

Welkom in onze gastlocatie Beeld & Geluid





Een jaarlijks congres van







Een jaarlijks congres van



WORKSHOPS

Ronde 1: 13.30 - 14.30

- Al en Archieven
- Code Diversiteit & Inclusie
- Zet werken die niet in de handel zijn online

ARCHIEF

DAGEN

Voorbij het nepnieuws





WORKSHOPS

Ronde 2: 15.00 - 16.00

- Linked Data: actie!
- Van grijs naar groen: CO2-impact digitaal archief

ARCHIEF

DAGEN

- De studiezaal sluit zichzelf
- Europeana DE-BIAS

Een jaarlijks congres van



ARCHIEF DAGEN

Archief als nutsvoorziening! WOO en actief openbaar maken van overheidsinformatie

Panelgesprek



Sumbleme



K Gemeente
K Amsterdam
K Stadsarchief





 ARCHIEF

DAGEN



Dina Zielinski:

'Nature's oldest storage device: DNA'





Digital DNA storage

Memory of tomorrow

KVAN

12 June 2023



Data by the minute







4 million videos streamed

69,000 hours of video streamed





47,000 photos



120 new professionals



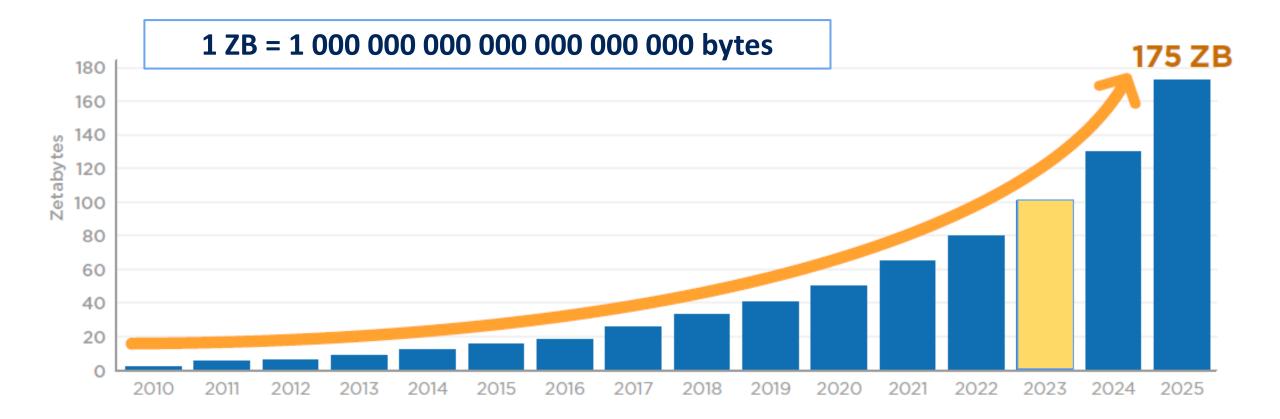
456,000 tweets

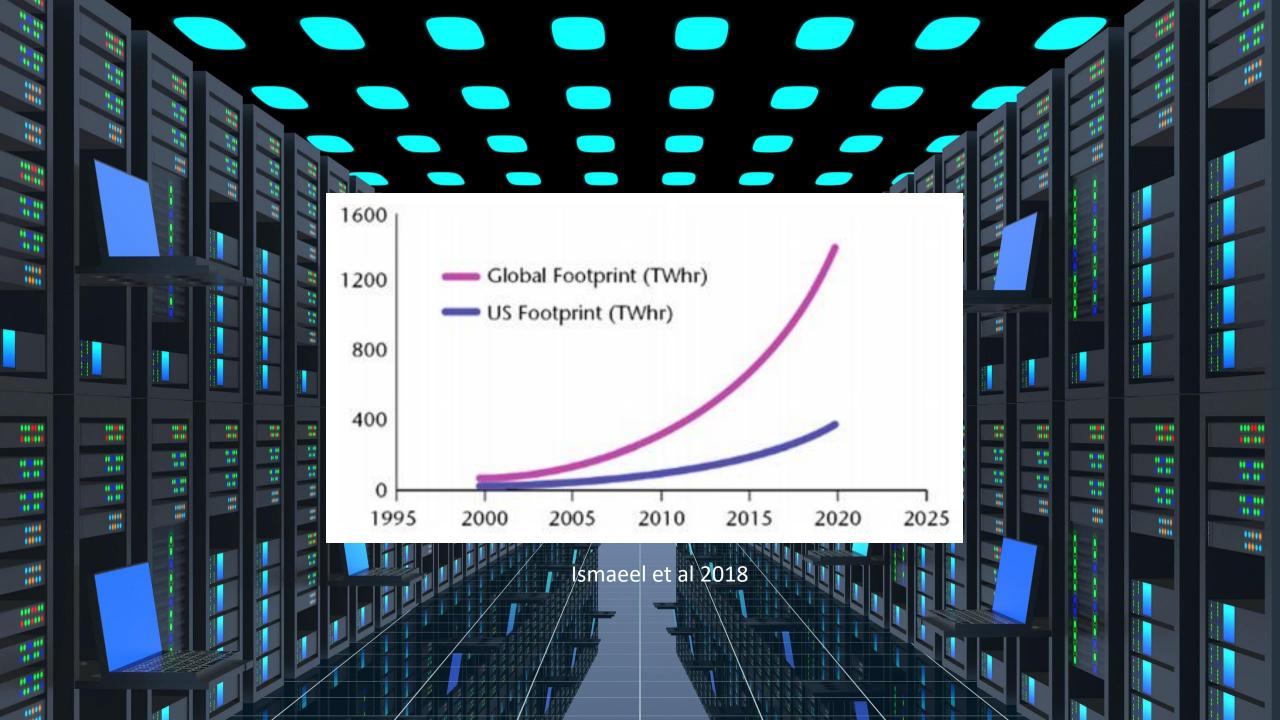
Storage vocabulary

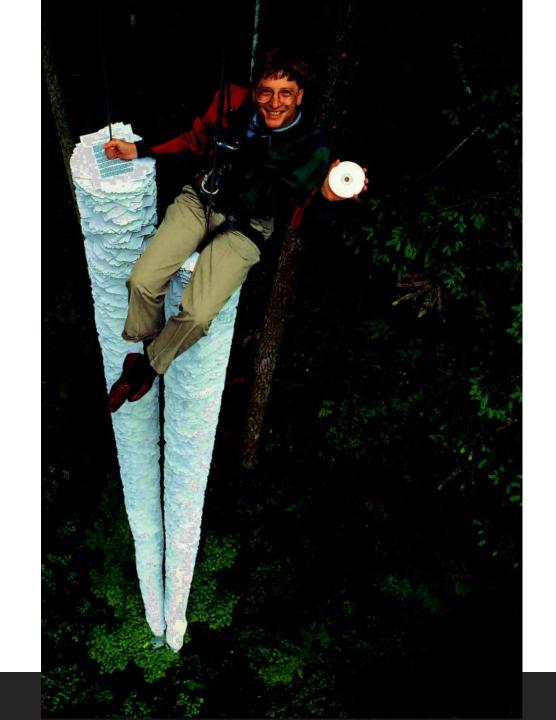
Megabyte	l,000,000 bytes	1 byte = 8 bits
Gigabyte	l,000,000,000 bytes	
Terabyte	l,000,000,000,000 bytes	
Petabyte	l,000,000,000,000,000 bytes	
Exabyte	l,000,000,000,000,000,000 bytes	
Zettabyte	1,000,000,000,000,000,000,000 bytes	
Yottabyte	l,000,000,000,000,000,000,000,000 bytes	

Hellabyte?

