

UNTH ORL

AAA

Operers

UNTH ORL

UNTH
0046
Operers.

Time was when
'long hair music'
meant 'classical'

Hippy girl joke
'Pad' joke

2337

AA

LIST TO DEMONSTRATE:
Syst. class
Excitement

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PUBLIC INVOLVEMENT

UNTH ORL 3
I
A

0079

I hope to
sophisticate you
in various ways.

2369

persons who target
might say
'brush with' ...

0065

~~(Tech not revolution)~~

As a designer and
promoter of
such systems,
you might suppose
that ~~my~~ my ~~motivation~~
would be not to
give the game away ...

2361

~~(CN 2379)~~
0089

We Need Technosophers

9

0134

The myth of the Two Cultures
is a ghastly hoax
which has suffocated
sophisticated public criticism
of things and systems.

2410

PUBLIC INFORMATION

1

2

3

4

5

6

7

8

UNTH

BASIC IDEAS of the technologies
 are very simple
 and anybody who
 tells you different
 must have a reason.

2340

~~2435~~

UNTH

~~I~~
 Idea of 'technology'
 is 'magic'
 rather than a rich
 but unreliable
 tool chest.

2432

(Recent TV show:

"Using technology
 [these researchers...]"

1

1

0044

NARROW VISIONS
 in which, already
 Ph.D. programs are being
 set up.

23

0134

The public is learning
 to criticize
 automobiles as automobiles,
 highway construction
 & urban renewal
 (where the absurd
 and inhuman have
 hidden behind
 supposedly technical exteriors
 ⇒ When people begin to realize
 that any system is open
 to criticism, then.

UNTH

What's needed is for people to be
 turned loose with the media,
 and see what they invent!

The equipment is bottled up
 in committee.

2340
~~2435~~

1
B

0133

'Beasts and the Best'

(Art & Technology)
The Machine

2408

0112

CLASSICAL ANTI-PATHY BETWEEN
ART & SCIENCE —

'The virgin and The dyer'
CP Snow's Two Cultures

6662

—

—

UNTH

Intellectuals and liberals cannot by their ideological stance hate any ethnic group.

2442

It is the present ideology of the quarter, that nothing which is human can be ill. [By definition]

Therefore who to hate?

→ A ~~CONCEPT~~ NOT FOUND

The machine

And we project on the machine all the bad things we don't like about people.



0022

'Depersonalization'
a strange kind of myth
let over from the '30s
— a very few organiza-
tions, like the phone co.
& the ~~govt.~~ govt.,
really represent it.

0021

The proper symbol is not

with
wax
pull
(to pockets, to pockets, to pockets) of relentless repetition
or the stamp-press
or the dark softer,

but the electric guitar

0014

— at 'electronic' sound,
just a recreatability
and total control...

007y

Radio ad =

'The sound
of
electronics'



0137

Horrible stereotype:

'System' = Rigidity.

Ridiculous. Whole point

of system is to

do what you want done.

2414

0138

Systems Analysis

2415

Getting as much of what you want as possible from what you are willing to pay

Applies as much to art as submarine chasers.

1

2

UNTH

Is a telephone
impersonal?

No!

A telephone
OPERATOR
is impersonal!

2441

~~Can a machine be humane?~~
Can a machine be humane?
What would Wittgenstein say?
The word 'inhuman' is a
word that can be applied only
to humanity. Can a dog
be humane? Why a computer?
Metaphorical or not?



UNTH

I have never heard a typewriter denounced.

439

0075

Just because the Nazis used typewriters ~~in~~ in the running of their death camps, we don't abolish typewriters.

2368

Similarly, just because computers make occasional grim calculations of war, ~~there~~ is no reason to spite them when it comes to our uses of art and life.

Or, as either Martin Luther or General Booth once said, 'Why should the devil have all the best tunes?'



0120

I have the greatest
 love and respect
 for the human mind
 and its capacity
 to create and
 organize ideas.
 I have never been
 of a machine system
 for this that was
 worth a damn.

2402

0121

All the systems I ~~begin~~
 get mixed up in, have
 therefore, as their purpose the
 execution and ~~control~~
 direction of ^{richment}
 human ideas & knowledge
 and the ~~direction~~
 of their conveyance.

2402



0037

But terms which suggest the difference
I have in mind:
OPEN
ENRICHING

2332

But I ~~was~~ mean:

- REPRESENTING THOUGHTS CORRECTLY **IN ALL COMPLEXITY**
- HELPING TO CLARIFY THOUGHT
- PROMOTING HUMAN ENTHUSIASM & INVOLVEMENT & PERSONALIZATION
- PROMOTING BREADTH OF UNDERSTANDING, AS WELL AS SIMPLE SKILLS

★ 0115

Big idea:
'under

HUMAN CONTROL
w/ ~~IT~~
COMPUTER MEDIATION

6339

[- Ken Backer]

but we'll get to that



~~MOST~~ EXTREMITY OF THE DESPISED MACHINE: 14
COMPUTER.

UNIVERSITY OF TORONTO

1002

Base =

2441

PROJECTIVE

COMPUTER

— see of

it speaks of

of one's fears in the world
~~of one's fears in the world~~



0080

Exaggerated public notion
of what computers are
'giant brains'
super-snoopers

2370

0108

↳ 'Soviet review' mentality: computers,
punch cards, inhuman, Nazis, napalm

263

0080

(New focus for insensitivity, too)

/

11

1

UNTH

Computers are
rigid & heart-
minded —
say! That's a
property of

The personality
that have been
incorporated in

2441



UNTH

A NUMBER OF
~~APPLYING~~ ~~TECHNIQUES~~

2441

ARE EXPANDED

AS INTRODUCTORY-

RAGES ABOUT

COMPUTERS.

