

JUN 11 1998

Ø

216-246-85 OF SYS TEM

Two kinds of data:

DISCRETE ITEMS

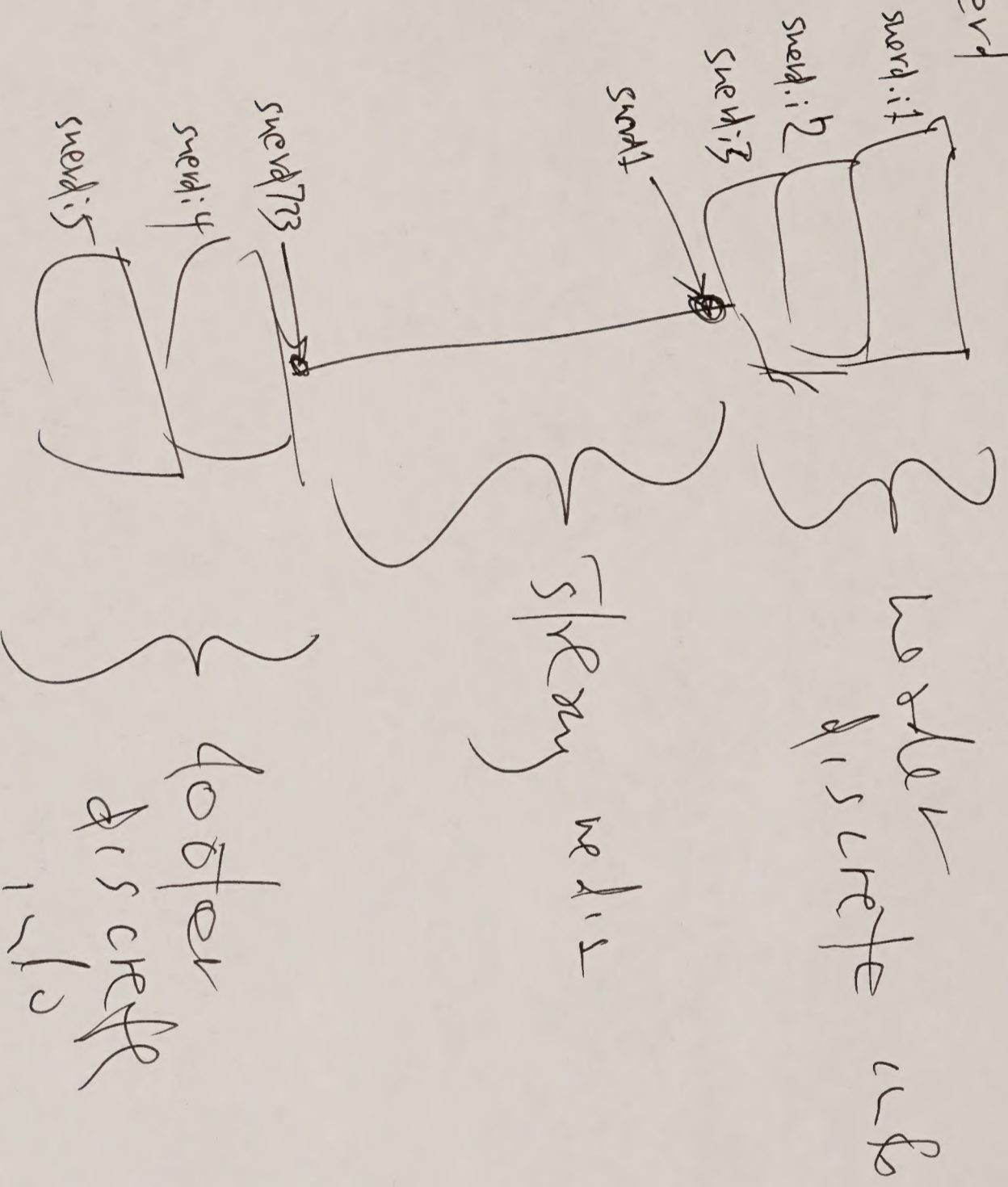
STREAMING MEDIA

(primed)

all text  
video frames  
sound samples

# TOPIC FILE TODAY

file server



router discrete cell

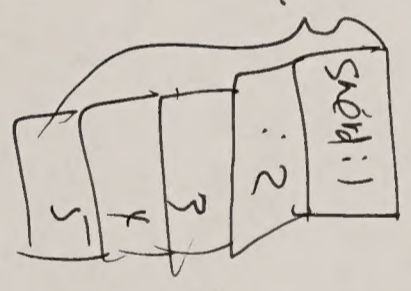
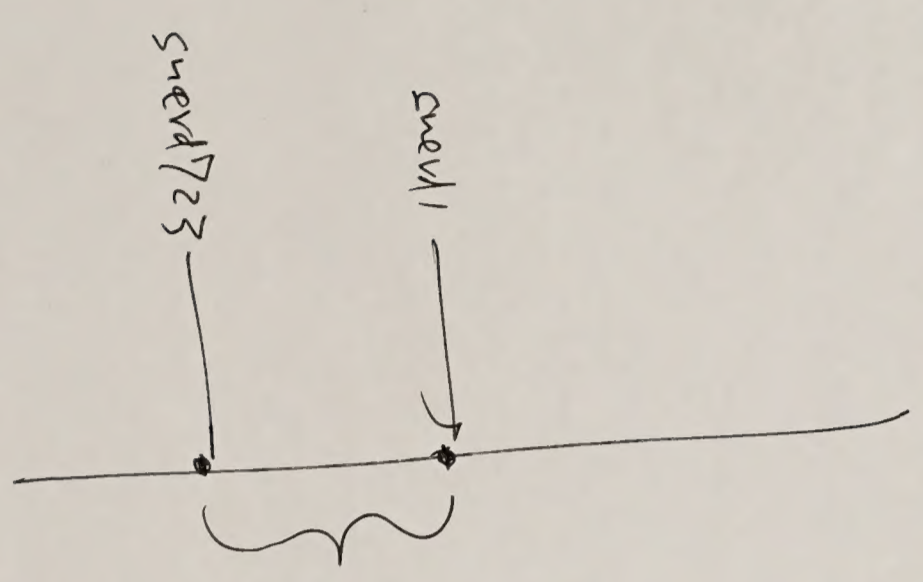
streaming media

