S-67

58
39

VW Oy 7-3851

Tucker
27 D

Bramanthe
4596696

untopoltagn.
4pm

Vaughn Hall
(307)

Brain

~~BRAIN~~

Hebb Cornell

UNIVERSITY NOTE BOOK

Easywrite

S-1815 - 100 LVS.
U. S. A.

NAME Jerzy Konorski 1948

ADDRESS Condl refl. and

SUBJECT neuronal org
Cambr. Univ. Press

J. Bronowski

The Athenaeum

Pall Mall

London SW1.

Home 434-9514

Walker Reid RA 3-1000

Arthur M(?) Silverstein Ext. 2807

Wilfried Rall 6(4325) Home

Mon 3

Bronowski

J. Br

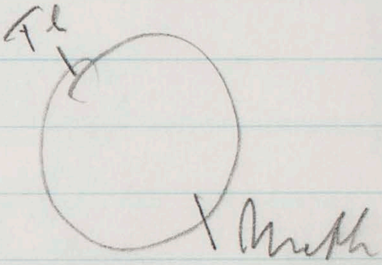
~~c/o Mrs Reva Gerstein~~
~~78 The Bridle Path~~
~~Toronto~~
~~Ontario~~
~~Canada~~

Al Garen H.

structural + nonsense

Su^+ → 80 Su^-

Su^+ is dominant, probably affects ribosomes



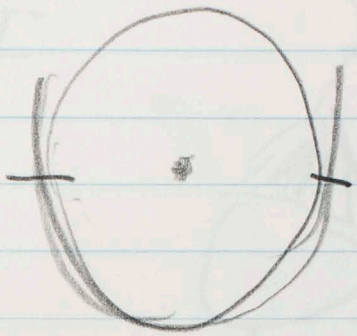
Arginineless but Streptomycin overcomes it

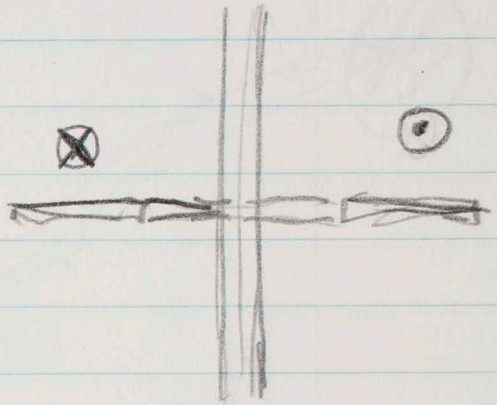
λ can ~~—~~ multiply in presence of Su^+

