XCUMS

Xanadu Cumulative Specs.

Started 27/8 August 1970
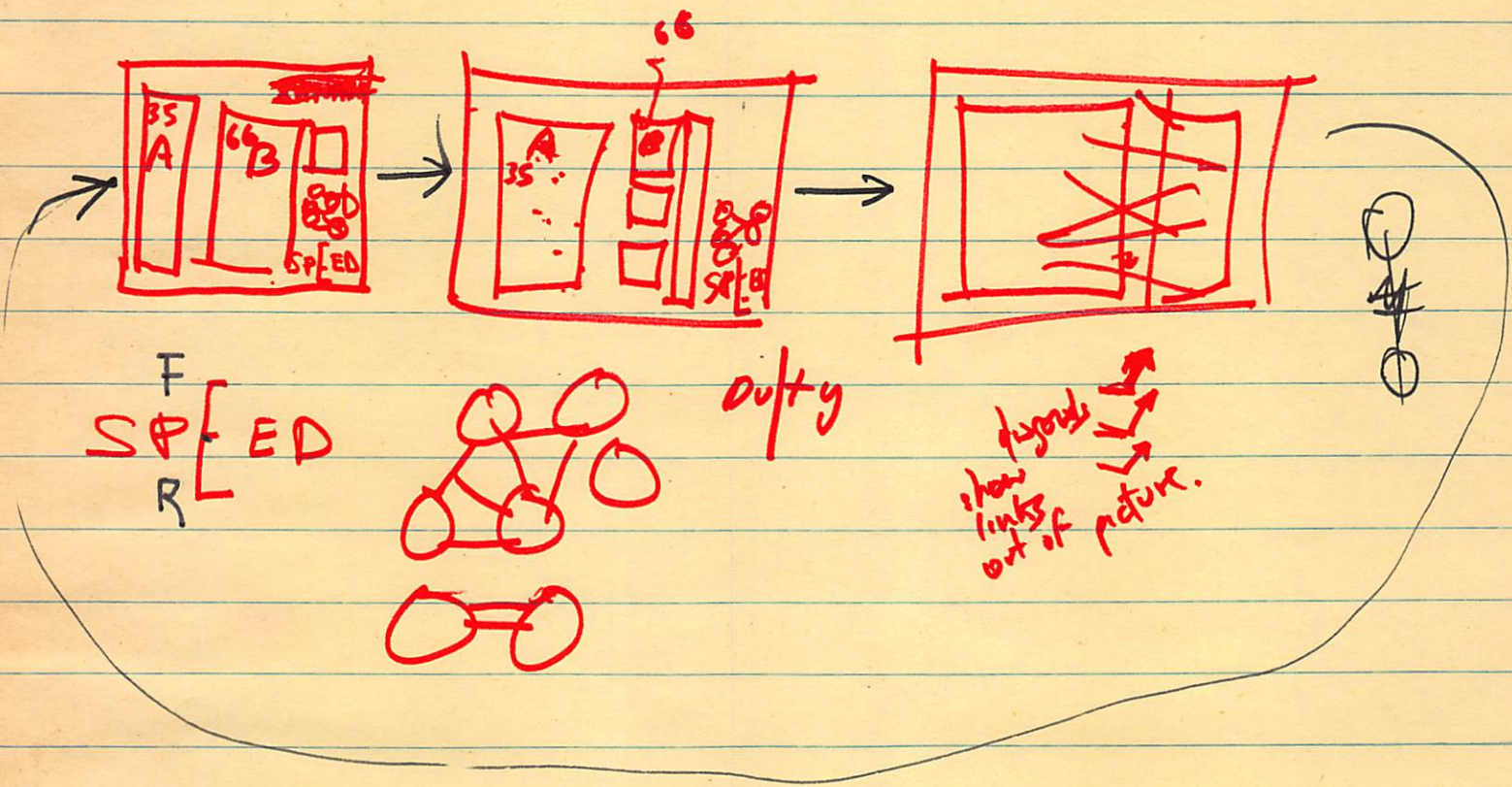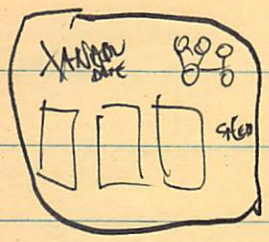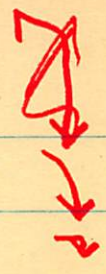to kettledrum music in Stony Brook, NY.

