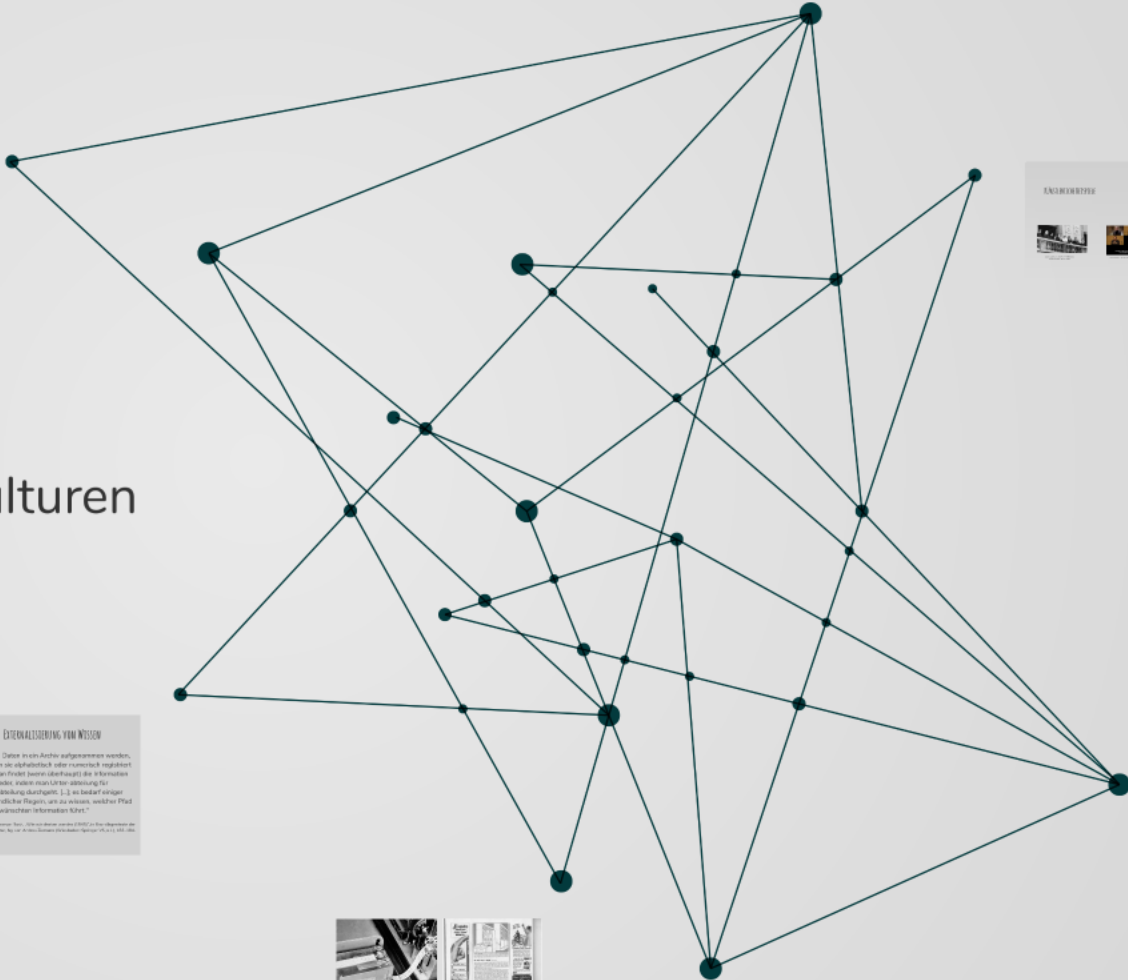
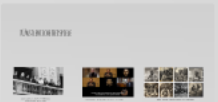


'WIE WIR DENKEN' ...