dotted discrete

# MINUS COSTS BETWEEN

streaming web file

The exact equivalent  
in an orderly  
and cumulative



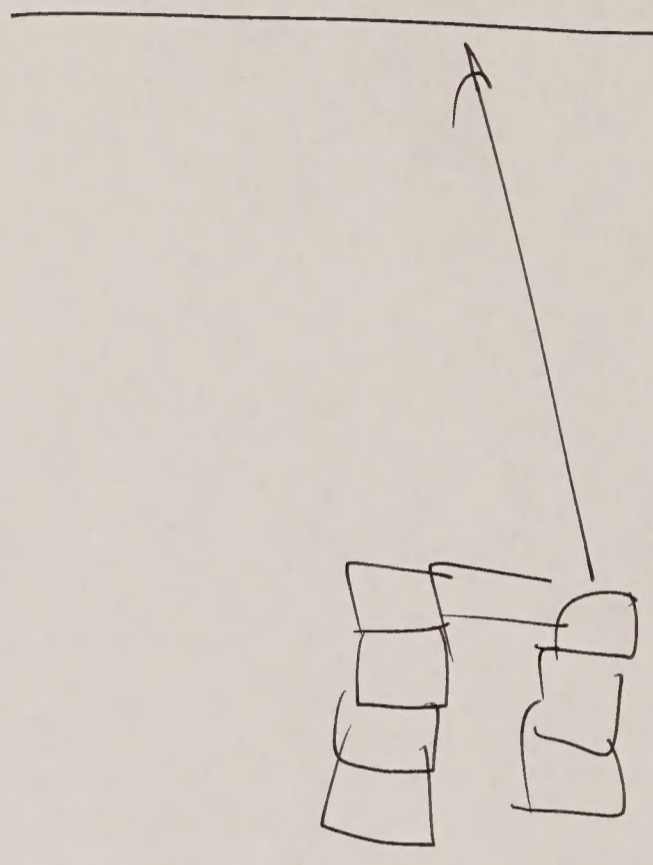
~~for ZIGZAG SELLS~~

# ZIG-ZAG - ~~FRANZ~~ LOGIC SYSTEM

primed +

zcells for

ALL DISCRETE UNITS  
INCL. POINTERS AT PR/INT/IO



## Orders

recommendation  
 manipulation  
 specific

NO NEED FOR NEW MECHANISMS

Every new program  
is just another cell

# COMPUTER RELIGIONS

Religion is a SYSTEM OF ORDER  
THAT PEOPLE RECEIVE INSTINCTIVELY.

It seems to have magical properties.

It offers a model of:

Good and right living  
Immortality (or durability)

("Posterity is the religion  
of the intellectuals")