1-17   Kettledrum section, 27/8 Aug 70.
Present: Nelson, Klugman, King, Soreno

18   Magnificent, if vague, unifying strategy.
Present? Nelson(?)
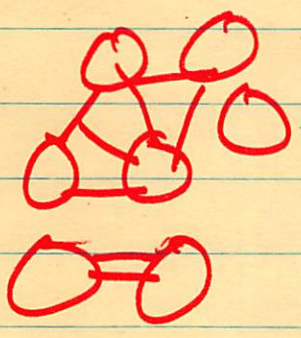
NOVEL
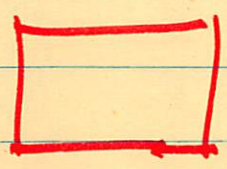
35 A 66 B SPEED
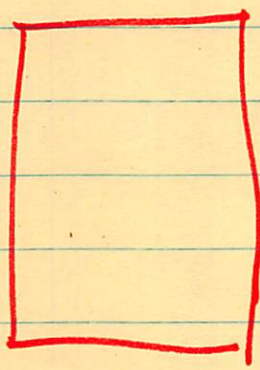
A 35 B SPEED

DUTY

F
SPEED
R

show links out of picture.

PILLOW

BED

CONTROL AREA
1.
2.
3.

XANADU

▸CONTROL
AREA
▪SETUP

PRIMEVAL SETUP

XANADU

PLEASE TYPE THE DATE

SPEED
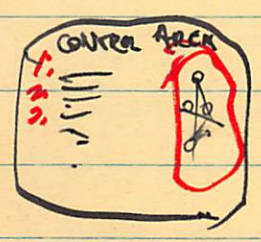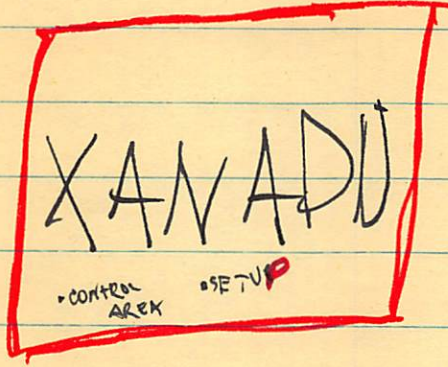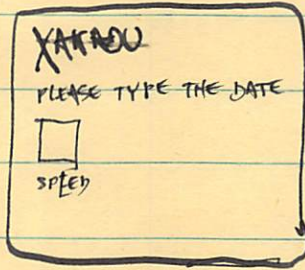
1. type the date
2. MOVE ANYTHING

CONTROL AREA

ALICE
LAUREEN
ELLIOT
SKIP

ALICE
LAUREEN
ELLIOT
SKIP

multicoupler indications

multicoupler
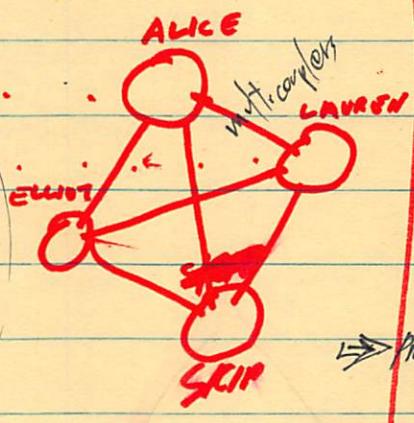
MULTICOUPLED FILES MIGHT BE INDICATED BY LINKS IN THEIR NAME LIST.

⇒ Probably multicouplers from a file should appear when that file is selected.

TO MAKE A FILE BALL DIAGRAM:

→ POINT AT FILE NAME. BALL APPEARS UNDER PEN

USER MOVES BALL ANYWHERE.