Eine medienhistorische Betrachtung von
Gedächtnis und Erinnerung in digitalen Kulturen

Kulturpool Stakeholder Forum 2026, 5.-6. Mai

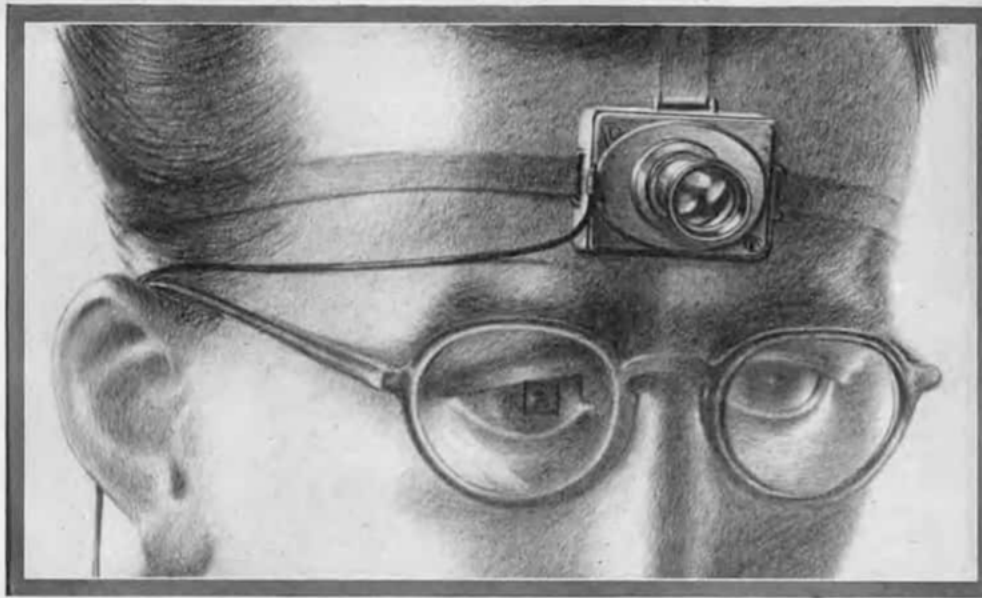
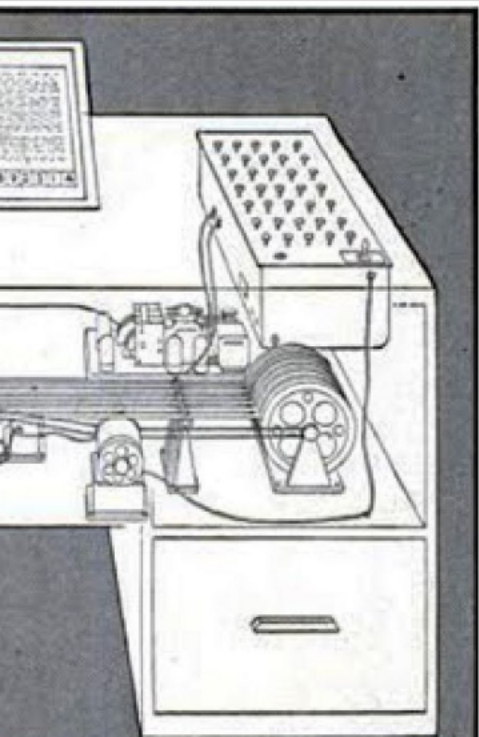
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A SCIENTIST OF THE FUTURE RECORDS EXPERIMENTS WITH A TINY CAMERA FITTED WITH UNIVERSAL-FOCUS LENS. THE SMALL SQUARE IN THE EYEGLASS AT THE LEFT SIGHTS THE OBJECT

AS WE MAY THINK

A TOP U. S. SCIENTIST FORESEES A POSSIBLE FUTURE WORLD
IN WHICH MAN-MADE MACHINES WILL START TO THINK

by VANNEVAR BUSH

DIRECTOR OF THE OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT
Condensed from the *Atlantic Monthly*, July 1945

This has not been a scientists' war; it has been a war in which all have had a part. The scientists, burying their old professional competition in the demand of a common cause, have shared greatly and learned much. It has been exhilarating to work in effective partnership. What are the scientists to do next?

For the biologists, and particularly for the medical scientists, there can be little indecision, for their war work has hardly required them to leave the old paths. Many indeed have been able to carry on their war research in their familiar peacetime laboratories. Their objectives remain much the same.

It is the physicists who have been thrown most violently off stride, who have left academic pursuits for the making of strange destructive gadgets, who have had to devise new methods for their unanticipated assignments. They have done their part on the devices that made it possible to turn back the enemy. They have worked in combined effort with the physicists of our allies. They have felt within themselves the stir of achievement. They have been part of a great team. Now one asks where they will find objectives worthy of their best.