The global datasphere





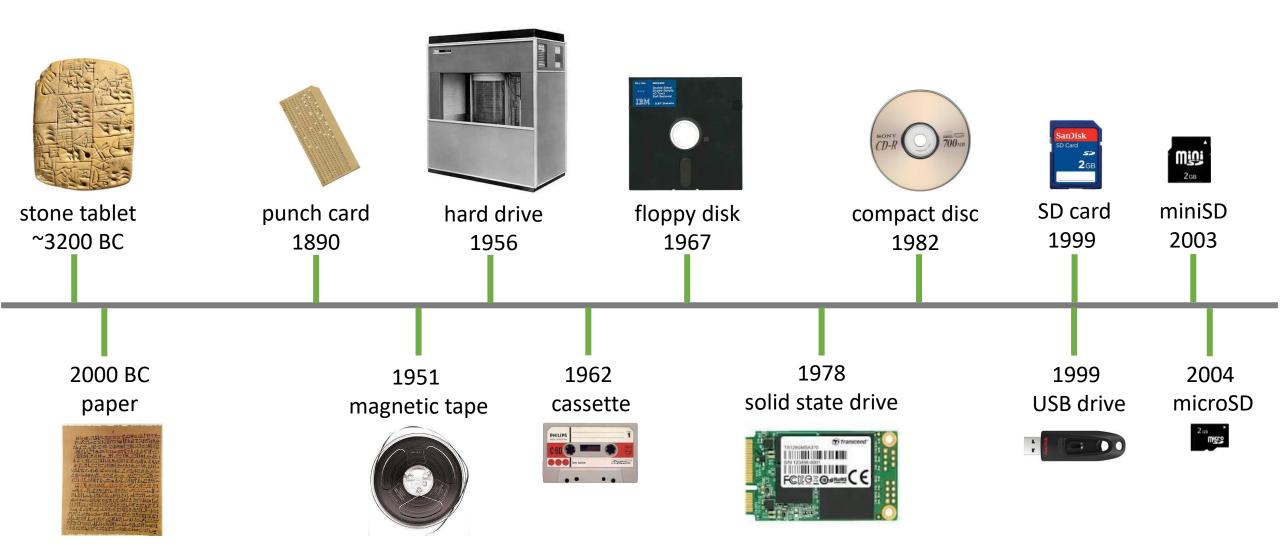


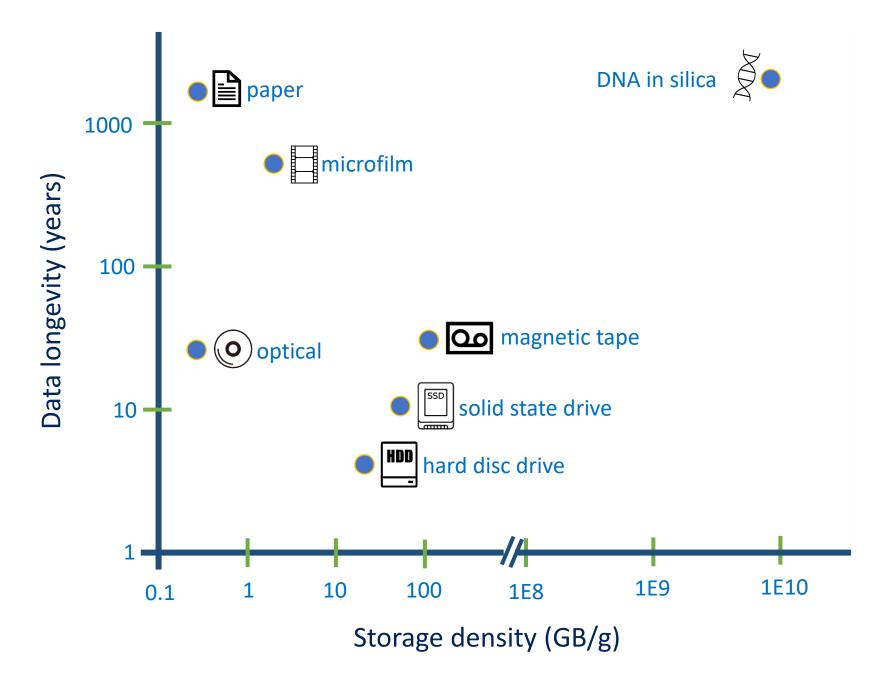
1994

"This CD-ROM can hold more information than all the paper that's here below me"

Bill Gates Co-Founder, Microsoft

Human designed storage media





30,000,000,000,000 cells

6 billion bp

genome

1 byte

4 *bp*

1.5 GB / cell

Every living thing is a DNA storage device









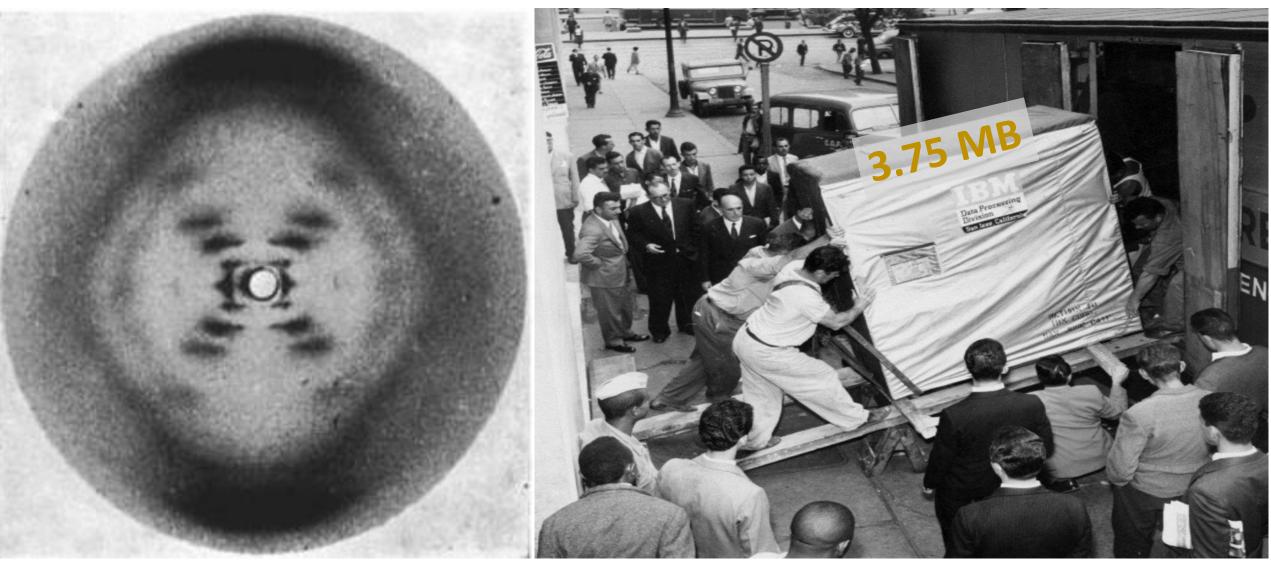
load more comments (29 replies)