NEXT FILE SELECTED SHOWS NEW BALL;

IF COUPLED to A PREVIOUS BALL, LINE TO THAT BALL IS AUTOMATICALLY SHOWN.

BALL IS PLACED BY LIGHT PEN IN DIAGRAM.

BUTTONS

O O
FWD REV

editorial
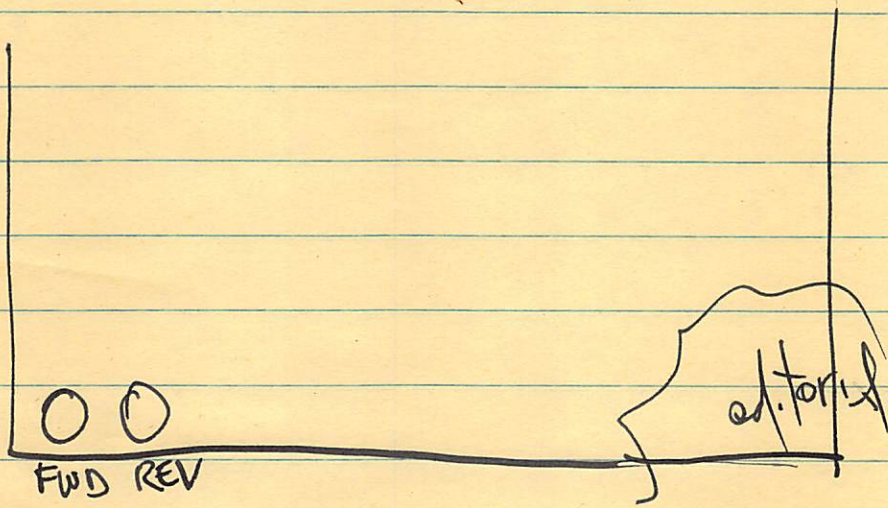
MORE BUTTONS:

'NEXT SETUP'

MAKE SETUP

DIM through five degrees, to disappearance.
Each disappeared thing leaves visible residue.
Pref: two dots ⸱⸱ of sizes ⸱⸱⸱

★ READY [Elliot's suggestion for reminding all acts.]
TYPE SIZE

USER COMMANDS

SELECT PANEL : point at edge or interior
~~either~~ to specify a) which panel moves
and/or b) which panel will change contents

SELECT FILE: point at labelled file ball.
MAY DO IT MORE THAN ONCE FOR
INTERLEAVED FILES.

END FILE SELECT: hit panel again.

HIT PANEL → MOVE (FWD or BACK)

HIT FILE

TO GET LINKS: hit line between file balls
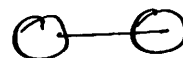
CHANGE COMMANDS

ADD (insert)
REMOVE (delete)
MOVE (rearrange)
REPLACE (substitute)
DUPLICATE (copy)

— — — — —

TRANSFER [copy/move from one file to another, will automatic link]

Approaches:
Menu
Button-box ⟶ single or mult. buttons:
e.g., 'move' ← INS + DEL
Editing pattern, e.g.

 etc

CHANGE COMMANDS ARE STORED SEQUENTIALLY.

Note: if text moves, ∨ it should itself move under lightpen.
[e.g. MOVE or COPY.]

XANADU FILE consists of _n_ parallel streams, slightly fucked up.

There are two types.

ACTUAL DATA   OTHER STUFF

Multicoupler(s)

