundane processes as the patterns of weather and the dripping of faucets, is being interpreted as opening a door for God to act in the world.

From Georgetown to Berkeley, theologians who embrace science, and scientists who cannot abide the spiritual emptiness of empiricism, are establishing institutes integrating the two. Books like "Science and Theology: The New Consonance" and "Belief in God in an Age of Science" are streaming off the presses. A June symposium on "Science and the Spiritual Quest," organized by Russell's CTNS, drew more than 320 paying attendees and 33 speakers, and a PBS documentary on science and faith will air this fall.

In 1977 Nobel physicist Steven Weinberg of the University of Texas sounded a famous note of despair: the more the universe has become comprehensible through cosmology, he wrote, the more it seems pointless. But now the very science that "killed" God is, in the eyes of believers, restoring faith. Physicists have stumbled on signs that the cosmos is custom-made for life and consciousness. It turns out that if the constants of nature—unchanging numbers like the strength of gravity, the charge of an electron and the mass of a proton—were the tiniest bit different, then atoms would not hold together, stars would not burn and life would never have made an appearance. "When you realize that the laws of nature must be incredibly finely tuned to produce the universe we see," says John Polkinghorne, who had a distinguished career as a physicist at Cambridge University before becoming an Anglican priest in 1982, "that conspires to plant the