— Woody Allen

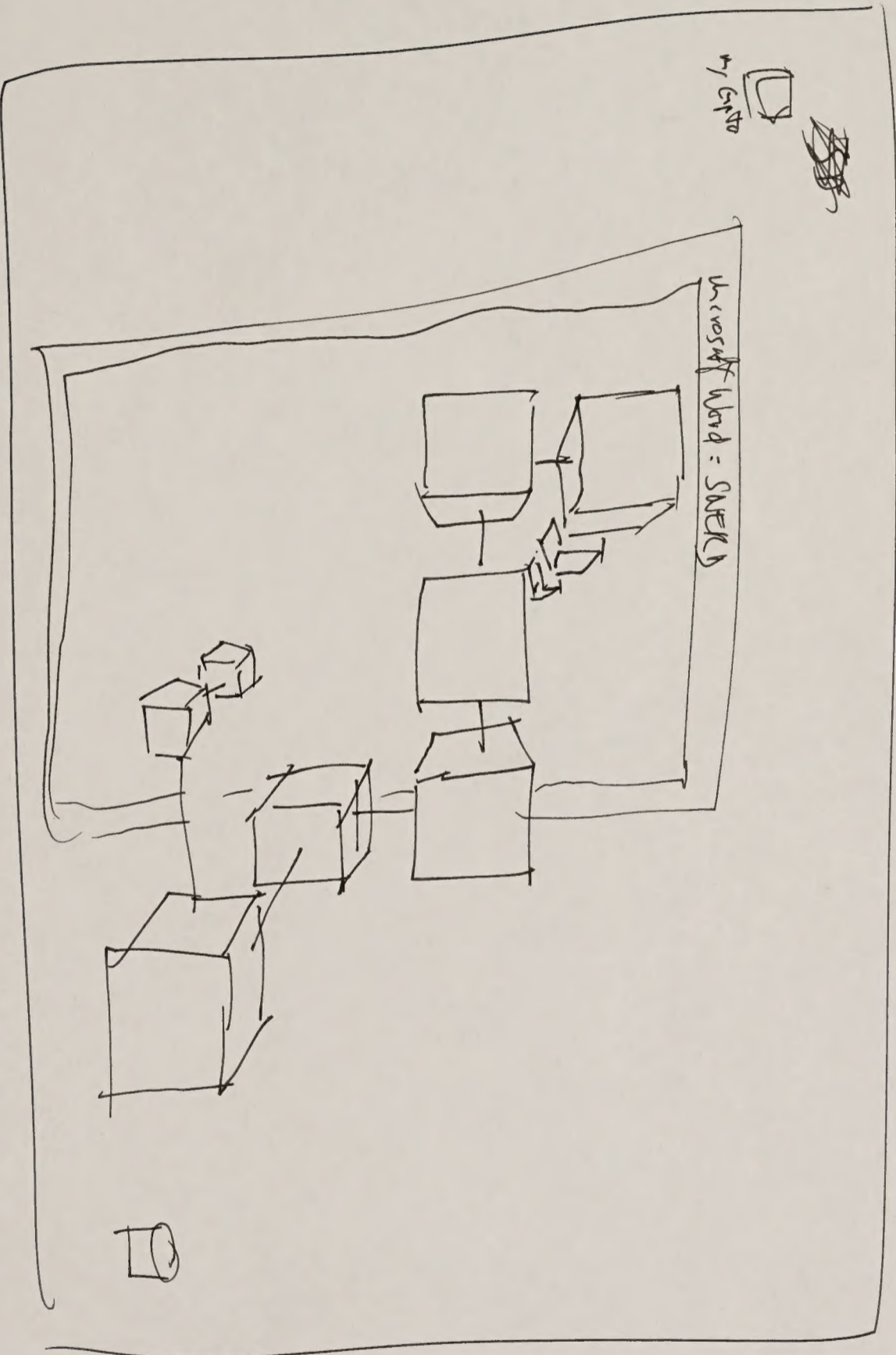
"The Emperor's New Clothes"

Hans Christian Andersen

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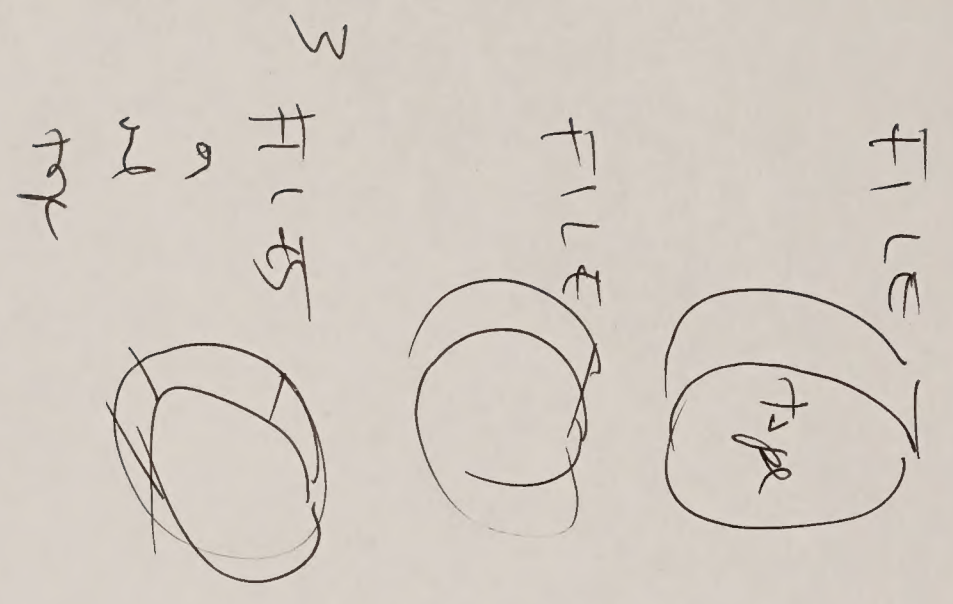
€