Chronological change sport.
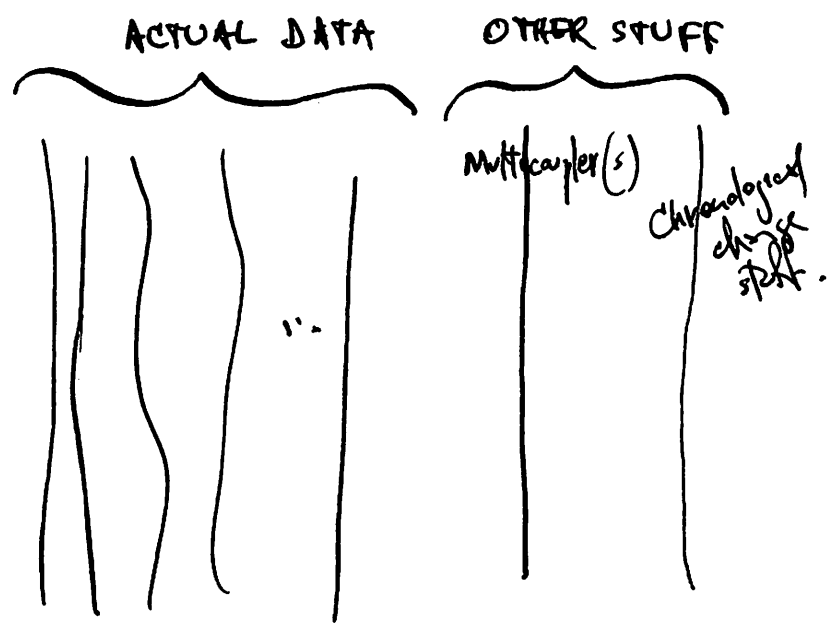
EXAMPLE. The enriched text case.

ACTUAL DATA

T   T2   TC   inwort MC   CHRON.

(base text)   (amendments)   (text control, shown parts, in canonical sequence)

routed for
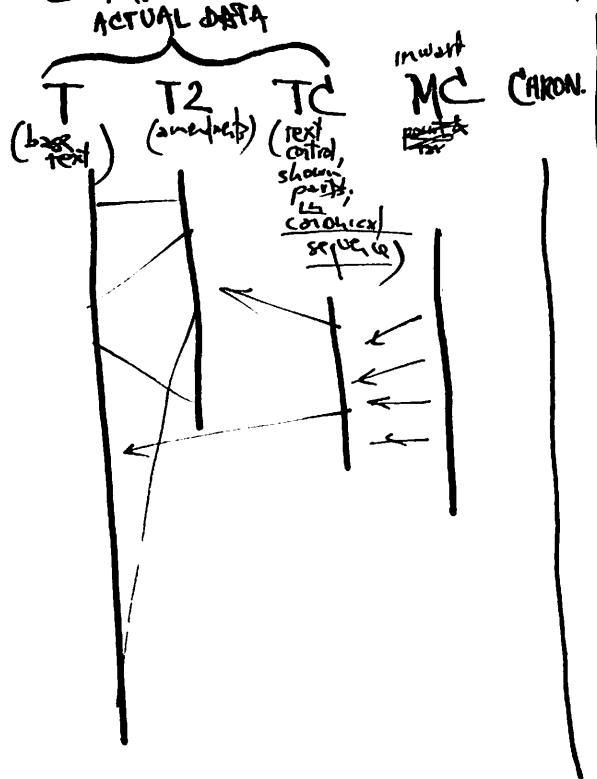
WHAT IS TEXT?

Some say cornflakes.
(characters in a row.)

Some say meanings.
(symbol structures representing content.)

~~Some say~~

I say sequenced structures having externally referenced parts.