• • •

There is a growing mountain of research. But there is increased evidence that we are being bogged down today as specialization extends. The investigator is staggered by the findings and conclusions of thousands of other workers—conclusions which he cannot find time to grasp, much less to remember, as they appear. Yet specialization becomes increasingly necessary for prog-

ress, and the effort to bridge between disciplines is correspondingly superficial.

Professionally our methods of transmitting and reviewing the results of research are generations old and by now are totally inadequate for their purpose. If the aggregate time spent in writing scholarly works and in reading them could be evaluated, the ratio between these amounts of time might well be startling. Those who conscientiously attempt to keep abreast of current thought, even in restricted fields, by close and continuous reading might well shy away from an examination calculated to show how much of the previous month's efforts could be produced on call.

Mendel's concept of the laws of genetics was lost to the world for a generation because his publication did not reach the few who were capable of grasping and extending it. This sort of catastrophe is undoubtedly being repeated all about us as truly significant attainments become lost in the mass of the inconsequential.

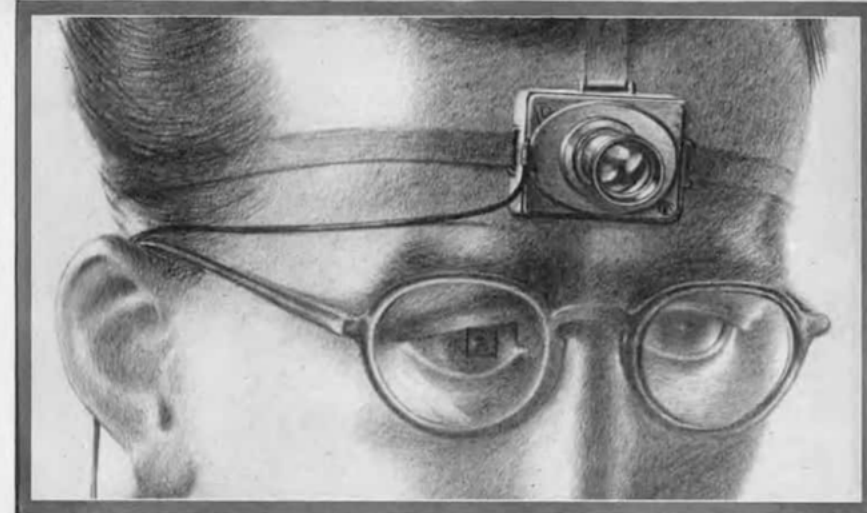
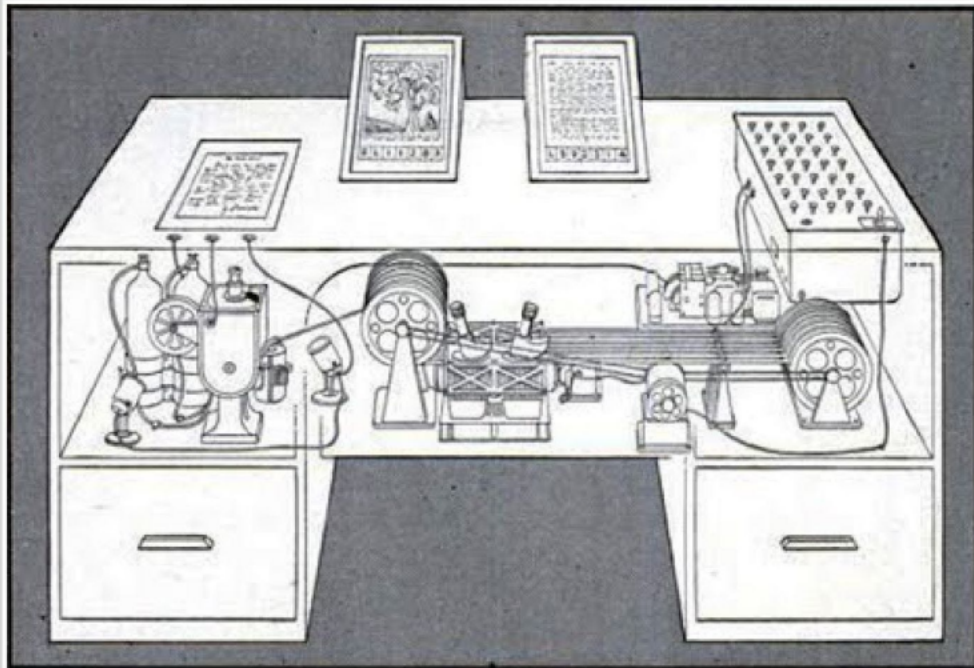
Publication has been extended far beyond our present ability to make real use of the record. The summation of human experience is being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships.

