

TED NELSON'S

THEORIES  
OF INTERACTION,  
1960S —

---

SPLANDREMIC (SPL)

FANTICS (FX, FCS)

Various notes  
and manuscripts.

SPL  
043

short?

(Can we have bibliographies that say what the author has & hasn't read?)

Some articles actually say,

"I has an article entitled me,  
unfortunately not available to the author."

SPL  
011

Something else that can be planned  
with aids

BLOCKING in theater

MOVEMENT of furniture, facilities

SPH

030

PRIVACY OF PERSON SITTING AT THE SET:

. in terms of disturbances from employer etc.

SPL

045

They say "Figure 1" even if it's  
the only one.

SPL  
363

Other futurologists to consider

HUGO GERNSBACH

JOHN W. CAMPBELL

NORMAN COUSINS

HERMAN KAHN ("surpriseless")

SPL

041

Some 'basics' can be presented  
with <sup>or in a way to generate,</sup> a sense of boredom or excitement;  
with <sup>↑</sup> insult or ego-boosting; . . .

SPL

028

Printing created — or further developed  
— the function of editorship.

So automatic splandremics ...

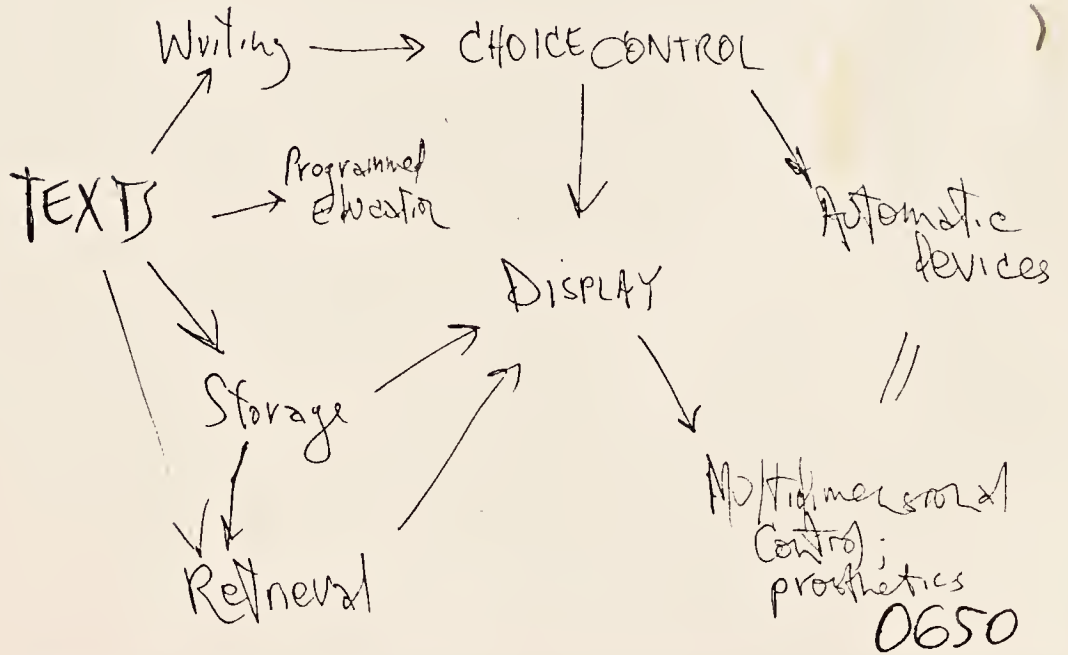


Veroff & Raje Davis' stress on  
'Delphi' systems

— just the  
super-conference  
without the masks & stuff

SPL  
023

An unbounded field.



SPL  
269

(Jean says further that the Tobey story was told by  
a daughter of Francis Parker aka Bobbie  
was there. (~~early thirties~~) 'Prob<sup>ly</sup> '34 or '35!')

SPL  
083

Previous inaccessibility, disparities,  
separateness of vital

COUNTERTECH INFORMATION

SPL  
~~083~~  
084

Don't be misled by your ~~practical~~  
familiarity with <sup>spatial analogies, like</sup> the linear order of  
words, texts, other inventories.

SPL

287

V-Mod.)

SPL ?  
278

MOVIES ARE <sup>SEEN</sup> ~~READ~~ BY MORE PEOPLE THAN  
READ THE REVIEWS;

BOOKS ARE READ BY LESS PEOPLE THAN  
READ THE REVIEWS.

Presentation by computer is a branch  
of show ~~business~~ biz. It is not a branch  
of psychology, engineering or pedagogy  
(the art of making explanations ~~of~~ dull). [22 sec 71]

George Méliès  
worked out the particularities of ~~effect~~.



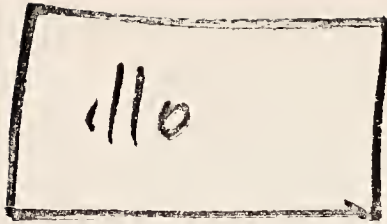
SPL  
037

Sort of need  
Punctuation marks like

"Corrected in all carbon copies"

SPL

214



SAC Command Center, underneath Omaha.

This system is a prototype, in the author's opinion,  
of the kind of total reading-displaying-picture-presenting  
station we are going to grow up to.

SPL

~~086~~  
086

Systems of confidential files  
exchanged with the knowledge of  
the subject, but not ~~of~~ of the contents.

(bureaucratic referrals of all kinds:  
transfer of patients, inmates, students,  
and academic job-seeking.)

SPL

032

THE ABSOLUTELY DEUT-OUT  
on radio-phone conux.

(Find TIME article on disk-jockey)

SPL  
036

Check-lists

Healthkits )  
Airline = cockpit routines )

SPL  
040

I am impressed by the  
compression and zest that a disk jockey's  
delivery can have.

SPL  
~~120~~  
120

Info that Radio stations can  
pack in by fast talk, music-&-sound  
concentrations...

SPL  
315



Displays that simulate reality  
except at certain key places.

~~HTF~~ SEC  
305

According to William Manchester  
(Death of a President), the  
nuclear-war code manual  
is a garish comic book.



SPZ ~~BDS~~

318

Kinostomat.

(Books June '68 4.)

It says there were 6 moments of  
decision -  
though Radu(s?)z cinema invented it,  
Jan Rohac directed.

SPZ  
202

(EDWIN BROOD)

Partial order in fiction & entertainment

Mr Sidorow

That killer - record with  
several possibilities

8PL  
367

CL

HUMANITY

or

HUMAN MACHINES AND INHUMAN PEOPLE

Never beginning?

Contrary to public <sup>and professional</sup> ~~opinion~~ <sup>myth</sup>,

computers are not inhuman,  
and they offer the ~~most~~ <sup>best</sup> hope  
for rehumanizing the world.

But only if their control is taken  
away from the engineers and  
placed four-square in the hands  
of the humanists.

SPL

148

The burning of the library at  
Alexandria — perhaps one of the  
most notorious in the history of civilization.  
Could it not happen again?

ESP. H. MIFERA

program; coming down, and some of the  
more destructive Big Brother.

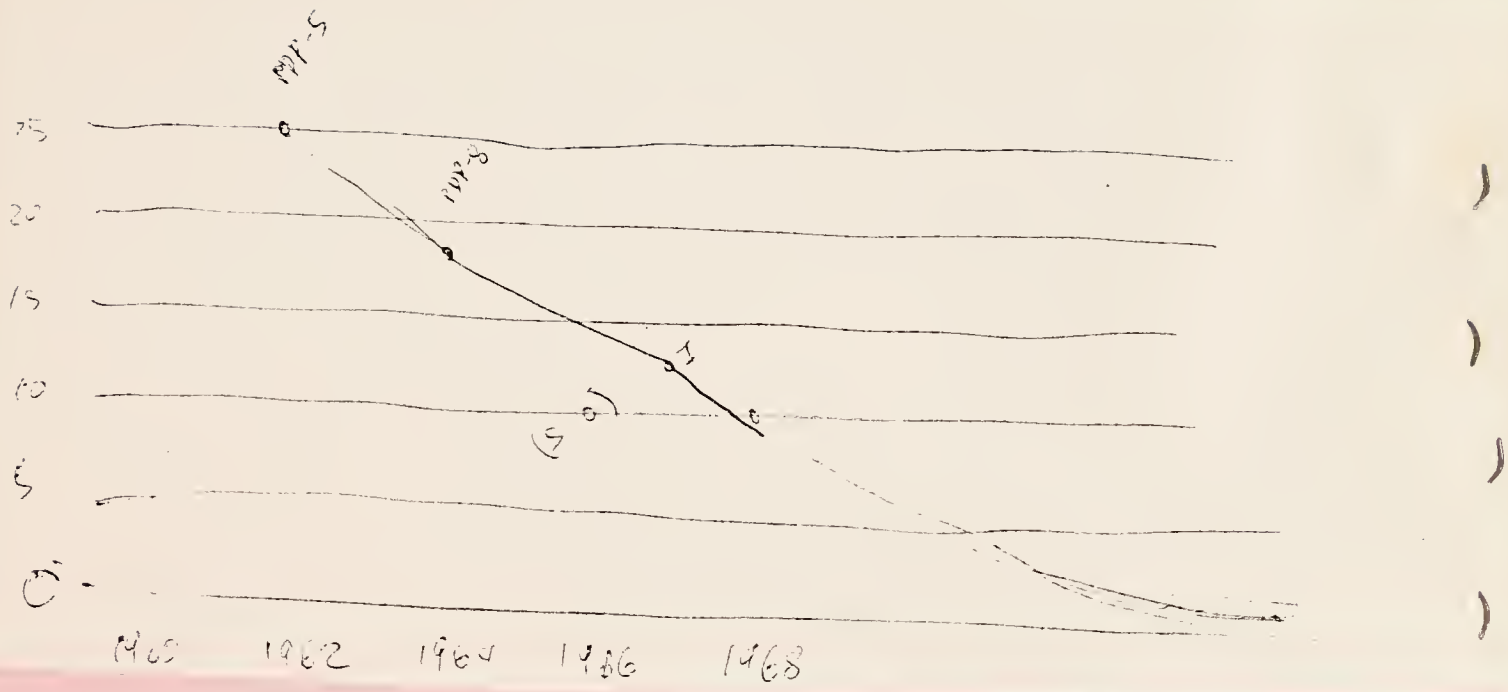
["Brenat Paris?"]

0848

SPL  
265

'Extended visualization,  
kinesthetic conceptualization  
fields of ideas and relations.

SPL  
366



SPL?  
359

[dupl. w SMS?]

The false concept [sic] of "the machine"  
as something apart from ourselves,  
an enemy opposed to the human.

SPL  
019

Any numerical orderings that appear in the presentation of a list of authors, will tend to become a ~~reference~~ prestige or seniority ranking

SPL  
022

(SPL:Ac)

Woods Hole Oceanographic Institution  
numbers its ~~published~~ distributed papers ~~consecutively~~  
consecutively.



SPL  
257

Empirical study of use of existing information systems should not be overrated, since, usage of systems we might build would be entirely different.

(not just IR -  
this below  
task of books  
etc.)

SPL  
128

shit-parts & education

~~MSVT & COLORLESS~~

THE ~~LEARNING~~ LEARNING OF  
MATERIALS MADE  
MONOTONOUS &  
COLORLESS

SPL  
227

## Possible Copyright Systems

- 1 REGISTERS A RENTAL (FEE)  
UPON TRANSFER OF A TEXT UNIT  
BETWEEN ~~2~~ CENTRAL PROCESSORS
- 2 REGISTERS A RENTAL  
ON PRESENTATION OF A TEXT UNIT  
AT AN OUTPUT DEVICE

SPL  
347

AA. viewpoints

'EVERYTHING IS POSSIBLE'

vs.

'ONLY CERTAIN THINGS WILL WORK.'

SPL  
~~201~~  
090

Great Mormon ancestor IR

SPL  
273

THE LORD'S HAND (?) TRACING THE ~~COMMANDMENTS~~  
STONE TABLETS AS TEN COMMANDMENTS (FIRST VERSION)? )

SPL

173

(juke box .1/0)

An addressable audio memory system. It may be programmed ~~to~~ in advance to play a number of different songs <sup>without stopping.</sup> However, ~~it~~ ~~will not~~ you cannot specify their order, and you cannot request the same song several times in a row unless you wait for ~~it~~ to begin.

~~critical~~  
[critical system details]

SPL  
304

AIR CONTROLLER SCREEN CONVENTIONS

Detroit, Mich Nov 66, ~~ES~~ 12.



SPL

199

Chapter?

New Forms of  
Compound Displays

SPL

200

Chapter?

Display Modes  
Beyond

concepts environments  
Multidimensional  
conventional spaces  
intricate representative  
environments

SPL

~~119~~  
119

## SETS OF ALTERNATIVE (Conditional) POSSIBILITIES

Interpretation of (vast & diverse) espionage data

Writing

Motion Picture Editing

Other plans, e.g. personal

SPL

~~093~~  
093

'Array functions' [of showing]  
'Display functions'

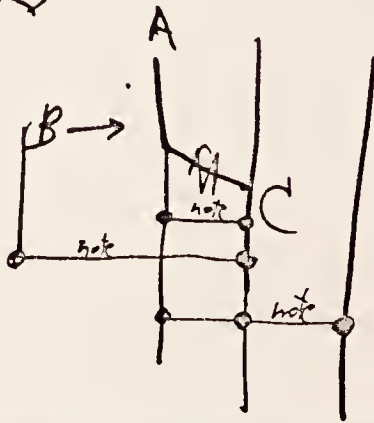
SPL

~~094~~  
094

Example of how historians might use ~~tree~~ 'some display'

Parsers

Time  
↓



'note' means that  
some text  
corresponds  
to this

SPZ

~~088~~  
087

FILMIC SPACE (Rudovkin)

a crucially related work ;



SPL

266

Analogous coordinate systems  
for input

SPL

267

EXTENSION OF ANALOGICAL MOVEMENTS

e.g. ← left pen movement controlling  
screen draw roll

SPL

331

EXTENSION BEYOND THE INITIAL EXAMPLES

McLuhan in an early article, pointed out  
that western punctuation began by  
imitating speech and going on to extend it.

(Retard vocalization?)

Complex Analogies

involving sensory-motor  
transposition

SPL  
027

## The Feel of Functions

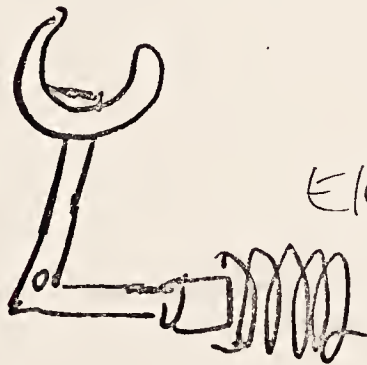
('kinesthetic' understandings.

e.g. LINK TRAINER  
FEEL OF BIKE GEARS etc etc)

Proposal to standardize Joy-Sticks etc.

SPL  
317

## Exemplary feel



Electromagnet  
gives exact,  
varying  
sense of  
pressure-patterns

SPL

~~118~~  
118

Displaying all at once the  
inter-pulsations of complex materials...  
e.g., basic capacitance & inductance,  
or Keynesian economics (cite that little  
book.)

SPL  
360

ch?

THE

FEEL OF THE WHEEL

SPL  
361

THE FEEL OF THE ROAD

SPL  
~~115~~  
115

MULTIDIMENSIONAL DISPLAY

FLYING A PLANE a multidimensional  
problem (not just 3.) Driving a car,  
too — or a racing car, surely.

SPL  
263

see LIFE vol 58 no. 4  
29 Jan 65

p. 3  
"Churchill: Writer in the Grand  
Manner"  
(of his 24-hour supply of ~~secretaries~~<sup>secretaries</sup>  
for instant dictation, and of  
his numerous drafts.)



The IR Symbolists

~~toes~~ (i.e., symbolic rather  
than words)

SPL

255

IR degenerating to  
probabilistic selection  
& abstraction algorithms

SPL

277

Much effort going into refinement  
of indexing process.

But yield <sup>of that vein</sup> is now known,  
& probably can't be improved too much.

8PL  
325

Hypergrains — PERFORMING PICTURES

SP

343

Refs: "Intellectuals"

SPL  
276

Like automation, phonics began  
a very long time ago, if we  
consult the sampler cases.

SPL  
133

MUSIC has been represented by  
digital code for ~~a~~ a millennium.

SPL  
141

Knitting instructions are digital

SPL  
125

Digital text output not new,  
e.g., Times Square headlines.

SPL  
256

Lights around Times building  
1928 to (1962 or 3)  
wh?

SPL

~~017~~  
017

PARTIAL ORDER IN FICTION

PALE FIRB

SPL  
145

Importance of 'Is' in literature

Quote Zooey

T.H. White (Merlin's college)?

SPL  
342

'The true copy' is the one in digital form.

SPL  
132

You cannot store a painting in a computer.  
But consider this: how many bits to a store art reproducer?

Assume 64 gradations of dots, 512 dots (per color) to the inch.  
~~A painting 16x~~ A reproduction 16x32 inches requires

$$\begin{matrix} 4 \\ \text{(colors)} \end{matrix} \cdot 64 \cdot 512 \cdot 16 \cdot 32 \\ 2^2 \cdot 2^6 \cdot 2^9 \cdot 2^4 \cdot 2^5 = 2^{26} \text{ a very large number.}$$

However, this amount of information fits on four negatives,  
so its storage can't be that much of a problem.

087 -

SPL

216

The ALL-ALL-SCOPE

SPL

168

The 'Tant' ~~the~~ viewer in  
Stranger from a Strange Land.

Jules Verne

Augo Bernsback

John W. Campbell



SPL

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Chapter?

FORMS AND INFORMATION GATHERING

Gathering data and 'FILLING OUT FORMS'

SPL

228

Making paperwork easier: TRANSFER OF TITLE  
OF AUTOMOBILE.

Let me call your attention to an example that made itself plain to me in the movie "Fantasia," which I saw three years ago. Consider the slide now before you. I presume you recognize the subject matter, and perhaps by now some of you may have guessed why I'm showing it. This is obviously a frontal and a lateral view of the head of Mickey Mouse. Now, there is something very unusual about the head of Mickey Mouse which most people are unaware of. If you study the picture carefully you may see what I mean. Viewed frontally, Mickey Mouse possesses two circular ears which appear to face the viewer, permitting him to hear things in front of him. But viewed laterally, it will be noticed that the ears of Mickey Mouse appear to be positioned one in front of the other, in a rather

HFT  
13

peculiar fashion. Are the ears of Mickey Mouse in reality diagonally placed upon his head? Or do they roll around, repositioning themselves <sup>swiftly</sup> as he turns in relation to the camera? No, they do not. The decision to make two, and only two, positions for the ears of Mickey Mouse was an operation-analytic decision which makes him much easier to draw, much ~~like~~ <sup>the way that</sup> giving him three fingers does.

HFT 13

What does this thing about the ears of Mickey Mouse show? It shows  
something very simple and straightforward about the human visualization.

The <sup>mind</sup> brain can comprehend what it cannot see, and see what it cannot comprehend.

In the case of Mickey Mouse's ears, two completely contradictory views are reconciled in the mind, and accepted without consideration as belonging to the same creature.

(They are black and featureless, therefore yielding no clue as to which way their orifices point.)

It follows, I think, that we can learn to manipulate, and "understand," <sup>spatial and quasi-spatial</sup> ~~special and quasi-special~~ relations of a rather high order, visualizing (or quasi-visualizing) the damndest things.

there are no strict criteria for visualization.

Our visualization faculty can comprise —  
that is, press together —

the damndest things.

A word on multi-dimensional displays.

HPT  
15

The classic and obvious manipulable multi-dimensional picture is the 4-cube,

or Tesseract.

The usual obvious example, and consequently

*The first thing that people try*  
the first thing that people try to program when they try to program multi-dimensional

*tesseract,*  
displays, is the ~~Tesseract~~, or the four-dimensional cube. It is of interest

that Donald MacKay, I understand, had a manipulable four-dimensional cube

displayed on a computer screen as long ago as 1947. Naturally, this was an

analog computer, which made the job peculiar from our current point of view,

but

~~but~~ anyway these things have been going on longer than we tend to realize.

The analog displays are of course suited only to special cases of this kind,

but anyhow <sup>we</sup> ~~you~~ did it.

