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COMET RENDEZVOUS AND ASTEROID FLYBY [CRAF]

CRAF is the first in a series of planetary explorers to be flown aboard Mariner Mark II spacecrafts. CRAF is a priority mission of NASA's Solar System Exploration Committee [SSEC]. The SSEC has outlined a series of low-cost planetary missions. CRAF will give us a better understanding of the nature of comets, a valuable followup mission to the Comet Halley rendezvous. If CRAF does not start in fiscal year 1987, the United States will miss the opportunity to study the comet Wild 2—a highly desirable comet because of its pristine qualities. CRAF is a window through which we can see the mysteries of the solar system.

LIFE SCIENCES

During the current fiscal year, the activities in life sciences were significantly cut back. In order to maintain ongoing activities related to near term space flight schedules, the cuts were made in life science research relating to the space station. Crucial work needs to begin in the space station's health care facilities; in bioregenerative life support systems; and in radiation protection for crew members.

I urge my colleagues not to be timid about supporting a more aggressive space program. Whether we have a barely viable American space program or a true "flagship program" depends on the decisions we make in this Congress.

**THE COMPUTER FRAUD AND
ABUSE ACT OF 1986 (H.R. 4562)**

HON. WILLIAM J. HUGHES

OF NEW JERSEY

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 16, 1986

Mr. HUGHES. Mr. Speaker, on April 10, 1986, I introduced the Computer Fraud and Abuse Act of 1986 (H.R. 4562) along with Congressmen McCOLLUM and NELSON in the House of Representatives. An identical bill was introduced by Senators TRIBLE and LAXALT in the Senate (S. 2281). This bill is the culmination of 3 years of hearings in the Congress and we believe it meets the problem created by the misuse of our rapidly expanding computer technology.

Our investigation in this area indicates that the computer has become an integral part of our everyday lives. Computers are critical to our national defense, financial institutions, and information transmission. By 1990, in addition to the vast commercial use of computers, it is projected that 80 million home computers will be in use.

Computer technology has brought us a long way in the past decade. However, computer technology—with all its gains—has left us with a new breed of criminal: the technologically sophisticated criminal who breaks into computerized data files. One element of this expanding group of electronic trespassers—the so-called "hacker"—is frequently glamorized by the media, perhaps because the image of the hacker is that of a bright, intellectually curious, and rebellious youth—a modern-day Huck Finn. The fact is these young thrill seekers are trespassers, just as much as if they broke a window and crawled into a home while the occupants were away. The hacker of today can become the white-collar crime su-

perstar of tomorrow, and we must not glamorize our Huck Finns into John Dillingers.

While we need to be concerned about youthful hackers, they pale in significance in comparison to the computer sophisticated criminal who combines his technological skill with old-fashioned greed and criminal intent to rob banks or destroy business records or steal trade secrets. The tools of the trade are not Smith and Wesson, but IBM and Apple. However, in today's world of instant electronic transfer of funds, the result can be more far-reaching—and harder for law enforcement to reach.

What can be done about these crimes? We believe government and industry have a dual responsibility: industry must work to prevent such crimes, and government must be willing and able to prosecute when crimes occur.

The legislation we introduced will expand in an appropriate but limited manner the types of criminal misconduct involving computers that will be subject to Federal jurisdiction. However, we intend that the Federal role be expanded only to those areas where there is a compelling Federal interest in the prevention and punishment of computer crimes. To that end, this bill provides additional protection against computer crimes affecting the Federal Government itself and those activities in which there is a unique Federal interest.

AMENDMENTS TO PRESENT LAW

At present, 18 U.S.C. 1030(a)(1) provides for punishment of thefts by computer of national security-related information. This bill will alter that provision of law only to the extent necessary to simplify the language pertaining to those who "exceed authorized access" to a particular computer system.

The same clarification on "exceed authorized access" will be made in 18 U.S.C. 1030(a)(2) in regard to trespass of financial institutions. In addition, 1030(a)(2) will be altered by changing the state of mind requirement from "knowingly" to "intentionally." We are concerned that a "knowingly" standard when applied to computer use and computer technology, might not be sufficient to preclude liability on the part of those who inadvertently "stumble into" someone else's computer file. This is particularly true with respect to those who are authorized to use a particular computer, but subsequently exceed their authorized access by entering another's computer file. It is not difficult to envision a situation in which an authorized computer user will mistakenly enter someone else's computer file because the user had "knowingly" signed onto the computer in the first place. The danger exists that he might incur liability for his mistaken access to another file. The substitution of an "intentional" standard is meant to focus Federal criminal prosecutions under this paragraph on those who evince a clear intent to enter, without authorization, computer files belonging to another.