Text

external references

TRUE STREAM

I FIRST ELEMENT

recently
changed
material

⋮

new stuff

I LAST ELEMENT

STORAGE STREAM

ACTUAL

dead
section

new
section

BLOCK
STORAGE
CONTROL

dead
section

new stuff

nothing
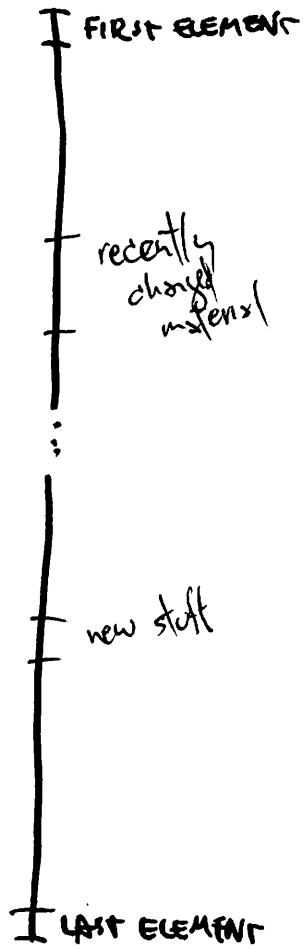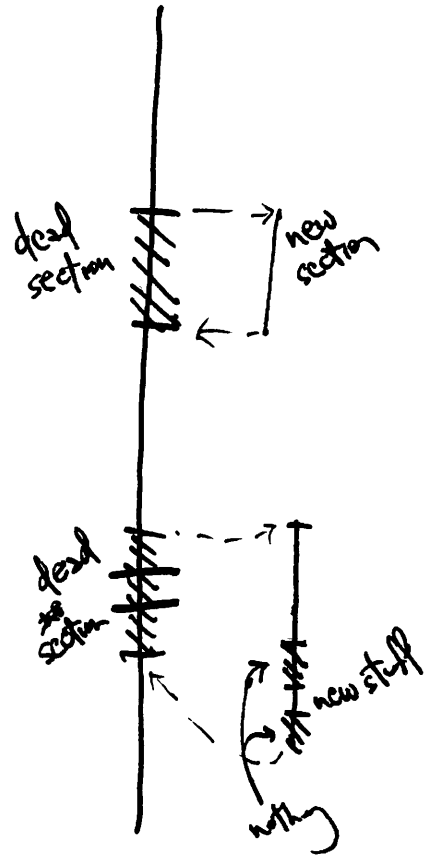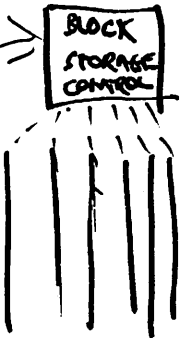
BLOCK CONTROL

	BLOCK NO		BN	BN	
...	LOCATION		LOC	LOC	...
	STARTING STREAM ADDRESS		SSA	SSA	

changes
when
blocks
are
changed
on
storage
stream

~~CONTINUOUS~~ DYNAMIC DISPLAY $\begin{cases} .0110M \\ 2250 \\ etc. \end{cases}$

CONVENTIONAL METHOD

XANADU METHOD

DATA STRUX

COMP. LOGIC

program

Displ. list

DISPL. LOGIC

core.

TC
T
TZ

0010
0101
⋮
JUMP

PLUG BUFFER

jump "

jump back

characters moved

return address

PLUG BUFFER IS A STREER

BED & BABBLING IN BED.

stream

part of stream on screen { } part of stream in core

method simulates
pulling of strings through core,
without moving
core strings.
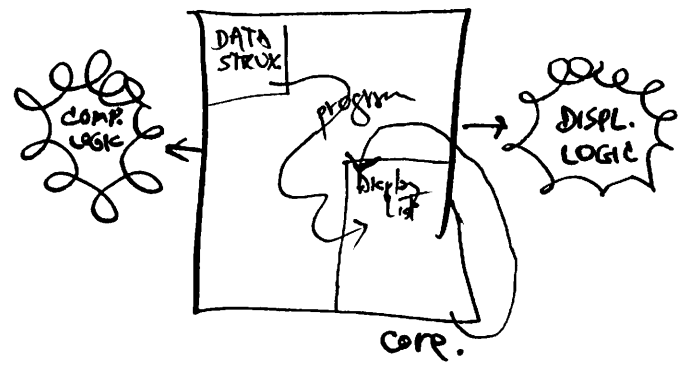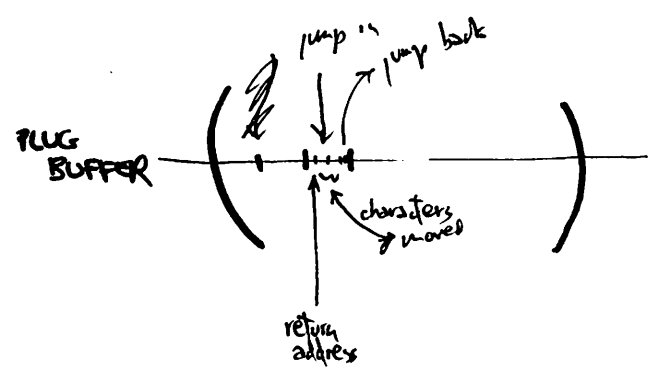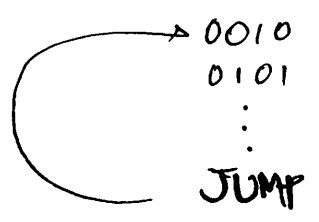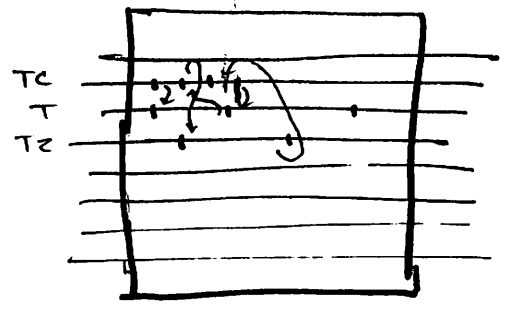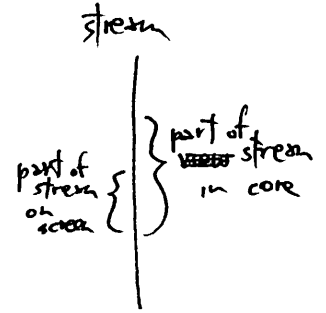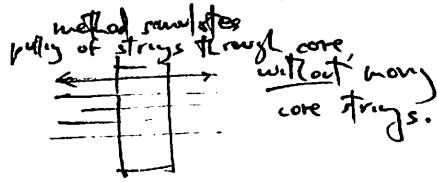
core location
for section of stream
is a bed.
Size is fixed
differently for
different functions.

