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Excerpts of Address Prepared for Delivery
By Senator Hubert H. Humphrey (D., Minn.)
At Luncheon of Spring Joint Computer
Conference
Sheraton Park Hotel
Washington, D.C.

SENATOR HUMPHREY URGES
"ECONOMIC REVOLUTION"
FOR "PERMANENT PROSPERITY"
THROUGH COMPUTER KNOWLEDGE

President Madden
Chairman Kohler

Spring Joint Computer
Conference

no stall-ins

Visiting this remarkable Conference is like entering both a "World's Fair" and a "Scientific Congress" of "Tomorrow's Achievements Today."

Your semi-annual Conferences have become fascinating showcases of the best, the latest and the almost incredible "shape of things (still) to come."

"Buck Rogers
in
Person"

~~Youth - best of both worlds~~
Your ^{fascinating} Exhibits cannot help but impress

competitors, customers and, yes, visiting Legislators.

Just think how a U.S. Senator ("fresh" - or wary from the ²⁹ 29th day of debate on the Civil Rights Bill) views your world - a contrasting world - with push-button, command controls, automatic programming and snappy PERT-scheduling.

Oh, how I long

for such conveniences in the Senate!

↳ Maybe, too, before the Senate started the present debate, Senator Richard Russell ^{of Ga} and I should have borrowed one of the Pentagon's

computer "War Games" and saved our colleagues a lot of "fighting" oratory.

The Computer is modern man's answer to the filibuster!

↳ Seriously, this Computer Conference is not just ^{another} a meeting; it is a vital "Launching Pad."

And the greatest thing we can launch is not new models, but new ideas.

↳ It has been said that, in the Computer World, Hardware is 5 years ahead of Software. So, too, the Brainpower of Computer Manpower is 5 years ahead of the Will-Power of some policy-makers who are not computer-oriented.

The "Computer Age" is young; but already, let us admit, some laymen in policy-making positions have tended to make 3 types of speeches on the computer. The speeches have begun to sound almost like "classics."

The very first type of address on Computers tended to be one of sheer awe. It could be summed up in a single breathless word (like a child's reaction in a toy shop), "Oh!"

When the enthusiastic layman first saw a computer, he said, "Goodbye to all other gadgets; this is for me!"

#2 / The second type of computer talk was: "Oh, the Millenium has arrived!" "Goodbye, drudgery; hello, leisure." "Goodbye, care; hello, convenience." "Goodbye, high costs; hello, savings!"

And the third type of speech has been one of moody after-thought: - "Oh, the problems this will cause!" "Goodbye, jobs; hello, bread-lines." "Goodbye, name; hello, number." "Goodbye, indiv-
duality; hello, conformity!"

/ In all 3 speeches there are elements of truth.

/ My own theme this afternoon is like the opening line from the musical, "Oklahoma!" :-

In this Computer Age: - "Oh, what a beautiful morning!" But let's get busy, so there is no "morning-after feeling."

Let's face it - the Computer Brain can be Both Boon and Bane.

The computer will be just as much a boon as we choose to make it and as serious a bane as we might (foolishly) allow it.

Fortunately, President Lyndon Johnson has already taken the lead to maximize the boon and minimize the bane.

He has proposed - and I have introduced - a Bill to establish a high-level Commission on Automation, Technology and Enlargement.

This is but the "opening gun" of a broad

campaign to realize the greatest possible good
from "The Second Industrial Revolution."

←
youth
Rec'd
of 2nd
diving
age
36.

It is a Revolution which alters the very
concept of what a so-called "machine" really is.

← For machines that read, that remember, that

improve their performance, that respond to sound

(including human voices), to touch, to scent -

machines which incorporate almost every facet

of artificial intelligence - are not the machines

that "Dear Old Dad" knew.

← ~~The old debate question: "Can Computers~~
really think?" may soon give way to a new one, "Can
Computers really love?"

← The computer is the most versatile "tool"
in history. As this audience knows better than

any other, the computer ^{or guides} steers capsules in Outer
Space and monitors changes inside man himself; it
runs assembly-lines and mixes as many as 500
chemicals in an automatic fertilizer plant; it
translates Bibles and checks the age of brandy;
it handles reservations for airline seats, and processes
payrolls, inventory and purchase orders for giant
corporations; it predicts elections and weather;
the best choice of a mate for marriage; a name for
a new product and a new product, itself.