The premise of 18 U.S.C. 1030(a)(2) in existing law remains the protection, for privacy purposes, of computerized information relating to a customer's relationships with a financial recordkeeper. We believe strongly that the protection offered consumer reporting agency's in the 1984 computer crime legislation must be preserved. This bill will also extend those privacy protections to information on any customer's (including corporations and small businesses) financial records.

This legislation will also clarify the present 18 U.S.C. 1030(a)(3); making clear that it applies to acts of simple computer trespass against computers belonging to, or being used by or for, the Federal Government. To alleviate those concerns, this legislation will make clear that 18 U.S.C. 1030(a)(3) is a trespass offense by "outsiders." "Authorized users" of Federal computers will no longer be covered under this subsection but such misconduct is presently covered by administrative sanction and such laws as the Privacy Act, trade secrets laws, 18 U.S.C. 1361, et cetera. This should also alleviate concerns that first arose in 1984 about disclosures of Government-related information by "whistleblowers" that was stored in a computer. The intentional modification or destruction of computerized information belonging to the Government by outsiders will be covered by a different felony provision of this proposal. As with 18 U.S.C. 1030(a)(2), the state of mind requirement in this paragraph will be changed from "knowingly" to "intentionally."

While the provision of present law relating to attempted offenses will remain unchanged, the provision relating to conspiracies (18 U.S.C. 1030(b)(2)) will be deleted. Conspiracies to commit computer crimes would be covered under the general Federal conspiracy statute, 18 U.S.C. 371.

NEW OFFENSES

The new paragraph section 1030(a)(4) to be created by this bill is aimed at penalizing thefts of property via computer trespass that occur as part of an intent to defraud. It will require a showing that the use of the computer or computers in question was directly related to the intended fraud, and was not merely incidental. To trigger this provision the property obtained by the offender in wrongfully accessing a particular computer must further the intended fraud, and not be superfluous to it. The mere use of a computer, without obtaining property that furthers the fraud, is not meant to constitute an offense under this provision. This subsection is designed, in part, to help distinguish between acts of theft via computer and acts of computer trespass. In intentionally trespassing into someone else's computer files, the offender obtains at the very least information as to how to break into that computer system. If that is all he obtains, the offense should properly be treated as a simple trespass. But because the offender has obtained the small bit of information needed to get into the computer system, the danger exists that his and every other computer trespass could be treated as a theft, punishable as a felony. We do not believe this is a proper approach to this problem. There must be a clear distinction between computer theft, punishable as a felony, and computer trespass, punishable as a misdemeanor. The element in the new subsection 1030(a)(4), requiring a showing of an intent to defraud, is meant to preserve that distinction, as is the requirement that the property wrongfully obtained via computer furthers the intended fraud.

The new subsection 1030(a)(5) is a malicious mischief provision, and is designed to provide penalties for those who intentionally damage or destroy computerized data belonging to another. Such damage may include an act intended to alter another's computer password, thereby denying him access to his own computerized information. It will be necessary,

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large extent, will be a message to the administration, rather than a working budget.

I am confident that the President will come forth with a comprehensive proposal to replace the lost shuttle launch capacity. It is my hope the President's plan, once unveiled, will include a supplemental appropriations bill to fund a mix of at least one more shuttle orbiter and complimentary expendable launch vehicles [ELV's].

At markup, however, the Space Subcommittee will be forced to make some assumptions about expected launch capability. In my opinion, those assumptions should be as optimistic as possible, and include the launch vehicle mix mentioned above. If more restrictive budgetary realities present themselves later, then the authorized funds can be adjusted either in full committee, in the Appropriations Committee, or on the House floor.

Despite so many unknowns in the NASA budget, I am confident that under the leadership of Chairman NELSON, the Space Science and Applications Subcommittee will mark up the NASA authorizing bill to reflect what is best for the Nation's Space Program and our continued global leadership in space.

The President's proposed fiscal year 1987 NASA budget was, on the whole, a good program. Funding for the space station will allow the program to proceed to the development phase in early 1987. The development of the orbital maneuvering vehicle will continue on schedule. The ocean topography experiment [Topex], a new start in the NASA fiscal year 1987 request, is a joint United States-French initiative. Topex is an exciting experiment which will give a better understanding of the oceans' general circulation. Space exploration development is progressing on the Magellan Venus radar mapper and the Mars observer mission. I am also excited about funding for the transatmospheric vehicle research and technology development. I am pleased that these elements were included in the President's fiscal year 1987 budget, and I plan to support their full funding throughout this budget cycle.

