What drives this entrepreneurial revolution? ~~Put the answer starts with John Locke~~ let me theorize at least to ~~the~~ high-technology entrepreneurship.

John Locke ~~the~~ was a British philosopher and one of the earliest known supporters of constitutional government. He asserted that constitutional government could only be effective if it ~~guaranteed~~ recognized the natural rights of man including the right to life liberty and property. The recognition of these rights ~~appears~~ was considered to be the best way to assure prosperity and thus stable government.

~~Locke said that a man has a right in himself and thus in his own labor; in turn he has a right to what "he hath mixed his labor with" or a right to property.~~

Locke's proposition is widely held to be the ~~precursor of the~~ underpinning of the U.S. constitution. While it is unclear whether Locke intended to include intellectual property as part of man's natural right to property, the U.S. constitution gives the Congress the discretion or power to secure for limited times to inventors the exclusive rights to their discoveries. ~~The Congress's action in enacting the patent laws~~ ~~The enactment~~

Congress's enactment of the patent laws evidences their belief that the right to own intellectual property is a natural right of man and ~~a pre~~ thereby a necessary element for successful constitutional government ~~and the~~ and the prosperity envisioned by such governments. Similarily state law protects trade secrets.

INNOVATION SPEECH -- PRELIMINARY NOTES -- JULY 16

- John Locke -- "Man hath a right to what he hath mixed his labors with." Further, the work that he did in order to justify constitutional monarchy ultimately became the foundation of our Constitution.

As far as I can determine, the essence of his protection of constitutional monarchy was that in order for it to survive, individuals had to have the right to Life, Liberty, and Property. (I don't know where that Pursuit of Happiness stuff came from.)

Insert the letter from Madison to Jefferson here. It justified the special treatment for inventors in the Constitution.

The next step is that the Constitution itself gave Congress discretionary authority to take care of inventors by giving them exclusive right to their inventions for a limited period of time.

The Congress actually acted on that and created the Patent System.

Notwithstanding the Constitution, U.S. Common Law provides for assignment rights as a condition of employment.

The next step is the gradual growth of institutions and the capital content of research or invention. The Constitutional presumption of inventor ownership has been blurred and as a result, employed inventors have lost their identity in society.

(Belief) During the 1960's, the public perception of corporations became increasingly negative for a variety of reasons. One of them is that they became faceless institutions rather that the organizations built around key people that the public can recognize.

Enter statistics on the decrease of inventions per Research dollar, with a corresponding increase of U.S. patents going to foreign firms.

People count.
Bottom-up
Innovation/inventor
Management--provide the resources to creative people and get out of the way.

Paul A. Blanchard and Frank B. McDonald's article "Reviewing the Spirit of Enterprise: Role of the Federal Labs," is a timely, well done, ~~and~~ useful chronology and discussion of current issues confronting Federal laboratories. I am grateful for the author's acknowledgement of the Department of Commerce's contribution to the OSTP working group's recommendations on strengthening technology transfer from the Federal laboratories to the private sector. I believe it is important, however, to amplify on part of these recommendations in light of ~~the~~ Irwin Goodwin's ~~footnote identifying~~ editorial note describing the guarantee of at least 15% of any royalty to Government inventor(s) on any development licensed by the laboratory for commercial use as being "controversial."

While the specifics of this recommendation are clearly open to discussion and modification, the following analysis of the principles involved should help to conclude that the recommendation is more "necessary" than "controversial."

1) John Locke, the British philosopher who masterfully built the consensus for western constitutional government established as one of its principles that "every man ~~hath~~ has a right ~~in~~ to what he hath mixed his labors with." Certainly there can be no argument against extending that ~~that~~ right ~~should extend~~ to a ~~man's~~ person's own ideas and inventions.

2) The United States Constitution builds on Locke's thesis by giving Congress the ~~mandate~~ power to reserve to inventors the exclusive right to their ~~respective~~ inventions as

progress of science and useful

an encouragement to the arts ~~and sciences.~~ (2)

3) Public Laws 96-517 and 98-620, which guarantees ~~the~~ universities and small businesses the right to own~~ership of~~ inventions made by ~~its~~ THEIR inventors in the performance of Federally funded research, qualified university ownership and made it consistent with the constitutional mandate by requiring that royalties be shared with ~~its~~ THEIR inventors. (3)

This was done with university urging as they feared ~~management would funnel~~ WOULD BE FUNNELED these returns away for other purposes, ~~and would~~ thereby destroying the inventor's incentive to participate.