Some psychologists believe the natural tendency to see three

*no more, no less —*  
dimensions-- ~~no more, no less~~ is wired into the human being, takes no training

HPT 15

and can't be improved on. Well, it's true that apparently three-dimensional

visualization is unlike ears, wired in; avoidance of the "visual cliff" is

observed now in many young animals. This indicates some sort of coordinate

transformation on an analog-computer basis, quite possibly similar to the ESL

Kludge, permitting the two dimensional retina to imagine three-dimensional

things. But never mind about that. ~~Let me call your attention to an~~

But suppose (17)

In a recent film by A. Michael Noll of Bell Laboratories supposedly makes the four-cube completely comprehensible to the viewer. ~~This~~ <sup>but this</sup> point is <sup>HFT</sup> <sub>16</sub> still arguable.

I discussed  
While ~~ixixixixixix~~ above the

question of "dimension" as it relates to graph theory in general, the question

of whether multi-dimensional displays are useful or appropriate for anything

is worth taking up. I understand that ~~IBM~~ internally has been programming a

three dimensional display, and that when queried, the programmer involved said

that he could see no purpose in a multi-dimensional display, since obviously

three dimensions is all the human intellect can take cognizance of.

This is not true. But there is an obvious question regarding the  
visualization of many dimensions.

~~ONE~~ HFT

HFT  
26

LIBERAL

That is, free

But this

HFT  
19

brings to mind the dreadful possibility that instead of being subject to the natural erosion of paper and stone, much of our heritage can be wiped out by an electrical

storm, or unexpected spasms of the earth's magnetic field. Such an event could

HFT 19

make the burning of the library at Alexandria seem minor.



HFT  
'9

Not only our written archives, but our artistic creations, our architecture,  
our investigations of the past, and everything else that should be kept, may well  
best be kept in digital form: reliable, manipulable, quickly available.

CDC STATO HFT  
'9

OWN

HFT  
17

ACOUSTIC ~~TRA~~ DISPLAYS

→ sonic transformations?

Section on hypergrams.

I expect the conventional illustration, as we know it now, to be supplanted in the softcopy world by the Hypergram. The Hypergram may be described as a ~~simple~~ multi-dimensional <sup>et</sup> diagram, or a picture that responds to the user, or a picture with many levels, compartments, variations and hidden features to which the user may have access. ~~hidden potentialities.~~ But I would sum all this up by ~~saying~~ defining the Hypergram negatively, as any picture which cannot be usefully put on paper.

The Hypergram requires representation in some assembly which ~~will~~ permit its viewing and ~~manipulation~~ <sup>manipulation</sup> on-line by the user. This means, of course, the computer ~~display~~, although it may appear in other varieties associated with video, cinematic storage, ~~photo-digital~~ <sup>by and by</sup> ~~flash~~ <sup>photo diode</sup> digital logic arrays, and holographic display.

HFT  
||

HFT  
||

Consider creating a historical <sup>world</sup> ~~read~~ <sup>for</sup> map ~~of~~ a computer: complete map  
information about the whole world, plus projection program <sup>to</sup> ~~with~~ enable every HFT 12C  
sort of projection to be made; the system is also to contain historical  
data about politics, geography, ecology, and so on ~~by~~ by well bounded regions;  
further, it is to contain dates linked with events and their geography,  
so that for any event the user can immediately see where it happened, and  
when.

I believe the first thing that can be called a Hypergram was  
Sutherland's Sketchpad system, ~~well~~ known to us all. But since that system  
was concerned more with providing a facility for the creation of pictures,  
rather than with supplying the pictures,

but that may be regarded as a facility for creating Hypergrams, rather than  
the Hypergrams themselves.

Manipulable diagrams, such as the mechanical linkages of Sutherland's  
Sketchpad, ~~the~~ <sup>or</sup> pictures of machinery that enable the user to practice their  
manipulation without tying up or endangering the real machines themselves.

most of us →

now 3D

HFT  
12A

HFT  
12A

Consider also simply what study is possible with a manipulable

diagram which can be indefinitely ~~dissected~~ <sup>dissected</sup> consider, for example, the

cases of the automobile engine or the human body. Let us consider that one especially.

One of the great privileges, and initiations of medical education

is the actual disassembly of a ~~man~~ <sup>used</sup> human being. This procedure is obviously

of the greatest educational value, and for other obvious reasons, one which

cannot be extended to the public in general. But why not the equivalent?

What could be more interesting than to give the student a screened image of the human body, tell him that he can increase the magnification to any detail, and say "Your light pen is now a scalpel. You may cut anywhere you like."

Besides that, you may ask for explanations of any given parts, you may assign other functions to his pen, such as that of forceps, you may ask for simulations

of movements, you may remove whole layers or organs for study, ~~assigning to~~ using the light pen to specify boundaries or point out particular things ~~(the light pen new functions such as delimitation, or specification)~~

155-1000

HFT  
12B

HFT  
12B

HFT 12B

The deepest criticism is

1) that all coding schemes are doomed to decay as our interests, our language and

HFT  
8

our subjects change; and so every coding scheme used to organize a corpus of

information will fall apart just as surely as the decimal system has done. And

2) of more immediate criticism is that document retrieval. ~~Assuming that~~ we want to get

HFT  
8

? back documents, which is a most shaky assumption. Perhaps ~~in~~ dealing with short

scientific papers this may be helpful, but in any larger context it becomes ~~wholly~~ wholly

unworkable.

Not saying a word against

HFT  
8

~~The counterpart of document retrieval is content retrieval, or the question-~~

very good. BUT

answering system; ~~about this I will only say that~~ it assumes that the field of

possible answers with which it is supplied is all true and correct and consistent;

this assumption must be questioned for a long duration to come.

Hypergrams may be of all sorts. <sup>1) They</sup> ~~These~~ may be "real"-- that is, HFT  
12

representations of real objects that look more or less like ordinary pictures.

2) They may be schematic or explanatory, like "illustrations," <sup>departing from reality</sup> containing pointers,

indicators or markers of various kinds, explanatory labels, cursors or other

indication marks, outlines, skeletons, or other structural emphases. <sup>3)</sup> They may

be fanciful, showing nonexistent objects within a context (or having a structure)

in which they may be useful or interesting. An example, say, would be a drawing

illustrating "The House of Intellect" (Jacques Barzun), a drawing that would

allow the user actually to enter (or peep into) this house of intellect and

view various scenes or texts. ~~Such~~ Sizable examples could of course be far

more complex, multi-dimensional, etc.

4) Hypergrams may also be mnemonic and presentational, <sup>and presentational,</sup> having a structure of use  
to the human intellect rather than particularly related to reality.



Possible

uses of  
DISPLAYS (exp/ain)

virtually UNAPPED

~~Some things, when approached mundanely, can produce results which are~~

rejection,

esthetically grim.

HFT  
ORL  
2

The computer is the most remarkable <sup>psychiatric</sup> projective device ~~\_\_\_\_\_~~

ever discovered. (I get this point from R. F. <sup>B</sup>ales.) Everybody who sees a <sup>HFT</sup><sub>2</sub>

computer will tend to see a beast capable of performing the jobs he wants done in <sup>HFT</sup><sub>2</sub>  
the way he would like them done. There is at once its grandeur <sup>r</sup> and its sorrow.

A great many corny things are being done with computer displays, and its extra-  
ordinary potentialities are virtually untapped.

HFT  
2

FX SSN  
Dec 71 XX

REF 1: SPL STX

XXXXXXXXXX

SPL STX  
11 JULY 69  
10:35 PM

GENERAL RESIDENT DISPATCHER FOR SCOPE

ROLLOUT FOR PRINT/PUNCH

DATE OF THIS ROLLOUT: FRIDAY 11 JULY 1969, 10:35 PM

NAME OF CONTENTS: SPL STX

DESCRIPTION OF WORK: THE SPL STX COPIED INTO THE COMPUTER

WORK SYSTEMS: TYPED AT THE SCOPE. STICK NUMBERS KEPT, AND THE LETTERS "P," "G" AND "Y" APPENDED TO THE NUMBER TO SIGNIFY THE COLOR OF THE STICK. NO ACKNOWLEDGEMENT MADE OF CAPITALIZATION OR UNDERLINING. BRACKETS REPRESENTED AS DOUBLE PARENTHESSES; A COMMENT MADE WHILE TYPING WENT IN IN TRIPLE BRACKETS. I NUMBERED THE REMAINING UNNUMBERED STICKS AT THE BOTTOM AS I WENT.

REMARKS: PRETTY MUCH THE SAME THING.

INFORMATION AND DISPLAY, PAST AND FUTURE SPL 21P

THE REVOLUTION OF DATA SYSTEMS SPL 22P

NOT TALKING ABOUT FANCY COMPLEX CONVERSIONS (DICTATIONS; OPTI-DIGITAL;  
AUTO-TRANSLATION) SPL 23P

NOT TALKING ABOUT AUTOMATIC TRANSLATION SPL 24P

NOT TALKING ABOUT AUTOMATIC DICTATION SPL 25C

NOT TALKING ABOUT PROCESSING OF SURVEY DATA SPL 26G

THE NEW TREW YEMITY OF 'SPLANDREMIC'S' SPL 27P

'READING, WRITING AND 'RIGMETIC' SPL 28P

SUBSUMES THE AUDIO-VISUAL FIELD SPL 29P

AUDIO-VISUAL SYSTEMS JUST ONE PART OF THE UNITY SPL 30G

NOT INVENTIONS, BUT SYSTEMS SPL 31P

THE MEANING OF THE NEW EQUIPMENT ((SYSTEMS UNIFICATION ETC.)) SPL 32P

COMPONENT INVENTIONS OF NEW SYSTEMS SPL 33P

PARADOX: TELEPHONE & TELEGRAPH NO LONGER SEPARATE INVENTIONS SPL 34G

XEROG. BECAME 'COMPONENT' FASTER SPL 35Y

SYSTEMS IN BEING & ON THE WAY SPL 36P

THE SEATTLE DISPLAY ROOM SPL 37Y

SOUND-ON-FILM SPL 38Y

SEQUENCING IN JUKEBOXES SPL 39Y

JUKEBOX AS FAMILIAR CASE OF AUTOMATIC PROGRAMMING SPL 40Y

(PHONE-SLIDE AUTOMATIC RIG HAS ONE TIMING DEPEND ON ANOTHER SPL 41Y

PHONE-SLIDE AUTOMATIC RIG SPL 42Y

AUTOMATIC (ULTRASONIC) SLIDE CHANGERS SPL 43Y

AUTOMATIC MUSEUM AND FAIR DISPLAYS SPL 44G

AUTOMATIC LETTER-WRITING AT TIME, INC. SPL 45Y

THAT GUY'S DISPLAY BOX ((IN 'TAKEOVER GENERATION' LIFE)) SPL 46Y

ELECTRIC DISPLAY FOR MUSCULAR DISCRIMINATIONS ((OPERATING SYSTEM)) SPL 47Y

PHOTOELECT SUBSCRIPTION SERVICE FOR WIRING DIAGRAMS SPL 48Y

TUTORTEXTS SPL 49Y

SKINNERIAN PROGRAMMED LEARNING SPL 50G

THE PORTABLE RADIO AT THE MUSEUM OF NATURAL HISTORY SPL 51Y

LANGUAGE LAB PERSONAL CHANNEL ((OPERATING SYSTEM)) SPL 52Y

HEATHKIT EXPLANATORY-CHECKOUT WIRING PROCEDURES SPL 53Y

KODAK MICROCHIP SYSTEM SPL 54Y

'AVAILABLE' MACHINE TYPES LETTER, STORES INTERNALLY, CROSS SORTS, & POSTS MCNEYS SPL 55Y

CARD-KEYS TO DOORS ETC. SPL 56Y

THEY HAVE PROJECTION DISPLAYS IN ELECTRONIC ASSEMBLY WORK SPL 57Y

AUTOMATIC SWITCHED PATTERNS ON CITIZENS BAND SPL 58Y

SPEED-READING GADGETS SPL 59Y

TELEGRAPH BUG SPL 60Y

SUBSTITUTION OF SIGNAL LINKAGE FOR MECHANICAL SPL 61P

RANGERTONE AS EXAMPLE OF SIGNAL LINKAGE SPL 62Y

ELECTRIC CLOCK AS EXAMPLE OF SIGNAL LINKAGE SPL 63Y

LINK TRAINER SPL 64Y

PMM CARTRIDGES SPL 65Y

PMM SILENT CARTRIDGES AS 'MOVING ILLUSTRATIONS' SPL 66Y

AUTOMATIC MAP GENERATION SPL 67C

MAP PROJECTIONS AS EX. OF DISPLAY INVERSION SPL 68Y



TIME GRAPHS & ILLUS

SPL 69Y

KRIEG'S 'PHANTOMS' SPL 70Y

BRIEF STATEMENT OF CURRENT COMPONENT CAPACITIES SPL 71P

XEROGRAPHY A RECENT BREAKTHROUGH SPL 72

THE FORMS PROJECTOR SPL 73

KEYBOARD-SCOPE I/O OF LINC SPL 74Y

NCR CRAM UNIT SPL 75Y

DRAWBACKS OF COMPONENTS & OUTLOOKS NOW CURRENT SPL 76Y

COMPONENTS TO COME SPL 77

BIG FAST TEXT SCREENS ((SYSTEM TO COME)) SPL 78Y

BIG SLOW MEMORIES ((SYSTEM TO COME)) SPL 79Y

MULTI-PROJECTION TEXT-AND-PICTURE DEVICE ((SYSTEM TO COME)) SPL 80Y

OPTICAL BUFFERS SPL 81Y

PICTURE BUFFERS ((SYSTEM TO COME)) SPL 82Y

ON-LINE XEROGRAPHY SPL 83Y

TEACHING MACHINES AND PROGRAMMED LEARNING SPL 84P

SWITCHES BASED ON EYE MOVEMENTS SPL 85Y

BRaille OUTPUT ((SYSTEM TO COME)) SPL 86Y

WAY PEOPLE THINKING OF THESE THINGS NOW SPL 87P

INFORMATION RETRIEVAL SPL 88P

'INFORMATION RETRIEVAL' A PHONY SPL 89

SPEED OF TAPE MEMORY SPL 90

EXPLANATION OF COMPUTERS, THEIR METHODS AND PARTS SPL 91

'THE GENERAL COMPUTER' EXPLAINED SPL 92Y

ON-LINE SPL 93G

FAST MEMORY EXPLAINED SPL 94V

PROCESSING BLOCK EXPLAINED SPL 95Y

BIG MEMORY EXPLAINED SPL 96Y

HIGH-SPEED READOUT SPL 97G

'MAN-MACHINE INTERFACE' SPL 98Y

TEXT CONFIGURATIONS TILL NOW SPL 99D

THE CHAPTER SPL 100Y

THE BOOK SPL 101Y

FOOTNOTES SPL 102Y

THE HARVARD OUTLINE SPL 103Y

THE PARAGRAPH SPL 104Y

THE FOOTNOTE SPL 105Y

DIFFERENT TYPEFACES SPL 106Y

TEXT CONFIGURATIONS TO COME SPL 107P

THE ELIMINATION OF PAPER SPL 108P

FROM LINEAR TO COMPLEX ORDER SPL 109D

THE REVOLUTION OF COMPLEX ORDER SPL 100P

SIMPLICITY THROUGH COMPLEX ORDER SPL 111P

THE APPENDIX AS A PARTIAL-ORDER DEVICE SPL 112Y

FOREWORD, PREFACE, INTRODUCTION AS PARTIAL-ORDER DEVICES SPL 113Y

INDEXES IN BOOKS PROVIDE 'ALTERNATIVE' ORDERINGS OF MATERIAL SPL 114Y

A GENERALIZED MULTI-CATEGORY TAG & TABULATION PROGRAM SPL 115G

THE POWER OF FAST TEXT ACCESS SPL 116P

THE POWER OF FAST TEXT NOTATION SPL 117P

COMPLEX LOOKUP TABLES OR INDEX METHODS SPL 118G

A GENERALIZED TEXT-AND-RESPONSE PROGRAM SPL 119G

A GENERALIZED 'TRACER' PROGRAM (ESP. E.G. FOR MONEYS) SPL 120G

SAME EDUCATIONAL MATERIAL, SAME FRAMEWORK, DIFF LEVELS SPL 121Y

A GENERALIZED CONDITIONALITY-ANALYSIS PROGRAM SPL 122G

ADVANTAGES OF PARTIAL ORDER TO THE WRITER SPL 123G

DISPLAY INVERSION SPL 124P

REVISABILITY OF COMPLEX SPL PROGRAMS SPL 125G

USE OF SOUND IN DISPLAYS SPL 126Y

'KINAESTHETIC' UNIFICATION OF DISPLAY SPL 127G

THE AUTOMATIC WORKSPACE ((ARITH. & ALGORITHMS)) SPL 128P

THE EFFECTIVENESS OF THE COMPLEX DISPLAY SPL 129P

THE POWER OF COMPOUND TEXT DISPLAY WITH FAST ACCESS SPL 130P

INVERTABILITY OF REFERENCE MATERIAL SPL 131G

REVISABILITY OF REFERENCE MATERIAL SPL 132G

ONLY RAW DATA, IN COMPUTER, IS CANONICAL SPL 133G

MULTIDIMENSIONAL DISPLAY CONFIGURATIONS SPL 134G

PERT ALGORITHM AND DISPLAY SPL 135C

'TOUCHED BY NO HUMAN HANDS' ((DATA)) SPL 136P

POWER AND LIBERTY IN A NEW WORLD SPL 137P

THE PASTARDS CAN'T SQUASH US WITH REVISABLE, STUDENT-TRACING PROGRAMS  
SPL 138G

'NO MORE PENCILS, NO MORE BOOKS, NO MORE TEACHERS' DIRTY LOOKS' SPL  
139F

WINSTON SMITH'S JOB UPDATED SPL 140Y

KNOWLEDGE IN A NEW WORLD SPL 141B

JOBS IN A NEW WORLD SPL 142P

(NOT YET SORTED) ((NO LABEL ON STICK)))