Mr. Speaker, the heart of the space program is embodied in NASA's R&D function, and in particular the Office of Space Science and Application [OSSA]. The Associate Administrator of OSSA, Dr. Burton I. Edelson, heads the program, which, despite its critical importance, takes only 20 percent of the NASA budget. In Dr. Edelson's testimony to the House Subcommittee on Space Science and Applications he said, "The benefits we have realized from space science and applications in the past have been enormous. Mankind now has a new view of the Universe." The space scientists and engineers conduct basic research into the nature of the "entire universe, with efforts ranging from the most distant galaxies to the neighboring worlds of the solar system, and finally to the land, oceans, and atmosphere of the planet Earth."

Unfortunately, despite the achievements in space science and space applications, there has developed a feeling of frustration and disappointment in the scientific and technical community because many projects have been delayed or canceled due to congressional or executive shortsightedness. In 1981, for example, NASA was forced to make broad, sweeping cuts in the space science program to provide necessary funds for the space shuttle development. Clearly, as a matter of

national security, the shuttle had to be completed, but it was counterproductive to force cuts in space R&D as a result. The Nation has consistently used the space science and applications program as the arena for cuts when budget tightening was required. The 1981 decision resulted in postponements and cancellations of dozens of programs. For example, the mission to encounter Comet Halley was dashed; the international Polar orbiter mission was postponed; the advanced communication technology satellite was postponed; and data reception from the Pioneer space probe was terminated—later rescinded.

We may see a similar series of cutbacks in space science and applications programs as a result of the *Challenger* explosion. The Congressional Budget Office, in a report on the impact of the shuttle accident, suggests that one "area in which to reduce NASA spending over the next 2 to 3 years is the research and development [R&D] function, since the loss of shuttle capacity will lead to a dramatic reduction in shuttle flights available to launch R&D payloads during this period." I strongly urge my colleagues not to be swayed by this argument. To significantly cut this critical Space Science Program would result in the discontinuation of vital research, disbanding of irreplaceable research teams, and a general weakening of America's lead in cutting-edge technology in the world market. We seriously run the risk of gutting the space science and application effort; the result will be inadequate programs to meet the science and applications needs in the 1990's.

Last week, Thomas Donahue, Chairman of the Space Science Board of the National Academy of Science, in testimony before the Senate Science, Technology, and Space Subcommittee, observed that:

This nation has been trying to carry out a highly visible, prestigious national enterprise on the frontier of technology, with a resource level so meager that one tragic accident has crippled the entire program, civil and military * * * I would urge that you resolve to turn the space program around and to either carry on a space program at a level that makes sense for a flagship program for our nation or get out of it altogether and leave it to the Russians.

I think Mr. Donahue makes a convincing case for support for the space program, even in face of the shuttle disaster and Gramm-Rudman-Hollings. Now is the time when Congress and the administration must show greater support for NASA and fund it appropriately. Most importantly, we must begin building—or rebuilding—a program now which will lead toward "a flagship" program in the 1990's, as Mr. Donahue suggests.

I am concerned, for example, about those programs in the fiscal year 1987 NASA budget that have been unjustifiably canceled, postponed, or severely cut. In addition to the recommendations contained in the President's NASA budget request, I believe that there are other important areas of the budget that require funding. After consulting with individuals in the major national professional associations and reviewing their testimony before the Space Subcommittee, I have identified a number of programs which I believe require budget enhancement. I will outline those programs in brief below:

ADVANCED COMMUNICATION TECHNOLOGY SATELLITE [ACTS]

ACTS is the latest in a series of NASA experimental communications satellites. The decision to delete this program from the fiscal year 1987 request was irrational. ACTS represents the cutting edge capabilities that will revolutionize future satellite telecommunications. The investment necessary for the technology development of ACTS is not within the R&D means of the communication satellite industry. The payback in hardware sales alone from a \$350 million investment by the United States in ACTS is expected to be over 100 to 1. If the United States doesn't follow through on its commitment to the ACTS Program, the private sector will be forced to continue the research at a greatly reduced pace, allowing foreign competitors such as Europe and Japan to develop the technology first.

SOLAR OPTICAL TELESCOPE [SOT]

SOT has been a priority mission of solar physics scientists for a number of years, but, due to congressional and other criticism, the program was dropped. Originally, the SOT proposal was a project requiring several trips on the shuttle and designed so that it would eventually be mounted to the space station. NASA, however, is working on an alternative proposal aimed at keeping the essence of the solar physics, but at much lower cost. I think it would be in the Nation's interest to help NASA proceed with development of a modified SOT.