A NUMERICAL

A BINARY → DISCRETE

A SIGNAL → DELIVERED
IN IMMEDIATE

A LOGICAL → (reduces
DEMANDING EXACT?)

they'll be getting
water & electricity
but then so will
a tank of water

1110

0073

'It will only do what you tell it'
- not quite right because
of the incredible disturbance
& stability possible.

SINGLE [G] computer
 DOS/8K
 turns out to do best
 be best
 for

~~info feeding~~
 info feeding
 & control
 computation

etc

UNTH

'the information processor

'All purpose machine'

0070

0093

Computer is unique among machines -
 the COMPLETELY GENERAL
 PLAN FOLLOWER -

0024

→ Most general control box
 intercomparison machine
 set-up decision effector
 into feeder

3

0071

2:

Computer
 a blank machine,
 without a loader —
 erroneous refs to
 the end of memory
 a computer can read,
 the voice aspect
 Computer aspect

0070

— a change
 program
 anything which
 anything which

can be reduced
 to a series of steps.

~~2~~

4

0098

TODAY
ESP.
DISCUSS

Computer as
REPOSITORY
&
EXHIBITOR

2391

1

UNTH

Sorry no picture of computer -
 today a ^{small} computer
 looks like a drawer
 or maybe a closet
 with a few twinkling lights on it.

6372
2439

1

1

Strange stuff in the press about what computers can do

0076

Whenever you hear

the word

'computer,'

substitute the word

'typewriter' that

will give you a

sense of its

structural significance
in the system

6969
2362

~~UNTH~~
0077 c/t #2

under discussion.

Can a typewriter

write a great
novel?

Can a typewriter

write a poem?

Can a typewriter

0128

0129 with
??

write a

medical report?

The answer to all
of these is yes
but you left
something out.

2406

Just as there are
many things you
cannot do about
hypertension, there are
many things you
cannot do without
computers, but that
doesn't mean the
computer, or the
typewriter, is boss.

236

0077

0129

The controlling mechanism -
for the typewriter, the
typist; for the computer,
a program. And each
is part of a system.

1

1

1

0078

The approaches, supposed
explicit & reuses

and structural ~~decisions~~
design

of the system
are the important
things.

Those were put there by somebody.
The computer is only an accessory.

0072

Not 'alot of computers can do' 2
— but systems programmed 00
for computers. 02

E.S.
Mathews' music program,
Greenblatt's chess program,
Sutherland's Sketchpad system,
Nelson's Fortran.

Systems generally take on
personality traits of designers.
Sketchpad is clean & elegant,
Fortran (FN) is soft-hearted & sloppy.

/

-

/

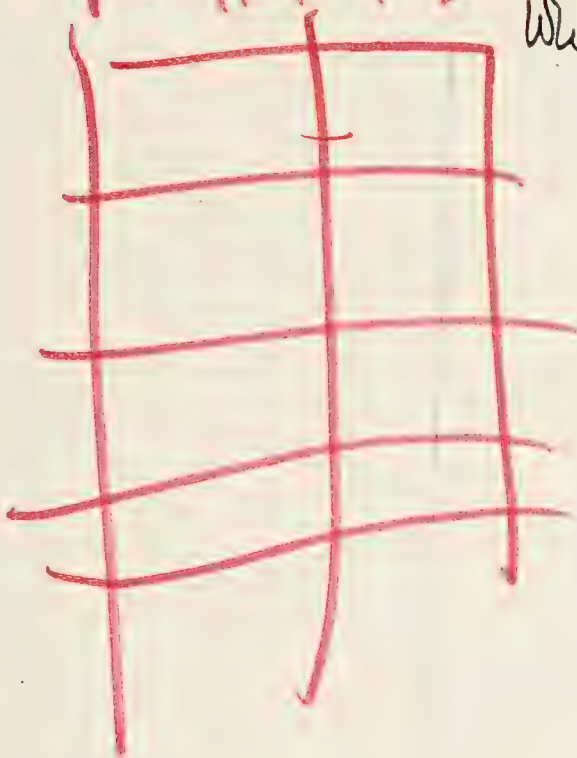
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[copy with 100/058]

0132

Parallel slides



Programs can be built out of other programs.

When you have a lot of small programs and they can be put together and piled up in different ways, it's called a language.

There are thousands of computer languages, each with its own purposes, rules, advantages & drawbacks.

Learning a computer language is like learning a game - they're all different, but with practice you can pick up a lot of words.

2408

40089

There is not one computer field but a hundred.

The invention of the computer is as important as that of the printing press,

Jacquard loom and television

all rolled into one. to say nothing of its mathematical & financial uses which are a lot.

TEXT HANDLING

control

comp. displays



E

PUBLIC INVOLVEMENT

UNTH ORL

~~(UN 237)~~
0089

Nowhere has the idiotic
separation of 'two cultures'
gone so far as in the public
ignorance of computers.

237

0108

HUMANISTS, INTELLECTORS & THE PUBLIC-MINDED
have abdicated possible involvement
with the computer.

0122

the purpose & the
premise of

2402

computer systems

CAN BE

UNDERSTOOD!

People must learn
or continue to be
tried on

UNTH

I want you good people
to know who your
friends are.
Your friends are the computers.
The computers' keepers
are another matter.