'PROGRAM BRANCH' EXPLAINED SPL 143Y

'PROGRAM METALANGUAGE' EXPLAINED SPL 144Y

SPEED-READING PROGRAMS SPL 145Y

CONCURRENT EXPLANATION & CHECKOUT SYSTEMS SPL 146G

INDICATOR LIGHTS SPL 147Y

USE OF 3-D IN DISPLAYS SPL 148Y

CONVENTIONALIZED DISPLAYS SPL 149G

TRACE INFORMATION IN RECORD-KEEPING SPL 150P

COLLATERAL INFORMATION SPL 151P

OVERLAY PRINTING, F.G. ANATOMICAL SPL 152P

ELECTRICAL VISUAL DISPLAYS TO BECOME MUCH CHEAPER BY DIGITIZATION SPL 153Y

RATE OF DEVT & COST REDUX IN FIELD SPL 154P

REVISABILITY OF TEACHING PROGRAMS SPL 155G

EXPLAINING 'ON-LINE' SPL 156

INNOVATION: CONDITIONAL PATHWAYS SPL 157P

DISPLAY OF TREE CONDITIONALITIES OF DECISIONS SPL 158Y

TAPE ROCKING TO REORGANIZE FILES SPL 159Y

MAPS SPL 160G

INNOVATION: AD HOC EXCERPTING & PROCESSING FOR DISPLAY ESP. STATISTICAL SPL 161

INNOVATION: COMPOUND AND COLLATERAL MODES (AUDIO-VISUAL ETC.) SPL 162

'INNOVATION: SPEED & SIZE SPL 163P

INNOVATION: COMPLEX ORDER SPL 164P

SUPPONES CHART CONFIGURATIONS SPL 165P

MULTIDIMENSIONAL DISPLAYS SPL 166G

USE OF COLOR IN DISPLAYS SPL 167Y

SMELLAVISION? SPL 168Y

SAME MATERIAL, DET PATHWAYS SPL 169Y

PROGRAMME UNIVERSAL DATA LINKAGE-- BUT AT COST & WITH RESTRICTIONS SPL 170P

INTER-MACHINE LINKAGE SPL 171G

AUTOMATIC LOOKUP SPL 172G

POSSIBLE FUTURE DISPLAYS SPL 173G

INNOVATION: DISPLAY MANIP. AND INVERSION SPL 174P

CAPTIONS OF PICTURES AS COLLATERAL INFORMATION SPL 175Y

USE OF FADES & DISSOLVES IN DISPLAYS SPL 176Y

DISPLAY OF OWN UTILITIES. IN DECIDING SPL 177Y

MULTIPLEX (PHYSIOGNOMIC) INDICATORS SPL 178C

CAPACITY TO REMEMBER WHAT YOU HAVE READ (AND EVEN HOW FAST SPL 179Y

SUBROUTINE EXPLAINED SPL 180G

PROGRAM LOOP EXPLAINED SPL 181G

NO LONGER NECESSARY TO CATEGORIZE THINGS ONLY ONE (OR TWO) WAYS SPL 182G

SLOW-ACCESS MEMORY EXPLAINED SPL 183G

LOOKUPS EXPLAINED SPL 183C

(MAY HAVE TO CONSIDER A FEW OTHER FRINGE SENSORY OUTPUTS) SPL 185G

ONLY TEXT & AUDIO-VISUAL OUTPUTS TO BE CONSIDERED SPL 186G

ONLY MACHINE-CONTROLLED OUTPUTS I'LL DISCUSS ARE TEXT & AUDIO-VISUAL SPL 187C

FAST-ACCESS MEMORY EXPLAINED SPL 188G FEELIES SPL 189Y

THE DISPLAY 'TANK' IN SCIENCE FICTION SPL 190Y

ALL COMPONENTS EXIST, BUT ARE JUST MILLING AROUND IN CONFUSION SPL 191Y

TABLES ARE 2-DIMENSIONAL CATEGORIZATION SPL 192Y

FEELIES WOULD BE BREAKTHROUGH SPL 193Y

TELEPATHY MACHINES WOULD BE BREAKTHROUGH SPL 194Y

ALPHANUMERIC MIXIES (NEC-CUMEIFORM) SPL 195Y

DICTIONARIES, ENCYCLOPEDIAS ARE LINEAR CATEGORIZATION SPL 196Y

DISPLAY TANK WOULD JUST BE ANOTHER SYSTEM'S COMPONENT SPL 197Y

'FEEL' DISPLAY & CONTROL SYSTEMS, PAST & FUTURE SPL 198P

TEXT SYSTEMS, PAST AND FUTURE SPL 199P

'PROGRAM CONTROL' (CONTROL OF THE PROGRAM) SPL 200P

SUBSUMES TEXT-ORGANIZATIONAL METHODS SPL 201P

(ENOUGH MECHANICAL DETAILS TO MAKE PREDICTIONS COMPREHENSIBLE AND BELIEVABLE) SPL 202P

TEXTUAL STORAGE, PARTIAL-ORDERED CROSS-INDEXING, AND PARTIAL-ORDERED CROSS-COMMENTARY SPL 203P

SELFGENERATED PIX & DIAGRAMS SPL 204P

CITATION FOOTNOTES AS FORM OF CROSS-INDEXING SPL 205Y

EXPLAINING BUFFERS SPL 206G

FOOTNOTES AS PARTIAL-ORDER DEVICES SPL 207Y

A NUMBER OF DIVERSE TECHNICAL 'SPECIALTIES' CLAIM THESE THINGS AS THEIR OWN SPL 208P

XEROX! PROXI SYSTEMS SPL 210G

STAGGERING TECHNICAL DEVELOPMENTS OF LAST 50 YEARS SPL 211P

HUMANISTIC APPLICATIONS OF NEW DEVS NOT EXPLORED SPL 212P

EFFORT HAS BEEN SPENT ON FAR-FETCHED ABSTRACTING SYSTEMS SPL 213G

SYSTEMS FOR DIRECT UTILIZATIONS OF TEXT CAPABILITIES HAS BEEN NEGLECTED  
SPL 214

'SECOND CHANCE' FOR SCHOOL DROPOUTS SPL 215

LAYMEN MUST LEARN WHAT ABOUT COMPUTERS IS MOST ADMIRABLE SPL 216G

CHANCE FOR THE WORLD TO SAVE PAPER SPL 217G

TV-TYPE HOME READING MACHINE FEASIBLE FOR \$1000 OR LESS 'THE MACHINE  
THAT CAN DO ANYTHING' SPL 219P

TEASER INTRO ON SAC CONTROL ROOM SPL 220P

FILING DOCUMENTATION THAT BELONGS WITH A MUSEUM OBJECT SPL 221G

OPPORTUNITY FOR GREAT LEAP FORWARD IN EDUCATION IN UNDERDEVELOPED  
COUNTRIES SPL 222G

ACCOMPANYING PICTURES WITH DOCUMENTATION SPL 223G

NOT THE RUMORED AUTOMATIC TYPEWRITER, BUT THE SYSTEM FOR ITS USE, IS  
THE PROBLEM SPL 224G

THE INNOVATIONS OF GRIFFITH AS COMPARABLE TO WHAT SPL NEEDS SPL 225Y

THE TELEPROMPTER SPL 226Y

GRUBBS FINDINGS AT IBM SPL 227Y

RUNNING-LIGHTS TEXT DISPLAYS SPL 228Y

CHECKLISTS SPL 229Y

PRODUCTION CHARTS SPL 230Y

'GENERAL PURPOSE DATA MACHINES' SPL 231Y

'HARD COPY' SPL 232Y

BRIGHTNESS & EDUCATION TO OUR GROWING INSTITUTIONAL POPULATION SPL 233Y

COMBINATION MICROFILM-DIGITEXT DEVICES SPL 234G

NO REASON THESE DEVS COULDN'T HAVE FOLLOWED INV OF RUNNING-LIGHTS TEXT  
DISPLAYS SPL 235C

EXISTENT BUSINESS DISPLAY DEVICES SPL 236G  
UNIFICATION OF WRITTEN MATERIALS FOR  
STORAGE, ANALYSIS & VARIED DISPLAY WILL BE REVOLUTIONARY SPL 237P  
AUTOMATIC ABSTRACTION SYSTEMS SPL 238P  
POSSIBLE ENFORCEMENT DEVICES SPL 239P  
PRESENTATIONAL DEVICES SPL 240P  
ASSUMPTIONS OF IR TOO NARROW SPL 241P  
BLACK BOX INSTEAD OF LICENSE PLATE SPL 242Y  
RESPONDING BLACK BOX SENDING OUT CAR DRIVING INFO SPL 243Y  
KEYWORD TECHNIQUES SPL 244Y  
HARRIS IR SYSTEM SPL 245Y  
IR REPRESENTATION SYSTEMS DISTINCT FROM INDEXING SYSTEMS SPL 246G  
IMPORTANT RESEMBLANCES BETWEEN MICROFILM & DIGITAL TEXT HANDLING SPL  
247G  
RESPONDING BLACK BOXES SPL 248G  
MORE TECHNICAL RETRIEVAL FOR SPECIALISTS NOT ENOUGH SPL 249G  
ASSUMPTIONS OF CATEGORICAL I-R PROCESSING SYSTEMS SPL 250G  
DIGITAL TEXT HANDLING MORE VERSATILE THAN MICROFILM SPL 251G  
IR PROCESSING SYSTEMS ANALYZING CROSS-REFERENCES SPL 252G  
CATEGORIES DECAY LIKE MOST THINGS SPL 253G  
TERM 'INFORMATION RETRIEVAL' SUGGESTS MORE THAN SYSTEMS IN DESIGN LIVE  
UP TO SPL 254G



COMPLIMENTS OF THE  
HYPERTEXT EDITING SYSTEM

CENTER FOR  
COMPUTER & INFORMATION SCIENCES  
BROWN UNIVERSITY  
PROVIDENCE, RHODE ISLAND

11 JULY, 1969



FX SSH  
Dec 71 Xx

REF 2: SPL CARDS

(Xeroxed at Bronx)

Ⓐ SPL [HRZ]

Packet A. 001 to 367. CN00526 to 2616.

001 to 100 entered on-line to Brown system. <sup>Late Nov.</sup>  
101 to 367 punched on cards. Finished 3 Dec 68. <sup>early Dec.</sup>  
[With considerable, in fact excessive, formatting.]

f/00 001

NICE PARA. DISPLAY METHOD:

dots indicate degree of indentation, viz.:

~~XXXX~~

. XXX  
.. XX

(Lkert, New Patterns, ..., 44)

... X XX (cont. next line)  
.. X X  
.. X X  
. XX

# 0 0 5 2 6

CP  
001 Neologism for...

IRD ≡ IDEA & INFORMATION  
STORAGE, TRANSMISSION,  
PRESENTATION  
DISPLAY, RETRIEVAL,  
INTEGRATION

# 0 0 5 8 0

003

SPLANDREICS 1, 2

~~2~~

splandremics 1, 3

splandromics 1, 4, 5

- 1) Suggests Display splash, splendor
- 2) Suggests greasiness
- 3) " dreaminess
- 4) Supplies useful noun
- 5) Suggests torpor

# 0 0 5 8 0

004

TACTICS

SPLANIDRATION

FRES timothy

# 0 0 5 8 0

SPL  
005

I would like an algebraic notation which  
(mathematical-)

- 1) permits listing in a straight typographical line
  - 2) permits equivalences to be listed  
with statements, much like the blackboard  
writeover
- $$\begin{matrix} & 3 & 2 \\ & \times & > y \end{matrix}$$

0028

SPL  
006

TEXT splandromics

~~CONCEPT~~ splandromics  
(PROSTHETIC & ~~PROSTHETIC~~ splandromics)

TACTILE,  
SENSATE splandromics

DRILL splandromics  
(programmed instruction)

MOVIE &  
TPE ~~~~~ etc. 0637 0037

385

# SPLANDREMICS subsones

AUDIO-VISUAL PRESENTATION

PROGRAMMED LEARNING

INFORMATION RETRIEVAL

MANIPMONICS

CARTOGRAPHY

DISPLAY CONFIGURATION STUDY

as well as Reference Books, Anthologies

'Scholarship' (footnoting & cross-checking)

Archiving (intentional storage)

Indexing

0638

SPL  
003

# SPLANDREMICS

retrieval  
display

systems  
control  
integrative, integrator

0641



SPL  
009

Calendars  
Daily reminders

0642

SPL  
010

It all comes from this: at a point the ~~per~~  
cost of building <sup>an</sup> special purpose machine is  
no more than the cost of building a general  
purpose machine which can fulfil all the  
special purposes.

0642

SPL  
011

Something else that can be planned  
with aids

BLOCKING in theater

MOVEMENT of furniture, facilities

0642

SPL  
~~011~~  
012

Intro. Section

FEASIBILITIES

UNITY & GENERALITY  
(it's one ball of wax)

THE REAL PROBLEMS

0644

SPL  
~~012~~  
013

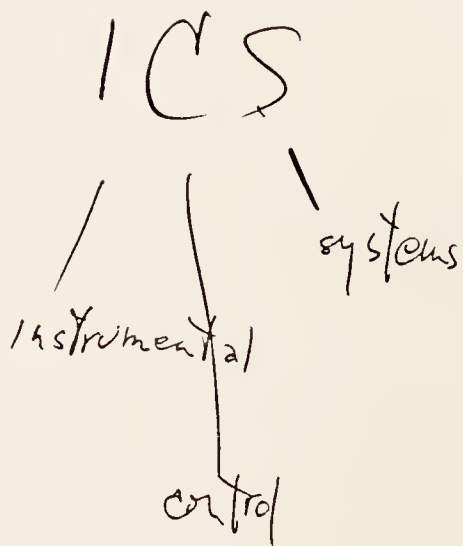
chapters

MODALITIES OF TEXT  
MANIPULATION AND SUMMARY

(INDEXES & THE CATEGORY PROBLEM  
BRUTE SEARCH (& its utility)

0644

SPL  
014



~~0650~~  
46

SPL  
015

## CRUCIAL DEVELOPMENTS:

The Buffer.

Multi-purpose automatic switching devices.

Fast-action reproduction materials  
(Xerox, Thermofax, microchips.)

0646

SPL  
016

"sp/" suggests <sup>e</sup>ruption  
and feverish.

0647

SPL  
017

Ch

Effects on

- HIGHER EDUCATIONS AND RESEARCH
- " SECONDARY EDUCATION
- " PRIMARY EDUCATION

0648

SPL  
018

Faceto-face  
INCREASE of personal influences likely, with increased  
seamless, monolithic appearance of the systemic whole.  
(But this likely to vary with age groups.)

0649

SP  
019

Any numerical orderings that appear in the presentation  
of a list of authors, <sup>of a paper</sup> will tend to  
become a ~~preference~~  
prestige or seniority ranking

0649

SP  
020

Ch. on ONTOLOGY

(i.e., implications for our  
ways of thinking about texts)

0649

SPL  
021

Configurations that will develop  
depend on

Economics  
Technology  
Effectiveness  
Salesmanship  
Foresight

0649

SPL  
022

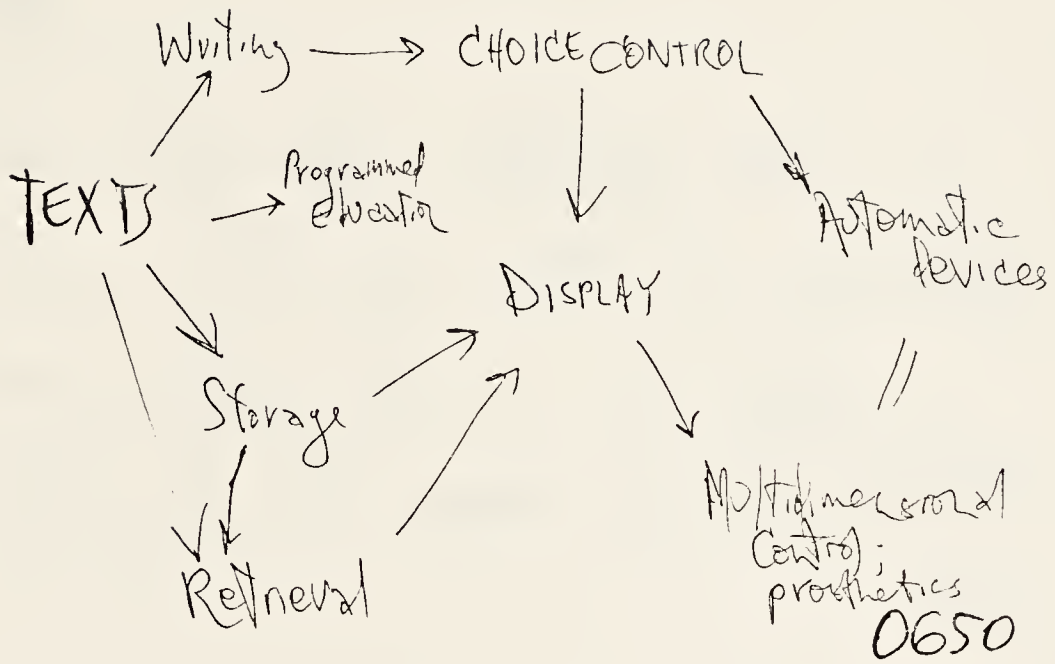
(SPL:Ac)

Woods Hole Oceanographic Institution  
numbers its ~~papers~~ distributed papers ~~consecutively~~  
consecutively.

0649

SPL  
023

An unbounded field.



SPL  
024

D has to stand for 'display'

0650



SPL  
025

~~42~~

One of the duties of this book is  
to show that the word is necessary,  
by showing that this is a single,  
solid and indivisible ~~prob~~ set of problems  
and possibilities.

0651

SPL  
026

The basic developments

General-purpose automatic processors

General automatic switching networks

(Distinguished from the above  $\rightarrow$   
for the present exposition)

Very large fast and medium-fast-access files

Interchangeability of programs

Low-cost TV networks

Fast ~~TV~~ systems

Remote facsimile

(Programmed education)

Character & picture generation

0651

SPL  
027

## The Feel of Functions

('kinesthetic' understandings.

t.g.g. LINK TRAINER  
FEEL OF BIKE GEARS etc etc)

Proposal to standardize Joy-Sticks etc.

0651

SPL  
028

Printing created — or further developed  
— the function of editorship.  
So automatic splendemics ...

0651

SPL  
029

The average man is misled by faces in the street and the color of the sky into thinking the world is more or less the way it always was. This deception is aided by <sup>the</sup> ~~the~~ <sup>flippancy</sup> of news media and the continuities of society.

Despite moon rockets and the unthinkable power of atomic weapons, most people are insulated from understanding that technological progress is proceeding as fast in a year now as in a hundred years anytime before this century. 0651  
And ready or not, it is the thesis that we are about to be pitched ~~into the~~ into the Sphendemic Age, for which we are less than ready.   
six months or ten years from now.

SPL  
030

PRIVACY OF PERSON SITTING AT THE SET:  
in terms of disturbances from employer etc.

0651

SPL  
031

Speed reading  
Teaching machines

} new devts in  
'human  
engineering',  
to give it  
a spurious  
sound of  
perfection &  
certainty

0651

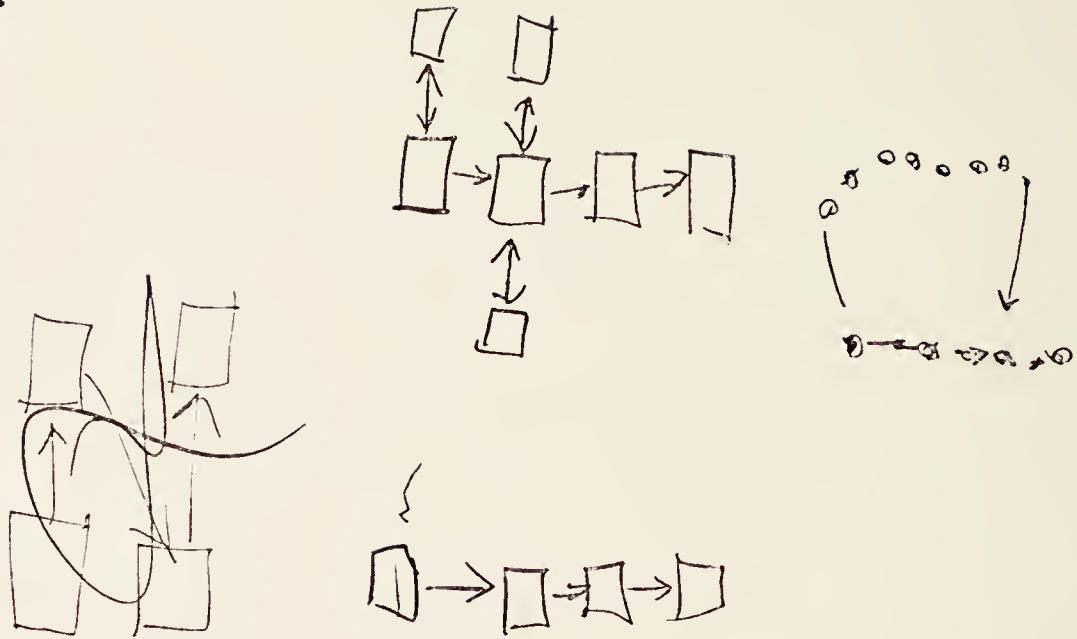
SPL  
032

THE ~~SCIENCE~~ SCIENCE DET-OUT  
on radio- phone conux.

(Find TIME article on disk-jockey)

0651

SPL  
033



0652

SPL  
034

Another recent big-deal word-book  
CYBERNETICS

0653

SPL  
035

# SPLANDREMS

The Automation of Information, Alerts,  
Control Sequences, and Display

0659

SPL  
036

## Check-lists

Healthkits  
Airline cockpit routines

0662

SPL  
037

sort of need  
punctuation marks like

"Corrected in all carbon copies"

0664

SPL  
038

'graphics'

term seems to me w 'display'

0666

SPL  
039

Finder ~~is~~ 'Collectedata' system ~~is~~ has  
'tamperproof' remote units which authenticate  
identity of employee before accepting  
digital 'report' into corpus of information.

0666

SPL  
040

I am impressed by the  
compression and zest that a first jobber's  
delivery can have.

0667



SPL  
041

Same 'basics' can be presented  
with, <sup>or in a way to generate,</sup> a sense of boredom or excitement;  
with <sup>↑</sup> insult or ego-boosting; . . .

0667

SPL  
042

As late as February 1956 (ad on  
of Scientific American for that month)  
- although that was predicted for 1960)  
it was viewed as a great development of  
the future that machines could type letters  
from dictation and mail them automatically.  
By 1960.

0667

SPL  
043

sharp?  
(Can we have bibliographies that say what  
the author has & hasn't read?)  
Some articles actually say,

"       has an article entitled       ,  
unfortunately not available to the author."