↳ Programmed well, its successes are spec-
tacular; programmed poorly - (mechanically or
intellectually) - it can mis-fire a space shot
or a new automobile like the Edsel.

↳ The revolutionary "tool" is no cure-all; but
neither is it a passing fad.

Viewing it, we can adapt a certain popular magazine's slogan to: "Never under-estimate the power of a computer."

The plain fact is that history's most profound revolutions have been under-estimated by their contemporaries. All of history is full of the wreckage of nations, societies, ^{and} classes - which under-estimated the nature and power of Revolutions.

This audience will not make an under-estimate - for you are in the vanguard of this Revolution.

↳ You know, it is 10 Revolutions "rolled into one":-

The Computer Revolution is economic, socio-psychological, scientific, technological, military,

informational, managerial, international, educational,

~~and because~~ ^{yes} it is all of these - and profound in

its impact on public policy

It is:-

(1) economic in its varied effects on business, agriculture and labor, on small and large enterprises, on offices, factories and mines;

(2) social and psychological in changing the relationship of man-to-man, man-to-machine, man-to-government, man-to-cosmos;

(3) scientific in opening up new frontiers of knowledge, in facilitating experiments, involving variables - so numerous, so subtle, so complex - as to defy the human brain, if unassisted;

(4) technological in making possible breathtaking

Teaching Aids
-12-
Literaries,

class
scheduling
being done
in schools,
only

a learning process which is life-long. What you or I learned in college 20 or 10 or even 5 years ago won't suffice in any profession today - not in Engineering, not in Law, Accountancy, Medicine, Dentistry, Nursing, Pharmacy, etc. Meanwhile, the Computer is revolutionizing the University, itself, breaking down barriers between what used to be thought of as "separate disciplines."

more
Investment
in educ!

Internationally, the Computer is one of Western Capitalism's greatest assets. When the Kremlin thinks of U.S. leadership in Computers, the Commissars turn ^{ever} redder in shame and greener in envy.

their soft drink,

The Politburo may boast that "Kvass" is better than Coca Cola (because who can argue with some

people's taste?). But the Kremlin cannot deny

that so-called "decadent Capitalism" is "Batting

first in the Computer League." And so far as I

am concerned, ^{to paraphrase a proverb by Mr. Khrushchev,} a Russian shrimp will whistle "Dixie"

before we give up our present lead.

↳ Elsewhere in the world, we must keep the lead -
in effective assistance to the Emerging Countries.

The Computer can spell a crucial difference in

these countries' thirst for know-where, know-

what, know-how. If the modern Computer seems

like a paradox in the feudal Middle East or

in the Africa of the "Bush," so is the jet, the

auto and the nuclear reactor. But no tool can

be more helpful - in trained hands - than this

most adaptable tool.

but ↓ stand for the right
for that all-american drink
Coca Cola, as its all-american
competition Pepsi-cola -13-

Your United States Government is aware of these and other arenas of computer progress. An Inter-Agency Committee on Data Processing has been doing what "doesn't always come naturally" - cooperate.

On the research front, the Bureau of the Budget informs me that the Federal Government is providing \$48 million a year in support for computer studies. But this is "penny ante" compared to what U. S. Agencies will require for their own computer research and development needs in the next decade.

Looking back, the Government has come a long way - but, frankly, not fast enough. The record of the past ^{is} /- in many ways inspiring. But the record in a few

Agencies proves that the "most underdeveloped space" in all this world is still "between some people's ears."

Neither in Federal Agencies (nor in private

enterprise) can we be smug with computer progress.

For one thing, we've trained far too little manpower, skilled on an inter-disciplinary basis in the basic and super-skills needed to accelerate the momentum of this ^{computer} Revolution.

↳ For another thing, as I indicated earlier, Will-Power, to change old organization, old procedure, old habits - has too often been lacking.

↳ Almost 6 years ago, recognizing the "Information Explosion", some of us in the Senate Re-
Federal and National
organization Subcommittee proposed long-range/
goals which only now are beginning to be realized.

↳ We suggested, for example, the equivalent of a National Science Information "Network." Only within the past few months have the Federal Agencies -
(the "stations" of the Network) - really started to send signals that other "stations" could even

Info
Explosion

receive and, much less, re-transmit. At long last, the three principal Federal science Agencies - the Department of Defense, the National Aeronautics and Space Administration and the Atomic Energy Commission, together with the U. S. Department of Commerce - have started to think about their common customers and clients through common information service.