2441

0139

Why I want you to know:

- 1) You ought to know;
- 2) I want people to be
as conf. asly aware
of the possibilities in
computer systems
as they see today
in affordable form
in urban ~~renewal~~
renewal
the GRAND Proj. activities
and options ~~have gone~~

2415

0108

(→ We need a Ralph Nader in the
computing field already. But we
couldn't get one in the automotive
field till everybody was how to
drive.)



0108

NOW IS THE TIME for you to find out
what's in the machine
DECIDE THE INFO STRUCTURE }
DESIGN THE DISPLAYS } for your field

0108

YOU HAVE NO CHOICE
if you don't do it, ^{the big manufacturer} IBM will do it
for you, and five years
from now you'll find out
you don't like it at all

1

1

0107

Give examples of
PEOPLE WHO WANT TO
DO THEIR THING
ON A COMPUTER.

2632

E.g. the very first
fatherland
BFB / WFB work.

RT: the DEAD WOOD
DEAD WEIGHT
DEAD HAND
in the comp. industry
is the boss.



0094

FANNING =ff

2387

Information/Presentation
Systems.

(in combination)

0101
[★]

The properties.

IMPACT

PRESENTATIONAL
QUALITIES

EDITORIAL PROPERTIES

FEEL (response)

2392



0130

'Fartics'

2406

→ I don't think there are any scientific principles in this field.

→ Or if they are, they deal with the impact of what is seen upon the ~~ideas~~ senses of the ideas of the beholder.

→ We've had a name for this science a long time, and the name is

SHOWMANSHIP
← (set off powder (char. sec?))



~~UNH~~
0100

0100

two basic concepts with the same mind

CONCEPTS

INTEREST &
INVOLVEMENT,

MOTIVATION
& COMMITMENT



2392

0135

Basic things abt. a pres. system

IMPACT

FEELINGS of users, viewers

HONOR

ties in
also growth
with

2412



0056

I tentatively disagree with

Monolithic hypotheses of technology. 2322

(McLuhan, Alice Mary Hiltner)

technology is not =

~~one~~ one big thing,

it is a ~~whole~~ ~~thing~~ thousand different little things, and their exact differences and interactions are crucial.

0018

GLOBAL

MECHANISM 2320

DOUBTFUL 2322

→ very specific, mentions

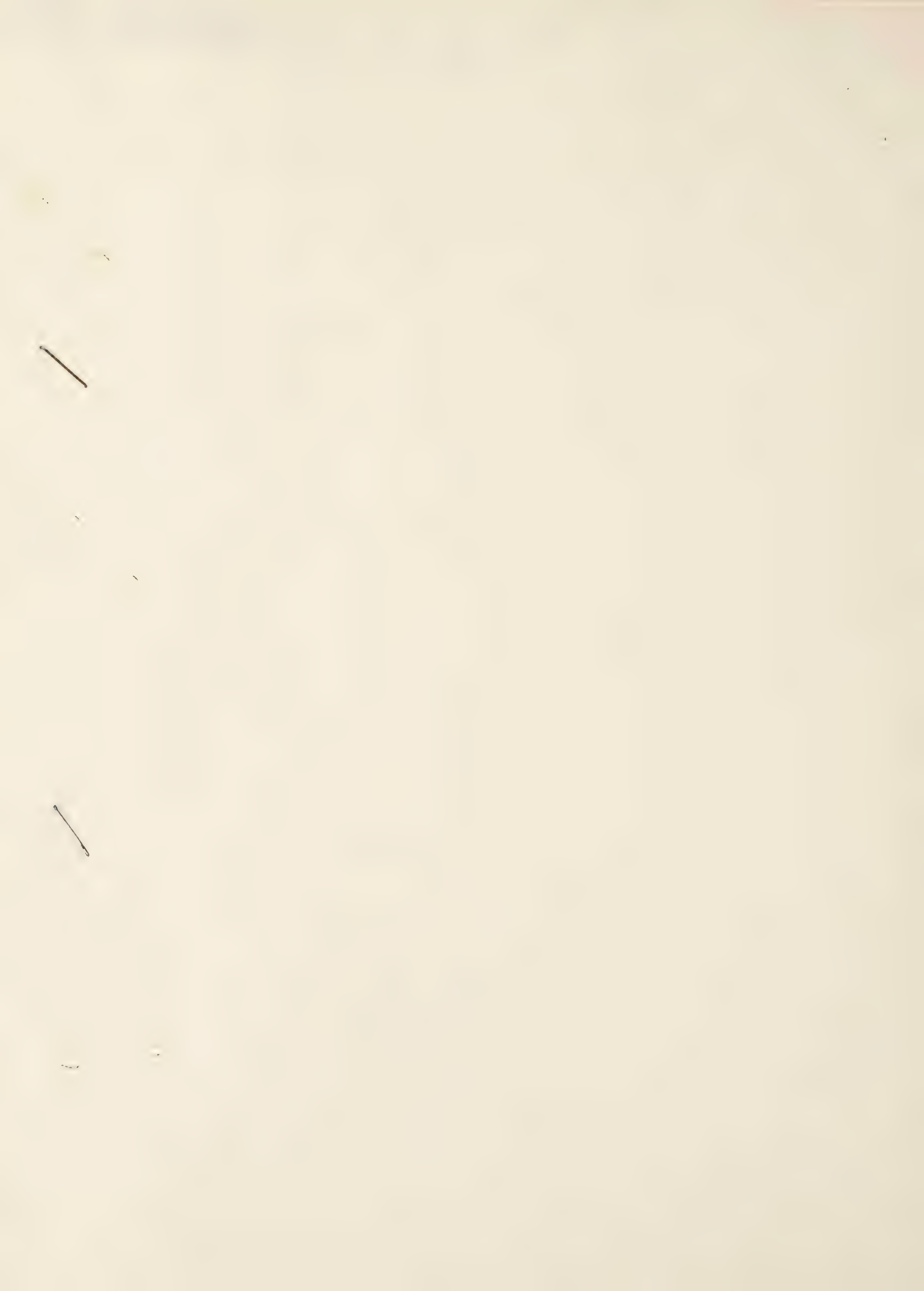
of technologies,

of relative costs,

of sociological

4 social factors

determining in a complex way.