STARTING ADDR. OF BED

— ending address of display

— location of backstop, if any

} Zone of invalid data

— location of terminator

— starting address of display

LAST ADDRESS OF BED

```
THE
QUIC
K#BR
OWN
FOX
JU MP
S OV.
```

terminator ↓

```
ER  T
HE  L
K   BR
OWN
FOX
JUMP
S  OV
```
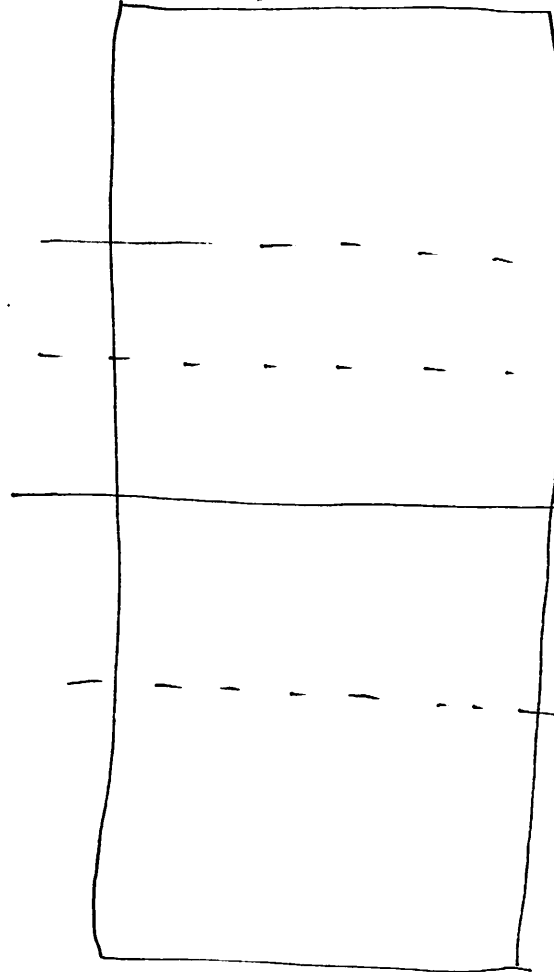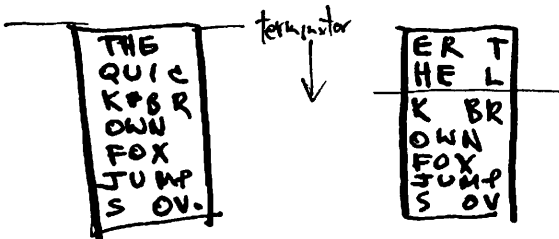
THE PILLOW.