- [-] 808 points 7 months ago
- How long before I can literally have a thumb drive?

permalink embed











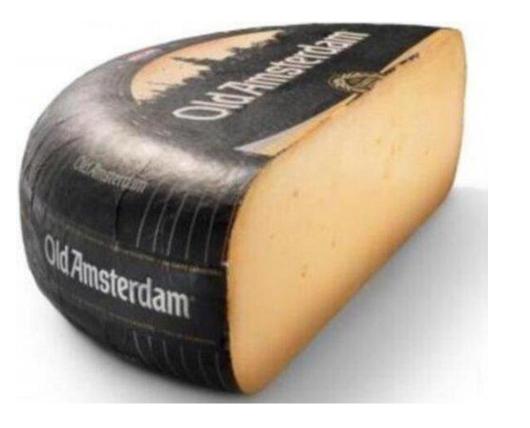






01 11 10 00 60 ZB of data





5 kg

1,000,000,000 45 TB Tape Cartridges (€100 each)



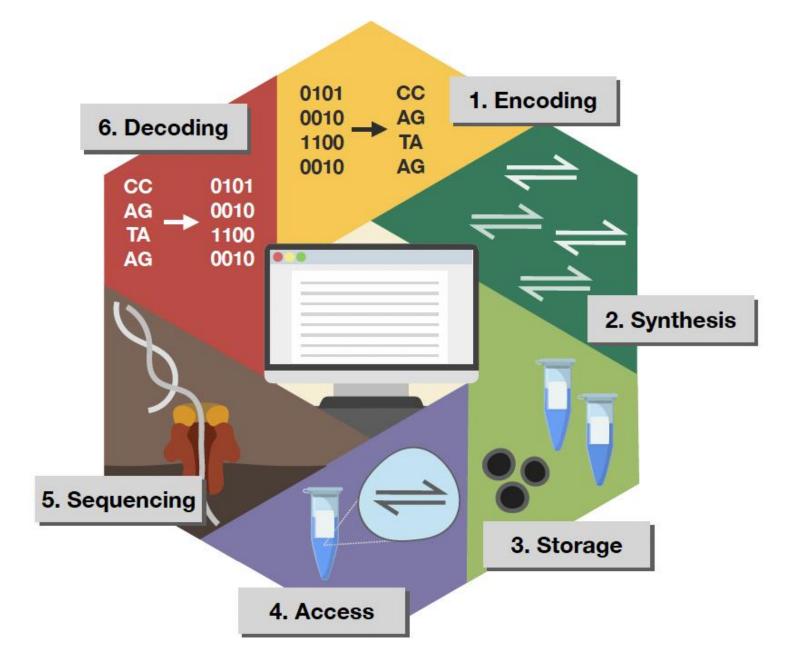


10-50 years 3 GB/cm² \$0.05/GB read=seconds write=seconds

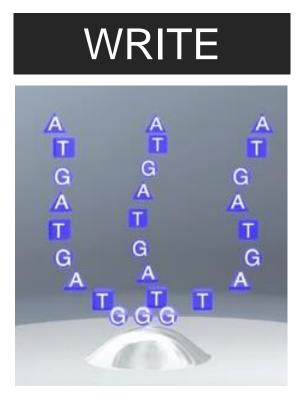


>100 years
455 EB/g
\$1 million/GB
read=hours
write=hours

HOW DO YOU STORE STUFF IN DNA?



FILE: 00 01 10 11 ↓ ↓ ↓ ↓ DNA: A C G T













Reprint with correction from Par Sail Source Bellenial Jacobi, Wel 27, pp. 779-427, 427-438, Aug. Cander, 1968.

A Mathematical Theory of Communication

By C. E. SHADNON

Istacococrace

THE recent development of version methods of modulation such as PCM and PPM vehicle exchange to inderive the for signal-s-scient radio has interesting the interest in a general theory of communication. A basis for such a theory is contained in the important paper of Physical's and Fittely or mitta adjacet. In the

basis for such a theory is contained in the important papers of Physick" and Hutterg" on this nelpicet. In the present paper we will control from theory to includes a number of new functions, is particular the effect of indi-induc dosmol, and the samplap routhin due to the statistical structure of the original message and due to the status of the dual dostination of the information. The state of reproducing at one paint either exactly or ap-proving the structure of the dual message of the information of the state of the state of the information of the state of the dual dostination of the information is that of reproducing at one paint either exactly or ap-proving the structure of the state message is one average solution is not observed. The state of the stat which is being equily likely. As we pulsate out by Harkly the next state and don't in the length that function. Although this deficition must be generalized considerably visco we consider the influence of the statistics of the manage and when we like a continuous range of insenages, we will in all cases us no somethic) togethesize means.

It is practically more useful. Furnerators of engineering importance such as time, bandwidth, marcher of neighty, etc., tand to very linearly with the logarithm of the number of possibilities. For excerpts, adding one using to a group doubtin the number of possible states of the relays 1 adds 1 to the base 3 logarithm of the number. Doubling the time rangely squares the number of possible numges, or space of the number.

comparison with open

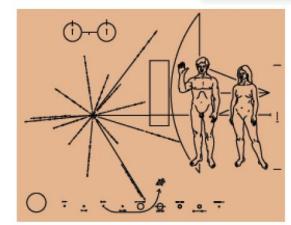
to the proper measure. This is closely related to (1) since we in-