UNTH
 0019
 YES THEY'LL ALL BE UNITED,
 PARTICULARS OF SYSTEMS
 WILL DETERMINE THE
 WAY IT IS —
 UNDIFFERENTIATED
 NO UNIVERSAL
 'ELECTRONIC' MEDIUM

0045
 & sheer goodness & delight
 ECONOMICS COMPLEXITIES,
 OF PARTICULAR SYSTEMS
 will determine shape of things
 T/E-ING
~~It's true there'll be fantastic new things~~

0020
 so such thing as 'cyberculture'
 0022
 0023

1

1

1

~~Q~~

LIST =

FUNX

UNKNOWN

to PUBLIC

∴
→ return to latter two

UNTH

2432

Note

NEW ERA OF CONTROL

where controls take on new simplicity, clarity of action, corresp. to thought

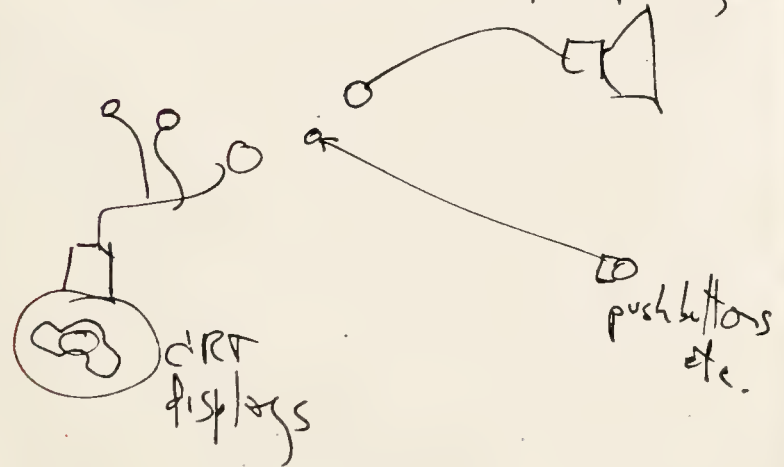
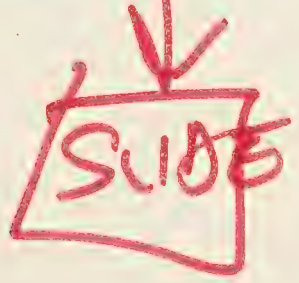
HOW THIS APPLIES TO THE U-547 SYSTEM

INTEGRATED CONTROL BOXES

~~Example~~

0127

New & completely generalized dashboards: loudspeakers



Standardization of interfaces will ~~simplify~~ simplify & bring versatility.



0147

COMPLEX
EVENT
CONTROLLER

2425

under

DELICATE
Human
Supervision

0146

COMPLEX EVENT
CONTROLLER SYSTEM

2424

0146

exp. for (testment)
& more
production effects

0145

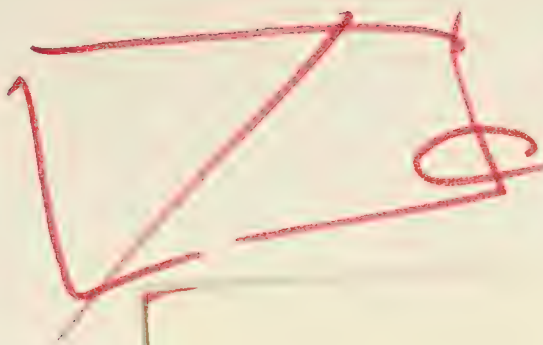
Zeiss now offers
a tightly
controlled
plasma projector.

2423

1

1

1



typewriter
others

UNTH

The computer will
control all
home appliances.

2439



0034
Control:

'The hyper-media'