SD VIEW OF ZIGZAG NUMBER OF WINDOWS OR MTC

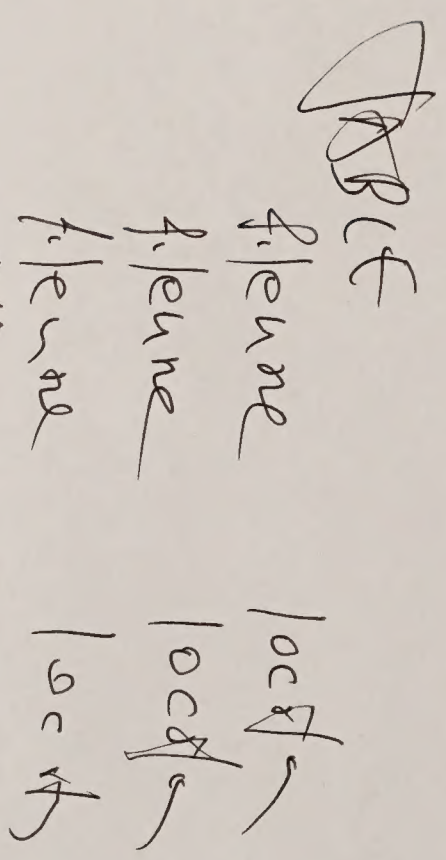


FILE STRUCTURES — 1947? SIMPLE, BRUTE ~~FORCE~~ FORCE EXTENSION OF FILES IDEAS

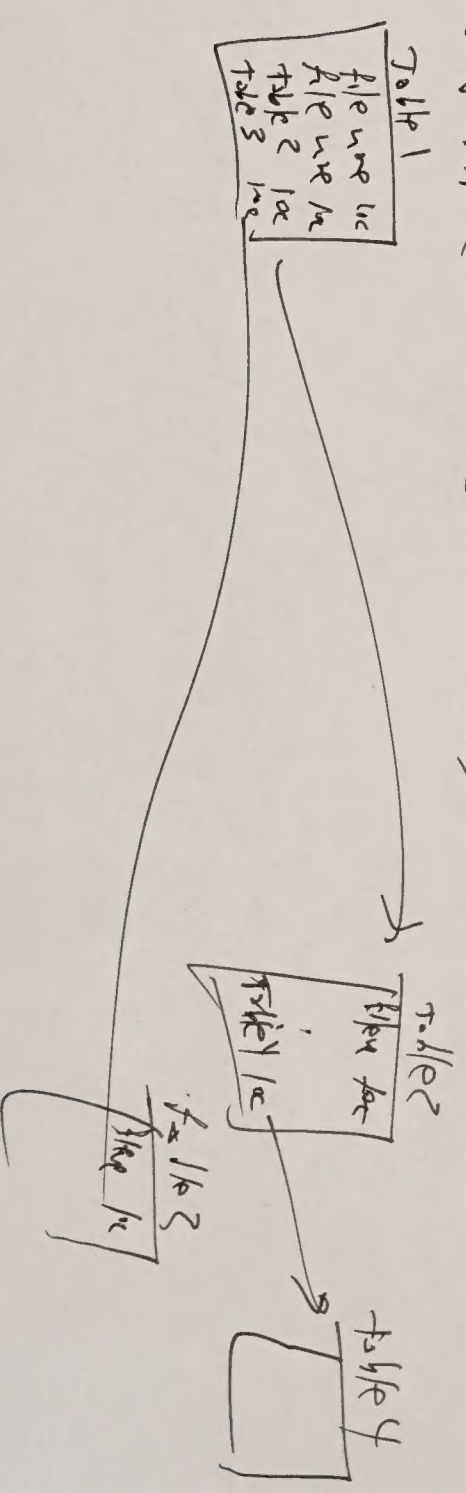
PREVIOUSLY:



WHEN TOO MESSY OCCURRED:

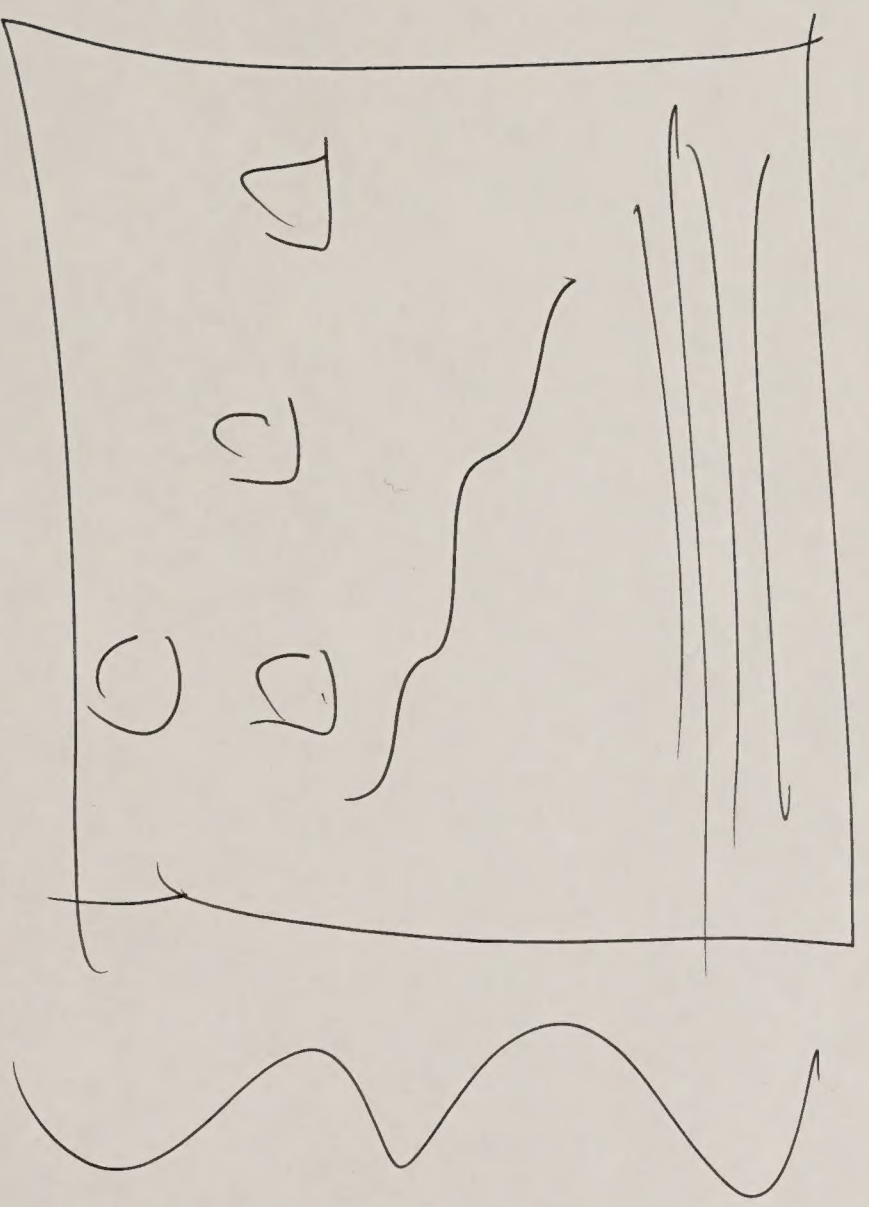


WHEN MORE OCCURRED:





FILE = PACKAGE OF DATA  
TO BE USED TOGETHER.



different things  
packed in one file

HIDDEN DECISIONS  
GIVEN AND GIVEN.

THE WORLD IS FULL OF IDIOTS  
THAT MAKE SENSE ON A SMALL SCALE

but

GET STUPIDER  
AS THEY GET BIGGER,

# user

# Computer Files

DISTANCE METERS

about

~~10 METERS~~

PLANTS

CORRECTNESS

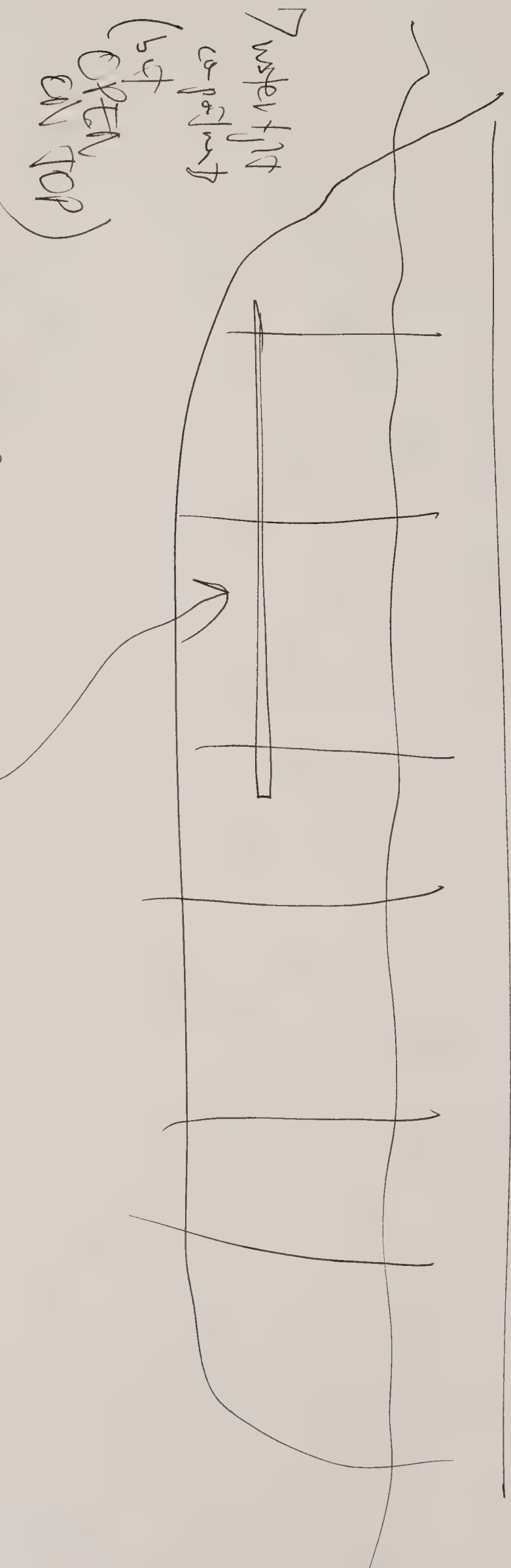
TRUTH

MORALITY

SAFETY

'Safety'

Titanic was a safe ship ever built



No plan for LONG CUT

NOT ENOUGH LIFEBOATS.

NO PROCEDURES FOR GUARANTEED RADIO CONTACT.

Jobs we have

FAMILY  
CORE  
MODE

FAMILY  
LYSIS

- Most kinds of jobs are possible
- Relative changes

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M

STMPLE FAILURE MADE ANALYSIS =

YOU PLAN TO GO TO TOKYO TOMORROW.

HAVE DINNER WITH FRIEND.

RETURN.

# PRESSURE MODES OF FAILURE

I: Self  
F: Friend  
F: Train

BEFORE TRAIN Alarm clock doesn't work

I: get sick

I: hurt foot

I: don't have money

I: lose money

I: fall ON TRACK

I: ~~fall~~ HAVE SURPRISE DUTY (work assigned, fighting emergency

witness of crime etc.)