Preference for 16 words. Bit-packing no doubt essential.

fixed-length control table showing status of a bed.
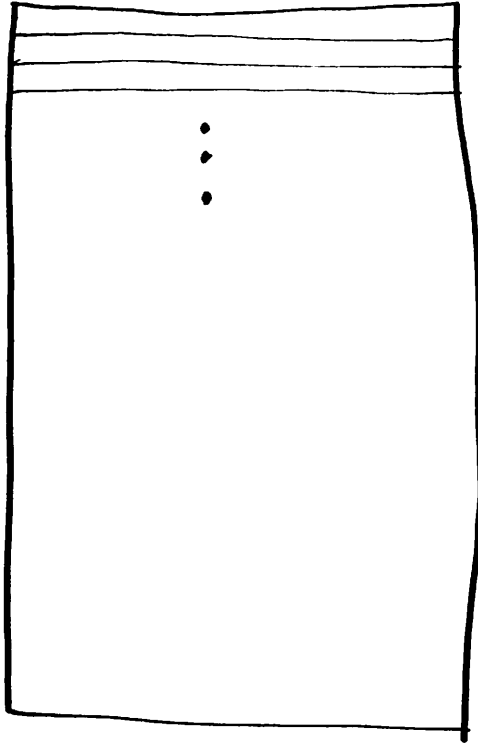
TO INCLUDE:

Starting location of bed
End " " "
&/or length of bed.

PRESENT LOCATION OF TERMINATOR
[prob. first or last word]

" " " BACKSTOP

& Beginning of displayed area
& ~~Beginning~~ End " " "

BED NOS. OF OTHER STREAMS IN FILE.

e.g. type of stream, e.g. Text control of same file
Bed no.

1	0	0	1	1	1	1	0	1	0

★ REFERENT STREAM POSITION
★ LOCATION THEREOF
e.g., "Stream 10796 → Bed pos. 24"

ITEM LENGTH IN THIS STREAM

ADDRESS CRUNCH:

Given stream address, relate to
referent stream position,
location thereof,
~~bed length~~
terminator position,
bed length.

RETURN: THIS STREAM ITEM <u>IS</u> IN CORE AT ___;
IT IS <u>NOT</u> IN CORE (IT'S TOO HIGH/TOO LOW).

CORE.

file/stream-in-core table

Activity push stream (setups etc.)

Layout Control: panel specifiers, control location, specifiers (BABBLES OUT)

↓ derive

Layout Display Buffer: panel display, speed control position & setting, File ball list, brightness values
(Actual)
(Display Code)

F1 {

F2 {

F3 {

⋮

P flow t ═══════
P2 ═══════
P3 ═══════
⋮

PROGRAM (may babble some of it)

PLUG BUFFER (plugs from display list)

TAPE BUFFER [simulation of true babble.]

Note: some bed-sets need to be overlaid for historical retrace.

MULTICOUPLER points to points and ~~words~~ ({ fields.
{ strings.

They may be assigned
to model types
[as here, *, ‡.]

MC

The quick brown *
⌊fox⌋ jumps over ⌊the⌋
lazy ‡ dog. *
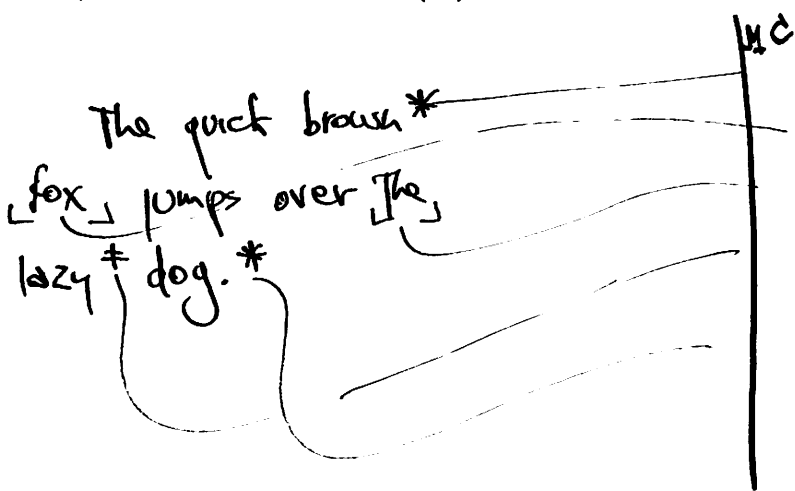
Whatever happens to the original, the multicoupler
keeps pointing to the "same" (succeeding) position.