4) The explosion of industry-university collaboration accompanied by the transfer of technology triggered in part by P. L. 96-517 (8) suggested the need to establish similar incentives for technology transfer in the Federal laboratories since they, like universities, ~~were~~ ARE isolated from the private sector with no compelling need to bridge the gap.

5) The university-industry collaborative experience has not ~~evidenced~~ INDICATED either a desire or an ability ~~by~~ of industry to bias unversities away from basic research to any great extent. In fact, the relationship has no doubt given universities new frontiers to explore which would not have been otherwise addressed.

6) Public Laws 96-517 and 98-620 do not require royalty-sharing between small business and its THEIR inventors since

the goal of ~~such~~ THE business is ~~already~~ to make a profit through the delivery of new products, processes and services to the marketplace. This ~~primary~~ goal seemed to assure a need to share the fruits of commercialization with its inventors through whatever incentive system ~~was~~ IS deemed most appropriate, or face the prospect of ~~their possible loss~~ LOOSING KEY PEOPLE to competitors. New incentive systems to motivate industry employees are one of the key elements fueling the entrepreneurial revolution spreading through the country. It is clear that this kind of flexibility, ~~should not be interferred with~~ FEDERAL LAW SHOULD NOT INTERFERE WITH INDUSTRIAL but ~~will not~~ THIS SORT OF FLEXIBILITY CANNOT be developed in nonprofit or public institutions as their goals are not primarily aimed at delivering new products, processes or services to the marketplace ~~not will present~~ UNLESS laws permit them to do so. The Administration's commitment to strengthening third world intellectual property laws through negotiation is best centered on how they and their inventors can benefit. A failure to address the interests of Federally employed inventors is a dismissal of our heritage and could make our motives suspect in the context of these negotiations.

MOVE TO (A)

The need to address the incentives that are necessary to motivate Federally employed inventors to participate in the innovative process is one of the important issues of our day. Dismissing royalty-sharing which is an established policy in unversities as being "controversial" or presuming that government

boards that randomly and insufficiently, if ever, reward inventors ~~is a rejection of our great heritage and an effront to our creative people.~~

does not respond to the problem.

¶ Moreover, (A)

1)
2)
3)
4)

their Creator with certain unalienable rights", and "that to secure these rights, governments are instituted among men . . ."

Madison, the chief architect of the Constitution, did not end his interest in intellectual property with the Constitutional Convention. He made the following illuminating statements in support of the prospective Federal authority to award patents and copyrights:

In the Federalist on January 23, 1788:

> "The utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged, in Great Britain, to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provision for either of the cases, and most of them have anticipated the decision of this point by laws passed at the instance of Congress."

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> "With regard to monopolies, they are justly classed among the greatest nuisances in Government, but is it clear that as encouragements to literary works and ingenious discoveries they are not too valuable to be wholly renounced? (These two sentences appear to be an attempt by Madison to distinguish between past monopolies

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In this statement, and especially the last sentence, the answer to the need for specific protection of intellectual property, notwithstanding its generic inclusion in the fifth amendment, seems apparent. First, the use of the term "monopolies" suggests that Madison knew that the nature of an individual piece of intellectual property is such that it could be useful to all people and at the same time be susceptible of ownership by one person, while on the other hand, diversity of ownership of all other categories of property precluded the possibility of monopoly. The strong possible argument against an indefinite monopolization of valuable intellectual property and its end product under only the fifth amendment and his recognition that "The States cannot . . . make effectual provision", suggests that Madison knew that the rights of the creative few would be in danger without clarification in the Constitution. Thus, a compromise was

DEPARTMENT OF ENERGY DISTRIBUTION POLICY ON COMPUTER SOFTWARE

SHOULD BE REVISED TO REFLECT

NATIONAL POLICY ON TECHNOLOGY TRANSFER

- Our national policy encourages technology transfer from the national and federal laboratories, with the ultimate goal of improving this Nation's economic competitiveness.

- Congress specifically made technology transfer of computer software a national laboratory goal in the the 1986 amendments to the Stevenson Wydler Act of 1980 (PL 99-502).

- Current DOE policy on the distribution of computer software developed under contract to DOE, and the negative effect of that policy on future copyright protection, runs counter to the intent of our national policy.

- A draft order currently under consideration in the Department, requiring that DOE's National Energy Software Center (NESC) be the sole release point for computer software developed at DOE facilities, will result in that policy becoming permanent. (Draft Order 1360.4A - dated August 13, 1986).