But there are signs of a change as new and powerful instrumentalities come into use. Photocells capable of seeing things in a physical sense, advanced photography which can record what is seen or even what is not, thermionic tubes capable of controlling potent forces under the guidance of

VANNEVAR BUSH'S VISION DES MEMEX

"Die Menschheit hat eine so komplizierte Zivilisation errichtet, dass sie ihre Aufzeichnungen besser mechanisieren muss, wenn sie dieses Experiment zu einem logischen Schluss führen und nicht auf halbem Wege stecken bleiben will, weil ihre beschränkte Erinnerungsfähigkeit überlastet ist."

Vannevar Bush, „Wie wir denken werden (1945)“, in Grundlagentexte der Medienkultur, hg. von Andres Ziemann (Wiesbaden: Springer VS, o.J.), 188–189.



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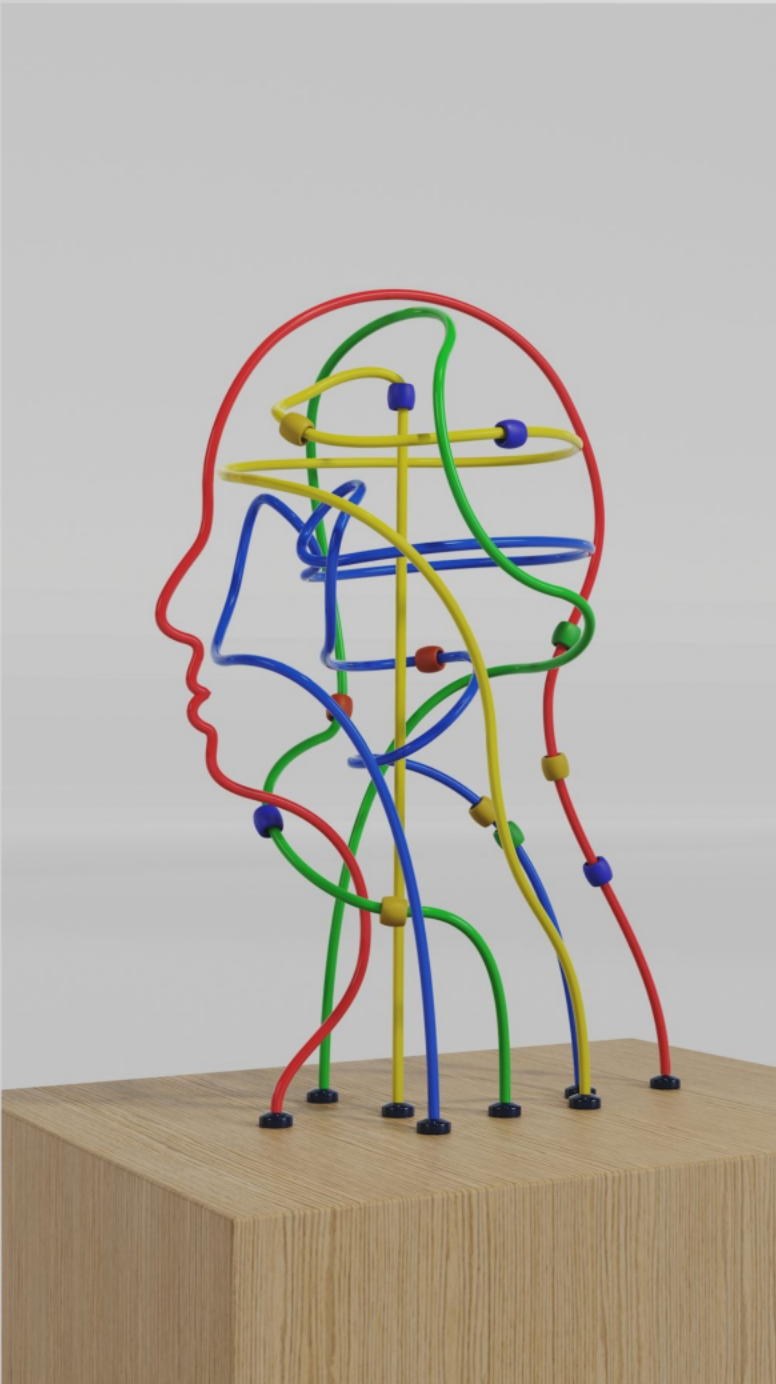
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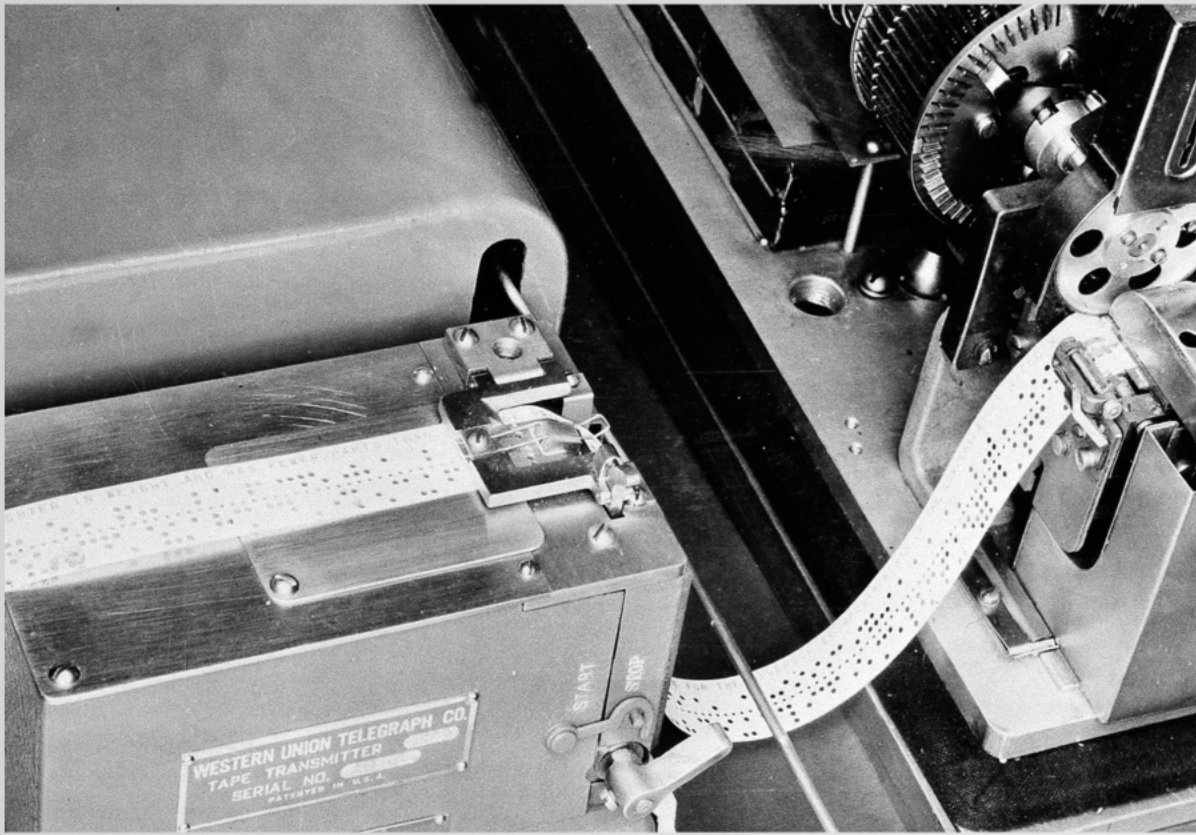
Vannevar Bush, „Wie wir denken werden (1945)“, in Grundlagentexte der Medienkultur, hg. von Andres Ziemann (Wiesbaden: Springer VS, o.J.), 188–189.