The quick brown* dog jumps over ⌊the⌋ lazy‡ ⌊fox⌋. *

What to do in weird cases? E.g.,

The ⌊star spangled⌋ banner → the ⌊star spangled⌋ banner
                                              ^and crescent

FLAG THE USER, SO INFORM HIM.

the link can be split, passed to only half, etc.

SEPARATE LINK MODES SHD. HAVE DFTLY.-DEFINED
CONSEQUENCES.

MULTICOUPLER CAN WORK IN TERMS OF

    ¶   TRUE STREAM ADDRESSES

    ¶   RELATIVE STR. ADDRESSES IN T, TL + BASE ADDRESSING
                                        IN CONTROL BLOCK

    ¶   "   "   " IN TC

                etc.

One problem: on a split field, how retain the
link to two items where it had been one
(in same MC stream position)?

HISTORICALS.

We distinguish: CURRENT file (updated to perfection in streams)
PREVIOUS DRAFT (or null draft before work began)

BRUTE FORCE METHOD: to go back in time, undo the chronological tree one at a time,

rolling the streams back and forth like hell,

OR go back to prev. draft & work forward.

KUHN METHOD: create list of pointers into σ, π, etc.,
~~ASSEMBLE~~ each with a chronological range during which its string is unbroken.

ASSEMBLE.

HYBRID METHOD: Save changes but not Kuhn list.
To backtrack, ~~make~~ a Kuhn list, ~~assemble~~.

ADVANTAGES:
1. Don't have to actually carry out editing ops on streams.
2. Material is stored as dictated by other Xanadu methods, then symbolically rearranged.
3. Need only assemble part you're looking at.
4. Possible to noodle back and forth around the time-range selected with comparative ease (since each piece has a valid time-range specified).

Note: "TIME" is not the variable. We have an evolutionary tree that can branch retroactively.

DECEMBER
NEW JUNE VERSION
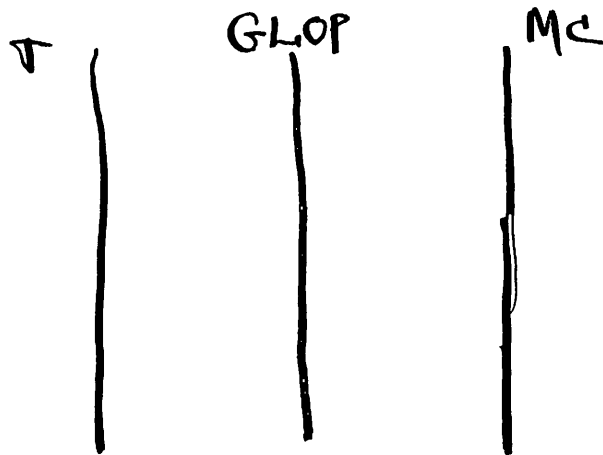Original development
JAN
FEB
APR
MAR

MULTICOUPLING PLUS HISTORICALS.

"If the multicoupler can be made neat ~~with~~ enough, coping with it historically should be no problem."

— Gen. Custer

HUGE BREAKTHROUGH !!!

Can not the file be three streams.

	GLOP	MC
T		

of: Glop stream contains, subsumes and supererogates the functions

      T2,
      TC
      TM [virtually obsolete anyway]
      MC Amendments.

SECRETS OF THE GLOP STREAM:

Back-chaining of glop entries
permits their obsolescence to be ascertained.
Glop stream can thus be compacted, revised
repacked, stored and backed freely.