— multi-dimensional,
or multi-variant,
control

1992

will discuss shortly



COMPUTER DISPLAY

0049

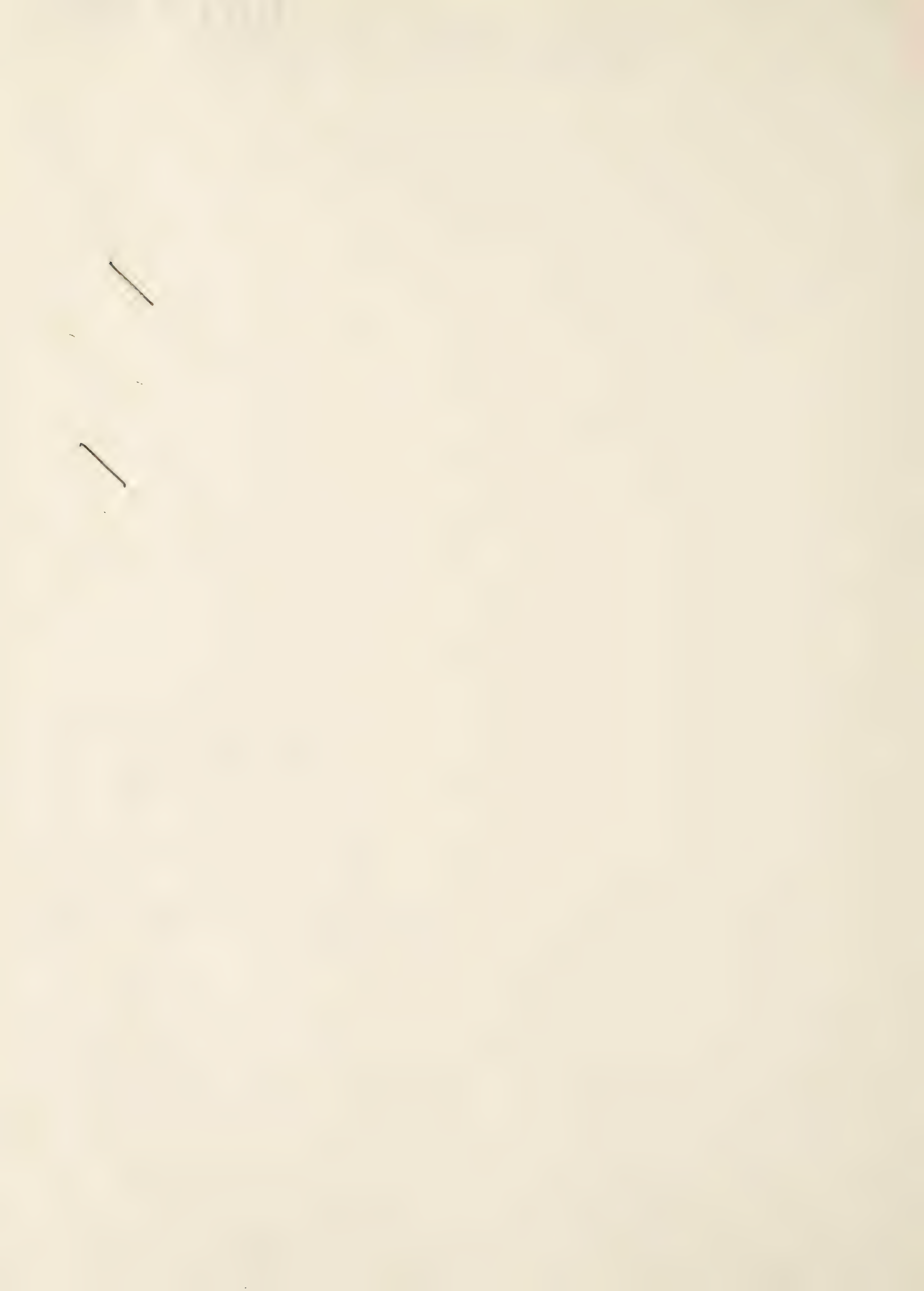
Computer display is the
hardest thing in the
world to explain
to an adult. 2343

But I've never had any
trouble explaining it to
children.

(The adult is always trying
to probe your motivations. The
kid just listens.)

Are you ready to try?

'Sketchpad'
film



0142 * UNTH *
(copy with SPL, 100)

* COMPUTER DISPLAY *

= rows off ~~a list of~~
patterns in the computer,
each of which causes
the ~~to~~ electron beam
in the cathode-ray tube
to trace out a ~~part~~
particular pattern on the
screen. It is in arranging
these lists of patterns, and
arranging for them to
be changed in subtle ways,
that the ~~art~~ art of display
programming consists.

2422

Do you like c. disp? say

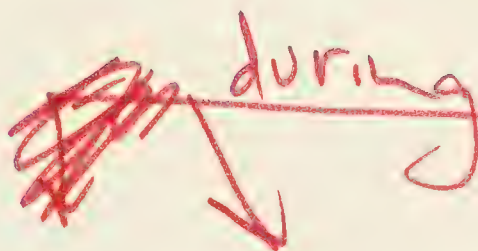
~~AYE~~ **AYE**

IBM film

Dodge film

ARDS film

~~AYE~~



0060

(explain that text is not
sent probrially but
telegraphically,
and reconstituted
at destination.)

2354

1

1

1

I

(Slides)

VOU TED SYSTEMS
(dismiss)

UNRECOGNIZED
SYSTEMS
(dismiss)

HtXTS

TON OF SLIDES SHUT OFF ON BOMB SHELTER

END
W
STANDY

0062

Computer people don't
like hypertext.

Apparently they don't

see my **POINT** ~~text~~ . Key!

2355

But you are fully qualified
to say whether you
will use hypertext
and what kind.
The supply will follow within
the demand.

1

K

CAI

UNTH ORL44

Now to most sad part of

~~the~~ this hardware
the ~~the~~ systems ~~being built,~~
dismal & retrograde
being built for
computer-assisted instruction.

4	s/deg
on	une

KILL

0097

Considerable ~~entirement~~,
~~the~~ publicity has attended
 the recent collaborations
 of publishers with
 computer firms, and
 many emphatic predictions
 made for their relations,
 and the role of the
 psychologist as the
 middleman in
 "computer-assisted instruction."
~~Delivery has not~~
 there has been no issue
 from two marriages.

2391

0092
Amusing

~~(Make cracks abt
 corporate
 flourdering
 of over CRT.)~~

2385

They
 simply don't know.

Mysterious

talk about
 'hardware' & 'software'

~~overly/ues. Confused,
 Throw issue in laps of educators.~~

2/5/85



0083

'PSYCHOLOGY'

220

There is no criticizing the achievements of psychology. But it is possible to criticize its aspirations or discount,

the political, the administrative and the spiritual are not within its domain (-the spiritual having been let go since the time of William James -) (-its sociology now, since it's what goes between individuals -) and real problems contain these.