I: TAKE WRONG TRAIN

I: Breaks down

I: HAS ACCIDENT

I: GOES WRONG WAY, GETS HIT

SARIN ATTACK AT SHINJUKU STATION

## AT DINNER:

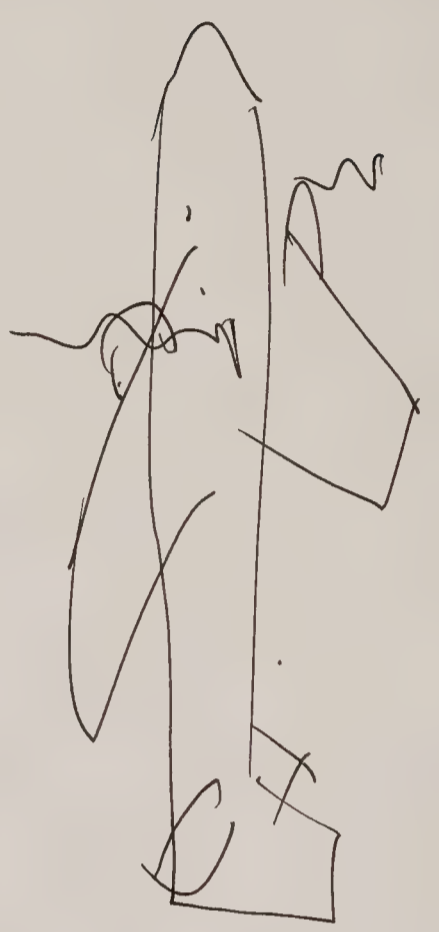
business problems  
money problems  
architecture problems (builds falls down)

## RETURNS:

(A) again

(A)

DC-3 airplane, designed shoot 1936



2 engines  
200+ passengers

DESIGNED FOR THIS <sup>VERY SIMPLE</sup> FAILURE MODE CRITERION.



IF ONE ENGINE FAILS HERE, PLANE WILL STILL REACT DENVER.

RESULT = EXCELLENT AIRPLANE. 40,000 built 1936-46. In 1980, 10,000 were still flying!



2 weeks ago I met with Ray Ozzie, creator of Lotus Notes

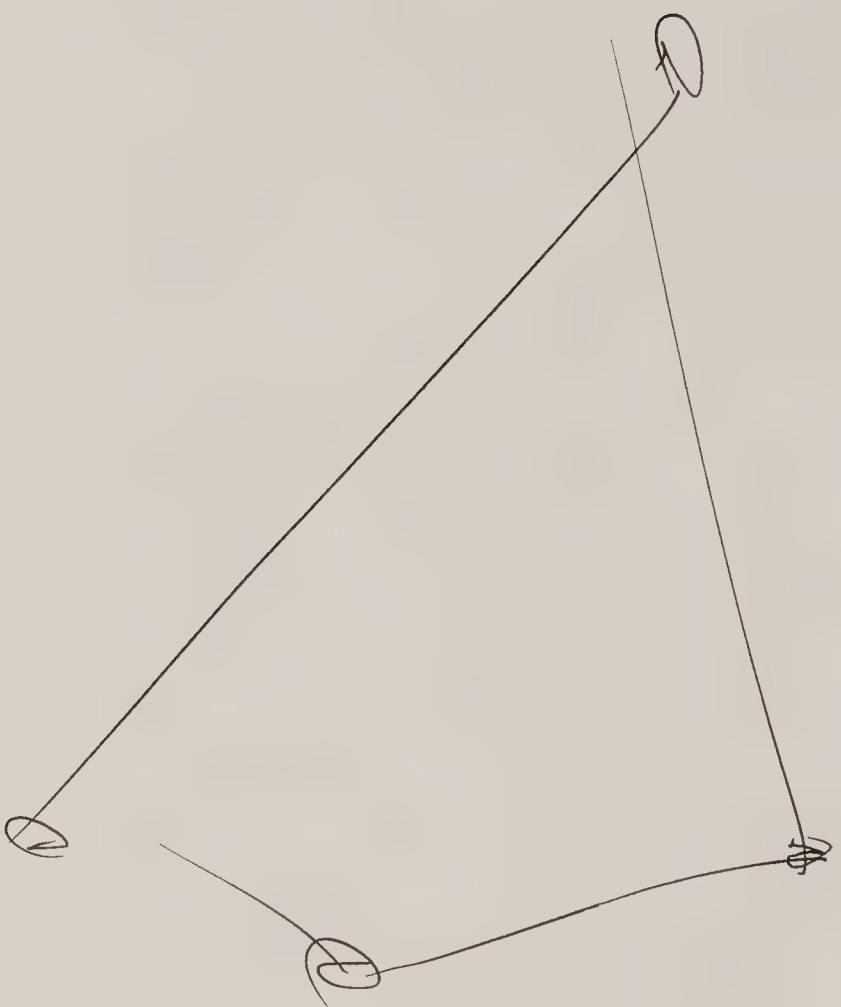
THIS DESIGN CRITERION =

$N$   $SO$  msec. response  
for work on your local cache.