And Logis, Joy some \$10, \$1

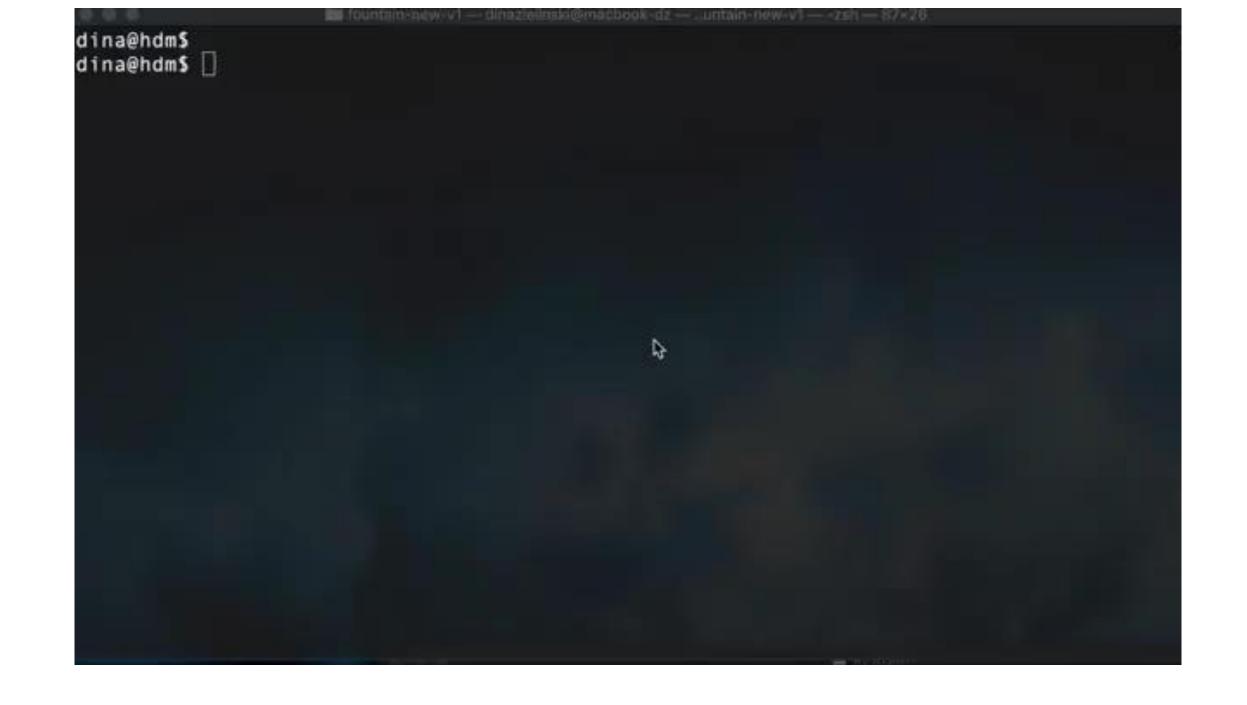
G





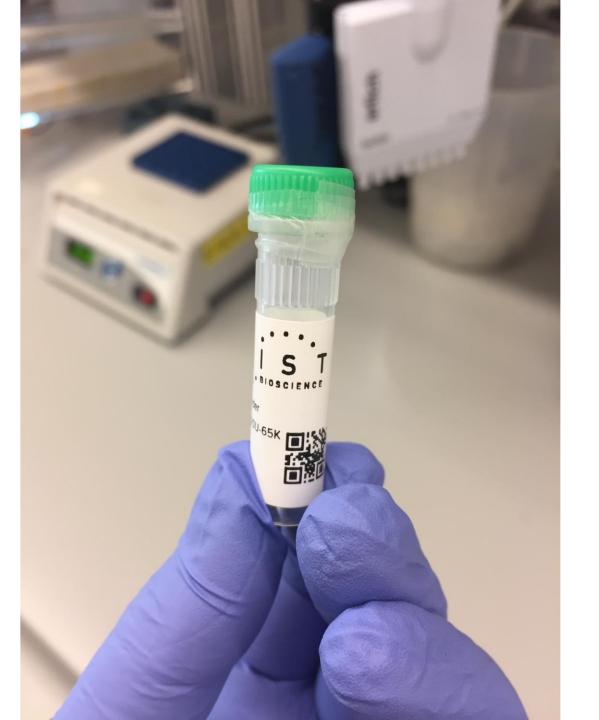






2 Megabytes

\$ 7500





A printing revolution

Et eine Befigeig, mie Gen burth fon eniger 21

in of effer must bern tryften aterials man elem / must per betime be but roted rought railout rough and her of these and these serves and nup Meraca to fur out web anone arbainer. The Pierces Speet ber course amon before and geoffers and fur takes for moriction cas Example for findenal ar aufer alles mildren ju suig erichaften fentern such from caaster the sum Opfer fur the Gambe, und in ten 2ntr ber pr mant an felitier anchater Genter bal motificity as for gland bit and for gran for nitr bas Erede

labe Das cs a

Sidenber Zaa

fers Finnberg. Carr C. de cin t if/Dat if. Er if cauginat bat ber feb bat Bert. gian / Dan of thebe ale of Cont most build inlines more alle Creanar erfebaffe. felgen/bas jelenes Bleet allmedene (f. Rom ber Minks ha ton Soft tes DERING as the Ste Dat alle Melet flat et ten Beet Cohn ober ber Biert und Beer empel alimetrica (Feet) ber anfa out worker of in store Prinning end meth

traac/ vue h 5 M Anfang fchuff Gott ber thm felt himd end Erden. Und dich 2 fcbach alle. Freewar wüssendlerr und hen Brafen swar finfter auff der Lieffe und ber ein scalichet Beift's Gettes ichivebet auff bem Bal- meticea fru Camen ber

the 13 ther nach for No Gott fprach/Esterroch

2nd es ward Lucht. ihe taf bastichtigut war. 2 in Coale base und gan ander einer Das Licht vom finfer einer Das Licht / Lag vend bie Is/ lacht. Da mart aus 21 Norgen der erfte Lag. 210 Giett fprach / Es mert freswischen den Baftern

leine

uther

Nant

Segher:

Hegel

Gebrüder Grimm

Marx

Böll

Schiller

Lessing

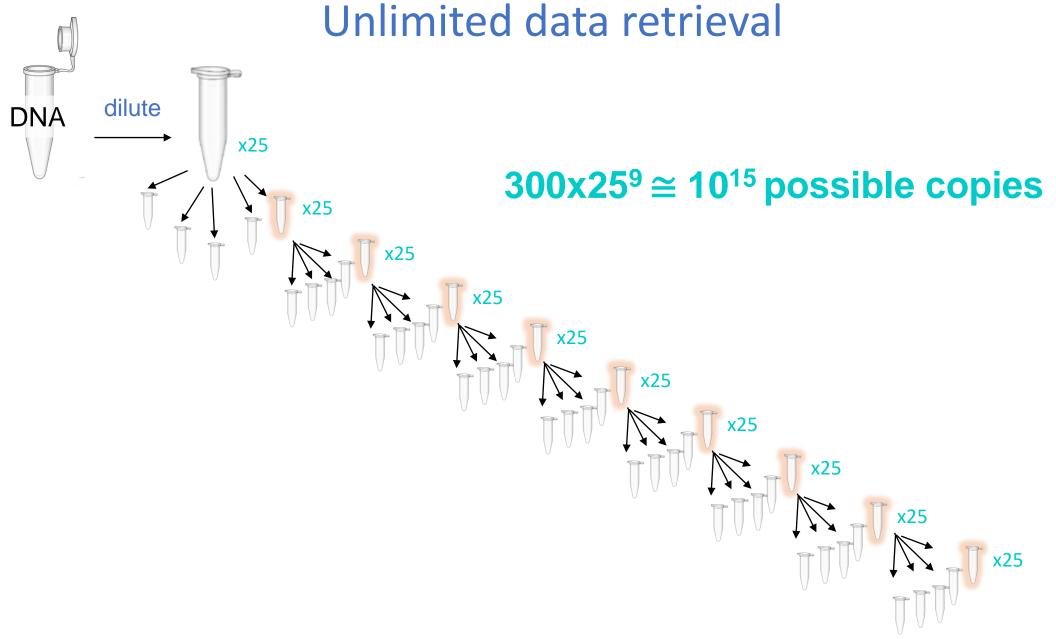
Hesse

Fontane

Mann

Brecht

Goethe





WHAT SHOULD WE STORE IN DNA?