Consider education. Its problems are constriction of its subjects, humiliation of the student, antagonism between student and teacher, and the discouragement and demoralization that result. These are POLITICAL, ADMINISTRATIVE AND SPIRITUAL. (50% improvement or even 100% in rote learning techniques don't help us much.)

Psychologists in rush to apply their simplifications of stuffs simplify manhood

0067

B. F. Skinner -

2362

PATIENCE (Walden 2)

PRACTICE (prog. ed.)

1

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↓ TYPES OF CAI

Drill & practice (linear)

→ immediate correction
but no change

TUTORIAL

branch contingent

DIALOGUE

or Socratic

explain

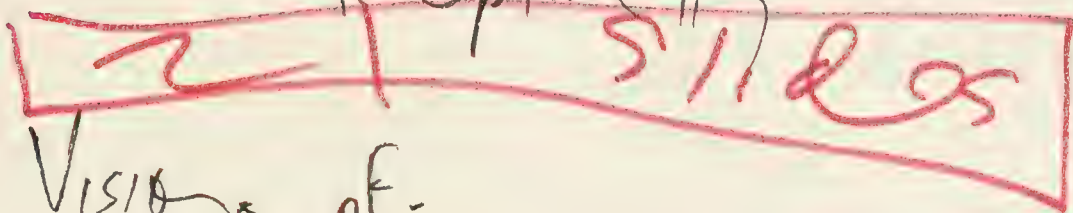
↙ Curious feature of all =

conversational, or confrontational

ASPIRATIONS OF CAJ

Painless drill, substitute
boredom for anxiety

Do it Optimally



leave
letter

Vision of:

'freeing the teacher for the
more creative part'

→ which is of course in most
cases dubious, but never mind

The Grand Teacher

~~Kill slide~~

The Judy Harris Alphabetic Guessy Game

0068

The probs. of education are not those of

Practice & Explanation alone, though these are symptomatic.

2362

They are:

- LOW STATUS OF STUDENT
- INSULT & AFFRONT TO STUDENT
- DISCOURAGEMENT
- ANGER, OUTRAGE, DISGUST
- IDEOLOGICAL & PERSONALITY CONFLICTS w/ TEACHERS

0069

~~(More basic probs. of ed.)~~

~~BLUNTING &~~

2364

BOWDLERIZATION

OF

THE MOST SENSITIVE

(esp. English,

History)

0068

LACK OF VISION OR GENERALITY BY TEACHER - 'reducing it to their level'

1

1

1

0091

More than rote learning, education involves

IMPACT
EFFECT
FEELING

2384

FEELINGS OF
ONE'S OWN
REGARD FOR SUBJECTS

SENSE OF PARTICIPATION,
INVOLVEMENT,
WELCOMENESS

OF THINGS
& SUBJECTS

→ IDENTITY
w rel to sub
& world



0099 Education is that succession of discouragements that have whittled people down mentally to their present sizes. 2391

0043 Low Prestige of Student ^{fosters} insult

AS LOW STATUS NEC PART OF STUDENT ROLE? MOST SAY YES BUT -> [cf. 'doctor's ed.'] 'detail men' Also ~~the~~ ^{corp. & pres.} ~~detail~~ ^{br. ps. 11/1}



0004 ^{several} ~~two~~ roads ^{have} converge to build ~~the~~ highly prescriptive approach to teaching.

Behavioral psych = tradition of sequencing expts, beg. w Pavlov & Skinner
 'Professional' approach: sequences are desirable, good. ad hoc teaching not

0004 Curricular sequencing laid down by school boards.

0068

The American way is to

~~Life Agencies in Vietnam~~ of every share? monopolist politics, underfunded
 we concentrate our force on that which may be freely tempered with, rather than that which is fundamental.

—

/

/

I have time only to give you flavor of these criticisms -

FAULTS OF # C&I

ENORMOUS WASTE

tremendous expenditure of effort

in mapping, flowcharting of pres. sequences → ~~the~~ dangers of irreversibly confusing the student when not debugged [chart sc #un] 214-15

Forcing & perpetuation of intellectual servility
↳ low status

Bizarre absorption in unimportant technicalities
after every minor improvement

ROTE-QUOTA APPROACH Atkinson 237 & 2 & 2 →

STRANGE PREMISE WRIT CHARGE

UPON ITS BROW = that the system must be making conversation. (Tollbooth, Grad Central)

→ Interaction not always gratifying.

Built into term: "instructional system"

UNTH
#91

2432

(Reading passage from
new Atkinson article)

Nothing is "wrong" with this
rate-quotes approach. I can
But if it's gotten to that, I can
what she we do. I can
still remember learning to read, and
the excitement of taking the first
book I had read back to the
teacher and asking for another.
But now if you agree that this is +

AP
AP

RESPONSIVE
Resources

UNTH
#92

2432

- cloddish way to teach
reading with computers,
design a better one.
I mean it. Design a better one!
You now have a fair idea
of what the equipment
can do. Find out more
and do something
better with it.

I don't say they won't
do good things this way.
But I think there ought
to be more horses in the race.

UNTH ORL
53

9A



UNTH
(CAJ)

It's not that I see anything
intrinsically wrong
with what people
are doing. It's
just that I want
equal time for
Dr. Scuss.

2433

2437

UNTH

The ultimate sin is
to suppose you are doing
something the only
possible way.

1

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~~UNTH~~ UNTH

CAI attitude:

"We have to have
a hundred years
experience with this
before we can
possibly do anything else."

2438

My attitude:

"We've had
a few months
experience with this,
and it's high time
to do something else."