- NESC is primarily a cataloging warehouse. It does not prepare the software products for the commercial market and cannot provide the extensive support services needed for complex research computer software. Such added value can only be provided by private industry interested in marketing computer software.

- Without copyright protection, U.S. firms are unwilling to commercialize software in the public domain because of the high costs of readying the product for market -- documenting, preparing training materials, debugging, and establishing user support systems. DOE's draft order will obstruct such copyright protection.

- Foreign companies, competing in the domestic computer software market, receive significant benefits from the NESC.
  In early 1986, an informal sample of distribution by the NESC, of several of the most popular and valuable engineering software packages developed by one of the national laboratories, revealed that approximately 90% went to foreign entities.

- DOE should revise its policies on distribution of computer software developed at the national laboratories, and bring them into conformity with the national goal of facilitating the preferential transfer of technology to U.S. industry, thereby enhancing this nation's potential world market competitiveness in the area of research computer software.

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Sadly

H.R. 3773 sacrifices the few to the many. It by implication requires inventions who are federal employees, as a condition of their employment to assign all their rights with no guarantee of any further reward for inventions that benefit the economy. It wipes out any possibility of free reward promised by the patent system

A Cheap Dollar Won't Cure the Deficit

By MICHAEL HUDSON

CURRENCY markets are in turmoil. Not only has the dollar declined by 40 percent against the Japanese yen and the German mark during the last year, but there is beginning to be a measure of suspicion that devaluation will not do much to improve America's balance of payments in the foreseeable future. Unlike the beggar-thy-neighbor currency devaluations of the 1930's, if the recent devaluation beggars anyone, it may be the United States itself.

The dollar devaluation has provided a windfall to other industrial nations. Because raw materials are usually priced in dollars, when the dollar falls commodity costs as measured in yen and marks also fall. This windfall for our trading partners holds down the rates of inflation in those countries and allows their investment to be financed at lower rates of interest than ours — an important consideration in today's competitive world.

Nearly everyone agrees devaluation hurts the trade balance in the short run. This is because time is needed to change long-established trade patterns and purchasing habits. When oil became more expensive in 1974, Americans had little choice but to pay more because it takes years to design and build factories, buildings and cars that are more energy efficient.

As for our trade with Japan, Korea and West Germany, devaluation means we will end up paying more dollars for roughly the same volume of imports. But even if we cut back physical imports we lose. If physical imports are cut by 25 percent, a 40 percent devaluation still worsens our import bill by some 15 percent unless exports increase dramaticaly.

But the real question is whether devaluation will help over the long run. Policy makers who look at the world from a Chicago-school economics perspective believe devaluation will help the trade deficit. But businessmen and economists who look at what really happened in history have a different idea. Just consider how a series of devaluations failed to help England in 1949 and in the mid-1960's. Britain's economy continued to deindustrialize while its living standards fell to the one of the lowest levels in the European Economic Community.

The really important variables in the comparative trade advantages of countries are their labor costs, interest rates and tax obligations. And as production becomes more automated, it will depend more on capital and financing and less on the cost of labor. But most policy makers ignore these variables and concentrate instead on the value of the currency.

Devaluation is supposed to make the country poorer, relative to other countries, in such a way that imports fall off. This is why economic recessions help the trade balance: People earning less do not buy as many imports. Booms usually lead to trade deficits as higher incomes spill over into a demand for imported goods.

If the dollar falls by enough to raise import prices sharply, Americans will indeed have to cut back their purchases of imported automobiles and consumer electronics. Devaluation thus discourages consumption. But it does not really help exports unless the country redirects its resources into building export industries. As of today, however, we have no spare industrial capacity to speak of, and companies are not investing to boost that capacity. This means we simply will not be able to produce enough extra goods to turn our trade balance positive.

TRUE, we may now sell our Van Goghs and other art works to the Japanese for prices that seem enormous when denominated in dollars. This is what happened to Germany during its devaluations of the 1920's. It happened again to England after 1949. But neither England nor Depression-era Germany exported more industrial manufactured goods produced by their own workers.

Not only haven't our industrial corporations invested in new capacity, they do not intend to invest in the future — a sure sign that even our top business leaders do not believe in the devaluation policy. Instead, our companies busy themselves protecting against takeovers or spend their money taking over other existing companies, all at no net gain in export capacity.