ORBITAL TRANSFER VEHICLE [OTV]

There is a clear need for a versatile, cost-effective OTV to exploit space orbits beyond those the shuttle and the space station will be able to reach. The planned OTV will be reusable, space-based, and able to deliver 15,000 pounds of payload to geosynchronous orbit. The OTV will contribute greatly to the efficiency of the space infrastructure, and more emphasis on the program at this time is justified.

MICROGRAVITY RESEARCH

In the rush to commercialize microgravity products, we have, to some extent, ignored basic research in microgravity. Instrumentation in many research labs is obsolete and no longer capable of reaching technology frontiers. Plans for anticipated activities aboard the space station should begin in fiscal year 1987 if the facilities are going to be ready for initial operation capability. Projects such as the automated protein crystal growth facility, the advanced levitation device and the high temperature directional solidification facility should be funded to proceed at a more vigorous pace.

INTERNATIONAL SOLAR-TERRESTRIAL PHYSICS PROGRAM [ISTP]

ISTP is an effort to draw on the resources of a worldwide scientific community to make a concentrated and coordinated study of the interaction in the Sun-Earth system, and to extrapolate this knowledge to the other planets and to the universe beyond. The program would be a multinational effort, with participation from NASA (United States), ISA (Japan) and ESA (Europe). The President has only requested \$5 million for ESA and ISAS instrumentation. This is an important program that is ready and should be allowed to begin as a new start. It would also demonstrate to our allies that the United States is a reliable space science partner.

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in proving this offense, that the Government demonstrate that a loss has been incurred by the victim totaling at least \$1,000 in a single year. This is necessary to prevent the bringing of felony-level malicious mischief charges against every individual who modifies another's computer data. Some modifications, while constituting "damage" in a sense, do not warrant felony-level punishment, particularly when they require almost no effort or expense to repair. The \$1,000 valuation is reasonably calculated to facilitate felony punishment in cases involving more serious damage or destruction. In instances where the requisite dollar amount cannot be shown, misdemeanor-level penalties will remain available against the offender under the trespass subsection. Thus, the valuation will not exist for determining the presence or absence of Federal jurisdiction; it will serve instead to help determine whether the act constituting the offense is punishable as a felony or a misdemeanor.

In addition, the concept of "loss" embodied in this paragraph will not be limited solely to the cost of actual repairs. The Justice Department has suggested that other costs, including the cost of lost computer time necessitated while repairs are being made, be permitted to count toward the \$1,000 valuation. I and the other sponsors of this bill agree.

Finally, in new subsection 1030(a)(6), this bill provides a misdemeanor penalty for those who, through what is called "pirate bulletin boards," knowingly and with an intent to defraud, traffic in computer passwords belonging to others. If those elements are present—and if the password in question would enable unauthorized access to a Government computer, or if the trafficking affects interstate or foreign commerce—this provision could be invoked.

Having worked with experts on computer crime over the past several years, we believe the legislation passed last year along with the bill now being considered by the Congress—combined with active efforts of industry to safeguard their property—will address the emergency of the computer criminal in our society.

Protections—both through law and technology—can and must be developed for the intangible property—information—which is the life blood of computer systems.

Unless we act now to secure the "locks" and provide the laws, computer crime will be the crime wave of the next decade.

THE MILLS OF GOD GRIND SLOWLY—BULGARIA AND ITS JEWISH CITIZENS DURING WORLD WAR II

HON. TOM LANTOS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 16, 1986

Mr. LANTOS. Mr. Speaker, the roll of countries which, at great risk, helped their Jewish citizens during World War II is very small, but worthy of honor. Denmark has received fitting tribute for the successful rescue mission of the Danish Jews. But few people realize that Bulgaria, too, saved its large Jewish community consisting of 50,000 people from the horrors of deportation and murder at the hands of the Nazis.

On a recent private visit to Bulgaria, my wife and I had the opportunity to check out at first-hand the Bulgarian record of resistance to Nazi atrocities against the Jewish community. I spoke to members of the government ranging from Deputy Foreign Minister Lyuben Gotsev to Chairman of the Parliament Stanko Todorov, to officials in local governments, to the president of the Bulgarian Jewish community Josiff Levi, as well as to private citizens. They added details to the story and they all agreed that the moral courage manifested by the people of Bulgaria during the dark depraved days of Nazi power was truly extraordinary. Unfortunately, these deeds have been overlooked by the world community.