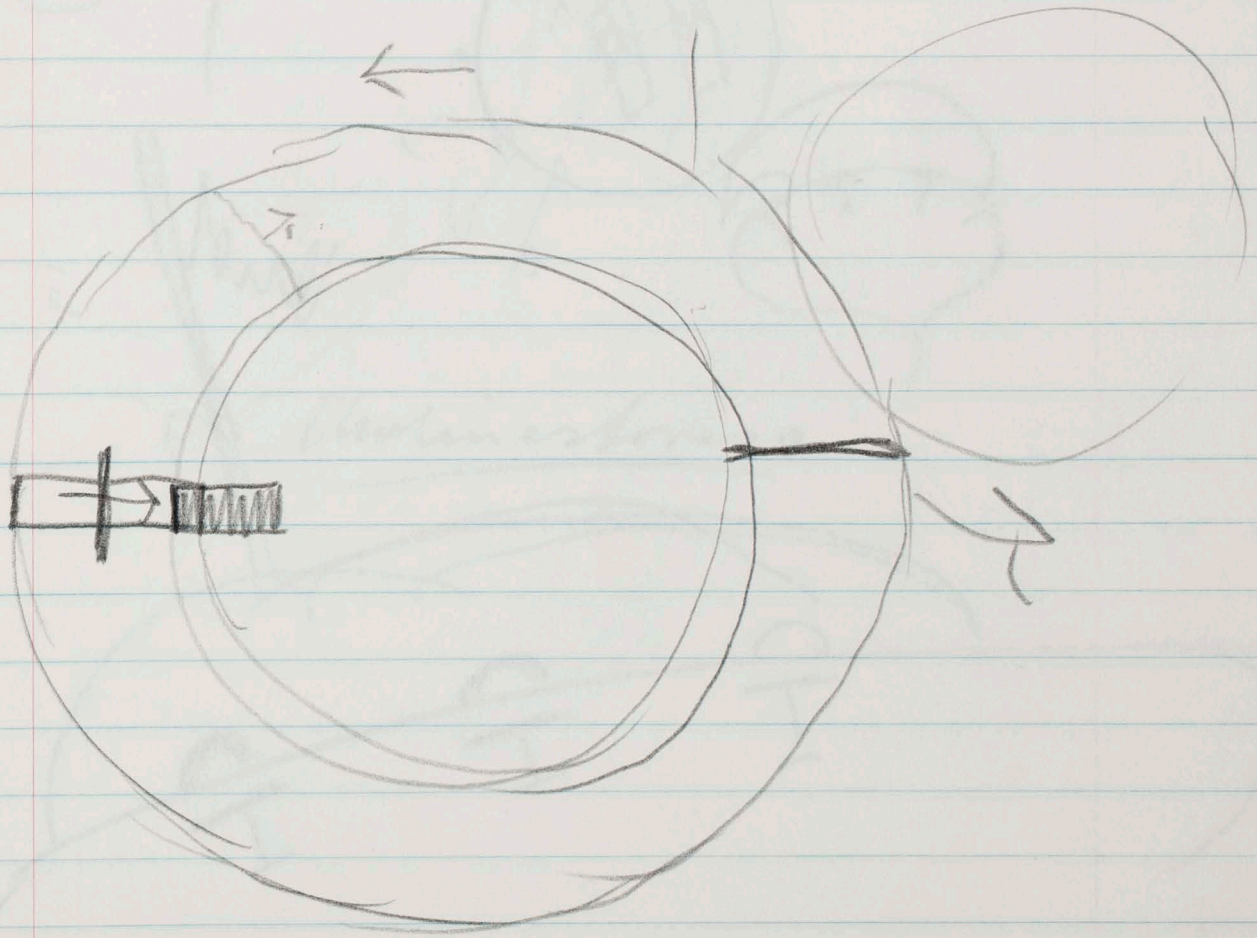
10 bacterial mutants strept res

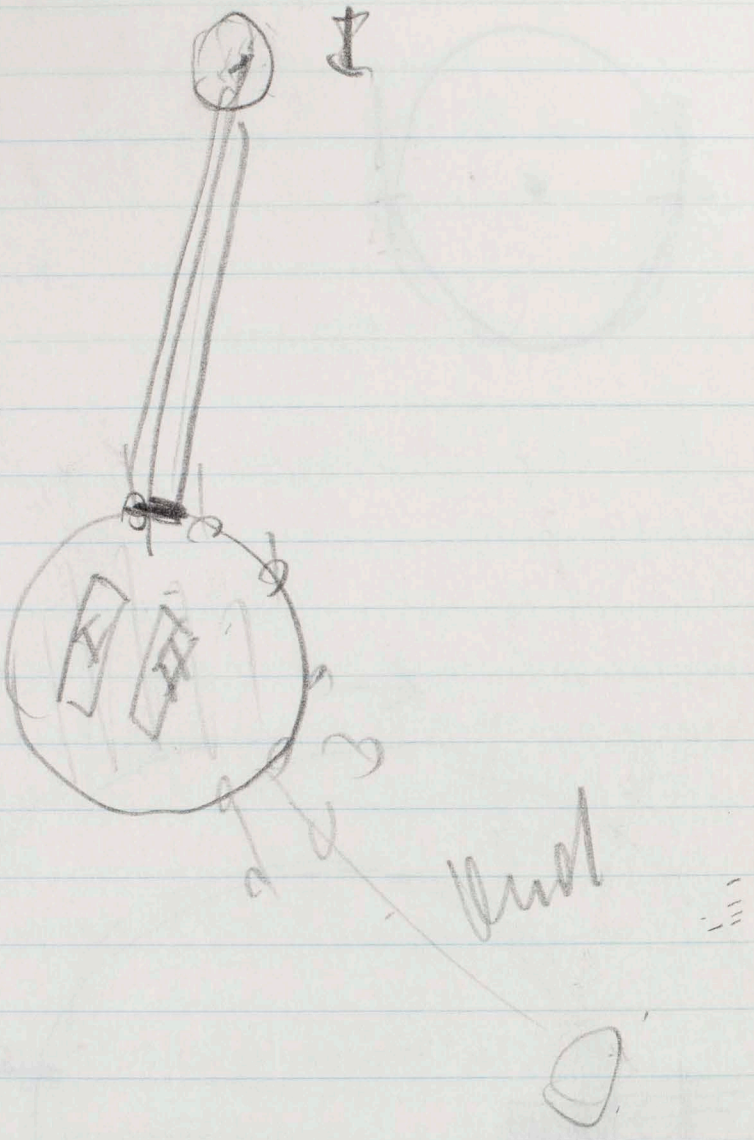
30S ribosome bind streptomycin

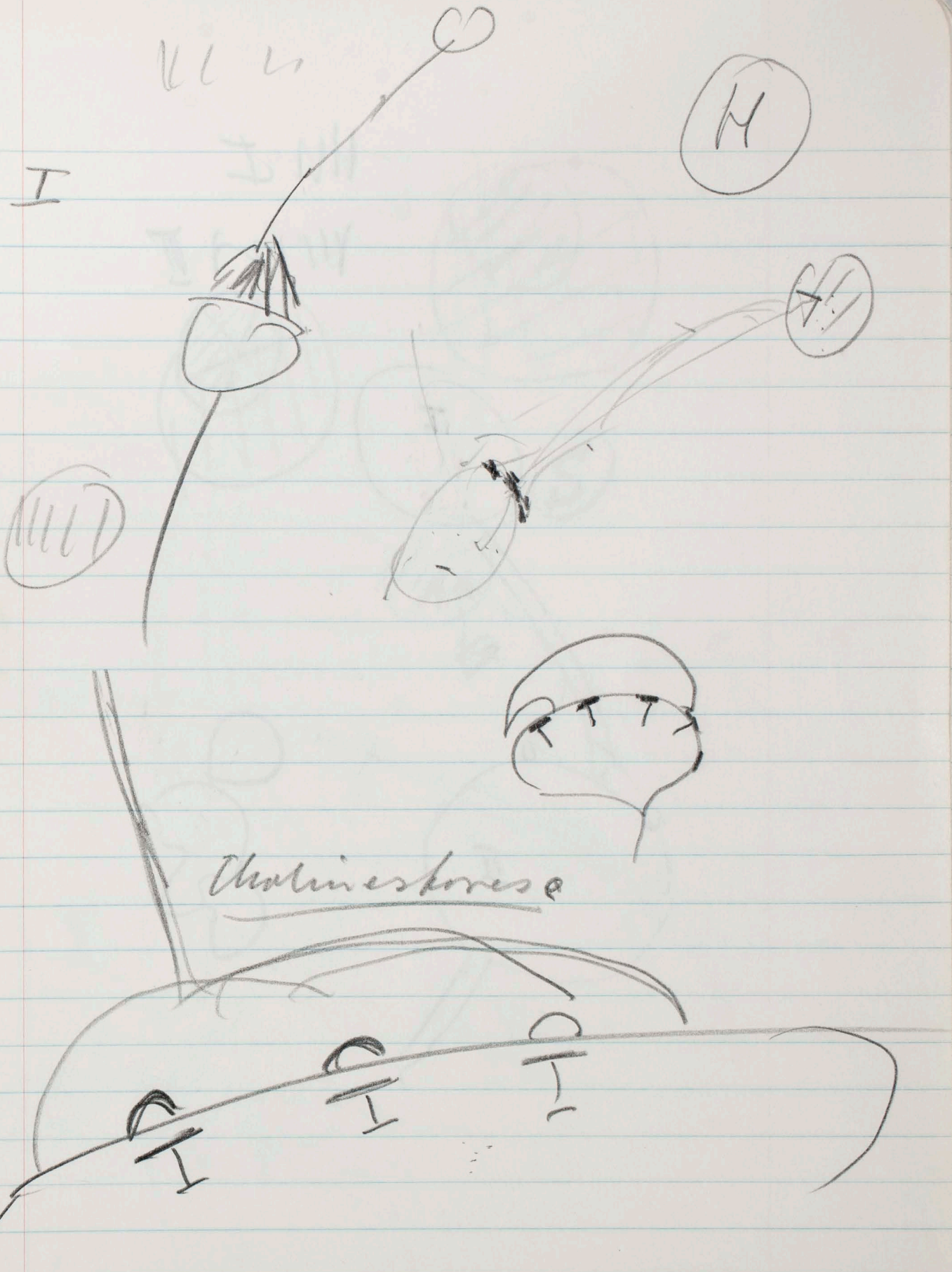