EXTERNALISIERUNG VON WISSEN

„Wenn Daten in ein Archiv aufgenommen werden, werden sie alphabetisch oder numerisch registriert und man findet (wenn überhaupt) die Information nur wieder, indem man Unter-abteilung für Unterabteilung durchgeht. [...]; es bedarf einiger umständlicher Regeln, um zu wissen, welcher Pfad zur gewünschten Information führt.“

Vannevar Bush, „Wie wir denken werden (1945)“, in Grundlagentexte der Medienkultur, hg. von Andres Ziemann (Wiesbaden: Springer VS, o.J.), 183–184.



VERSPRECHEN DES MEMEX

Der Memex verspricht, dass Wissen dauerhaft gespeichert werden kann. Die Schaffung eines allumfassenden Archivs, in dem es keine Lücken oder Auslassungen gibt, würde letztlich zu einem allumfassenden Wissens führen.

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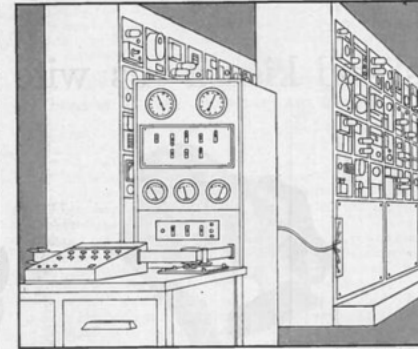
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THINKING MACHINES would solve not only the most difficult mathematical problems but even problems of logical thought. Mathematical problems would be fed by punched tape to the electronic device in the racks at rear. Results, accomplished in a fraction of the time it takes man, would be recorded on dials at top and bottom of control board.

AS WE MAY THINK CONTINUED

tically effective in bringing the growing knowledge of atomistics to the useful solution of the advanced problems of chemistry, metallurgy and biology. For this reason there will come more machines to handle advanced mathematics for the scientist. Some of them will be sufficiently bizarre to suit the most fastidious connoisseur of the present artifacts of civilization.

The scientist, however, is not the only person who manipulates data and examines the world about him by the use of logical processes, although he sometimes preserves this appearance by adopting into the fold anyone who becomes logical, much in the manner in which a British labor leader is elevated to knighthood. Whenever logical processes of thought are employed—that is, whenever thought-for a time runs along an accepted groove—there is an opportunity for the machine. Formal logic used to be a keen instrument in the hands of the teacher in his trying of students' souls. It is readily possible to construct a machine which will manipulate premises in accordance with formal logic simply by the clever use of relay circuits. Put a set of premises into such a device and turn the crank and it will readily pass out conclusion after conclusion, all in accordance with logical law. We may some day click off arguments with the same assurance that we now enter sales on a cash register. But the machine of logic will not look like a cash register, even of the streamlined model.

HOW TO CONSULT THE RECORD—MACHINES EXAMINE THE FILES AND SELECT RELATED ITEMS

So much for the manipulation of ideas and their insertion into the record. Thus far we seem to be worse off than before—for we can enormously extend the record; yet even in its present bulk we can hardly consult it. This is a much larger matter than merely the extraction of data for the purposes of scientific research; it involves the entire process by which man profits by his inheritance of acquired knowledge. The prime action of use is selection, and here we are halting indeed. There may be millions of fine thoughts, and the account of the experience on which they are based, all enclosed within stone walls of acceptable architectural form; but if the scholar can get at only one a week by diligent search, his syntheses are not likely to keep up with the current scene.

In a narrow sense something has already been done mechanically on selection. The personnel officer of a factory drops a stack of a few thousand employe cards into a selecting machine, sets a code in accordance with an established convention and produces in a short time a list of all the employes who live in Trenton and know Spanish. Even such devices are much too slow when it comes, for example, to matching a set of fingerprints with one of five million on file. Selection devices of this sort will soon be speeded up from their present rate of reviewing data at a few hundred a minute. By the use of photocells and microfilm they will survey items at the rate of a thousand a second and will print out duplicates of those selected.