Q

X-2-2-10 design =

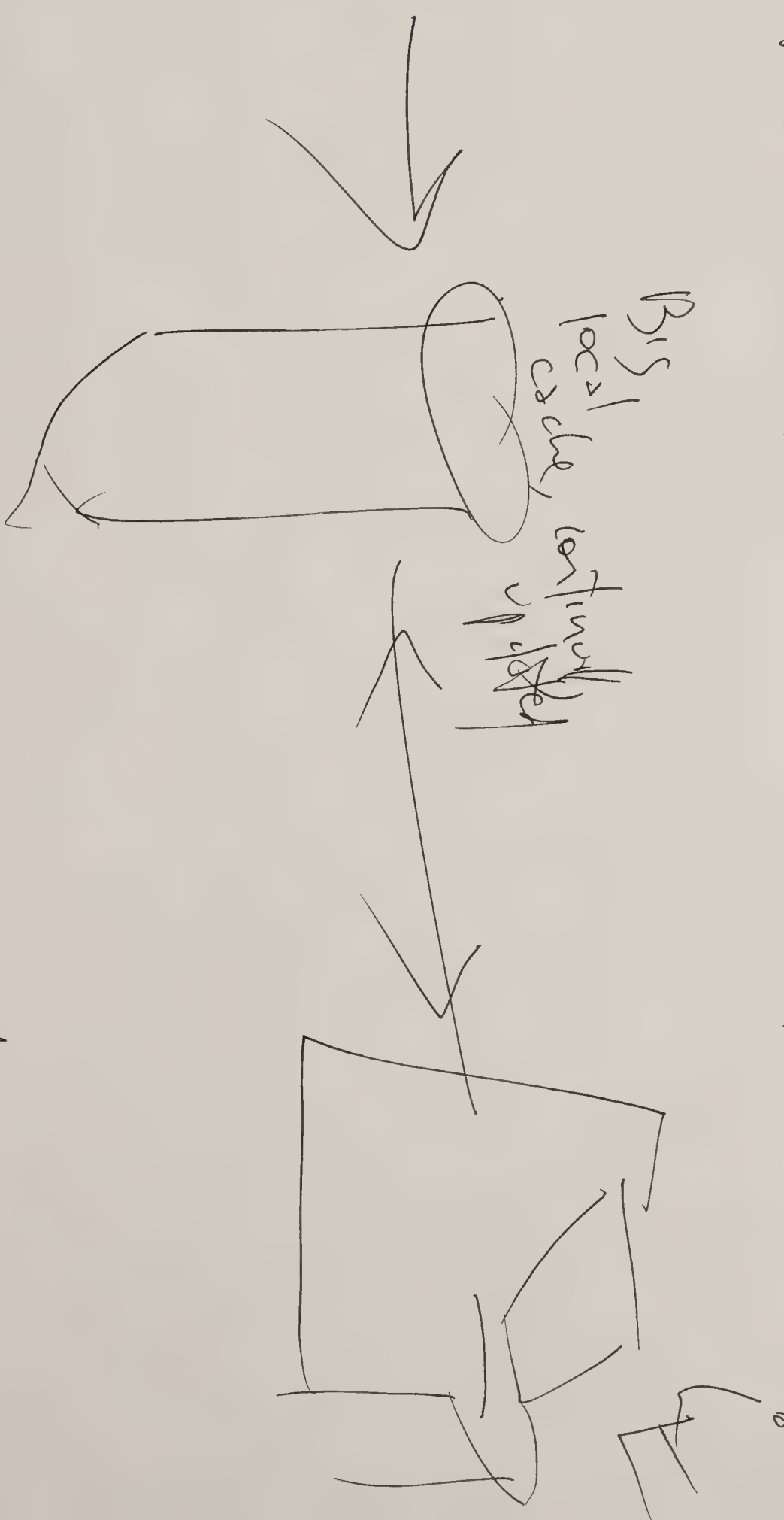
BIG WATERBURY ISSUES



We didn't specify local performance

THIS DESIGN CRITERION for L. Notes  
IMPLICITLY CRESTED  
THE WHOLE SYSTEM

~~It~~  
It we st:



Like the DC-3, this is an interest example of determining the whole design -  
and criteria

Menhoke  
Tellerisa  
Tantpuka

Y: entpuka 2/50

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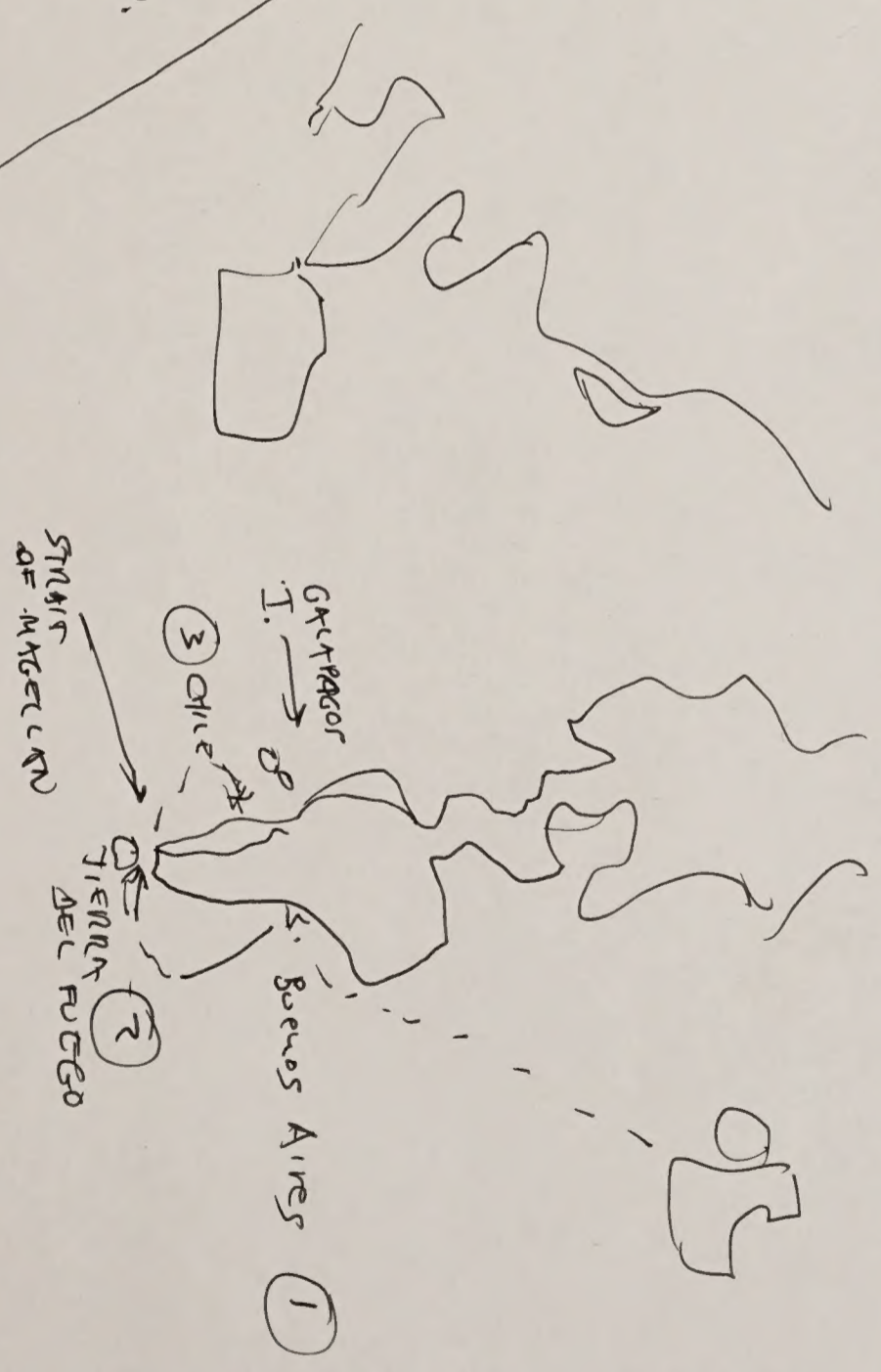
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# THE VOYAGE OF THE BEAGLE (1820-1822)