0667

SPL  
044

Branch-indexing of species  
(practice in Biology)

0667

SPL  
045

They say "Figure 1" even if it's  
the only one.

0668

SPL, ~~547~~  
046

1) Display model & 2) Practice model

1) Romer's "idealized vertebrate"  
[p. 4, The Vertebrate Body.]

2) RCT's idealized program-language  
for instruction

0672

SPL  
047

What about a cut-off definition of a "Splendemic System" as something which involves at least two modalities, e.g., switching, display, storage, etc.

0678.3

SPL  
048

Depending on the ~~minimum~~ number of bits required and the storage space available, it might be more economical to record the human voice in digital form, particularly ~~when~~ if a large amount of recording and buffering is going to be used. Over the long run, this will preserve clarity for record keeping.

0678.3

SPL  
049

N.B. new notation for ~~ex~~ chemical bonds that Daniel told me about. This is similar to the Linnaean system in its display aspects.

0678.3

SPL  
~~049~~  
050 SPL, INV

It well may~~s~~ be that the Ramo-Wooldridge way of setting up a computer-- that is, with components unassembled and to be assembled by the program, will be the way of the future for <sup>an entire</sup> ~~a/home~~ splandremic system. Various programs of assembly, checkout and control will store the @@ ~~mmmtgwmr~~ in their combinations, some of which may be quite temporary formations: hi-fi sets, amplifiers, oscillators, computer memories, and home splandremic record-keeping systems.

0678.3

SPL  
051

SPL INV

It may well be that I can solve the problem of 'Unique listing', which gave me so much trouble in NELTRAN, with some sort of an on-line display device -- a matrix, perhaps, <sup>whose</sup> flickering lights inform where one has produced ~~xxxxxx~~ a linear lineup, or one with with contradictory sequencing.

0678.3

SPL  
052

Presumably in the future some companies, to preserve a look of personalized elegance, will type their letters on rag bond or even have them written by hand.

0678.3

~~29.5~~

SPL  
053

The ability to establish priorities as to signals you will receive.

For example, in the combination of radio-visual display signalling systems used by motorists and highway authorities.

Note, however, one problem: which is that presumably the authorities can override any priority-system merely by arranging for ~~these~~ low-priority messages to appear in high-priority categories.

((Don't forget: it may depend on program access, etc., which you may keep out of their hands.) 0678.4

SPL  
054

Of late, automatic control functions in industry, and generalized large-scale applications (SAGE, TV, telephony) are well-known.

(E. A. T. M.)  
[?] emphasizing them for private individuals, where the need is less obvious but the application, if the thing exists, far more spectacular in its effects on our daily lives.

0678.6

SPL  
055

(now operating)

Automatic throttle for  
private automobiles

0678.6

SPL  
056

What's holding up the big systems are

PROBLEMS OF COST  
RELIABILITY  
STANDARDIZATION

0678.7



SPL  
057

The atomic-bomb warning devices planted along electric lines all through the United States.

0678.7

SPL  
058

Silver Springs, Florida, has these mileage indicators at various turnpike stops, where you turn a dial and see how far it is to anywhere from that point.

0678.7

8PL  
059

Automatic display of phased &  
interval maintenance needs.

0679

~~48~~

8PL  
060

Low cost of variable program  
compared to initial ~~high~~ component-set.

0682

SPL  
061

Nuclear-Chicago puts out a variable-program scintillation counter. Sample bottles chug repetitively through the machine. Arrangements of bottles & other adjustments determine which get sampled when.  
(Science 138, p 970-1.)

0682

SPL  
062

Clay-Adams Medichromes is a line of 10,000 Kodachrome slides, for study & demonstration.

0682

SPL  
063

The "Brown Blood Grouping and Cross  
Matching Board" has labeled work spaces &  
receptacles.

See Clay-Adams catalog, 1953, 50-1.

0683

SPL  
064

~~CRA~~ BOOKS REFERRED TO  
TEXTS (Barnes & Noble  
[Never wholly satisfactory.]

0685

SPL  
065

Kenna, Understanding Mathematics  
with Visual Aids

Littlefield, Adams

0685

SPL  
066

Evidently the standard branching list  
of biology has no use, because  
it ~~is~~ (ordinarily) describes  
<sup>any old</sup> differentials ~~of~~ What good is it  
to know how I might identify a skull  
of which one is extinct?

[Could list ecological niches with it, though.] 0686

SPL  
067

Can maybe soon cheaper build complex models of unconnected components, electrically connectable, than stock the components themselves.

0689

SPL  
068

It is the Dukane Sound Slide Projector that ~~goes~~ switches pix from a blip on a disc.

0691

SPL  
069

To be "hardheaded" and "realistic" in this area, right now, is to exercise as much imagination & explore the most farfetched... possible...

0693

SPL  
070

STIRRING END-SECTION

No kidding about fight for life of pluralistic v. societies. (non-Communist) Gotta get a stick FAST and NOW and get the hell into operation.

0693

SPL  
071

# 'SPLAIDREMIC AGE'

Time in which record-keeping,  
and presentation of complexity may  
be done cheaply and well...

0693

SPL  
072

The Vanorum editor

0697



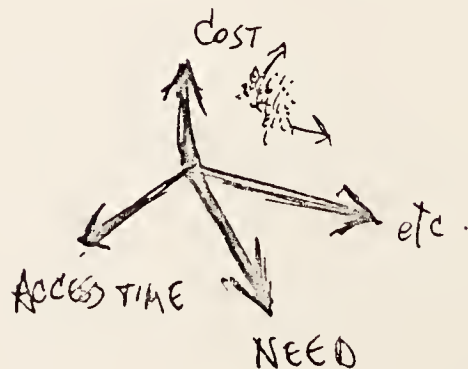
SPL  
073

'Generalized Splanremic files, lists, displays  
& controls.'

0704

SPL  
074

SPL becomes appropriate in certain domains:



0704

SPL

075

Mapping this word to certain things in the world is not an end in itself. The word is an accessory to a unified ~~a~~ kind of operation ... which this book is about.

0705

SPL

076

Poison Information Central, U.S.A.  
(such as there is)

0705

SPL  
077

That soft feminine voice that  
warns pilots.

0705

SPL  
078

Information Retrieval; &  
Integrated  
Display  
Record-keeping,  
Control.

0707

SP  
079

Two-column movie script

0707

SP  
080

Histomap

0707

SPL  
081

HANS KOEBNER, "Electronic Film Editing."

American Cinematographer Dec. 62,

730 + (v. 43, no. 12).  
-54

TELEDUO system, product of W. Steenbeek,  
Hamburg, Germany.

Two 16mm channels, 1 tape, <sup>2 channels</sup> forward & reverse, 2 TV's & one monitor. (Can go negative, <sup>(sync signal)</sup> of course.) 0723

SPL  
082

Ultronic Systems, Inc.,  
STOCKMASTER gives instan-  
taneous quotes, a 2  
3-digit readout.

0737

SPL  
083

Previous inaccessibility, disparities,  
separateness of vital

COLLATERAL INFORMATION

(07) 50

SPL  
~~083~~  
084

Don't be misled by your ~~practical~~  
familiarity with <sup>spatial analogies, like</sup> the linear order of  
words, texts, other inventories.

07 50

SPL

~~085~~  
085

Reverse D like term 'informatics' over 'informatics' is that the former conveys suggestion of communicating forms into multidimensional connective; former is pedestrian.

---

07 60

SPL

~~086~~  
086

Systems of confidential files exchanged with the knowledge of the subject, but not ~~of~~ of the contents. (bureaucratic referrals of all kinds: transfer of patients, inmates, students, and academic job-seeking.)

07 60

SPZ

~~087~~  
087

# FILMIC SPACE

a crucially related notion

07 61

SPZ

~~088~~  
088

# CONCEPTUAL SPACE

- cf. 'filmic space' -

NOT easily compatible with

1. LINEAR LANGUAGES
2. Two-dimensional diagrams

07 61



SPL??

~~089~~

089

Find out Greek for shadow.

0766

SPL

~~090~~

090

Great Mormon ancestor IR

0780 0780

SPL

~~091~~  
091

Actors (esp. lecturers & narrators)  
are cued scriptlessly in long speeches  
through hearing tube & ear m.o.  
INSTRUCTIONS ~~etc.~~ (movement etc., not to be recited)  
~~Instructions are in fuketto to disgust them.~~  
are in fuketto to disgust them.

44:6 "Re/Eve!" by Gustav E. Lander, American Cinematographer  
342-67. (June, 1963), 342/67-8. This item is **0780**  
342-67.

SPL

~~092~~  
092

Early

Distinguish between great capability  
& reliability for routine iterative  
operations, [ & versatility when these  
are diverse enough ]

and

MYSTERY OF COMPLEX MACRO-  
LINKS not within our interest here.  
(Nerve net models etc.) **0781**

SPL

~~097~~  
095

'Array functions'  
'Display functions'

0781

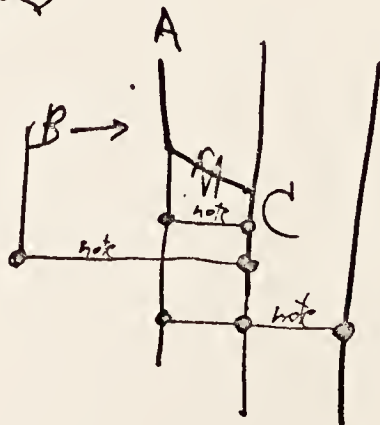
SPL

~~097~~  
094

Example of how historians might use ~~the~~ 'some display'

Parsers

time  
↓



'note' means that  
some text  
corresponds  
to this

0781

SPL

~~075~~  
075

Evidently 'architectonic' has as one  
meaning:

'the abstract scheme of pure knowledge'  
and/or 'the elucidation of almost anything.'

0781

SPL

~~077~~  
076

No QUESTION of importance  
of Partial Order — but it's  
the branching & filtering (& note-taking)  
systems that require ~~attention~~ attention.

"This problem requires our greatest respect." 0782

SPL

~~097~~  
097

PARTIAL ORDER IN FICTION

PALE FIRRE

0786

SPL

~~098~~  
098

Conspicuous easy commercial use  
of multiprojections

DISPLAY OF SEQUENTIAL  
WAR MAPS (e.g. Gettysburg)

0787

SPL

~~100~~  
099

It shall be one thesis <sup>here</sup> ~~of~~  
~~this book~~ — quite unprovable at  
 this date — that partially-sequenced  
~~machines~~ presentation machines can  
 do everything the printed page can do  
 (except feel elegant and smell sentimental and give a sense  
 of possibility) — and perform those functions far better. 0789

SPL

~~100~~  
100

phrase

Putting DISPLAYS  
 under PROGRAM CONTROL  
 FLEXIBLE  
 will be the crucial moment.

SPEEDUP OF ACCESS

& ENLARGEMENT OF MEMORY

also gonna be very important.

0789

SPL

~~101~~  
101

THERE ARE NO BIG THINGS  
TO BE INVENTED. Things  
will be invented, but unless they involve  
togetherness ~~transmission~~ directly from machines  
to nerve fibers (without human sense organs  
or receptors intervening...) They will be  
MORE OF THE SAME.

0789

SPL

~~102~~  
102

My intent not so much  
to point out dazzling possibilities so much  
as the necessity of systems choice,  
and the disastrous potential of bad  
systems choice.

0789

SPL

~~103~~  
103

CRITICAL THRESHOLD 1 PREDICT

It is all but inevitable that we will have ~~digital~~  
REMOTE (HOME) SYSTEMS OF LIBRARY ACCESS,  
presumably digital rather than photographic.

However, it is crucial that ~~the wrong~~ <sup>but</sup> systems  
not be installed, yet quite foreseeable that they might be.

For instance (owing to ill-conceived buffer buffers, etc.)  
it might come in large chunks ['books'] with no program  
control possible from the receiving station. I.e., forbidding  
skimming, skipping, random (or lookup) excerpting, & restricting  
general library materials to either the writer's or the

+ 0789

SPL

~~104~~  
104

THRESHOLD 2

librarian's, or the system designer's, narrowmindedness.

THIS BILLING SYSTEMS could look  
this thing as badly as the design  
of components & switching networks...  
just as they do for telephones.

0789



SPL  
~~#105~~  
105

Early section on  
SYSTEMS & GADGETS  
OPERATING NOW;  
'SYSTEMS' vs 'INVENTIONS'

0789

SPL  
~~#106~~  
106

Microgram News

Presentation  
Handling  
Display  
Transmission  
Sorting  
Program Control  
Automatic  
Consumer  
Information

HIPCAT handling information (under) control & automatic transmission

0789

SPL  
~~107~~  
107

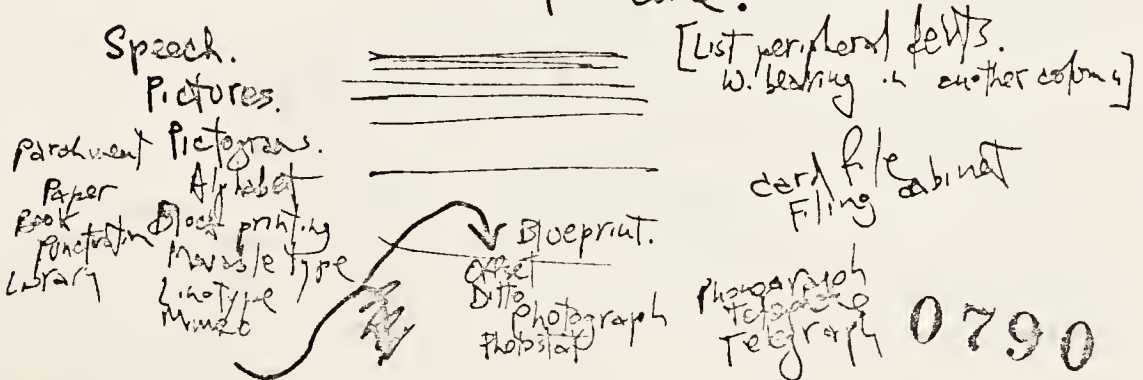
AUTOMATIC QUERY  
BANKS & reference files  
ready for telephone access  
[much easier to do in digital.]

0790

SPL  
~~108~~  
108

Prepare a timetable  
[on a logarithmic scale?]  
of things in development and  
to come.

Year



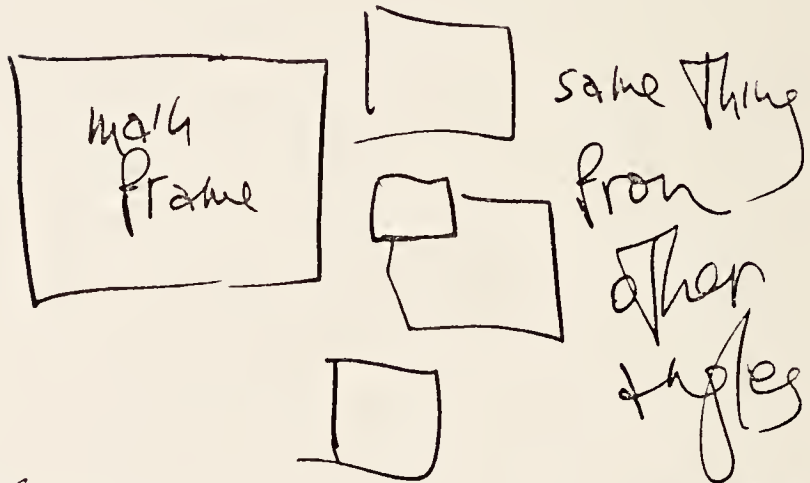
0790

SPL  
#109

'Multiple' Movie projection

MAKES  
THE  
CUTTER'S  
ACT  
SOMETHING  
ELSE  
AGAIN.

(& close to Montage;  
and like what they did at Seattle.)



0790

SPL  
#110

HYPOTHESIS:  
Need a word for

MULTIPLE, VARIANT,  
SIMULTANEOUS and/or  
REDUNDANT, displays  
COLLATERAL

0790

SPL  
112

# SplandreMics

↓  
↓  
↓  
↓  
↓  
↓  
↓  
↓  
↓

0792

SPL  
~~112~~  
112

About all the phrases  
you need to know

DIGITAL  
STORAGE  
ON-LINE  
INPUT  
OUTPUT  
BUFFERING

0792

SPL

~~##~~  
113

# SOUND FILMS

The first 'collateral' system

0793

SPL

~~##~~  
114

LUXURIES? CRUTCHES?

(What about Paper & TV?)

0793

SPL  
~~#15~~  
115

## NB THE TRUTH ABOUT ACCOUNTING:

not fixed, hard-&-fast, but quite flexible,  
& really tied down by the insufficiencies of  
record systems & tabulation-systems as  
they exist now. (WITH QUALIFICATIONS,  
OF COURSE.)

0799

SPL  
~~#16~~  
116

## RECORD-KEEPING e.g.

Budgets not divided into such  
hard & fast categories, but partitioned  
differently.

0799

SPL  
~~#7~~  
117

## MULTIDIMENSIONAL DISPLAY

FLYING A PLANE a multidimensional  
problem (not just 3.) Driving a car,  
too — or a racing car, surely.

0799

SPL  
~~#8~~  
118

Displaying all at once the  
inter-pulsations of complex materials...  
e.g., basic capacitance & inductance,  
or Keynesian economics (cite that little  
book.)

0799

SPL

~~119~~  
119

## SETS OF ALTERNATIVE (Conditional) POSSIBILITIES

Interpretation of (var & diverse) espionage data

Writing

Motion Picture Editing

Other plans, e.g. personal

0799

SPL

~~120~~  
120

Info that Radio stations can  
pack in by fast talk, music-&-sound  
concentrations...

0799



SPL

~~123~~  
121

That guy (Berkeley? Hume?) who  
almost went to Australia.

0799

SPL

~~124~~  
122

If sets of alternatives could have  
been suitably displayed prior to Bay  
of Pigs...

0799

SPL  
123

P presentational  
I indexing

0802

SPL  
124

AVTO  
audio-visual-textual-organizational

0802

SPL  
125

Digital text output not new,  
e.g., Times Square headlines.

0809

SPL?  
126

The administration of educational programs is controlled either by school boards whose outlook is absurdly local and prejudiced, or by professionals who slant teaching usually toward making the pupil (if he is to be successful) as much like themselves in attitudes and style of life as possible.

0809

SPL  
127

'A computer program is  
rather like a poem...  
~~ever~~ every little part  
must be just right.'

0809

SPL  
128

shit-parts of education

~~INSULT & COLORLESS~~

THE ~~LEARNING~~ LEARNING OF  
MATERIALS MADE  
MONOTONOUS &  
COLORLESS

0812

SPL  
129

THE POWER of the simple, direct answer  
to excite someone, if it comes at the  
moment of amosity.

0812

SPL  
130

Chapter eq.?

CHAPTER ON A-V AT HAND & BUILDING

Deaser ending:

'but ~~these~~ further developments hang  
on developments of ~~the~~ automatic  
~~of~~ data handling systems,  
and switching  
miscalled 'computers.'

CHAPTER ON COMPUTER A-V etc.  
CAPABILITIES.

No.

0813

SPL

131

(timetable)

[Critical watershed in SPL as concerning our feelings (at least) about the machines, and about the canonical ~~the~~ existence of non-literary works of art, will hinge on:]

## IMPROVEMENT OF AUTOMATIC DISPLAY GRAPHICS.

0813

SPL

132

You cannot store a painting in a computer.  
But consider this: how many bits to store art reproducer?

Assume 64 gradations of dots, 512 dots (per color) to the inch.  
~~A painting 16 x~~ A reproduction 16 x 32 inches requires

$$4 \cdot 64 \cdot 512 \cdot 16 \cdot 32$$

(colors)

$$2^2 \cdot 2^6 \cdot 2^9 \cdot 2^4 \cdot 2^5 = 2^{26}, \text{ a very large number.}$$

However, this amount of information fits on four negatives, so its storage can't be that much of a problem.

0813

SPL

133

MUSIC has been represented by  
digital code for ~~2~~ a millennium.

0815

SPL

134

Definition

the study, art and science

of the organization, <sup>✓</sup> preservation, ~~≠~~ presentation,  
modification,

of displays and information,  
esp. <sup>✓</sup> text & pictures  
(but not exclusively)

0816

SPL  
135

Crossover-point coming soon:  
PRINTING ~~OF CATALOGS~~ MORE COSTLY  
THAN SATELLITE QUERY STATIONS.