↳ The Agencies are now getting down to cases, too, in changing the present Computer "Tower of Babel" into a reasonably compatible or at least convertible system for Government-wide needs.

"Systems of systems" are what our Senate Reorganization Subcommittee has urged - modular units which fit together to form a harmonious whole, for the use of the entire Executive Branch.

↳ The Legislative Branch should, itself, take the lead. Few groups of men and women in the world need more, better or more varied information than the 535 elected Representatives and Senators. Congress' Committees, Subcommittees and Members need push-button, preferably display-type access, to specialized "banks" of information. Each major "bank" should serve the interested Committees - Agriculture, Appropriations, Armed Services, Banking and Currency, Foreign Relations, Interior - and so on, down the alphabetic line.

↳ When Congress has better access to the answers it needs, it will be in a position to ask still better - more useful, questions. Very soundly, a former Librarian of Congress, Mr. Archibald MacLeish,

once said, "America is the country which knows all the answers, but none of the questions."

There are ^{many} ~~lots~~ of questions about emerging trends - in population, health, ^{Industry,} etc. - which no one has even thought to ask. The Computer could help immeasurably to open up new vistas for Congress to explore - in our people's behalf.

Finally, I return to a fourth of the 10 Revolutions which the Computer makes possible.

It would be a Revolution Against Needless Extremes of the Business Cycle. It is a Revolution not against fluctuations in our Market Economy, for there will always be such.

Rather, it is a Revolution against avoidable Depression and even, avoidable Recession. It is a Revolution for Permanent Prosperity.

How?

By using the Computer to maximize our knowledge of the economy, particularly of economic danger signals, as fast as they develop, so that remedial steps can be taken - by industry, as well as by Government.

Today, danger signals - rising economic "fevers" - invisible unemployment, for example, often escape detection, because of their comparative subtlety.

For years, we have relied on a relatively few, inadequate, economic indexes like car loadings, auto sales, building starts, and the like. Yet, choking the file cabinets of Federal Agencies are masses of information - which your own and other companies have supplied, often at great cost, but which are largely unmanageable except by the most primitive

and slow manual methods.

↳ Thus, "Mountains" of largely un-used, un-synthesized information exist in the U.S. Treasury Department, the Commerce Department, the Agriculture Department, the Federal Reserve Board, the Securities and Exchange Commission, the House and Home Finance Agency, etc.

The Computer can put this information to work and make the compilation of some of it unnecessary.

And, so, I urge a Revolution in Government-wide Statistic-gathering, Statistic Interpretation and Statistic Dissemination Methods.

↳ The Revolution should place at the disposal of the President, the Administration and the free enterprise system - infinitely more sensitive,

faster and more complete economic indicators.

yes, Today, we are enjoying record prosperity.
We must continue to do so.

↳ We must achieve a sustained rate of satisfactory economic growth. The Computer can help us to do so. It can help us end the wild pattern of the past - of "boom and bust."

↳ We must make the Computer the greatest Early Warning System in Economics, just as it already is in Military Science.

And we must use the Computer as the greatest Herald of unmet needs, of untapped markets, un-realized sales, un-fulfilled recreational spending.

Computer Models can simulate the dynamics of free enterprise in a way which will offer

maximum reliability in predicting the economic future.

Heretofore, Economic statistics-gathering has been segmented and tardy.

A few elementary steps have been taken under the auspices of the U.S. Bureau of the Budget - to avoid needless duplication in circulating Federal questionnaires and the like. The emphasis has heretofore been - to avoid the negative - to avoid imposing needless requests on the private economy. This is a sound - but a too-limited - objective.

The computer enables us to accentuate the positive in the future.

↳ The computer is the key to infinitely sounder private and public decisions in our Market Economy.

There will always be some guesswork, some risk, some unknowns. *- this is inherent in free enterprise.*

But the computer can help us minimize avoidable mistakes.

This need not be at the price of the slightest reduction of our freedom as individuals. On the contrary, we can increase our freedom - by liberating ourselves from the "slavery" of economic misfortunes.

↳ Greater freedom for all to enjoy the good life - this can be the computer's ultimate contribution to man.

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