Beckwith

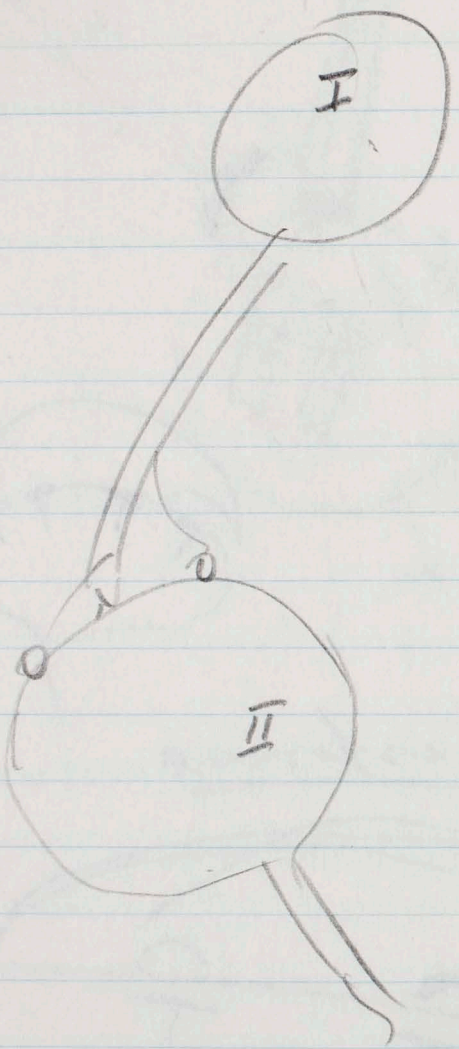


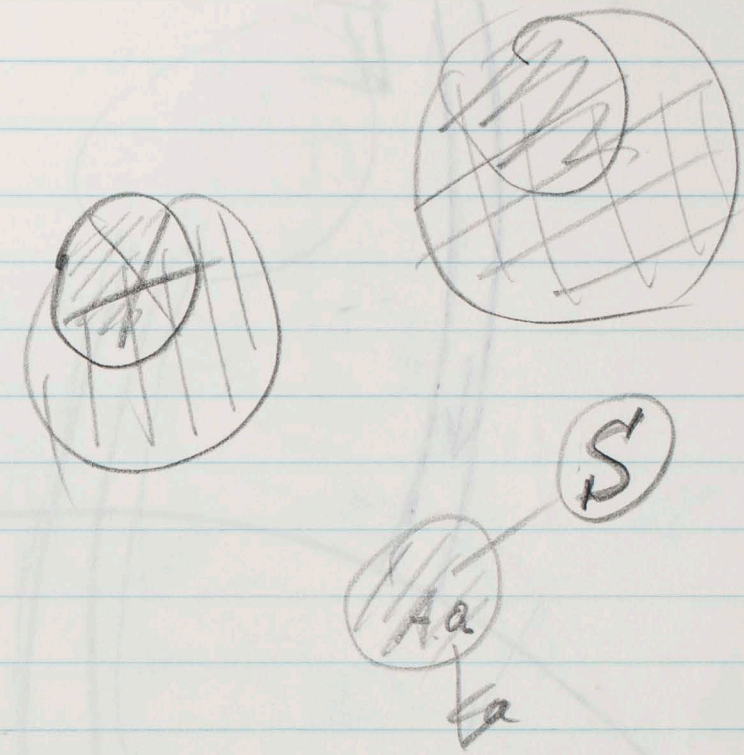


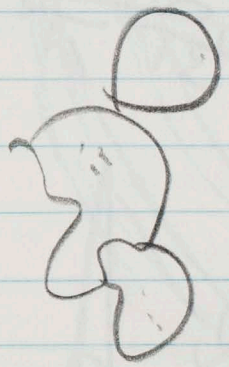


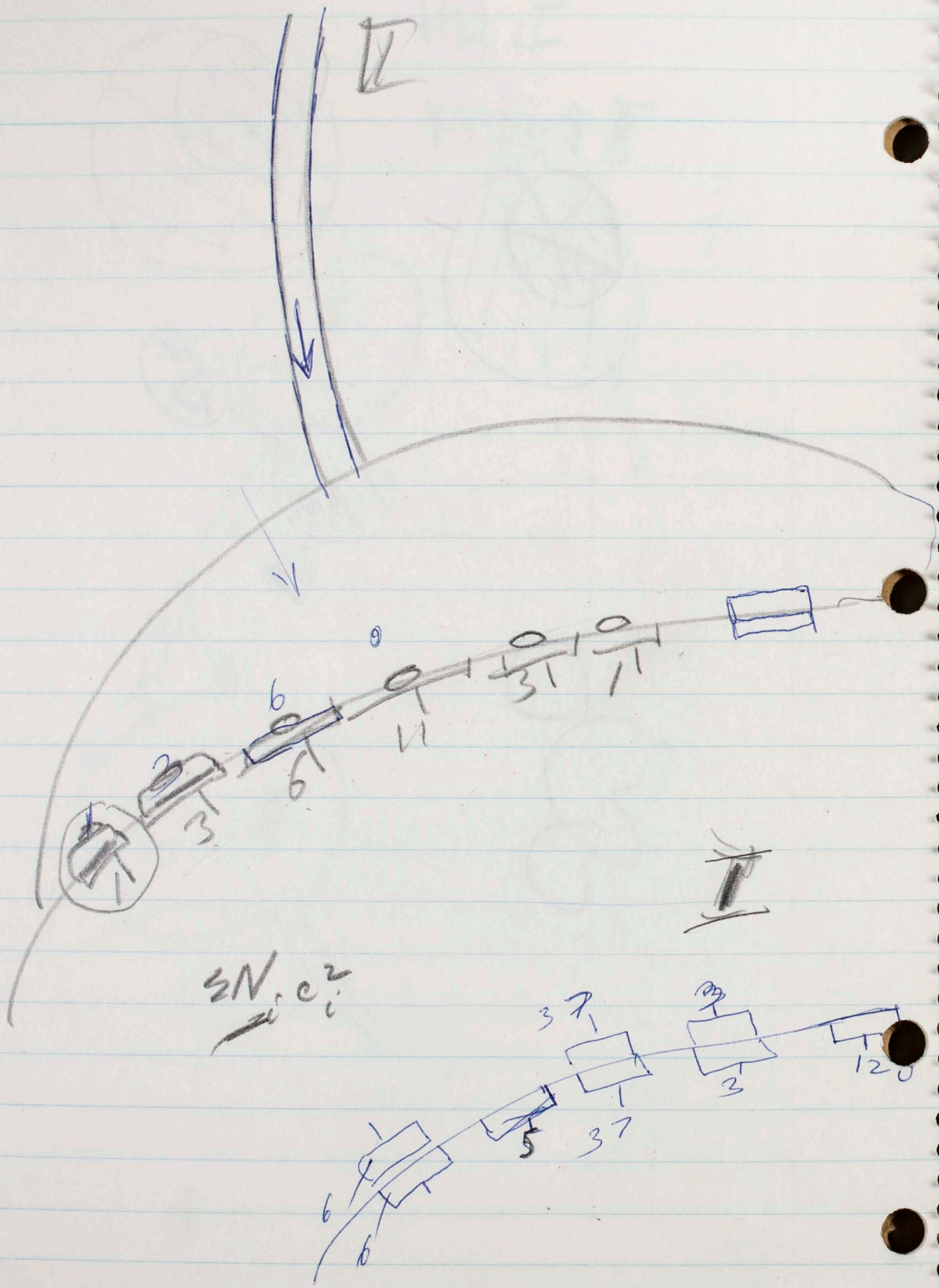