Although the Axis-allied government of Bulgaria, which was an ally of Hitler's Germany, acquiesced to some degree in the anti-Jewish policies of the Nazis, the Bulgarian people—partisans, representatives in parliament, members of municipal councils, union and church leaders—manifested their opposition to the Nazis. The first abortive attempt to deport Bulgarian Jews aroused a storm of protest. When finally, as a result of constant German pressure, the Bulgarian Government agreed to send the Jews to labor camps, the people sabotaged the effort. On the day the first group of Jews were to be sent away, the partisans crowded into the railroad station and interferred with the deportation.

Other rescue operations included the denial of Jewish origins of their neighbors suspected by the Nazis. One impressive woman I met, Margarita Delina, the vice chairwoman of the district of Plovdiv, told us that when she was a girl, her parents protected several Jews. When Nazi SS troops came to their house and asked the names of their neighbors, her mother changed the Jewish-sounding names to protect them. "I couldn't understand it at the time," she told us, "I asked my mother afterwards why she gave the wrong name, but she didn't answer. I found out only after the war."

The efforts on behalf of the Bulgarian Jews took many and varied forms. Mass "mercypaptisms" took place with both parties knowing that the "convert" would later renounce his vows. There were mixed marriages on a gigantic scale. Josiff Levi, the president of the Jewish community in Bulgaria, remembers Rabbi David Tsion, who organized large rallies at which Bulgarian Jews and non-Jews demonstrated against the transportation of Greek Jews through Bulgaria to "work camps."

In view of the fact that Hitler found eager collaborators in almost all countries allied with or occupied by the Nazis, it is indeed a miracle that in a few places he ran into unified and outraged resistance. Bulgaria was one of those countries. The Bulgarians chose not to become passive bystanders or depraved collaborators. Instead they decided, as a people, to come to the aid of their Jewish neighbors.

The mills of God may grind slowly but they do grind justly. Just as 40 years after the war we are still discovering Nazis who hid their disgraceful past, so we are also discovering, sometimes in the most unexpected places, compassion, sympathy, and bravery on the part of a whole nation who befriended the Jewish people in their moment of greatest danger and abandonment. This is a story that must be told to get a true picture of the nature of the Bulgarian people, in whose homeland

the Nazis also tried to perform their infamous atrocities but failed.

Because the Bulgarian public wholeheartedly supported and cooperated with all rescue efforts, Bulgaria has a record second to none in its successful salvation of its entire Jewish population—45,000 of whom returned to Israel after the war, taking with them the warm friendship and farewell of the Bulgarian people among whom they were welcomed and respected during the many years of their exile.

Bulgaria's acts illustrate to me once more that Nazi Germany was not as powerful as the world tried to pretend and that moral courage and determination, whether from an individual like Raoul Wallenberg, or from a small country like Denmark or Bulgaria, could successfully thwart "the final solution."

This is a story that must also be told. As Sholem Ash said:

It is of the highest importance not only to record and recount—both for ourselves and for the future—the evidences of human degradation, but side by side with them to set forth the evidences of human nobility and brotherhood. Let the epic of heroic deeds of courage and caring as opposed by those of hatred, of rescue as opposed to destruction bear equal witness to unborn generations.

PHIL PERLMUTTER ON ISRAEL

HON. BARNEY FRANK

OF MASSACHUSETTS

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 16, 1986

Mr. FRANK. Mr. Speaker, one of the happier aspects of American politics, in my judgment, is the broad and deep support which exists in the electorate at large, and in our governmental institutions, for an American policy which is strongly supportive of the independence and integrity of the State of Israel.

I believe that this broad support is based essentially on the recognition in this country that the State of Israel is both the nation in the Middle East which most nearly carries out in its governance the ideals which Americans believe ought to be followed, and is also the nation in that area which has been most willing to ally itself with America on important strategic issues. Many people in our country make their foreign policy decisions based largely on moral grounds; others use strategic and geopolitical basis as the foundation of their foreign policy judgments. Given both its strong democratic system and its goal in the world, Israel stands out as a worthy friend of America on both counts.

There are some who try to explain away strong American support for Israel by claiming that a conspiracy of a small number of Jewish Americans somehow exerts a disproportionate financial and media influence, and that this results in American policy being as supportive as it is of Israel. Strangely, some Americans who are among Israel's strongest friends inadvertently give comfort to this argument by exaggerating the extent to which financial contributions must flow to Members of Congress to assure reasonable levels of American foreign assistance for Israel. America provides substantial foreign aid to Israel largely because it makes sense in terms of both America's interest and America's values. The support which many friends of Israel give in this country is