There are two ways of examining exports. The first is by region: Against which countries is our trade balance supposed to improve, given the cheaper dollar? Certainly not third world debtors. Their raw-materials exports continue to be depressed, and they must use their scarce foreign exchange to pay their creditors for their own past trade deficits. This is why America's trade with Latin America has deteriorated from a $13 billion surplus in 1981 to an average annual deficit of $15 billion in recent years. As long as foreign countries must use their foreign exchange for debt-service, there is scant room to build markets for our products in those debtor countries.

The second way of examining exports is even more more critical. That is the problem of what products we have to export — and in what quantities. From this perspective, reversing the trade gap depends upon the cost of capital, the investment plans of our companies and the ability of American products to compete in world markets. From this standpoint, the value of the dollar is of secondary importance. ■

Michael Hudson, an economist, has consulted for the Canadian, Mexican and United States Governments and the United Nations.

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FACSIMILE COVER SHEET

To FAX Number 703-821-~~2030~~ 2049

Date 12/15/88 No. of Pages(including cover) 10

Attention Norm Latker

Subject TIC Meeting

From Jack Karnowski

USET, Inc., Westport, CT FAX No. 203-255-1536

If you don't receive all pages of transmission, please call us at 203-259-7997.

Norm:

Please call me tomorrow in Westport with your comments.

Solutions Thru Technology

The proposed legislation sets up another bureaucracy to determine whether inventors should benefit from the commercialization of their discoveries. This is inconsistent with the Constitutional intent to award inventors through a guarantee of a proprietary position in those inventions they choose to bring into public light.

While it is correct that the common law permits employers to take the prospect of such a proprietary position from its employees as a condition of employment, there has been sufficient latitude in the private sector to devise incentive systems that assure continued involvement of inventors in the innovation process. This has not been true in public funded research projects conducted at federal laboratories. The taking of the inventor's rights as a condition of employment coupled with bureaucratic after-the-fact award systems has resulted in an invention delivery system that does not work. S. 65 speaks directly to this problem by setting up an understandable before-the-fact award system. The proposed bill merely

Congress is seeking to stimulate American innovation by creating greater commercialization of Federally-supported R&D. Presently the Government funds 50%-- or $55 billion annually-- of our R&D effort. Attention is focusing on the Federal laboratory system which now contributes little to our economic growth. Unfortunately, two trade associations are jeopardizing this effort to deflect attention from a few companies' internal management problems.

The object of this debate is legislation introduced in the House and Senate allowing federal laboratories to manage their inventions by licensing them and retaining royalty income. Because one-sixth of the U.S. scientists and engineers work in our federal laboratory system performing more than $17 billion of R&D annually it is important that this technology be successfully transfered to the economy. Universities have found that sharing royalties with their inventors is the catalyst making this technology transfer possible.

Intellectual Property Owners, Inc. and the National Association of Manufacturers, reflecting fears by a small segment of their big business constituents, are objecting to royalty sharing by federally employed inventors in legislation now under consideration by the Congress. These associations say that requiring royalty sharing for federal inventors (paralleling current law for university inventors) sets a precedent which will be applied to the private sector. Rather than a simple mechanism such as royalty sharing, these associations advocate a complex, bureaucratic "award system" under which federal inventors would meekly petition Washington for some compensation for their discoveries commercialized by the private sector. Experience has shown that agencies trying to implement award schemes create only more bureaucracy with meager rewards to inventors and great expense to the taxpayer.

Ironically, the handful of companies driving NAM and IPO objecting to royalty sharing are not even interested in working with the federal laboratories and have little, if any, experience collaborating with universities sharing royalties! Rather, these companies reflect a 1950's top-down management style that feels threatened by employee incentives. These middle level corporate managers fear that the university success sharing royalties will be duplicated in the federal laboratories creating unrest within their own companies. Companies who have revitalized their corporate structure to reward productive employed inventors, or who have entered into collaboration with universities are not afraid of incentive systems in public research.

The House Science and Technology Committee will soon take up this legislation which has been successfully reported from Subcommittee <u>minus royalty sharing for inventors at the insistence of IPO and NAM</u>. Unless changed, this could be a serious barrier to the federal laboratory system.

The Senate Commerce Committee will soon begin deliberations on a companion bill based on S. 65 introduced by Senate Majority Leader Robert Dole.