The 'web cradle prints' of the Dutch internet: web collection of XS4ALL homepages

The web collection of XS4ALL homepages is the largest interrelated digital heritage collection from the early days of the Dutch web that has been preserved. The pages have been collected by the Koninklijke Bibliotheek.

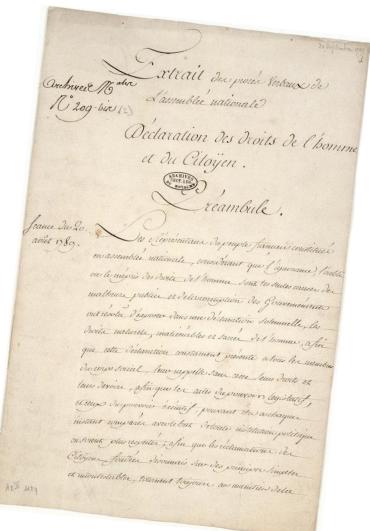
Tim DeHaan O Nov 01, 2022

KB) nationale bibliotheek

A world first: DNA-encoded digital archives enter the French National Archives

23 November 2021



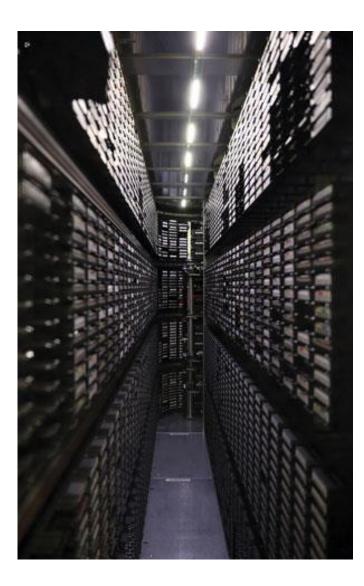


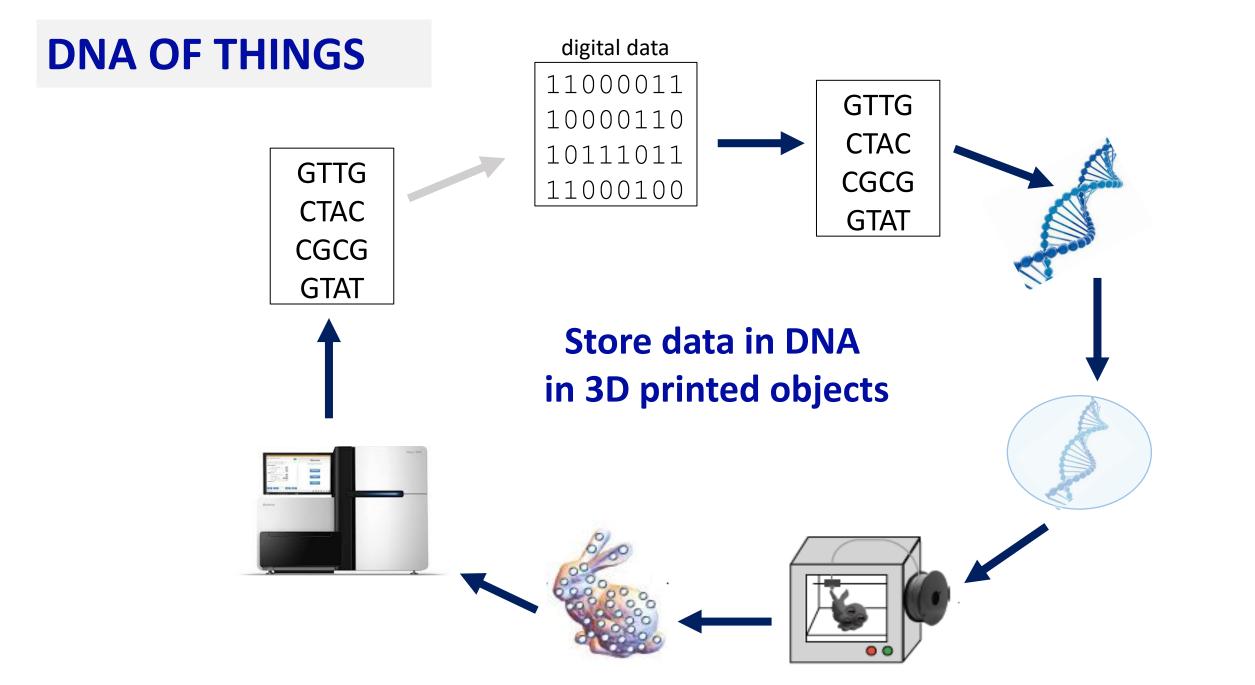


The Lost Picture Show: Hollywood Archivists Can't Outpace Obsolescence

Studios invested heavily in magnetic-tape storage for film archiving but now struggle to keep up with the technology

By Marty Perlmutter





ARCHIVAL STORAGE

-18°C ~ 0°F > 2 million years

ALL CHINE



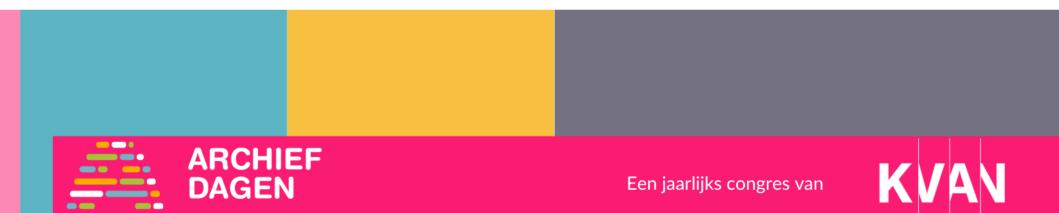
Svalbard Global Seed Vault





The sociotechnical archive

Mrinalini Luthra:



Humanising **Archival Practice** Towards an Accessibility of Care

Mrinalini Luthra | Data Ethics Specialist GLOBALISE, Huygens Institute, KNAW

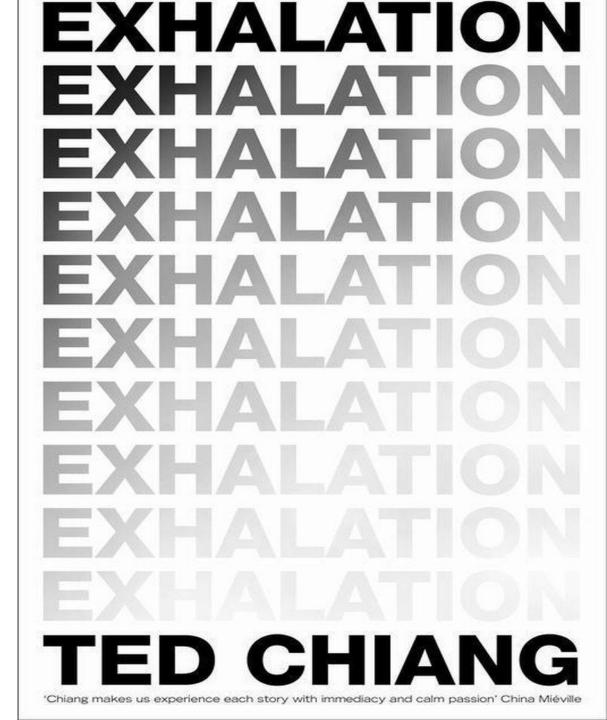
The Truth of Fact, The Truth of Feeling

I Remem: search tool for lifelogs

"Justice is an essential part of the social contract and one cannot have justice until one knows the truth."

"The point is not to prove you were right; the point is to admit that you were wrong."

"Digital memory will not stop us from telling stories of ourselves. What digital memory will do is change those stories from fabulations that emphasise our best acts and elide our worst."



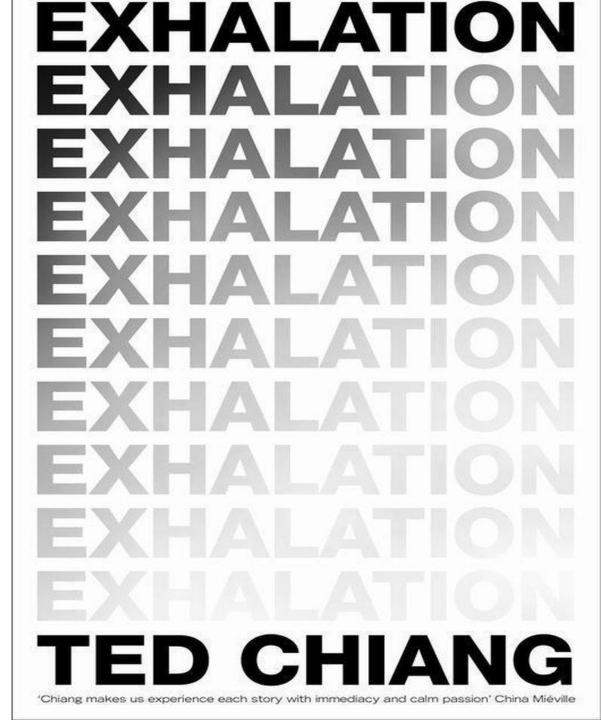
The Truth of Fact, The Truth of Feeling

II What's right vs What's precise

"Scribes cannot be trusted"

Vough: that which is precise Mimi: that which is right

Oral histories are not unreliable; their histories do what they need to do.



The Truth of Fact, The Truth of Feeling

Scribes are unreliable, archives are not neutral

Histories are prone to revisionism

What do histories need to do?

Dayanita Singh, *The Museum of Chance*, 2013



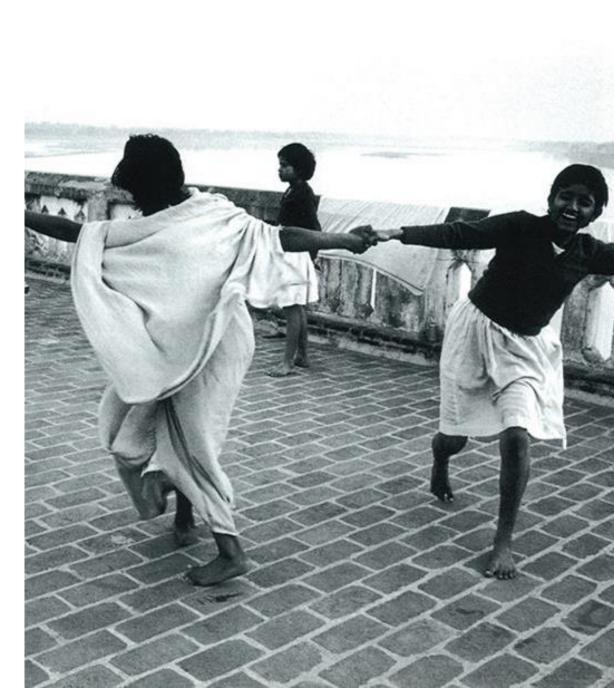
Collaborators

Charles Jeurgens

• Prof. Archival Sciences, UvA

GLOBALISE

- NWO funded infrastructure project
- Researchable VOC archives



Silences in the Archive

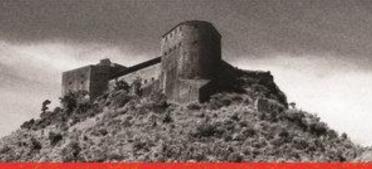
History not an objective account of the past

- Selective and subjective process
- Power Dynamics
- Social Context
- Political

Moments of silencing:

- Fact Creation
- Fact Assembly
- Fact Retrieval
- Retrospective Significance

SILENCING THE PAST



POWER and the PRODUCTION of HISTORY



With a Foreword by HAZEL V. CARBY

A sparkling interrogation of the past ... A beautifully written, superior book. -FOREIGN AFFAIRS

Archive of the Future

"History is the fruit of power, but power itself is never so transparent that its analysis becomes superfluous. The ultimate mark of power may be its invisibility; the ultimate challenge, the exposition of its roots."

"The focus on The Past often diverts us from the present injustices for which previous generations only set the foundations."