(For catalogs, instructions...)

0816

SPL  
136

Dates in my schedule

- # Most or All ~~published~~ material now published exists as digital data
- # All <sup>library</sup> material of contemporary interest now digitally available
- # Paper-to-digital ~~or paper to~~ systems now a routine library service

#

0816



SPL  
137

The author is not an engineer, not a programmer ... but a guesser.

0819

SPL

138

HANDLES TO MANIPULATE  
that change visual displays,  
causing gears to turn, curves  
to shift, 3-D things to change  
their depth relations.

0821

SPL  
139

VARIABLE DISPLAY MODES  
of same text materials

0823

SPL  
140

No further devts necessary.  
Those that will come will only  
increase things

0824

SPL  
141

Knotty instructions are digital

0825

SPL  
142

Simple storage of texts for  
occasional reading or browsing,  
their preservation, printing is  
cheaper.

Complex indexing, revising, re-  
ordering and updating, the Digital form  
is certainly cheaper and easier.

0826

SPZ

143

OBsolete LAWS about photo-reproduction  
(Currency, copyrighted material)

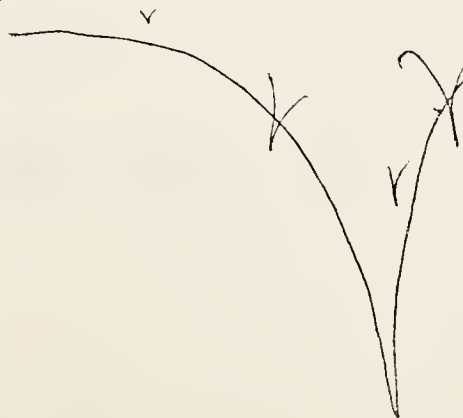
'Photography' means all automatic  
methods for copying the appearance of  
something. Such methods now universally  
necessary.

0826

SPZ

144

Storass graph-chart of comparative  
& local gravitational fields within the solar system.



Major History LXXII: 8  
(Oct 63) 12-13

0826  
0826

SPL  
145

Importance of 'isms' in literature

Quote Zooey

T.H. White (Merlin's college)?

0826

SPL  
146

Seminars systems for  
explaining or not explaining file contents,  
computer, etc.

0827

147

~~SUMMARY~~

SUMMARY  
REVIEW

MEMORIZATION

~~structures~~  
structures

0829

SPL  
148

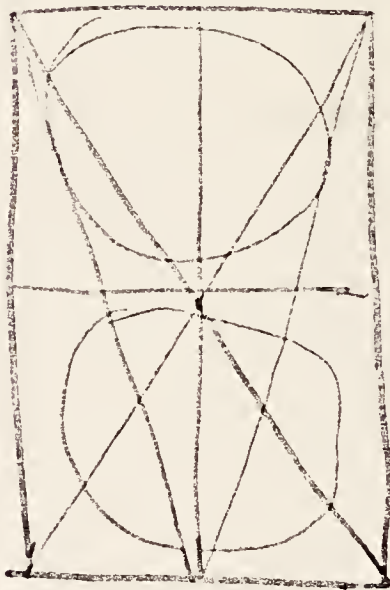
The burning of the library at  
Alexandria — perhaps one of the  
most important events in the history of civilization.  
What happened here?

E.P. ...  
page 2 ...

0848

SPL?  
149

Universal-character patterns on  
side of blimp (actually two squares,?)  
i.e. ~~high~~ tower?



0849

SPL  
150

opening

It seems to be the impression of  
most people — particularly housewives, intellectuals ...  
that "computers" are "taking over," and soon we are going to  
be "run" by "the numbers."

(There are elements of this impression that deserve  
examination...)

... but it is my conviction that automatic data systems  
("computers") present some of the most magnificent potentialities  
that have ever faced mankind. ~~that misuse~~ The misuse of these machines, the improper realization  
of these potentials — in ways that I endeavor

to explain  
possible  
loss for mankind  
later on — will represent the greatest  
be

0850

SPL  
151

Computer as Most Versatile Possible  
Switching Engine.

0850

SPL  
152

Ability, to accept & digest  
MULTI-FORMAT INPUTS

0850

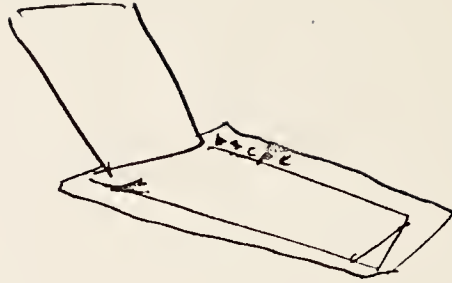


8PL  
153

'List finders' devices  
(≡ List finders.)

~~Proposed~~

Correct name



0850

8PL  
154

File-oriented terms:

RECORD

FILE

'SLOT'

↑ ARRAYS, TABLES, CELLS, DIMENSIONALITY

0853

SPL  
155

INTRO  
WRAPUP

1

This book has several purposes - One is to inform the general public of the explosive, revolutionary and astounding ways in which 'computer men' are expecting to revolutionize the business of

0854

SPL  
156

intro  
wrapup

2

finding information — the function now performed by reading books and publishing, literary, etc.   
→ mainly reading books and papers.

The second intent of this book

0854

SPL  
157

1. W.

~~4~~ 3

is that to present my opinion  
of this revolution will not be  
of the form which took world war  
one planning; it will be more  
sweeping and more drastic, and when  
it has happened the world will

0854

SPL  
158

1. W.

~~4~~ 5

When it has happened (1975?)  
world will be as different  
as the world of 1943 is  
different from the gone days  
that had neither telephone nor  
television.

very different.

Life will be

0854

SPL  
159

I.W. 5 ~~6~~

Second I will try to argue  
in some detail about these things  
in some detail; that is, as far as I have speculations that  
I think are relevant.  
as I think I can reasonably speculate.

Third, I want to  
present the thesis that all

0854

SPL  
160

I.W. 6 ~~7~~

these developments are pointing  
toward a new, unified set of  
systems: an entire single  
field of a piece, unified,  
seamless — deserving recognition

0854

8PL  
161

i.w. 7

and attention as a whole.

It is his best

For it is my final point  
that not only are these things  
inevitable, but that they are good:

0854

8PL  
162

i.w. 8

That is, they possess the  
potentiality of many beautiful,  
excellent and happy things.  
Like all good things, ~~there~~  
~~is~~ however, their use demands

0855

SPZ  
163

i.w. ~~10~~ 9

the most intelligence and  
concern we can possibly

bring to them.

'The machines are taking  
over,' people say. 'They're

+ 0855

SPZ  
164

i.w. 10  
~~10~~

turning us into numbers.  
These things are not true.

But the dehumanization  
~~that~~ <sup>these phrases</sup> suggest is surely possible

— in worse one and whether ways

0855

SPL

165

i.w.

~~13~~ 11

There is generally suggested -  
unless men of good will and  
sense find out what is  
wonderful about information  
machines, what it is possible

0855

SPL

166

i.w.

12

~~11~~

For them to do, and by  
thinking and talking about  
the systems that will

put the machines of tomorrow

0855

SPL  
167

i.w.

13  
~~15~~

to the best uses of unskilled.

1 Change above sentences

to:

men of s & gw to understand

and the options:

The potentialities  
change first  
100 per.

1  
'poss. by Neg. 1

to

0855

SPL  
168

The 'tank' ~~the~~ viewer in  
Stranger from a Strange Land.

0857 0007



SP2  
169

Woman in "McK Truck"  
Doesn't stop here any more  
who has her <sup>int</sup> box set up for dictation  
from anywhere, at any time, to an  
unseen secretary.

(This is, of course, simply a ~~dramatic~~  
dramatic device. But its intent can  
be better served...)

0857

SP1  
170

Univ. of Deft system going in to operation at  
a new 4-year university:

PARK FOREST COLLEGE. (John R. Malone, chairman & trustee.)

from 64 book-pages to a 3x5 sheet, to be read ~~with~~  
portable book-size propellers

1 x 10<sup>6</sup> vol. ~~volume~~ & 2 x 10<sup>6</sup> instead of 25.

0873

SPL

171

# SPL ANDREMIC

An Upheaval.

0867

SPL

172

(Illustration of joke box)

~~The~~ The console of a <sup>computer</sup> ~~cyclical-access~~ <sup>random-access</sup> audio storage system. It is "random-access," and programmed by the ~~choice~~ user's choices.

0877

SPL  
173

(juke box .1/0)

An addressable audio memory system. It may be programmed ~~to~~ in advance to play a number of different songs <sup>without stopping.</sup> However, ~~it~~ you cannot specify their order, and you cannot request the same song several times in a row unless you wait for it to begin.

0877

SPL  
174

The mystique of 'cybernetics'

0878

SPL  
175

PEOPLE ARE

TIPPOING AROUND

A MONOLITH

because it seems so ghostly

0878

SPL  
176

~~For some reason the~~  
Some of the most dramatic developments in history  
have been escaping the public eye, for rather silly  
and stupid reasons. The 'experts,' who supposedly know  
what they are doing, appear to have no clear  
understanding of the upheaval that is before us.  
And unless we confront it on its own terms, things  
will be nowhere near as nice as they should be.  
good

0879

SPL

177

(Write to Cornsback ~~to~~ pub. ~~&~~ or letter,  
Cornsback personally, and on account of his  
Great foresight & such ask for prints of  
anything he's written about,

ELECTRONICS IN TEACHING  
THE AUTOMATIC PRESENTATION OF TEXTS BY  
MACHINERY (i.e. computers)  
COMPUTER LIBRARIES

0879

SPL

178

for 1

~~This is a book~~

This is not a popularization, even though it ~~is~~  
~~has~~ been written so that anyone can read it,  
even Saturday Review devotees.

It presents a set of predictions, but they do not  
rehash any conventional point of view — even in this day  
of wild predictions in all directions. Rather, it presents  
what is in fact a radical point of view <sup>together with a set of present problems</sup> which I want  
to make clear as best I can and back up  
with what evidence I can muster.

0879

+

SPL

179

POP #2

I must emphasize also that this view diverges somewhat sharply from ~~expert opinions, which tend to take a sharply limited view.~~

In the nature of the case, though, the 'experts' seem to have taken sharply limited views of the potentialities and of the boundaries of the problem.

0879

SPL

180

PETE 1

A revolution <sup>imminent — actually</sup> is, in progress —

in the nature and treatment of the written word. We are backing into this revolution in timidity and confusion; but it <sup>is</sup> a revolution in every way that we read, write, save things, take notes, use numbers, try to remember, and try to learn. It is no less than all that.

0879

SPL

181

PETE

2

If

The reader may think, 'Oh, it has some-  
 thing to do with computers,' and thus  
 be annoyed and misled; sensing something  
 ominous and numerical, he will may  
 put the book down and miss the idea entirely.  
 This is not a book about computers. It is  
 a book about some of the things we are  
 suddenly able to do — and if the mechanics

0879

SPL

182

PETE

3

of these affairs is going to be handled  
 by machines, they have to be the  
 most general and versatile machines  
 that can ever be. The so-called ~~and~~ universally misunderstood,  
 "computers."

0879

8PL  
183

"Spandremics" defined

DISPLAY MODES,  
SYSTEM SPECIFICATION,  
+ INTERLOCKS,  
SYSTEM DESIGN  
for display & records handling

0880

8PL  
184

'Ever more versatile and automatic  
microfilm systems'

0880



SPL  
185

Everything that you could possibly envision for a machine to do can be programmed as a task for an automatic digital system.

0880

SPL  
186

After

INFORMATION RETRIEVAL

DOCUMENTATION

Have a chapter called,  
Secrets?

From the beginning of  
Early in this decade Harvard's Widener Librarian  
called on IBM and asked what it should do. IBM said,  
"Don't. What are they building? Why is everyone so silent?" ...

0880

SPL

187

I am going to maintain that, while certain technical approaches and configurations are vital and necessary, the heart of this subject is not technical, any more than ...

The principles are about as intrinsically technical as Love or Truth or God. That is, it will figure closely in our lives. While expertise may provide insights, it should not adjust our understanding.

0881

SPL

188

A new revolution is coming, as drastic for our daily lives as the ~~the~~ telephone, the automobile and television. It is more drastic and more immediate than anyone realizes, <sup>scarcely anyone is aware of it.</sup> Perhaps, ~~the~~ ~~idea~~ like automation, it first must have a name. I call it

1 title page

0881

SPL  
189

Chapter on the computer entitled  
THE ALL-PURPOSE MACHINE

0881

SPL  
190

Chapter?

FORMS AND INFORMATION GATHERING

Gathering data and 'FILLING-OUT FORMS'

0881

SPZ  
191 Chapter

TEXTS

0881

SPZ  
192

Chapter?

MAGIC BOOKS AND BLACKBOARDS

Closing chapter on unified spondrenic systems?  
(text, pictures and all)

0882

SPL

193

Reading, writing and  
record-keeping

0282

SPL

194

The art of  
audio-visual

0282

SPL  
195

# WALK DISPLAY

~~The way, or the~~  
~~way of~~  
The way, or the  
way of  
surrounding by these symbols  
& message or a fall?

0882

SPL  
196

Rather than relying  
us to do things, it will  
free us from our best  
human choices...

0882

SPL

117

The advantage to be gained by bypassing over the stages of paper to one of complete automatic ... is stupendous.

0882

SM

118

ASSOCIATIVE & CONNOTATIVE TRAINING STRUCTURES

(Liking or hating, for example) (unlike the reverse) paper - words

0882

SN  
199

Chapter?  
New forms of  
Compound Displays

0882

SN  
200

Chapter?  
Display Modes  
Beyond  
conceptual environments  
Multidimensional  
computational spaces  
intrinsically responsive  
environments

0882



SPL  
201

Possible Now

Need two machines:

INDEXABLE 35mm SLIDING  
& RE TRANSFERRING

16mm TAPE RECORDER

Automatic FORMATS - 8 - 15/16  
PROJECTOR

0882

SPL  
202

Partial order in fiction & entertainment

(EDWIN PROOD)

Mr Saborias

That killer - record with  
several possibilities.

0882



SPL  
205

AEB ~~Am~~ 3

is the larger class, taking such  
a statement to work, let us  
hold back on the grander  
system planning until we have  
it well designed  
with this why :-

+ 0882

SPL  
206

AEB y

It is better  
to derive from doing all these  
things at once is thousands  
of times greater than that  
which results from trying  
it

+ 0882

SPL  
207

~~1/2~~

ASE  
5

Do do them separately.

(4 other cost/benefit  
notions.)

0882

SPL  
208

Bill 4 1

How much time do we  
spend filing, copying  
and re-~~writing~~ing? How much  
time do we spend  
checking out records,  
trying to find out  
personal records, writing &

0882

SPL  
W/2

Financial items and Billy 2  
forms?


~~with paper work~~ forms? try  
trying to keep  
keeping track of them  
Must all of this is  
time that can be saved.

0882

SPL  
210

SAH 1

One must begin somewhere. Obviously the thousands of paper forms associated with jobs

and <sup>bureaucracies</sup>  we are not  
going to kill it

SPL  
0882

SPL  
211

PAM 2

but there are places —  
~~spend~~ ~~small~~ businesses, ~~rich~~  
writers, new ~~schools~~ ~~schools~~ building  
— that will ~~begin~~ ~~start~~  
to begin the ~~total~~  
commitment to ~~output~~ +

0882

SPL  
212

STY 3

record-keeping and text handling  
that, the course, everything  
that works sells ~~another~~  
another.

0882

SPL  
213

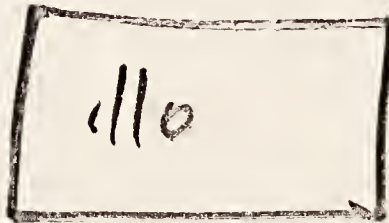
?

~~XXXXXXXXXX~~

For \$20,000 a man  
with leisure time  
(and who can do his  
own programming) day  
may do system that will  
do it all. ....

0882

SPL  
214



SAC Command Center, underneath Omaha.

This system is a prototype, in the author's opinion,  
of the kind of total reading-displaying-picture-projecting  
station we are going to grow up to.

0884

SP/L  
215

Just, pocket?

Digitally programmed machines ("computers") ~~present~~ according to the author, present fantastic possibilities: ~~as~~ <sup>they can be</sup> the world's greatest stenographers, librarians, memo pads, and slide projectors. However, the author is especially concerned because "computer people" seem not to realize how broad an upheaval is desirable. He says that 'splandromics', a whole new approach to the automatic hand line of words and pictures, will have a bigger effect than automation. 0884

SP/L  
216

The ALL-ALL-O-SCOPE

0885



SPL  
217

Teaser? (W&L for Dr. Lake.)

Despite the talk, computer people  
actually have a very limited view of  
the revolutions <sup>their technology will bring.</sup> ~~due to our~~

~~Changes~~ Changes are due in our daily lives and  
entire social structure that will probably  
be more sweeping than those brought by  
the telephone, radio or TV.

0897

SPL  
218

"Is the clock of the Computer  
drawing out the voice of the Muse  
forever?"

Cliff Huxley in two Reports: The  
Virginia Life Center, 15 March 67.

0898

SPL  
219

'MISCHIEVOUS PROGRAMMING'

0898

SPL  
220

Twain bought a Remington typewriter  
in 1874. In a letter (Dec. 9 '74):

"... THE MACHINE HAS SEVERAL VIRTUES [.]  
I BELIEVE IT WILL PRINT FASTER THAN I CAN  
WRITE. ONE MAY LEAN BACK IN HIS CHAIR & [sic]  
WORK IT. IT PILES AN AW-FUL STACK OF  
WORDS ON ONE PAGE. IT DONT MUSS THINGS  
OR SCATTER INK BLOTS AROUND. OF COURSE  
IT SAVES PAPER."

(Photographed on p. 112 of Milton Heltzer, Mark Twain Himself, 0903  
Bonanza (N.Y.) 1962.)

SPL  
221

PATENT ON 'TOUCH' OUTPUT TO HUMAN.  
IBM has patent on cable attachment to person:  
different impulses go to different parts of device  
(e.g., different parts of the arm). Described in  
Radio-Electronics, April '64, p. 77.

0907

SPL  
222

ff

THE UNIFIED ART  
OF INFORMATION (idea)  
HANDLING AND DISPLAY

0910

SPL  
223

(title page)

# SPANDREMIC'S

The Unified Art  
of the  
Handling and Display  
of  
Information and Ideas

0910

SPL  
224

Device invented by James C. Tanner  
converts household TV sets' radiations to  
direct channels — from a moving  
vehicle. Times April 6 '64 p. 1 & 65

Argument for privacy.

0913

SPL  
225

machine that can...  
Machines - operate on

'PATTERNS OF DOTS'

0913

SPL  
226

ACCREDITATION OF  
PROGRAMS & PROGRAMMERS  
in order to get text systems standardized

0916

SPL  
227

## Possible Copyright Systems

- 1 REGISTERS A RENTAL (FEE)  
UPON TRANSFER OF A TEXT UNIT  
BETWEEN ~~2~~ CENTRAL PROCESSORS
- 2 REGISTERS A RENTAL  
ON REPRESENTATION OF A TEXT UNIT  
AT AN OUTPUT DEVICE

0916

SPL  
228

Making paperwork easier: TRANSFER OF TITLE  
OF AUTOMOBILE.

0917

SPL  
229

'Termotrex' data storage & retrieval system.

Stores information on pathological cases on opaque  
9x11 cards, then coats holes.

Write to Scientific Products, Division of American  
Hospital Supply Corporation. 1210 Leon Place,  
Evanston, Illinois 60201.

0918

SPL  
230

Hypertext

Text that

It Responds

It May be programmed

It Leaves some options to user

0921

8/2  
231

Have an Appendix giving technical terms  
I did not invent. (And putting ones I did  
in boldface?)

0922

8/2  
232

Isn't this the word I've been wanting (Not 'synchronics'?)

HYPER-PHANTICS  
or HYPERFANTICS

But then what's the unit?

Hyperfane?

Hyperfant? (Better than Hyperphant.  
Too like elephant?)

0922



8PL  
233

# GENERAL PHANTICS

might very well be the  
Science of Display

(In which case, The General Fantastic Corporation...)  
HEH HEH

0922

512  
234

the design of units, systems, types  
and modes of display  
~~Abstract~~ NAME & PROGRAM  
INTERFACE.