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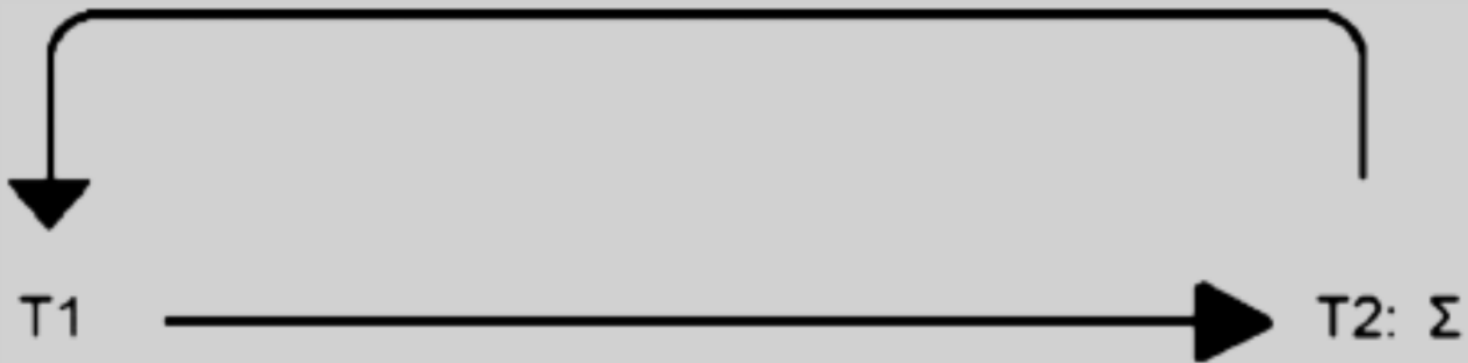


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RETROAKTIVITÄT: GEGENWART UND VERGANGENHEIT

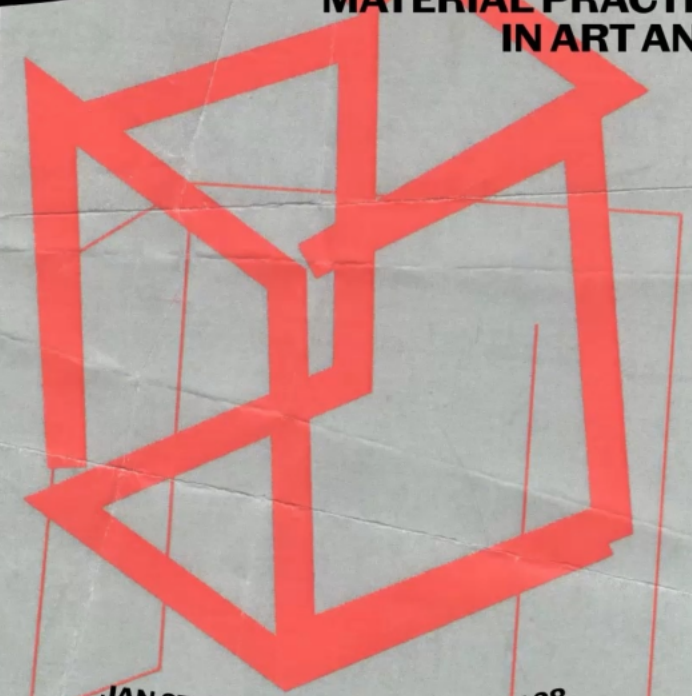
Untersuchung der Wechselwirkungen zwischen gegenwärtigen Perspektiven und historischen Narrativen.



KÜNSTLERISCHE PRAXEN: DATEN
ALS GESTALTbares MATERIAL



CRAFTING
DATA
MATERIAL PRACTICES
IN ART AND AI



JAN 27
12:30-22:00
PUBLIC SYMPOSIUM
FOLLOWED BY
FILM SCREENING

JAN 28
9:30-17:00
INTERNAL WORKSHOPS

di:'angewandte
Universität für angewandte Kunst Wien
University of Applied Arts Vienna

KÜNSTLERISCHE BEISPIELE



Claudia Larcher, "AI and the Art of Historical Reinterpretation" (2022–2024)



This ties in with a larger debate about taking responsibility for colonialism as a crime against humanity.

Nora Al-Badri, "The Post-Truth Museum" (2021–2023)



Rodell Warner, "Artificial Archive" (2023–present)



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DATEN SOWOHL ALS MATERIAL ALS AUCH ALS VERANTWORTUNG:

- Datenmaterialität als Chance für eine gerechtere und pluralere Erinnerung
- Sichtbarkeit und Gestaltbarkeit von Daten als Standard - nicht als Ausnahme

Vielen Dank!

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