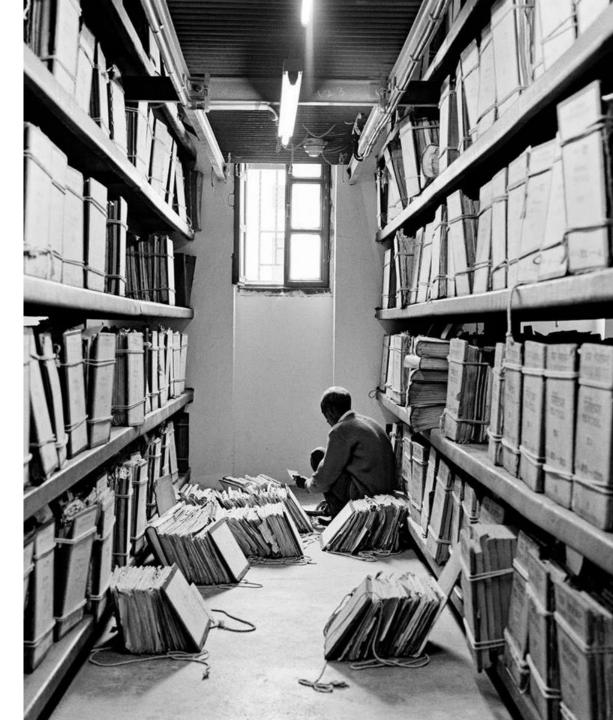
Power, Silences and the Digital Archive

Digital Cultural Heritage

- Protecting fragile documents
- Reaching larger audiences
- 'Accessibility for everyone'

Digital adoption without examination of the socio-political implications:

- Perpetuate existing power imbalances
- Replicate same ideologies and biases



Dayanita Singh, *The File Room*, 2013

Digitised VOC Testaments Inventory

nationaal 🖌	Home	Onderzoeken	Beleven	Archiveren	Menu 📃
Home > On	derzoeken >	Indexen			
< Terug VOC: O	ost-Indi	sche testan	nenten		
Periode: 1698	8 - 1807				
Download inc	dex ZIP (548.2	<u>7 KB)</u>			
schiuman					Q
Zoekresulta	iten (1)				~
	,	F ilters		↑↓ Sortee	er
1 resultaten in	n Zoekresultat	en			

Testamenten (1)

Achternaam	Tussenvoegsel	Voorletters	Jaar
Schiuman		D.M.	1771

6 J. 1160 -17 Aceren Figvincheblinen den gevetrogeorde vost Indiche Compiter Tamer Imsterdam, smax roor hy afirmeerd inflormenen te Zijn om de distribite Daar van te boen aan de daar toe geregtigten. Alle het gund vono that den testatein met en digdelige wongeleten, en by hom, zoo hij Sugde, wel vertaan Zinde, zoo begeende hij, Dat dit in I gald helannat fisicil striement, na desfaler everligion, son vollonson haagt on Good weeken Lalstonnen beftaan, Jehoon Enige Solemnitigten, ten deesen gezequi, reerd worbende, alle nict na behoosen moote serson geobles verse Sat alous pasfeerde in de mooning van den testateur ten bij Wee sen van Sarid San O. ente faxel fancois flexequen als getuigen Deminuk desey behoorlight geteckend on getter op ben Haul san ben 20. ponderfund (Tuod Attistor " Wasgeleekind L. Rolf erotanis_ Hunden Den 9th Sugar Starry Les mongens to Sas unxon Tompaxeror voor my Schannes san Den Bexgh notaris Nº 110. Durlycg by de Dele hoge regeringe Van neberlands India geadmitteerd binnen Deftad Patavia resideexende, present de natemelden getuigen mond Matthis Schinman Lovanig by HE Comp be len gesteld, Dog ton xegtin Doris Muxten Schirt man haas fruit ton dien, der & comp bescheyben in Se fomt paarten Stat, meerter zurige Jong, man wormende alhier tex steede mig bekend zijnde den Compt Ziek te Derde leggende dog hebbende den Zelven zijn volkomen vorftand Diejelijke rigteroracke______ Te westen om over Lijne natelatene aveleren le Disponces en met sevocatie van alle voragaande testamente en Poricillon die hij von Date beezes mogte hebben gemucht fle gepuspend. On ban bij betten op nieuns ter Dispositie Kominde tor verklaunde ben testatura anning keligk te beforechen aan Maak Jand Destrusa on Zin Luster get ronella Maria Desousa, beide minder yarig northe De ten huije van den testaterin aan user van hun Gen Somma van " viftig 20. ofte met hun bey de Ein Non Beat ad van AS for 12. goes Siders ter Generaale offitilling overgaan de 200 ver Claande Ven testateur tet zin Einige algeheile ende universeele Exponaame te mominason on to infituceson de by hom Wornag hig Linde vrije fhris, ton Frous Magdalina van borgison dat in alle zijn testatains overrige natelatine goveren Zoo xoenende als onverende itomae teen onde frediten geen gots tor merete uijtge Londert, mit de ten ver transe noothans bat Lyn gem dinftituee De Ergenaame gehouder

Zoeken in Transcripties

Image \rightarrow text via HTR

Benefits

- Free text search •
- No palaeographic expertise •
- Available without paywall •

Downsides

- Lack of contextual knowledge •
- Search through offensive language •

Q Q D 3 0	Transcri
Low to: Mary Sta	1 den 16
Jule May to Praise for hit of the for for Said her.	2 serte \
	3 door A
Som Genett her gen In General faiter Back	4 Heer F
Hur Pollers, manuallyti	5 Den Te
	6 Rd=s1
Sen Section 4. S. Banned Heeling During torn	7 Kalk
	8 de Chi
Belly altiserin-	9 Rd=s1
A TR I A GAR I WARD AND	10 twees
The Chimanel Rear House give Andre que de a Kardan Her Starten	11 den O
the Stade Sul 134 12	12 Pd=s 4
2 5 40 15 he (3, 16)	13 Ven
Im By cathingson an Stim Lele Andrew Street	14 Den C
Comment all allowing	15 Den G
	16 Prd=s
Sim Much Sun Hacko, Shi Sarley 350	17 over h
	18 Item o
Sen gud este Sate mer fler - Martin Heen to h	19 Den V
Mr. Frans Sa hagha ffeed	20 verkla
the name of the second s	21 Den B
	22 Rd=
Sen Re Sulgende Pin makens ter bertin Der	23 Een st
	24 van dr
Sum Matel - Gastin Fred, Felles Symal ming	25 Land
Lattand Dr. Ben, alt	
Den Margen Abra ham Abra hamd , Odra -	1 275
and and a state of the state of	
En Stakjo Lond	
Penderic house have geters and Ban En the Syst	
223	

iptie

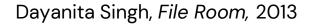
- 5=e Maart 1781.
- Weysen daarde Jaridictie Gesfundeerd kan
- Arrast teegen de Gematagdens van den Ed
- Petters, namentlyk
- erkenier Iohannes Roeling over 200 tonn:
- 100:--:--
- ineese Vrouw Njai giok Wed=e quekekkoo
- 134:12:--
- slaaden
- opperstuurman Lemzele over drie Staa 450:----
- Chinees Deau Heeko, over Paerlen 350: --:-
- Geweese Terkenierster en Weiduwe Steenra
- 1364: 4:--
- naar Verkogte Goed
- de Volgende Drie welkers Pretenties door
- VelEd=e gestrn: Heer Telters finaal valkeh
- aard worden, als
- Burger Abraham Abrahams, Oder =s 50: --:--
- tukje Land
- rie moorse maardykers meede van Een stu