~~Abstract~~ FILE ORGANIZATION  
TRANSACTION SYSTEMS

0926

SPL  
235

# McTavish Systems

Machining  
Controlled  
Presentation  
Audio  
Visual Stuff  
And  
Texts

McTAV Systems  
Machining  
Controlled  
Presentation  
Audio  
Visual Stuff  
And  
Texts

0927

SPL  
236

## BUNKER-RAMO PRODUCTS

The Bunker-Ramo TRW-130 (AN/UYK-1) digital computer is now firmly established as the most widely used medium-scale military computer on the market today. At the end of 1954, 100 were delivered. A second generation medium-scale computer, the TRW-133, was recently delivered. Research and development continues on new design concepts for

Bunker-Ramo consoles which permit two-way communication between human operators in the Air Force 473L Headquarters Command Post and in other command

Representative Industrial Installations	Representative
	Customer

0928

SPL  
237

TEXT HANDLING & COMPLEX DISPLAYS  
TRANSACTION PROGRAMMING  
COMPLEX  
(UNIMAGINABLE) DISPLAYS  
COMPOUND

0931

SPL  
238

'audit trail'

machine's means of checking  
hoppers & transactions

'Real-Time Management Information Systems',  
~~estimated~~ April 64, 46<sup>-2</sup>

0931

(SPL)  
239

(( there is no such card. One was put here in error.))

2616

SPL  
240

(general) Phantics

Hyper-phantics

Phandremics

THE SELECTION OF  
UNITS AND PROCESSES  
FOR THE MOST EFFECTIVE  
DISPLAYS & UNDERSTANDING 6947

SPC  
241

Conjectural ab. on The New  
a Inevitable film / text / audio /  
branching Art

0948

SPL  
242

More a descendant of TELEGRAPHY  
than of radio technology

0949

SPL  
243

It is a common view that computers are ~~so~~ dangerous to all that is human. They're taking over the world. "They're taking us all into numbers!" This view, I believe, is monstrously false. There are dangers in the computer, but these are dangers which the direct user only can avert by staying away.

0953

SPL  
244

df?

Hyper-phant df.

A FILE ORGANIZED  
FOR USE & (INTERLOCKING)  
DISPLAY

0956

SPL  
245

People who may want protocols just to make  
sure that the 'physical' book will exist — like  
the legendary yokels who keep going to  
National

the bank to "look at" their money, withdrawing  
it and depositing it again.

0957

SPL  
246

dfs-

the creation of displays,  
the design and invention of  
methods of display,  
the design of files to be  
involved in display,  
the design of units and  
sequences of things  
to be displayed

0958

SPL  
247

Jerrold R. Zacharias, M.I.T.

Seems to be the big man in  
physics teaching by films.

0960

SPL  
248

Institut für den Wissenschaftlichen  
Film, Germany, is compiling the Encyclopaedia  
Cinematographica.

(Gottfried Wolf seems to be the  
traveling speaker.)

0960



SPL  
249

SPL ANDROMICS' H.

AUTOMATIC INFORMATION  
HANDLING—SUCH AS TO  
INTERFACE WITH  
AUTOMATIC DISPLAY SYSTEMS

0969

SPL  
250

I sometimes feel like arguing that these  
revolutionary developments are meritable because  
they are good, and that ~~they~~ <sup>they</sup> had better be  
good because they are meritable. But as reasonably  
this is open to objection.

0976

SPL  
251

Association for —?

Stefan's  
88 St. Stephen's St.

Boston

HAS BOOKS ON  
MAG TAPE FOR  
THE BLIND  
— says WABC

0986

SPL  
252

sub title

SPLANDREMIC  
The new field of Magic Presentation

1002

SPL

253

title?

MAGIC PRESENTATIONS  
AND CONTROL

1002

SPL

254

PRIME system is generically -

CLOSED-STRUCTURE  
HIGHLY EXPANSIBLE  
FILE SYSTEM

1013

SPL

255

IR degenerating to  
probabilistic selection  
& abstraction algorithms

1045

SPL

256

Lights around Times building  
1928 to 1962 or 3

1047

SPL  
257

Empirical study of use of existing information systems should not be overrated, since usage of systems we <sup>might</sup> build would be entirely different.

1050

SPL  
258

Consequences of OR (usage, 'need') studies are only in the dispersed and hierarchical arrangements of storage — not in the basic CRT display principle.

1050

SPL  
259

NB Bush's Memex had most  
of the features I want

1051

SPL  
260

## LIST HYPERFILE

is

- I A PACKAGE OF ITEMS  
& RELATIONSHIPS
- I OUTPUT FUNCTIONS

1083

261

DB

FILE

# TERMS OF STORAGE

1. STRUCTURED RELATIONSHIP

2. PARTICULAR METHODS OF

USE & ACCESS

FILE STRUCTURE

in connection

FILE

1120

262

FILE

DB

1121

SPL  
263

see LIFE vol 58 no. 4  
29 Jan 65

p. 3  
"Churchill: Writer in the Grand  
Manner"  
(of his 24-hour supply of ~~secretaries~~<sup>secretaries</sup>  
for instant dictation, and of  
his numerous drafts.)

1144

~~AF~~ ~~AF~~ = SPL?

264

→ Mention economics of using  
computer CRT's for Night  
Courses - as a community  
service, if not economical.

1154



SPL  
265

'Extended visualization,  
kinesthetic conceptualization  
fields of ideas and relations.

1246

SPL  
266

Analogous coordinate systems  
for input

1247

SPL  
267

## EXTENSION OF ANALOGICAL MOVEMENTS

e.g. ← left per movement controlling  
screen draw roll

1247

SPL  
268

(J should get in touch with  
some of the ELECTRONIC MUSIC  
guys, esp. Milton Babbitt.)

1311

SPL  
269

(Jean says further that the Tolson story was told by  
a daughter of Francis Parker Wye Bobbie  
was there. (~~early thirties~~) (Prob. '34 or '35.)

1312

SPL  
270

CF. THE DESIGN OF NEON LIGHTS

1326

SPL  
271

Let us

DEPART TO A NEW REALM  
OF POSSIBILITIES

1328

SPL  
272  
'Phantoms' —

INFORMATION AND PRESENTATION

1328

SPL  
273

THE LORD'S HAND (?) TRACING THE ~~EMBEDDED~~  
STONE TABLETS IN TEN COMMANDMENTS (FIRST VERSION)?

1338

SPL  
274

Whatever the devices or methods, e.g. direct  
neural transduction

{ electronics  
  { plastics  
  { etc.

will go on forever.

1352

SPL  
275

Exam cards

Viz-Ed fact sheets

Schwarz's Outline Series

1358

SPL  
276

Like automation, plastics began  
a very long time ago if we  
count the sampler cases.

1362

SPL  
277

Much effort going into refinement  
of indexing process.

But yield <sup>of that vein</sup> is now known,  
& probably can't be improved too much.

1388

SPL ?  
278

MOVIES ARE <sup>SEEN</sup> ~~READ~~ BY MORE PEOPLE THAN  
READ THE REVIEWS;

BOOKS ARE READ BY LESS PEOPLE THAN  
READ THE REVIEWS.

1398

SPL  
279

## DOCKETS

(aren't those digests?)

1411

SPL  
280

Question of whether 'phantoms' will be a  
single thing, unified, practiced by a  
single specialist.

Probably possible. Cf. Architecture (sociological problem.)  
But, like 'adaptation', it refers to a  
~~related~~ similar activity and trend.

1429



SPL  
281

Possible Appendix for Phonics

One chapter & Appendix:

INTERMEDIATE ALTERNATIVES

talking about Information Retrieval,  
Programmed Learning and so forth ~~and~~  
not so on.

143~~5~~

SPL  
282

Chapters of Phonics

Later chapters

Education

Phonetic Scholarship (when separate article;  
'Scholarship' when it's a chapter)

Information for Specialists

Possible title for first chapter:

The Break

Early sections will include:

The Break

What's New (i.e., the 143~~5~~

SPL  
283

Chapters #2

techniques and equipment that are working now)  
The Past (i.e., the variety of inventions  
built around the old media)

A New Unity (Phantoms)

New Systems (i.e., Licklider-Nelson type  
Hypertexts)

New Arts (esp. FANFASM)

New Lives (esp. the display systems in our homes)  
Education

14335

SPL  
284

~~2~~

Chapters #3

Scholarship  
The Heritage

and that's it.

14335

SYL  
285

Advertisement on H-fair

FORCEFUL!

ARE

AND



these ~~are~~ replace the others

1442

SPC  
286

~~Just~~ Advice

Any original ideas in this book I had during a very short period in 1960, when I ~~took~~ <sup>was taking</sup> a course in computer programming. ~~Anyone~~ Everyone I tried to talk to, including prospective employers, thought I was crazy. Six years later, with no modification of the reviews, I find that they are publishable and considered interesting. So there you are.

1446

SPL  
287

V-ma1)

1454

SPL  
288

(IBM OWEGO is in simulation trainers.

See ad in Computer Design, Jan 66,  
p. 67.)

1504

SPL

289

Mephistophilis costume (drifts)



Cozier



1537

SPL

290

Box 5, 3

Paper ...  
for ...

1570

SPL  
291

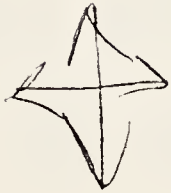
"ENVIRONMENTAL" ART  
ALL-SURROUNDING DISPLAYS & FILMS

VS.

BRANCHING, GRASPABLE,  
MANIPULABLE DISPLAYS

1576

SPL  
292



Fairchild - Hiller  
Microfilm Steer  
(combustible)

1580

SPL  
293

TOOLS OF THE TRADE

1584

SPL  
294

Lasers will not change characteristics of  
'the movie.'

1586

SPL  
295

times," Hobbs said.

The Jewish Torah must be <sup>the</sup> also  
handwritten on a scroll made to  
from the skin of a kosher ani-<sup>by</sup>  
mal, usually a shee por lamb. cor

---

---

1588

SPL  
296

STORE DISPLAYS

Esp. Stand-up card frames

1590



SPL  
297

Write Information Management Facilities, Inc.  
B (also make control rooms, corporate  
news centers.)

1604

SPL  
298

(Standard Teleprompter apparatus uses  
5/8" lettering)

1618

SPL  
299

CUTANEOELECTRIC STIMULATION  
(sp.?)

1631

SPL  
300

~~Apparently~~ IBM's Los Angeles Data center  
has a graphic display (ALPINE? More  
complex, via picture, than 2250.) Apparently  
for customer use.

Illustrated in Electronic Industries, May 66,  
p. 160.

1634

SPL  
301

SWITCHABLE - TRANSPARENCY GLASS  
(Marks Polaroid Corp., ~~NYC~~ NYC)

1723

SPL  
302

Factics embraces  
Deciding what should be shown  
in the light of how to do it

170058

SPL  
303

Farties embraces:

DECIDING WHAT TO SHOW  
ON THE BASIS OF  
WHAT IS POSSIBLE

1760

SPL  
304

AIR CONTROLLER SCREEN CONVENTIONS

Detroit, Nov 66, ~~12~~ 12.

1815

According to William Manchester  
(Death of a President), the  
nuclear-war code manual  
is a garish comic book.

1999

Postics. 29 Mar 67

I've just realized, today or lately,  
that "Postics" was meant  
for the output side of computer  
display rather than the interaction.

(Exception = Link Trainer, ~~SPC~~  
Variable-Handling auto.)  
I must think this over.

2000

SPZ  
307

FANTASIES II.

FORMS OF PRESENTATION

AND THE PRESENTATIONAL

ASPECTS OF CINEMA

2010

SPZ  
808

Multi-screen combines the

MOVIE

and the

ROLLER COASTER

2094

8PL

309

~~Page~~

The Intrepid, an experimental yacht,  
has fancy controls for its  
dual rudders, and sails in silence  
to charity, visual hand-signals.  
(LIFE 28 July 67, 60+.)

2135

5PL

310

The term 'photon' is  
to be found in old-fashioned  
advert-sig illustration.

2160

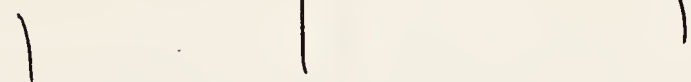
SPL  
311

# Variable-~~refer~~ TV-type systems.

2320

SPL  
312  
(log division of years)

table at end (one or several?)



TEXT  
Publishing  
stationery  
\* ALPHABET  
\* inverted  
\* symbols  
\* punctuation

\* Gutenberg

\* Bodinex  
\* Lickler

NON-VERBAL INFO  
SYMBOLIC  
BOOKKEEPING

\* double-entry \* checks

\* Baseball \* Fuller stack  
\* Dan Walker

AUDIO-VISUAL

\* Photos

\* Holog

\* Photo/plate  
\* Kolony-Wulic  
\* Nelson, Fustum

Visual  
Cognitive

2338

\* Suterland  
\* sketchup



SFL  
313

show that love  
2-page with  
master figure —  
power of modest.

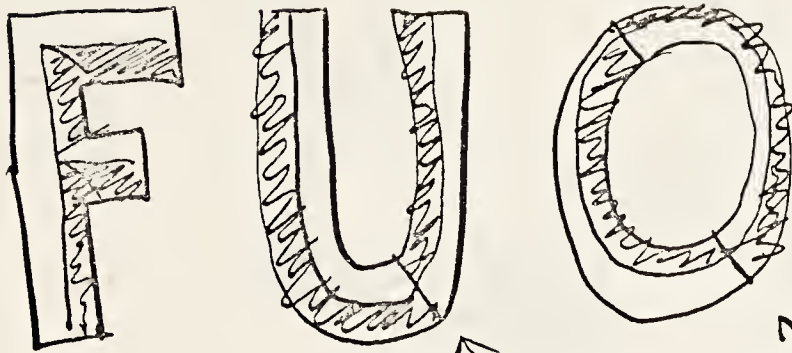
2339

SFL  
314

(That v. BCU picture of (mode))

2339

SPL  
315



Displays that simulate realism  
except at certain key places.

2341

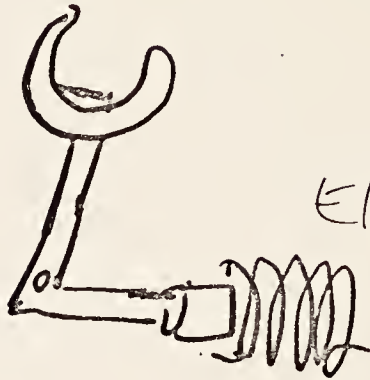
SPL  
~~317~~  
316

(Apparently the term 'audit trail' is derived,  
perhaps predating Bush's use of 'trail'.)

2478

SPL  
317

Exemplary, Feely



Electromagnet  
gives exact,  
varying  
sense of  
pressure-patterns

2502

SPL ~~317~~  
318

Kinematograph.

(Books June '68 4.)

It says there were 6 moments of  
decision -  
though Rado(?) cinema invented it,  
Jan Rohac directed.

2507

SPL  
319

## ACCORDION MENUS

[Van Dorn likes these]

2512

SPL  
320

Excellent notes on fastboards & feel —  
called "proficiency" — by J. W. Whitehead,  
1934, in The Design & Use of Instruments  
and Accurate Mechanisms: (Dover reprint  
1934.)

Reviewed & discussed in IEEE Trans on  
Man-Factors in Electronics, Dec 1967, 285 +.  
2512'

SPL  
321

(Baddy: the Illinois computer-music maker)

2533

SPL (used QSP)  
322

Preface

This is a book about, among  
other things, computers and the  
human mind. [and shows]

My ~~own~~ ideas about  
computers and the human mind  
do not appear to be the same  
as those of many other people.  
2561

SPL  
323

# FANTICS

PRESENTATION SCIENCES  
AS AN ART

2577

SPL  
324

Chapter One:

"Presentation Science: Newest  
of the Arts"

2578

SPL  
325

# Hypergrams — PERFORMING PICTURES

2584

SPL  
326

INTRO

41

Some of the most extraordinary  
advances in the history of civilization  
are now being made. Yet I think  
it is unsafe to say that most of  
those who are making these advances  
do not understand what they are doing,  
and the public, who ought to know,

2585

+

SPL  
327

INTRO

F2

have not the slightest idea of what  
is happening.

The basic misunderstanding is the idea  
that new forms of information storage and  
display are basically "technical" matters,  
whose design and overall characteristics

2585

+

SPL  
328

INTRO

F3

are to be established by "technical" means  
and ~~give~~ ~~to~~ ~~the~~ world.  
This bestows a uncritical

These systems will have the most  
extreme effects on life and culture  
since the printed book. And while they  
are swamped with technical ~~the~~ details

2585

+



SPL  
329

INTRO

§4

of execution, their nature ~~deeply~~  
is very simple. They are ways of  
showing and remembering ideas and  
impressions. Without a public that can  
understand, criticize and participate  
in the design of these systems, they  
are not going to be what we ought to have,

2585

+

SPL  
330

INTRO

§5

and our lives and futures  
may be polluted as a result.

2585

SPL  
331

McLuhan, in an early article, pointed out  
that <sup>western</sup> punctuation began by  
imitating speech: and going on to extend it.  
(Rhetorical vocalization?)

2586

SPL  
332

\* You can ~~be~~ give an idea,  
by the placement of an asterisk,  
of what sort of thing it is  
supposed to be.

2586

SPL (used QDP)  
333

FAN TIC

dt. The Projection

and Story  
of Idas

→ A Suppressor  
2588

SPL  
334

A light pen is like your finger.

Sometimes it means one thing

when you point with it,

sometimes another.

2588

~~102~~ SPL  
335

KEEPING TRACK OF THINGS

2591

SPL  
336

Engelbirt's "brick" Gefuherexperiment.

2591

SPL  
337

The fiction of technical experts <sup>precon-</sup> bound to  
revise the world from a petty perch...

These people are ~~not~~ ordinary human blunderers.

Often very smart; often, through their  
technical preconceptions, very dumb.  
... every system bears the personality of  
the man, or worse, the committee, that  
designed it.

2603

SPL (used QDP)  
338

'PETTY DETAILS'

2603

8PL  
339

8PL

The history of this work is a set of  
miscellaneous notes that should be told elsewhere.

2604

8PL (used QDP)  
340

8PL

My first interest was  
in a movie-writer.  
writer at showman 111

2605

SPL (used QDP)  
341

Intro

In the last of assigned with  
almost everyone.

2605

SPL (used QDP)  
342

ch

COMPUTER AS PERFORMER  
(non-interactive shows)

2605

8PL  
343

Exam: "Intellectuals"

2605

8PL  
344

MISC ~~Chapters?~~ ~~Sections?~~

9A

UNIFICATIONS AND VIABLE MEDIA

~~INTO THE ALL WATER:~~

INTO THE STILL WATER:  
THE CRAZY ECONOMICS  
Etc COMPUTERS

2605



SPL  
345

9B

TEXT WORKSPACES

~~TEXT INTERFACES~~

INNER THOUGHT AND

TEXT-CONTROLLED ACTIVITIES AND ADVANCED WORKSPACES  
CREATIVITY SYSTEMS

~~TEXT-CONTROLLED ACTIVITIES AND ADVANCED WORKSPACES~~

~~EDUCATION~~  
EDUCATION

SCREWDRIVER

THE PRESENTATION OF OUR  
~~HERITAGE AND CULTURE~~

WHAT ELSE?  
(H/O's, etc.)

2605

SPL (used QDP)  
346

NOT ALL WILL BE PROGRAMMERS,  
ALL WILL BE USERS

(C - solo mechanics)

2605

SPL  
347

AA. Newpoints.

'EVERYTHING IS POSSIBLE'

vs.

'ONLY CERTAIN THINGS WILL WORK.'

2606

SPL  
348

'the true copy' is the one in  
digital form.

2606

SPL (red QDP)  
319

INTRO

My adventures in this odyssey have been most curious and instructive, and should be told elsewhere.

2606

SPL  
350

The <sup>ordium</sup> classroom is a grotesque social situation. The teacher is dispensing favors\* and punishments\*\* in a framework of common attention.

A fraction, usually a large fraction, of the class is disoriented <sup>(lost or behind)</sup> and/or dysdreaming.

\*Grades, the opportunity for initiative and reward

\*\*First ridicule; later grades and bad reports to parents.

2607

SPL  
351

[Dup. w SRX, PRES. SRUX]

'SIMPLICITY' IS A MATTER OF  
EXPRESSIVE CONVENTIONS  
& what may be expressed briefly in text  
(& later expanded or proved).