Captain John Fitzroy, age ~22  
 "Naturalist" (biologist) Charles Darwin, age ~20 } roommates

~~FAST STOP~~

- ① EMPTINESS AT B. ANDRES  
 Darwin notes that land is now different height
- ② NAKED INDIANS ON THERIA DEL FUEGO - "land of the fire"  
 STAND BY FIRES  
 ALL THE TIME - cold & snow.  
 Darwin sees this as excellent adaptation.
- ③ IN CHILE DARWIN CLIMBED AND FOUND SEA SHELLS.  
 ANDRES  
 He had already noted change in height from earthquake.
- ④ GREAT APAGES!  
 Darwin notes a chain of islands.  
 some creatures adapted by degrees: birds  
 TORTOISES  
 LIZARDS  
 He saw that in more recent some islands more diverse & biological changes



"DARWIN-WHATTE" THEORY OF EVOLUTION, 1859.

creatures change randomly,  
THE FITTEST

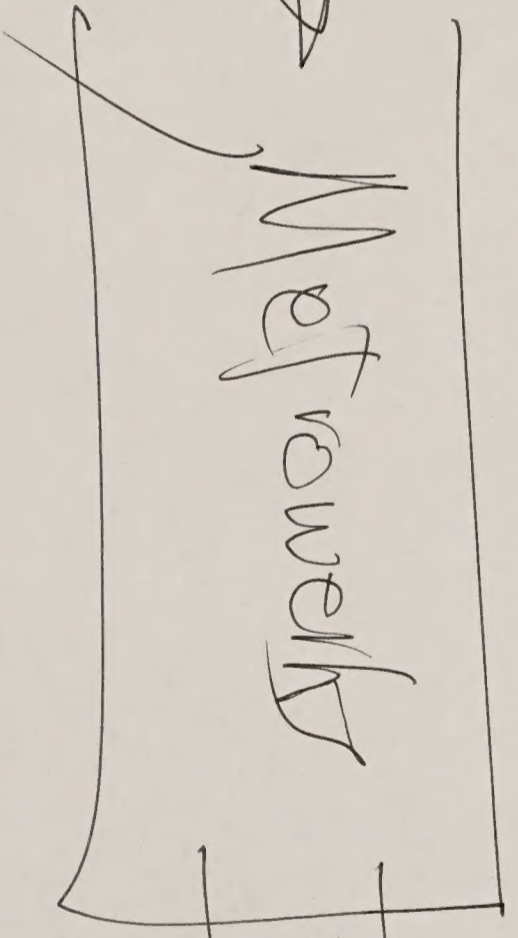
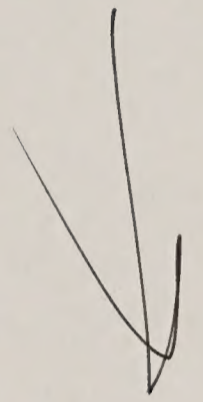
SURVIVE BETTER AND HAVE MORE CHILDREN,

MORE RECENT EXAMPLE -  
super-long-life fruit flies (Drosophila)

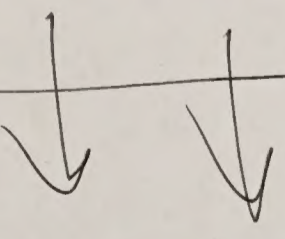


# PICKUPS FOR ZZ

Perl version



Metrowerks



~~Mickey~~

Mac

discrete - separate

discreet - careful

(secret)