UnSilencing Q Non-offensive Terminology search **Dutch Colonial** Archives Collection Search Results **VOC** Testaments Javaansche meijden Serbia en Ragim NL-HaNA 1.04.02 6883 0573 **Court Case Documents** Ton tweede dande Jaraans de maijden teribia on Magim Person(s) Legal Status NL-HaNA 1.04.02 6890 0073 moeder, njai boetje, chineese vrouw Unfree trice moder, njaibortje, Chineese moins Formerly Enslaved Freedom Unspecified Gender NL-HaNA_1.04.02_6849_0924 Aan de Vrije vrouwe Catharina van batavia ... Female aan detraje naveme Shatlasina naubatatea bij Male Other Role Slavine Calistra van balij met haare dogters Rooje en Roosemond NL-HaNA_1.04.02_6890_0735 Notary Bredels, de flairme Calistaa van balij me Phane dogtees Roosje & Roofemond, legateerende aan de selve het Jaarlijke voorgivet nie 1/0/ 2 Testator Beneficiary Witness Other

Ethics of Practice for Digital Archives

Digital Archives

- Socio technical artefact
- Archival silences: outcome of the intertwined social, cultural, and material factors
- Policy, practices and politics are invisible
- Efficacy of scholarship and social action





The Mission Statement

Well-crafted mission statement:

- Social justice as starting point
- Framework for collecting and preserving archival material
- Prioritization of work
- Transparency and accountability to communities
- Explicit commitment to user groups and histories

Hendrik Conelisz. Vroom, De terugkomst in Amsterdam van de tweede expeditie naar Oost-Indië, 1599



Positionality

Social circumstances shape knowledge and actions:

- Gender
- Ethnicity
- Class
- Culture
- Education
- Status

Knowledge situated within "web of differential positioning"

Dayanita Singh, *I am as I am,* 1999



The Participatory Archive

Archives 2.0

- Epistemological shift
- Decentralised, access-oriented archival arrangement and practice
- Issues of marginalisation, representation, professional passivity, and power

"Co-Creation of Cultural Heritage"

- Feedback into established narratives
- Involvement in research design process

Dayanita Singh, Asiatic Library Reading Room, 2000

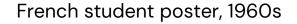


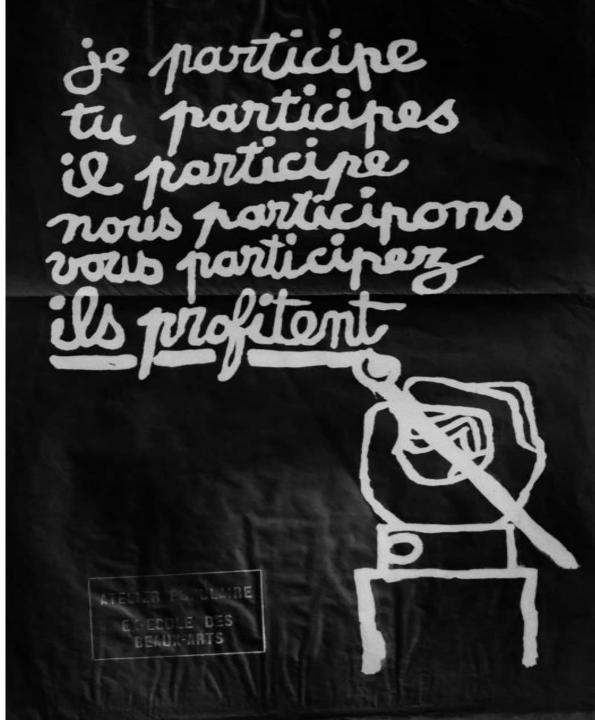
Power

Who has the influence over the archival work and who does not have influence even while being affected by it?

Whose power is increased through the work and whose power is diminished?

How does the transformed field of power reorient identities, relationships, and life chances?





Transparency

Policies, practices, politics are invisible

Transparency to address social or relational aspects of infrastructures

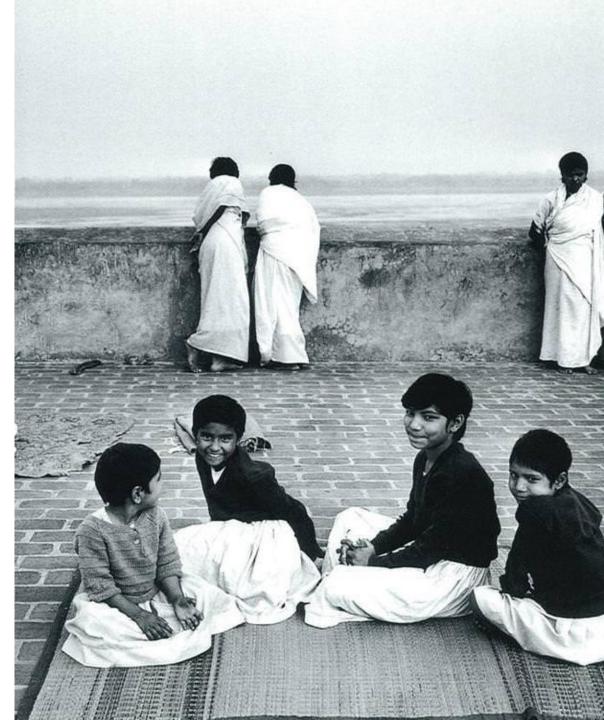
Critical part of infrastructures

Ethics by design

Dayanita Singh, Sea of Files, 2022



"While some of us debate what history is or was, others take it into their own hands."

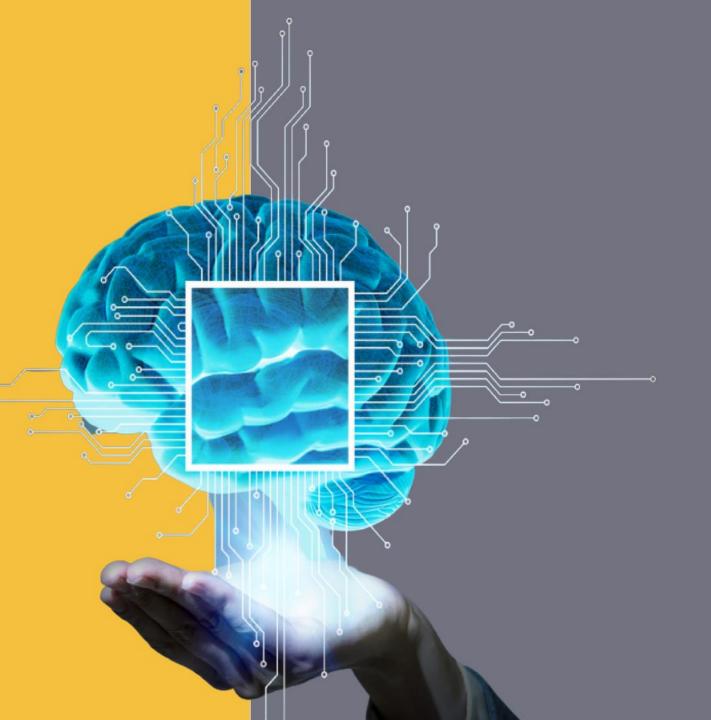


Dayanita Singh, I am as I am, 1999









BZD/ANKJ



Een jaarlijks congr<u>es van</u>