2608

SPL  
352

THE FUTURE AS SEEN BY IBM  
<sup>IR</sup>  
'telepresence'  
banks, libraries

THE FUTURE AS SEEN BY THE PHONE CO.  
comm. bet. computers  
Mickeymouse classroom stuff  
triforce phone

THE FUTURE AS SEEN BY MC LUHANN  
(Prob. leave out: Murky, etc.)

2608

SPL (used QDP)  
353

WE ARE DESIGNING MAGICAL CASTLES

2609

SPL  
354

GENERAL SYSTEM  
(software-generalized)

plus

SPECIAL RIGGING

2609

JPL  
355

Quote from the 1950  
Encyc. Brit.

2609

JPL (used QDP)  
356

FANTICS, et.

The handling and presentation  
of ideas; especially with regard to  
making things look good, feel right,  
and come across clearly.

2610


SPL (used QDP)  
357

UG 91

Many people have told me,  
"I ~~do~~ agree with some things that  
you say, but I can't go along  
with all of it — and ~~that's~~  
your extremist views throw  
You could go further if you presented it  
in a way that would relate more  
to what people are used to, and  
**2610** +

SPL (used QDP)  
358

UG 92

make it less 

But that would defeat the purpose of this book.  
The purpose of this book is to communicate  
a unified point of view, a vision.  
To dilute this, to sweeten it or present it  
ingratiatingly would be dishonest.

Different people have heard different parts of  
this vision — from A to B, or from j to k —  
but not from A to Z. That is this book.

**2610**

SPL?  
359

[dupl. w S.M.A.S?]

The false concept [sic] of "the machine"  
as something apart from ourselves,  
an enemy opposed to the human.

2  
261~~0~~

SPL  
360

ch?

THE

FREEL OF THE WHEEL

2612



SPL  
361

THE FEEL OF THE ROTH

2612

SPL  
362

Ch. One?

THE EMPEROR'S CLOTHES

2614

SPL  
363

other futurologists to consider

HUGO GERNSBACH  
JOHN W. CAMPBELL  
NORMAN COUSINS  
HERMAN KAHN ("surpriseless")

2614

SPL  
364

I think of computer control  
as just another  
plug in the wall.

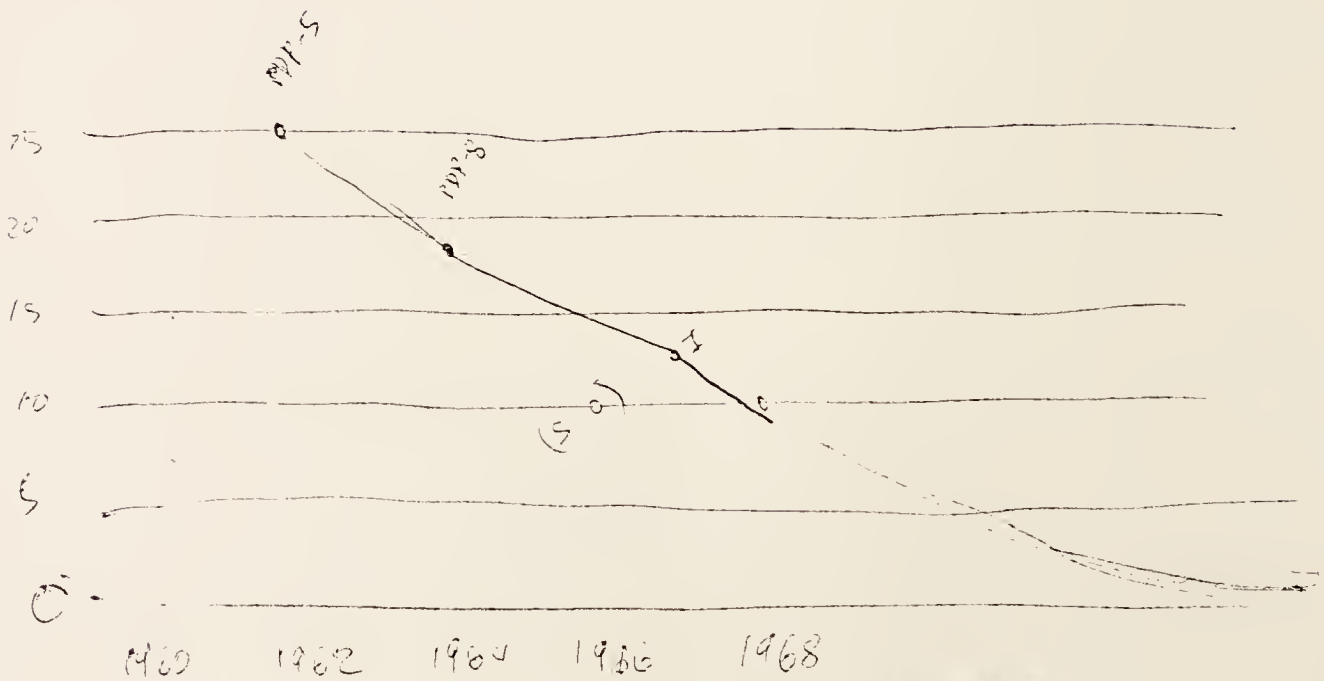
2615

SPL  
365

I should thank WJ and Moseley.

2615

SPL  
366



2615

8PL  
367

CL

HUMANITY

or

HUMAN MACHINES AND INHUMAN PEOPLE

2616



END

after 367

2617



FX SSH  
Dec 71 Xx

REF 7:

'Intro. to Fantics'

[<sup>call it now</sup> INTRO 69]



FX  
SSH  
Dec 71  
Xx

REF 8: 'FCS Draft 1B' [Abbreviate it]  
[FCS 1B]



FCS

Draft 1B  
22-3 July 69

dispatcher for print/punch

Name of contents: fantics, a book draft.

Arbitrary draft number: 1b

This is data set "ted"

Print data set: telprt3

Date of this rollout: tuesday-wednesday 22-3 july 1969, 3 am

Description of work: i have moved latest live input to the copy buffer area ("cpybuf").

Melding of last live input (18-19 july). trimming and repunctuating the draft as it stands. removal of live input area from the draft itself; it will be filed historically outside the actual draft printouts.

Work systems: new procedures in general.

Various file streams will be melded with this project gradually, but over a period of time. they will go in as input, be 'rearranged' into position, and the scraps saved.

A buffered area for live input will be used, but it will not be in the main area. this does not make historical trails any more difficult.

Changes will be made directly in the manuscript, as well; a trail will be maintained between drafts by marking every paragraph that is changed or moved with the sign (((change:)))

Paragraphs which are in outline form will begin with the sign (((outline:)))

Sections which are in outline form will begin with the sign (((section outline:)))

Close control is necessary, especially to keep track of changes. indeed, it seems necessary to designate print drafts by number. count begins now; this is draft one. presumably the count will go to a's and b's within a given session of work.

Remarks: what the hell, let's write a book.

\*\*\*\*\*

\*\*\*\*\*

Systems note. this is the copy buffer. everything here has been copied from area "livnpt". note that there are no "chapters." when sections get combined into chapters is the last thing on my mind.

-----  
----- income-tax help system (alternatives)  
example: fliptych ----- ((1:48 am 10 july)) ----- ((8:20 pm fri 11  
july)) ((closed 10:48 pm)) ----- ((1:15 am 11-12 july))  
----- ((3:10 am 11-12 july))  
-----

((insertions thursday-friday 17-18 july 1969, starting 12:30 am))  
((12:45 am 17-18 july)) ((started 3:20 am, same night))

((fin 3:30))

((this is the input of fri-sat 18-19 july 69.))

-----  
-----  
Additions of 22-3 july 1969.  
-----

Discussion of pdp-8 class system, with display, for home discussion of how basic comp. display works discussion of transmission bandwidths and tradeoffs between transmission media, costing "engineering" as working out optimum among relative costs-- brute force is generally easy add-on for basic home system: audio output add-on for basic home system: direct video output add-on for basic home system: ge-class picture system question of fidelity in digitally-based audio system a matter of misunderstanding: you pay for fidelity by degrees. discussion of microfilm discussion of microfiche discussion of nanofiche sending letters digitally some advantage in overall storage based on piecemeal keepage: non-redundancy reconfigurable workspaces discussion of the projection media discussion of holographic movie problem kinofoms

Structured digital records of the true and grand complexities of things example of structured information: chemical structure example of structured information: things built with children's blocks example of structured information: sketchpad-type pictures (not to be so called) example of structured information: architectural info great advantage of direct digital over image systems among advantages of direct digital over image systems: non-deterioration among advantages of direct digital over image systems: lower transmission costs except in special cases advantage of image systems: easier to file and show

There are no intellectual subjects everyone intrinsically loves to learn we have our capacities to learn snuffed out the motivations of students become perverted the motivations of teachers are highly suspect explanation is so simple, but nobody ever does it doyle dane birnbach kodak ads dan ingram (literate) and cousin brucie (goony) "welcome" in a subject the philbrick handbook of operational amplifiers krieg's functional neuroanatomy informality in exposition playfulness in exposition motivation pathways over time (institutionalized) the nature of writing: establishment of consonance structures the nature of writing: connotative conceptual connections the nature of writing: exact conceptual connections (copulae and embracements) the nature of writing: presentational sequence the nature of writing: breaking up the trees and lining them into picket fences

-----  
This takes us to about 2:30 am.  
-----

Sociological aspects of media: motivation structures sociological aspects of media: stable roles and available identities sociological aspects of media: tie-ins with institutionalized pursuits sociological aspects of media: are people scared? sociological aspects of media: is it commercially (or equiv.) viable? sociological aspects of media: are we able to get generally interested? convergence of media: do the parts complement each other? (ex. of talking movies as showing complementation of parts)



((outline:))introduction xxx derivation of term "fantics": two useful roots, "fanein," to show, and "fantastein," to present to the mind or eye. the latter would clearly, from its meaning, be the preferable root. however, then the word would be "fantastics," which would have rather the wrong meaning. it would also take away the sense: here i can speak of "a fantic system" and make it mean something, whereas to call it a "fantastic system," though probably true, would cloud the issue as well as raise the pitch of liscussion uncomfortably



We are confronted today with a supposed explosion of information, information systems and new media. what they are, and where they are going, is a matter of considerable excitement and speculation. this book offers a rather different point of view.

(((outline:))) "the information explosion" "the knowledge industry" synnoetics cyberculture! media barrages media massages.

(((outline:))) sooper prediction whopperoo (short & summary) media, environments, ideas, communication, feel.

summary of my general prediction

This book seeks to make several points. the basic point is that there exists a new art and science, fantics, and that attempts to understand it from more specialized points of view have failed so far. this field of fantics embraces the communication of ideas, and the necessary structuring of media, environments and feel. this topic is unified, rather than diverse. the different kinds of media and environments possible are many: but the considerations upon which they must be based are universal, and do not appropriately fit any technical discipline. what is more, this book seeks to make certain predictions about the future. we are entering what i would call a fancic world, in which our media can be as gracious, beautiful and exciting as any previously known to human culture, or they can be crude, unsatisfying and subtly awful. i advocate the former. moreover, i think the former will come true. i think that when it is generally realized what is possible, the world will change dramatically in certain specific and important ways. this will involve upheavals in education, entertainment, and home and business life, as will presently be described.

The general prediction is approximately this, and i wish to state it as baldly as possible to avoid misunderstanding. within a few years--certainly less than twenty--the written word will no longer be generally printed, but will be stored in computers and read from computer displays in our homes, offices and everywhere.

The written media of our former culture will be replaced, enlarged and improved by a new medium, which i call hypertext. hypertext will be to ordinary writing as flying is to walking.

The illustrations of hypertexts will be hypergrams, pictures which the user can make to react or perform. the other artifacts of our culture, including such things as painting, sculpture and architecture, will come also to be stored in computers for our enjoyment.

Motion pictures and music will also be created by composers and animators, and their basic plans stored in computer libraries where they may be gotten at and re-performed readily. for all creative purposes, computer-based "creativity systems" will be the working consoles at which the artist and writer may work more effectively than ever before.

((outline:)) ol: digital control, comp disp., dig. libraries the three basics computers can do for showing: storage, performance, control (in order?) info facilities supplementing creative envts (dft

Next, these developments will come about for several reasons. the first is that computers naturally form the best devices for controlling other machines, and making them more responsive and flexible than they ever could be otherwise.

could be

The second is that computers can directly perform various presentations for us: causing words to appear on screens, making diagrams on screens, even making music and motion pictures in full color.

The third is that the structured information for these activities may be stored with great safety and accessibility on computer equipment, and automatically forwarded to people who want to use it.

A fourth reason is that computers, through various helpful capacities, can stand by and answer certain kinds of questions and work out certain kinds of calculations for us.

A fifth reason is that computer storage makes possible a richness, subtlety and complexity of stored information and ideas which is beyond anything the world has previously known.

On the face of it many people will not find this an attractive idea. for various reasons, including stupidity, computer manufacturers and enthusiasts have stirred up the broadest possible misunderstanding of what computers are and do, stirring up feelings of distaste and apprehension approaching revulsion on the part of many. in this book, then, i will attempt to explain why computers can be of the greatest possible help in man's softest and warmest occupations, and why they should and will be welcomed by the writer, the artist and the public into home and study.

---

((outline:)) what computers are (brief early remarks) 'most general machine' the myth and tradition of narrow computer usage, rigid input structures (hardly sophisticated)

it is generally supposed by laymen, and they have various reasons for supposing it, that computers are narrow and rigid. actually, any narrowness and rigidity of computers comes from the way they are programmed for use. in the early days it was much simpler to program them that way, and this narrowness has persisted as a tradition, a part of the culture of the computer world.

The computer is completely misunderstood by the general public. half-truths and unattractive publicity have succeeded in misleading people as to what computers are about. specifically, people think computers are mathematical and rigid, and while a case can be made for both these qualities, computers can be non-mathematical and non-rigid, as they are in all the systems to be described here.

It is necessary to explain what computers are. computers were called by von neumann the "all-purpose machine," a much more reasonable term. to remind the reader of this we ought to call them \_apm's, but the word "computer" is too thoroughly entrenched. computers are all-purpose machines because their purposes and means of functioning are not built in, but are rather supplied by programs which can be changed. computers are all-purpose machines because they may be made to control all other machines, and do so in extremely complicated ways. thus any other machine can be made a part of a "computer system," and the whole system may be programmed to do many different tasks or parts of a big task through its component machines, under a single control. computers are all-purpose machines because their uses have not all been thought of yet.

((outline:)) section: the ease of use

---

((outline:)) section: the fabulous world of computer display. or, "toys and jewels"

((outline:)) machines must not make decisions fake scientific voting-districts we must jolly well understand the decisions with which machines are entrusted

((outline:)) review of history toward this point, rewritten in my terms. section: the fantic media to 1900 section: the fantic media to 1950 section: the fantic media to 1969 or 1970 fritz machlup "teaching technology" nelson's timetable chart of falling prices plain halftone systems stationery systems the creativity systems of the past the record-keeping systems of the past not gl. computers but special the scattered consumption of systems in homes-- now to be unified cassette-camera timetable for introduction of computer displays in homes

((outline:)) section: horizons for sale section: the myth of technicality section: the new-media whizbang xxx emperor's clothes xxx general debunk-list: ir, hum.fact., cai, 'top man' ir 'managerial information retrieval' as a hotcha thing only for the top guys debunk also: diagnosis by computer, automatic dictation, artificial intelligence i do not want to talk about a world in which machines enter the body, at least prosthetically or physiologically or innervatively patient records online clerical ir (another narrow vision)

now is a time when everyone with some technical understanding is properly impressed with the potential for new media to communicate ideas and training. but this has led to the strangest variety of predictions, all under the same cloud. this cloud, which i see as obscuring the subject, i would refer to as the "myth of technicality." the myth of technicality is the idea that the development of media for presentation is a technical job to be left to "experts." i consider this idea pernicious and its results unfortunate.

I believe, on the contrary, that the creation of presentational systems is becoming a unified art and study, if it has not always been; and that the criteria for good presentational systems are not technical in any of the current senses, or technically measurable in any but a global sense, like love and war.

((outline:)) section: new media components hciography "branching" as a whizbang aspect of new media components coupled every which way now electrical coupling of components concrete physical coupling of components

((outline:)) what's coming is structured media, not a hodgepodge what is a medium? viability of medium in society conceptual unity of medium nobody foresees media impact, as a rule xxx movie analogy tv analogy book analogy mcluhan's onto it, even if he doesn't understand the technicalities. basic disagreement with mcluhan: the great differences among electronic media, and the stupendous difference it makes media that have flopped problems of a medium catching on: marketing, coherence, simplicity & convenience

((outline:)) convergent media vs. mere engineering opportunities

---

hereafter everything is outline material.



((section outline:)))

Section: possible worlds of vision and response

Ignore clumsiness of early systems. these will be as easy to use as tv sets

Good old sketchpad i sketchpad 3 sutherland's stereo system 3-d 'tank'

'true structure' systems section: the meaning of structured data

---

((section outline:))

Section: "computer-assisted instruction" xxx tut-tutorial systems the  
bads of cai brick-wall illustration the nature of intelligence and its  
growth the opposite aims of top and bottom education the critics of the  
schools today the inside story on prog. ed.: we hate to do it, hate to  
study it

Section: what education is about anyway xxx section: slanted minds  
xxx the big secret: free access to interesting materials, convergent  
motivational environment is the key

Section: "information retrieval" boolean systems: just the beginning  
of what the mind needs

"human factors" xxx narrow criteria of "human factors" generally  
irrelevant nicely unified controls controls of sony tc-50 control of  
all-terrain vehicle helicopter handle airplane "stick" xxx a church can be  
thought of as human-factors designed, anyhow, if you let in enough  
variables

((section outline:)))

Computer-controlled media section: the computer as media controller

"multi-media"

Swell new presentational media, especially all-around-you sound, beautiful projection system amusement parks awesome architecture museums & fairs section: the unification of sonic and visual arts today's rock music light shows

Example: moving-screen lord of rings

---

((section outline:)))

Section: hyper-fantic media of various sorts

Hyper-comics

Hyper-poetry

Example: hyperfilm of wwii

((section outline:)))

Section: the computer as performer super-audio machine three-dimensional scene structures shiploiting, airframe, auto design systems

Music library to feed through music performance machine

Section: structured pictures

Fsm section: fantasm-type systems description of ge fsm system, utah fsm system, denver fsm system, nelson's fsm system library of fsm performances' library of fantasm characters

Section: hypergrams xxx brain project

---

((section outline:))

Text systems xxx the text facility: queen of them all xxx the home  
text console universal high-performance text consoles

Text editing

Section: context jumps

Section: author's systems

Section: hypertext news hypertext strategic intelligence hypertext  
non-fiction hypertext sphere of interconnectedness in a large-scale  
hypertext work

Section: stretchtext

Section: systems for thinking with data

Spatial hypertext environments: checkerboard, clouds (hanging in  
3-space), swinging pages in 3-space

---

((section outline:)))

The general-purpose system toward which we are moving (line-drawing,  
moving-text)

((section outline:)))

The virtual space of a conceptual and display environment

dashboard environments xxx the mechanics of springs, lighting & hush

Feeling-spaces (incl. multidimensional) more dimensions through color, smell and sound more dimensions through spring-loading swoop multi-dim 'feel' clues: auditory, proprio, kinesth, push-pull, breeze, color, vibration, stereophony, visual stereo

Can we conceptualize multiple dimensions? the hypercube the 4-d hypercube can we visualize 4-d cube? can we visualize calhauer board? additional dimensions feel xxx response qualities



((section outline:)))

library arrangements for all digital media section: the only permanent form of storage digital storage is perfect digital storage may be safeguarded digital storage of paintings ascap copyright arrangements

---

((section outline)))

Section: the nature of categories

Section: the nature of the creative process xxx inductive & axiomatic creation

Section: systems for all these

Section: the nature of ideas xxx mickey mouse section: some basic questions in the psychology of thought and feeling section: unity, structure and feel

The creative process: creation of overall strux by induction/extrapolation; threading on overall strux; comparing overall strux & corresp. items & contexts

The nature of writing the nature of ideas expository structures ideas as annotated connections xxx breaking expository structures

---

((section outline:)))

Creativity systems table of media & their corresponding creativity systems

Time dissector for audio, fsm

---

((section outline:))

Section: text control systems cinenym

---

((section outline:)))

Interpersonal environments air controller envt handshake structures

---

((section outline:))

Section: art & the arts

Section: scholarship example: 4-d data structure permitting roman snapshots

Section: the dangers of loss

Section: on the problem of keeping too much the souvenirs of our world  
the us national archive: 2 billion dox

Section: review of my vision: grand libraries, swooping systems, true education, the preservability of the heritage a liberal's hopes xxx our media of this century: their miserable content and yet their common imagery to us all professionalism, bureaucracy, the narrow initiative-paths to success in our world xxx where these prophecies stop freedom of information for the citizen freedom from concrete possession of books freedom of education hypersystems for education in the underdeveloped countries note the number of roles in our society built around the hoarding of information true access to news through hypertext systems liebling on the press nature of the press: ownership viewpoint, press subculture, domination of the agreed-on, the angle, and the silly the danger of sudden electrical destruction i am assuming peace, of course

((appendices)) -----

Section: terminology

Section: how computer displays work how comp. displays work

Section: how computers work

Section: the meaning of data structure

-----

XXXXX

-----  
This is the area for holds.