The Dole bill and similar legislation introduced by House Minority Leader Robert Michel (H.R. 695), provide federal inventors a share of royalties returned to the laboratory from patent licensing. The bills are modeled on a 1980 law (Public Law 96-517) giving universities and small businesses ownership of inventions made under federal grants and contracts. This Act requires universities to share royalties earned with university inventors. Congress enacted this provision because willing participation of inventors is the core of successful technology transfer. This requirement was not placed on small businesses because Congress recognized that nonprofit institutions have special needs not applicable to the private sector.

Congress recognized that nonprofit inventors are hired to expand the frontiers of knowledge and that technology transfer is an addition to their primary mission. This is not the case in the private sector. Prior to the enactment of the 1980 law many universties feared losing some of the best basic research scientists because academic salary structures are not intended to reward commercializing inventions. This is still true at Federally-operated laboratories. Royalty sharing has enabled many of the most creative minds to remain on campus performing basic research while being rewarded for their discoveries.

Losing the best researchers is still a problem at the federal labs according to the 1983 Report of the White House Science Council headed by David Packard. In the report to President Reagan the Council found that "almost all of the Federal laboratories, both government-operated and contractor-operated, suffer serious disadvantages in their inabilities to attract, retain, and motivate scientific and technical personnel required to fulfill their missions. The principal disadvantage is the inability of the Federal laboratories, particularly those under the Civil Service system, to provide scientists and engineers with competitive compensation at entry and top senior level (emphasis added). Royalty sharing is designed to meet this problem. With one-sixth of all of the research scientists and engineers employed at federally-operated labs, the U.S. simply cannot afford to waste these creative people.

Congress also recognizes that the needs of the nonprofit sector are unique. University and federal laboratory inventors are under great pressure to immediately publish the results of their research for professional recognition. Such pressures do not exist in the private sector. It was to counterbalance this need-- which can destroy proprietary rights needed for commercialization by the private sector-- that royalty sharing was devised. Thus, university and federal employee royalty sharing actually protects the interests of industry!

Universities are now able to persuade many inventors to file patent applications at the same time as publishing research results so that patent rights, especially abroad, are not destroyed. This happy balance not only fully protects academic freedom, and encourages the free exchange of information so important on campus; it also protects the interests of the private sector and discourages foreign competitors from freely pirating U.S. taxpayer sponsored R&D. The result is that more jobs and important discoveries are developed here.

Rather than setting a precedent for private industry, these differences were again recognized in 1984 when the law was amended to include university operated government laboratories. During the lengthy Senate and House debates over this measure no one suggested that the success of the university royalty sharing requirement was a precedent for the private sector. Indeed, legislation supported by the Administration sought to include big business government contractors under the provisions of the 1980 law and again no one, not even opponents of broadening the law saw university royalty sharing as a precedent for private industry!

After 5 years experience universities overwhelmingly cite royalty sharing as one of the cornerstones of their successes in working with the private sector. Because of this interaction the United States holds a commanding lead in the development of biotechnology which originated at the universities. Countries such as Japan are seeking to duplicate our success in linking universities and the private sector.

Schools such as the University of California and the University of Maryland are so convinced of the success of royalty sharing that they have raised the inventor's percentage to 50% of the receipts of licensing income! Many schools working on long range projects with big businesses, like that between Washington University in St. Louis and Monsanto, say that royalty sharing provisions have never been a problem in interactions with the private sector.

Experts in technology transfer from publically funded R&D to the private sector say that for this interaction to be successful certain incentives must be present. Every player involved in the interaction must benefit, the inventing organization, the government, and the private sector. But central to any success must be the individual whose creativity is the basis for the exchange. Indeed, rewarding individual inventors was the reason that the patent system was authorized in the Consitution under Article I, Section 8.

As the law now stands, inventors at universities and university operated Government labs share royalties while their counterparts in Federally run labs do not. Legislation must address this inequity or the flow of talented researchers at the Federal

laboratories will increase.

By excluding the inventor from federal lab legislation, a few big business patent counsels seek to turn the patent system on its head. The patent system thus becomes a bludgeon keeping inventors down rather than a stimulus lifting them up. This perversion must not be allowed to succeed. Indeed, individual creativity is the keystone of American creativity. Misguided special interests like Intellectual Property Owners and NAM are seeking to impose a Soviet management style on federal inventors.

We are on the brink of tapping into a tremendous source of basic and applied research unequalled in the world. The economic benefits will be staggering. Royalty sharing is the key for unlocking this tremendous resource or of frittering away a priceless asset. The choice is clear.