0125
 Lykavix
 think of chic.
 as a sign of
 resp. says.
 Wealthy
 sophistic.
 responses

'Every time you hammer
 2 fact into a child's mind
 you crowd out an idea.' 240:

G.K. Chesterton
 quoted by Jean
 (New York lecture,
 early '20s.)
 ["Maybe '21."]

UNTH
 241

I'm with
 Goodman
 Ashton-Werner
 Holt
 :

2442



0035

FAKE SCIENTISM

Setting up an experiment
according to a
point of view,

getting results,

and claiming implicitly
that this demonstrates
your point of view.

2332

0061

Tristram Shandy's father:

'By heavens! ... the world
is in conspiracy to
drive out what little
wit God has give us,
and the professors... *
are lifted into the same
conspiracy.'

2335

[of the obstetric art]

1

1

1

1

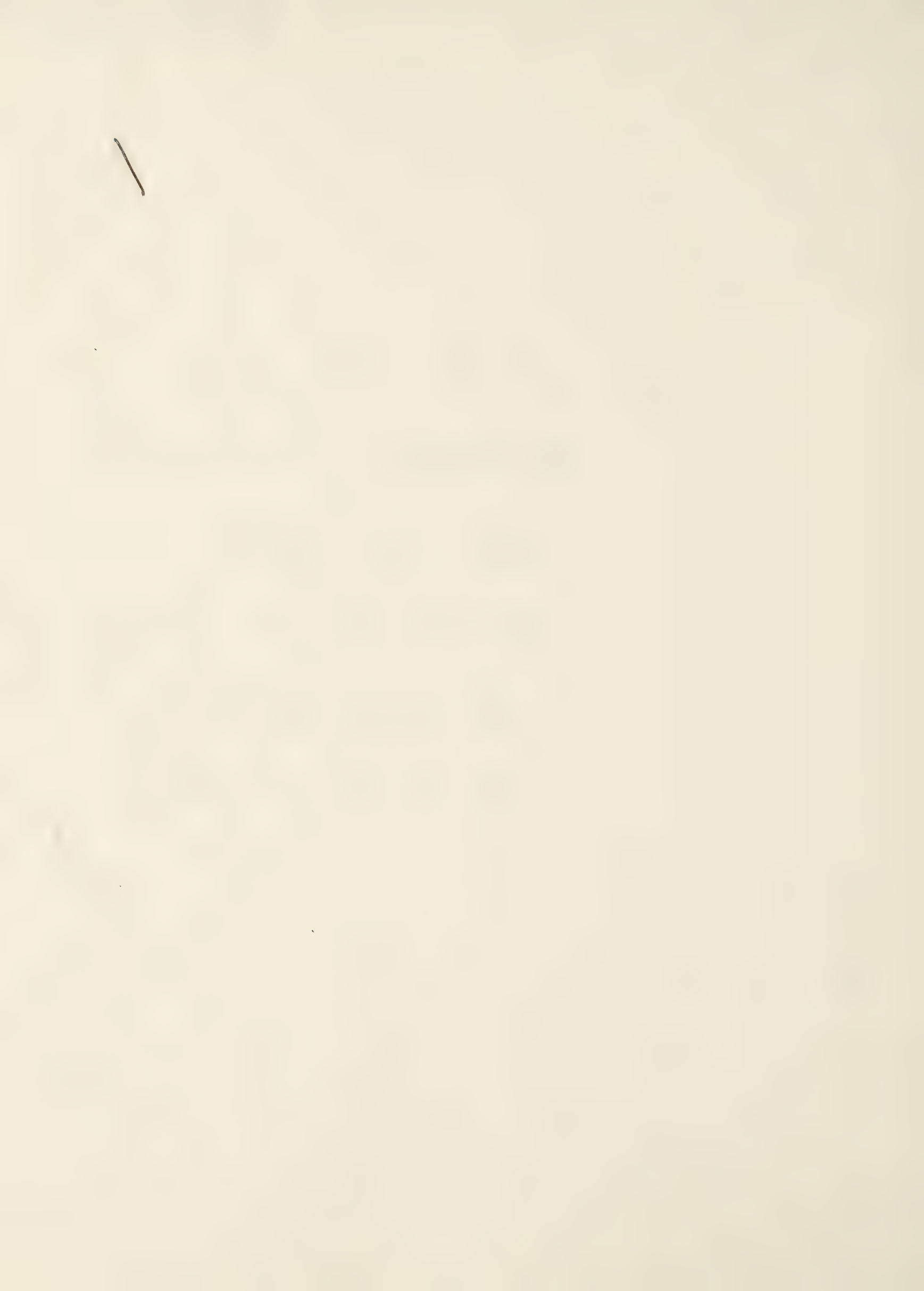
0042

Technol. as trick
to break away from
old social context
of education

34

and at the best, provide
wanderments & involvements

~~can~~ that will bring
the kid into the interests
that school deures him
by its curricularization



0066

• KIC & RESOURCE

236

Approach

vs

CONVERSATIONAL
PRE-PLANNED PATH
& RESEARCH

~~0066~~
0066

'Highly prescriptive' vs 'libertarian'
approaches to teaching.