-----  
Accounting structures the nature of accounting

----- ((end of holds zone)) -----

YXXXX



Yxxxx xxxxx

Protocol input area (area "liv3")

-----  
Additions of 22-3 july 1969.  
-----

Discussion of pdp-3 class system, with display, for home discussion of how basic comp. display works discussion of transmission bandwidths and tradeoffs between transmission media, costing "engineering" as working out optimum among relative costs-- brute force is generally easy add-on for basic home system: audio output add-on for basic home system: direct video output add-on for basic home system: ge-class picture system question of fidelity in digitally-based audio system a matter of misunderstanding: you pay for fidelity by degrees. discussion of microfilm discussion of microfiche discussion of nanofiche sending letters digitally some advantage in overall storage based on piecemeal keepage: non-redundancy reconfigurable workspaces discussion of the projection media discussion of holographic movie problem kinofoms

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There are no intellectual subjects everyone intrinsically loves to learn we have our capacities to learn snuffed out the motivations of students become perverted the motivations of teachers are highly suspect explanation is so simple, but nobody ever does it doyle dane birnbach kodak ads dan ingram (literate) and cousin brucie (goony) "welcome" in a subject the philbrick handbook of operational amplifiers krieg's functional neuroanatomy informality in exposition playfulness in exposition motivation pathways over time (institutionalized) the nature of writing: establishment of consnancestructures the nature of writing: connotative conceptual connections the nature of writing: exact conceptual connections (copulae and embracements) the nature of writing: presentational sequence the nature of writing: breaking up the trees and lining them into picket fences

-----  
This takes us to about 2:30 am.  
-----

Sociological aspects of media: motivation structures sociological aspects of media: stable roles and available identities sociological aspects of media: tie-ins with institutionalized pursuits sociological aspects of media: are people scared? sociological aspects of media: is it commercially (or equiv.) viable? sociological aspects of media: are we able to get generally interested? convergence of media: do the parts complement each other? (ex. of talking movies as showing complementation of parts)

-----  
This takes us to about 3 am.  
-----

Compliments of the

HYPertext EDITING SYSTEM

CENTER FOR

COMPUTER & INFORMATION SCIENCES

BROWN UNIVERSITY

PROVIDENCE, RHODE ISLAND

23 July, 1969



EX 554  
Dec 71 Xx

REF 6:

PU70

[was actually called "PU70 Input"]

```

//SYSPRT DD SYSOUT=A
//DDX DD VOL=SER=NYSC05,DISP=OLD,UNIT=2311
//SYSIN DD *
IEF236I ALLOC. FOR TXT360
IEF237I JOBLIB ON 190
IEF237I SYSPRINT ON 193
IEF237I DDX ON 190
IEF237I SYSIN ON 193

```

P070\* (NFUT)

[This was destroyed in ~~the~~ form]

\* talk for some conference I went to, I believe.

SYSTEMS AREA THIS AREA IS TO BE THE GENERAL RESIDENT DISPATCHER FOR SCOPE WORK. ROLLOUT FOR PRINT/PUNCH DATE OF THIS ROLLOUT: T 20 MAY 69 DESCRIPTION OF WORK: WORK SYSTEMS: ORIGINAL CARDS OF AMAT AND PU70 PUT IN, ROWS OF AMPERSANDS BETWEEN. FIRST ROLLOUT TO AREA TEDPRT2, FOR SOURCE PRINT-&-PUNCHING.\*\*\*\*\*

\*\*\*\*\* START \*\*\*\*\*

+++++AMAT S+CD

+++++THE C URPENT INFORMATION FAD, OR ONE MIGHT SAY, MCLUHAN EXPLOSION &&&& SLIDE TERMS TO UNCONFUSE IN COMPUTER TEXT & DISPLAY SYSTEMS CAI (CBI, CCI) DRILL-AND-PRACTICE CONVERSATIONAL ((WAS THAT SUPPES' MIDDLE TERM?)) SOCRATIC INFCRMATION RETRIEVAL DOCUMENT RETRIEVAL CONVENT RETRIEVAL NEW MEDIA HYPERTEXT HYPERGRAM HYPERFILM, HYPERVIDEO &&&& INTIMIDATING CONDI-TION OF CAI (SUPPES, GRUBB) &&&& SOON CRTS WILL BLOSSOM LIKE SKUNK-CABBAGES.

+++++PU70 SCD+++++

+++++OPENING LINE IN THE 1970S THERE WILL BE TWO MAJOR FORMS OF PUBLISHING, UNLIKE THE 1960S AND THE 1980S. &&&& RAND PUTTING COMPUTER DISPLAYS ON MEMBERS' DESKS. HERE NOW. (ID JAN 69, 60.) &&&& THE UNIONS MUST BE \_BOUGHT \_OFF. THIS SHOULD BE FACED SQUARELY. I SUGGEST EQUITY IN COMP. COS. THE COPYRIGHT THING HAS TO BE SETTLED. &&&&FORMS OF ON-LINE PUB. STRAIGHT TEXT (ANNOUNCED BRITANNIA SERVICE) QASS (ANNOUNCED NYT SERVICES) HYPERTEXTS HYPERGRAMS HALF-TONES ANIMATIONS (FOR REMOTE ENACT-MENT) \_\_\_\_\_ 'SERVICES' PRINTOUT ETC. TIME-SHARING SPECIAL PROGRAMS &&&&'CAPTURE' 'H&J' &&&& PRESENT INDUSTRY 'KEYSTROKE CAPTURE' H&J PRODUCTION LAYOUT \_\_\_\_\_ AUTHORIAL EDITORIAL \_\_\_\_\_ AUTHOR-TO TYPE ACROSS-THE-BOARD DIGITAL PUBLISHING (OVER-THE-WIRE) CAI QAS (NYTIMES) PLAINTEXT (EB) ((ALL THREE BRACKETED TO)) PRINTOUT OR BITZER HT HGRAMS ((BOTH BRACKETED TO)) REQUIRES DISPLAY W MOTION &&&&FUSSY CONSOLE DEMANDS OF PUBLISHERS SOUND TO ME LIKE CARRIAGE-MAKERS NOT WANTING TO ACCEPT THE AUTOMOBILE UNTIL IT HAD BUGGY-WHIP HANDLES THAT PLEASED THEM. &&&& BANDWIDTH \_AND \_RESPONSE \_TIME OF PRESTIDIGITATIVE MEDIA &&&& WITHIN THIS DECADE, 3/4 OF THE HOMES IN AMERICA WILL HAVE INTERACTIVE COMPUTER DISPLAY, MOSTLY WITH SOME LOCAL STORE & PROCESSING CAPACITY. &&&& SO-CALLED CAI -- USED EXCLUSIVELY FOR TEXT MAZE IN WHICH STUDENT HAS NO CONTROL &&&& TWO SIMPLE QUESTIONS. WHAT IS A COHERENT MEDIUM? (NOT PROG. INST.) UNDER WHAT CIRCUMSTANCES RECEIVED? (SOCIOLOGY & INSTITU-TION ((/))) -- TV FPR HOME, NOT SCHOOL &&&& WHO WILL BE THE PRESTIDIGITA-TIVE PUBLISHERS? OLD-STYLE BOOK PUBLISHERS? ONLY IF THEY BUY OR CREATE NEW SUBSIDIARIES MAGAZINE PUBLISHERS? QUITE POSSIBLE ?NEWSPAPERS WIRE SERVICES ENCYCLOPEDIAS SMALL MOVIE HOUSES TEACHING NOVELTY HOUSES TV NETWORKS CATV COMPANIES &&&& ETV WON'T WORK IR WON'T WORK CAI WON'T WORK &&&& EVERY HOME (3/4) BY 1980-- \_THEN WHAT? &&&& VIATRON CLAIM &&&& READ FROM 1939 \_BRITANNICA &&&&THE BITZER PLASMA DISPLAY &&&& FANTICS (QUOTE MY DEFINITION FROM QDP) &&&& \$1 PER SCOPE-HOUR THE MAGIC DAY LET'S PRICE IT AROUND =( > % &&&& WRITERS WILL WANT 1 1/2 HOURS TO WRITE THE PREFACE-- NOT QUOTE UP TO MY USUAL STANDARD, BUT ABOUT ONE FIFTH TO ONE TENTH OF THE USUAL. &&&& THE POSITION OF THE PUBLISHERS TODAY MAY BEST BE COMPARED TO THAT OF THE AMERICAN CAREER ARMY IN 1945, AFTER HIROSHIMA.



EXCESSIVELY CONFIDENT OF ITS FUTURE POSITION, DESPITE HAVING BEEN TECHNOLOGICALLY OVERCOME. EXPECTING A MUCH LARGER ROLE IN THE OVERALL PICTURE THAN IT'S GOING TO HAVE; DOOMED TO HOLDING ACTIONS WITHOUT GALLANTRY OR DECISIVE CHARACTER. ESSENTIAL BUT 'PEDESTRIAN.' &&&& THE TWEED-SUIT INSIGHT TWEED SUIT & PIPE FRENCH RESTAURANT & BLOODY MARIES BLUE PENCIL ON THE TRAIN &&&& (MORE CONVERGENCES) MIS-- DOCUMENT HANDLING &&&&POKABLE PICTURES, TWEAKABLE TEXT BLUE SKY? I THINK MANY THINGS, SUCH AS IN KEYNOTE TALK-- MUCH MORE BLUE SKY. &&&& SOMETIME BEFORE 1980-- CRT IN 3/4 OF HOMES IN COUNTRY. WITH LOCAL STORE. F.G. BITZER. &&&& BROWN HT SYSTEM ANDY'S GOTTEN OUT SOMETHING LIKE A THOUSAND PAGES I'M BORED WITH THE TEXT EDITING FACILITIES, IT'S THE HT FACILITIES I CARE ABOUT, BUT APPARENTLY WE PRESENTLY HAVE THE BEST CRT EDITING SYSTEM IN THE WORLD WILL BE A TYPE 4, AVAILABLE. (IT'S TEXT/360 THAT DOES THE PRINTOUT) &&&& 'ONCE A YEAR I COME OUT OF MY HOLE AND IF I SEE MY SHADOW, I GO BACK.'

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PU70 TRANSFER SHEETS

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I AM CONCERNED FOR THE ORDERLY DEVELOPMENT OF THESE MEDIA &&&& DIAL-UP SYSTEM AUTO-DIALUP AMONG USUAL PATHS COUPLING INTO ORIENTATION STRUX THAT CROSS BOUNDARIES OF UNITS AND PUBLISHERS &&&& NEED TO SETTLE COPYRIGHT THING, W/ AUTOMATIC ROYALTIES &&&& VANITY PUB. EXCHANGE YOUR AGENT IS YOUR PUB'R &&&& LIBRARIES & PUB'RS WILL NOT SUPPLY INITIATIVES &&&& REALLY NICE SEXY INPUT MACHINES NOW AVAILABLE. I ESPECIALLY RECOMMEND THE SYCOR. &&&& ONLY 3 PRECEDENTS MOVABLE TYPE (PROSKAUER TOLD US) MOVIES TELEVISION &&&& NOBODY EVER SEES POSSIBILITIES TELEPHONE MOVIES TV (ENCYC. QUOTE) &&&& HT SYST-- LONG USE OF SCREEN NECESSARY. CRASHES STILL EASY. &&&& COMPUTER BASICALLY A SPIRITUAL DEVICE THE ULTIMATE RORSCHACH PROJ. OWN CHSTCS SHOW ME A MAN WHO SAYS C. IS NARROW AND RIGID... &&&& WILL STRUCTURE AN ENVT OF YOUR OWN ((PICTURE OF A CIRCLE INSIDE A LOBED SHAPE)) 'LOBED' ENVT OF STRUCTURED EXTERNALITIES / OWN SYST. &&&& PDP-8 SYST. COMING (I CAN TELL YOU TRUE) &&&& HISTORY OF PDP-8 PRICING &&&& 'I DON'T REALLY RELATE TO YOU PEOPLE.' &&&& ADV OF ONE-MAN ORG: AV 9 YRS EXP ALL EMPS HAVE WORKED IN... &&&& SOMETIME THIS YR: CRT IN A HOME &&&& BY THE TIME YOU'RE ALL SET FOR THE EARTH-SHAKING TRANSITION TO AUTOMATIC PRINTING, THERE'LL BE LESS PRINTING ANYWAY. &&&& I'VE BEEN DECOUPLED FROM THE INDUSTRY-- BUT FROM MY PT OF VIEW, IT'S ONLY SANE ACTIVITY. &&&& \$1/HR CRT TARGET COST COMES SOON &&&& THE BITZER SCREEN, \$500 &&&& THE SYLVIA BEACH, SHAKES. & CO. TRADITION DATA FORM OF TEXT NOT 'EXOTIC,' BUT TRUEST & MOST NATURAL FORM. &&&& THERE ARE 5 OR 10 OF US IN COMPUTING WITH THESE VIEWS, BUT WE KNOW WHAT WE'RE DOING &&&& 'TIME-SHARING' NOT QUITE THE CONCEPT FEEDER SYSTEMS RATHER THAN 'TRUE TIME-SHARING' &&&& LICKLIDER &&&& ENGELBART &&&& OFF-LINE SYCOR BEATS HELL OUT OF MT/ST &&&& IT'S NOT REALLY AN HT SYSTEM, IT'S AN EDITING SYSTEM &&&&TAILORING SYSTEM FOR COMFORT -- 'BODY ENGLISH' &&&& ANYONE INTEPESTED IN EXPENSIVE SEMINAR BRIEFING? &&&& PDP-8 PRICE SERIES &&&& MY TIMETABLE MAY SEEM GROTESQUE TO YOU BUT REMEMBER I DECIDED IN '62 NOT TO FINISH MY BOOKS TILL I HAD A DECENT EDITING SYSTEM. &&&& PDP-8 HT SYSTEM, 2X PDP-8 PRICE, \$30K IN '70 &&&&NOT A GOOD HT SYSTEM, BUT A GOOD EDITING SYSTEM+++++

+++++ PU70 SUM



FX 55H  
Dec 71 Xx

REF 5:

WRITEUP OF SLIDES ["slides"]

WRITED P OF

SC-1005

3 JON 09

SYSTEMS AREA

THIS AREA IS TO BE THE GENERAL RESIDENT DISPATCHER FOR SCOPE WORK.  
ROLLOUT FOR PRINT/PUNCH

DATE OF THIS ROLLOUT: TUESDAY 3 JUNE 1969

DESCRIPTION OF WORK: INPUT OF PROFESSIONAL SLIDES, INCLUDING SLIDE NUMBERS, TEXT, AND DESCRIPTION OF PICTURES.

WORK SYSTEMS: TYPING IN AT SCOPE, WITH CAROUSELS BESIDE ME, ONE SLIDE AT A TIME. THE PROBLEM IS WHAT TO DO ABOUT THE SLIDE NUMBERS. SOLUTION: DIFFERENT NUMBERS HANDLED BY COLOPS. PURPLE IS "P," RED IS "R," INKED-IN NUMBERS ARE SC DESIGNATED. THIS SHOULD ALLOW THE VARIOUS DESIRABLE CLARIFICATIONS. THESE ARE THE SLIDES FROM MY CAROUSELS "NELSON 1" AND "NELSON 2," ASSEMBLED GCD KNOWS WHEN.

1. SLIDE 8201 (PURPLE), #21 THE INFORMATION EXPLOSION
2. SLIDE 8201P #21 THE COMPUTER REVOLUTION SLIDE
3. 8201 #22 MEDIA BARRAGES
4. SLIDE 8201P #23
5. SLIDE 8201P #25 CYBERNETICS
6. SLIDE 8201P #24 AUTOMATION
7. SLIDE 8202P #2 SYNCRETICS
8. SLIDE 8202 #3 CYBERCULTURE
9. SLIDE NO MASTER NO-- ONLY NUMBER IS "25" WRITTEN IN PEN ((ALL BLACK))
10. SLIDE 8202P #8 SYSTEMS CAUSING EXCITEMENT \_\_\_ CCTV, PICTUREPHONE TV TAPE LOOP CARTRIDGE MOVIES BRANCHING CARTRIDGE MOVIES EVR HOLOGRAMS MICROFICHE & NANOFICHE
11. SLIDE 8203P #10 ((AT BOTTOM)) COMP. DESIGNER, UTILITY PROGRAMMER
12. SLIDE 8203 #11 ((AT BOTTOM)) COMP. DESIGNER, UTILITY PROGRAMMER ((ABOVE THAT)) SYST. PROGRAMMER
13. SLIDE 8203P #12 ((AT BOTTOM)) COMP. DESIGNER, UTILITY PROGRAMMER ((ABOVE THAT)) SYST. PROGRAMMER ((ABOVE THAT)) PROBLEM PROGRAMMER

14. SLIDE 8203P #13 ((AT BOTTOM)) COMP. DESIGNER, UTILITY PROGRAMMER ((ABOVE THAT)) SYST. PROGRAMMER ((ABOVE THAT)) PROBLEM PROGRAMMER ((ABOVE THAT)) PLAIN USER

15. SLIDE 8202P #10 COMPUTER FUNCTIONS UNKNOWN TO PUBLIC \_\_\_ GENERALIZED SWITCHING & CONTROL TEXT HANDLING & STORAGE COMPUTER DISPLAY

16. SLIDE 8202 #18 ((PICTURE OF UNLABELLED BOX AT CENTER OF AN OCTOPLS-LIKE ARRANGEMENT: A SCREEN, A LUDSPEAKER, COLORED INDICATOR LIGHTS, RAND TABLET, PIANO KEYBOARD, POTENTIOMETER INPUT, THROTTLE INPUT, INPLT PUSHBUTTONS

17. SLIDE 8202P #16 CASSETTE TYPEWRITER ((PICTURE OF CASSETTE TYPEWRITER, WITH ONE-LETTER DISPLAY))

18. SLIDE 8202P #11 AUDIO-TYPEWRITER-CAMERA ((PICTURE OF SINGLE-LENS REFLEX CAMERA, WITH ATTACHED KEYBOARD CONTAINING TAPE CASSETTE, MICROPHONE))

19. SLIDE 8202P #9 TOUTED SYSTEMS \_\_\_ "INFORMATION RETRIEVAL" COMPUTER-AIDED DESIGN ARTIFICIAL INTELLIGENCE TALKING SYSTEMS (ELIZA) COMPUTER-ASSISTED INSTRUCTION

20. SLIDE 8202 #11 UNRECOGNIZED SYSTEMS \_\_\_ HYPERTEXTS HYPERGRAMS HYPERFILMS HYPERVIDEOTEXT HYPERCOMICS RESPONSIVE SURROUND

21. SLIDE 14P 6R #7 ((STAR)) HYPertext ((STAR)) THE GENERAL CASE OF NON-LINEAR TEXT

22. SLIDE (NO NUMBER EXCEPT HANDWRITTEN 20 IN BLACK INK) ((PICTURE OF BOX WITH ARROWS UPWARD TO THREE BOXES)) IMMEDIATE ACCESS TO MORE THAN ONE EDITORIALY CONNECTED THING

COMPLIMENTS OF THE  
HYPERTEXT EDITING SYSTEM

CENTER FOR  
COMPUTER & INFORMATION SCIENCES

BROWN UNIVERSITY  
PROVIDENCE, RHODE ISLAND

4 JUNE, 1969