(Not 'structured' — everything is structured; self-teaching
is 'just as structured, but free.') 2306

/

/

L

FANTICS

INFORMATION + PRESENTATION

~~ALTO~~

N. Mph.	Cr. Spd

REMOVE CARTRIDGE



M

Xanadu

Exercises (3)

UNTH
VAN DAM THINE

2435

It did describe this two months ago it would have been hypothetical, just as it was for the eight years I was designing it and looking for support

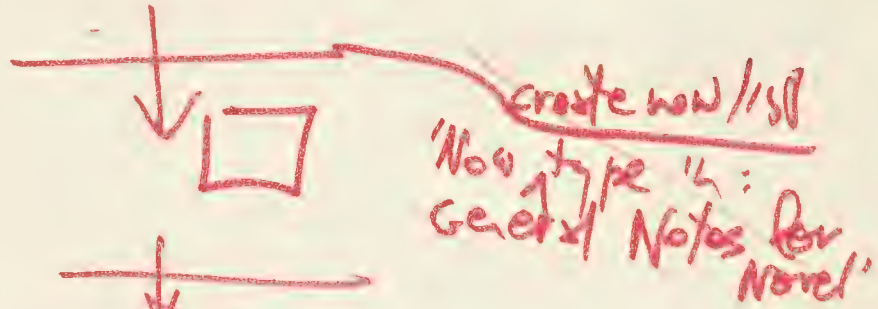
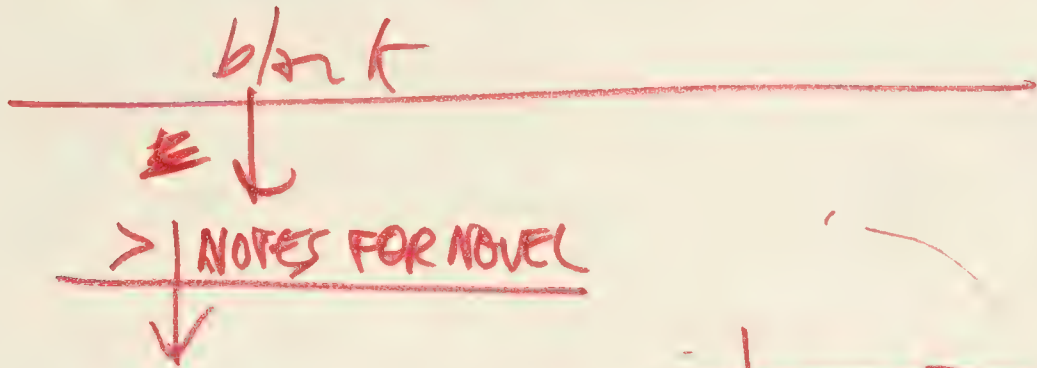
But I can now say this is not science-fiction. IT will be run in, this summer in Providence, Rhode Island. Tomorrow the world.

2 - cassette setup →

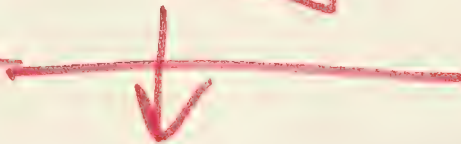
1

2

XANABU DUES

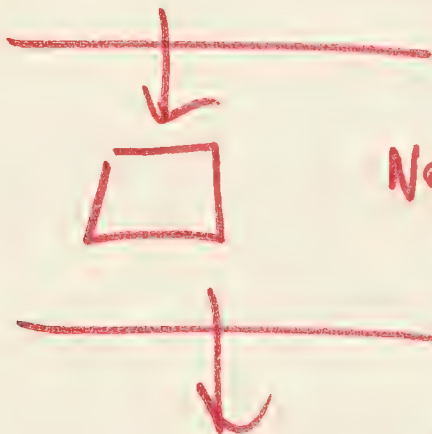


> LET GEO.
BE SEMI-HERO



You're done
with _____

> GEORGE STOOD



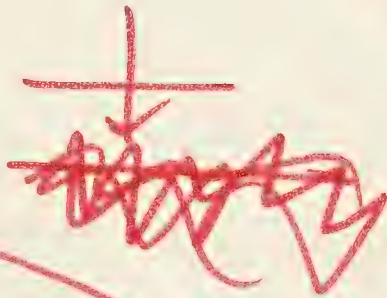
Now type " :
'narrative'

'that should have
disappeared
or left'

there's more in
your file, but

NOW LET'S
SUPPOSE
YOU
ASSEMBLE
ALL NOTES
ON
SUCCESSIVE
PAGES

'that should have disappeared too.'



~~type 'chapter 1' & change scene~~

decide start
first chapter

~~SUCCESSIVE~~
PAGES

Now type
'Chapter one'

> GEORGE STOOD
> AS THE SUN

> AS THE SUN

'Now the next page'

~~at~~

> THINGS
~~LOOKED~~ BAW
> STURLEY
EXAMINED

DECIDE TO START NEW VERSION
> THINGS
~~LOOKED BAW~~

> AS THE SUN

> GEORGE STOOD

Miscell

(List: SCHOL. SYS. 8/8/85)

Schol. syst. HYPERGRAMS.

Three-D maps of excavation
w/ rotation

~~##~~ CRT maps of chronologies in history
etc.

I/VE MISCELL

HYPERGRAMS

P

HEAT SYSTEMS.

(1.5)

Q

AUDIO PROCESSING

0033

Com, digitally,

ANY SOUND

A HUMAN BEING

CAN IDENTIFY

COMPONENTS OR

can be created
or deleted

↳ transformed

0033



R

Hyperfilms

EDITING - AT SYSTEMS.

Hypervideotext

SUPER-PICTORIAL

CE

Rowney

GE/MSA

S

Fantasm

UNTH ORL 68

<p>ILCO NOT USED 0106</p>	<p>Fantasm will require: Sculptors Puppeteers Scene designers & art directors Directors</p>	<p>2682</p>
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<p>0059</p>	<p>with Perform, the subtextual & photography will become impossible except through Certificates etc. [and use of it myself - I.H. Oswald]</p>	<p>2354</p>
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