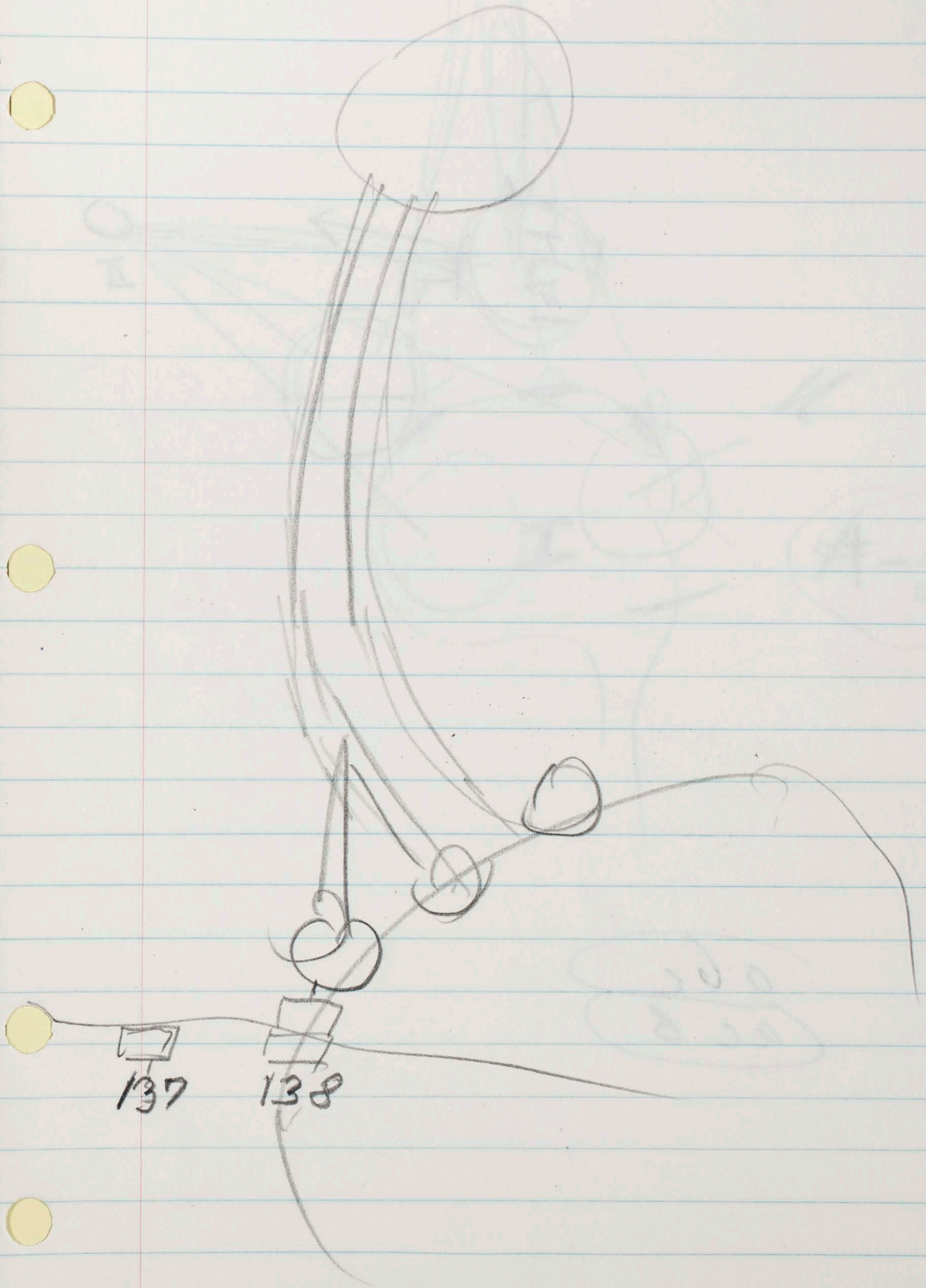

I
II
III
IV
Cholinesterase

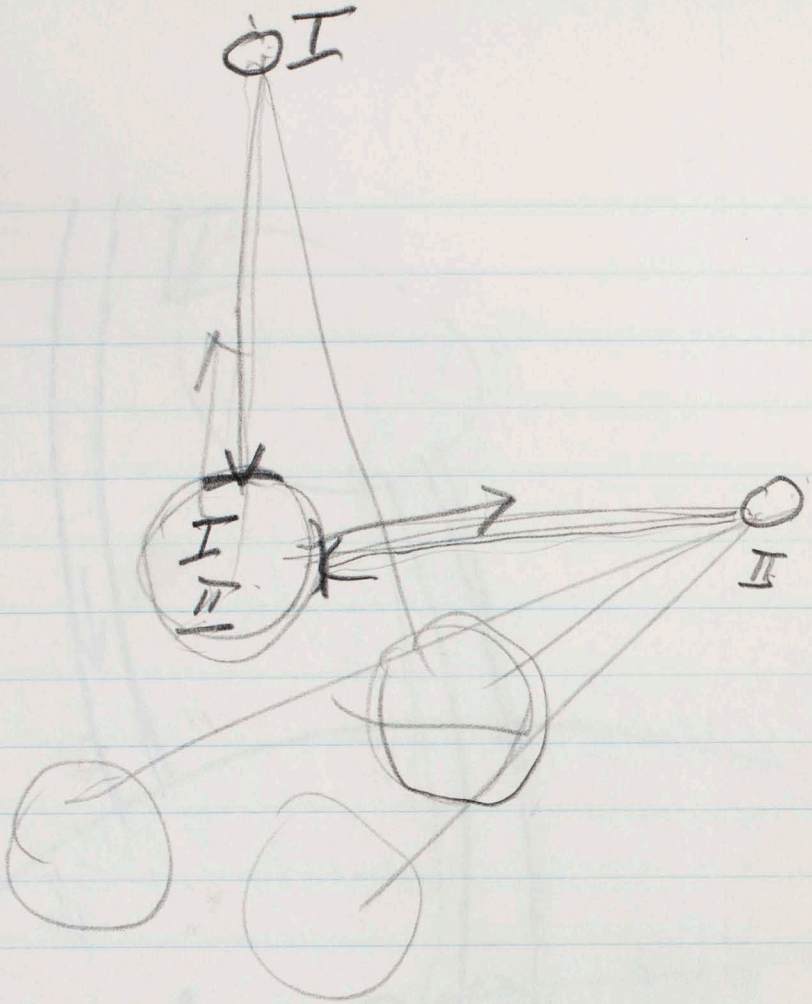

I
II


S
Aa
La

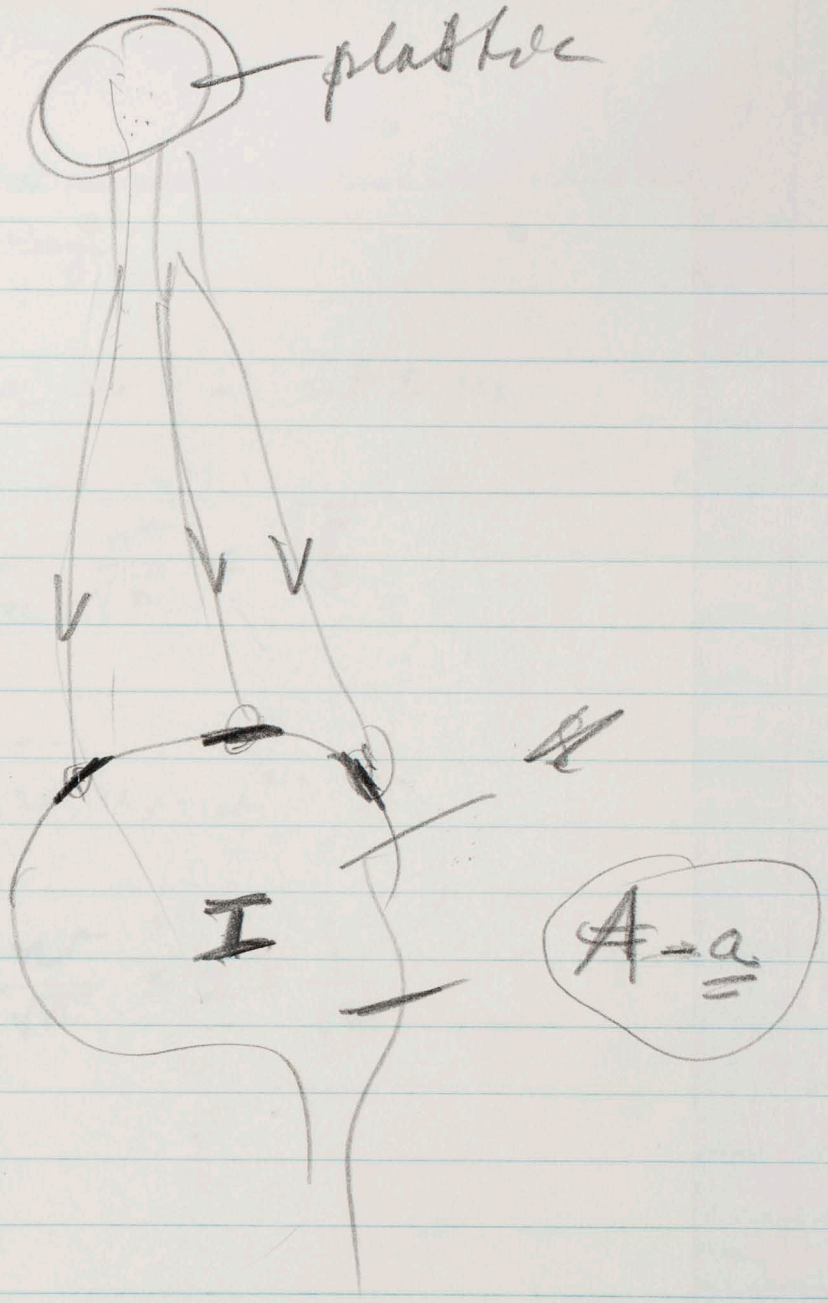



IV
V
I
$\sum N_i c_i^2$


137
138



a b c
a c b


platelet
I
A-a

P. Raden & A. Renyi

$1, 2, 3, \ldots, n$.

n^* no of no's in set to rep.

$$\sqrt{2+\frac{4}{3\pi}} \leq \lim_{n\to\infty} \frac{n^*}{\sqrt{n}} \leq \sqrt{\frac{8}{3}}$$

P. Erdös

$1, 2, \ldots, i, 2i, 3i, \ldots, i^2$

$$\sqrt{2} \leq \frac{n^*}{\sqrt{n}} \leq 2 + \frac{1}{\sqrt{n}}$$

factorial

$1, 2, 3, \ldots, n$

$H = \underbrace{i_1, i_2, i_3, \ldots i_{n^*}}_{n^* = \text{no of nos in } H} \Rightarrow \underline{\underline{i_k - i_\ell = 1, 2, \ldots, n}}$

lower bound $\quad \frac{n^*(n^*-1)}{2} \geq n$

upper bound $\quad i = \text{largest integer} \leq \sqrt{n}$

$0, 1, 2, 3, \ldots 9, 10, 20, 30, \ldots 100$

$\underbrace{1, 2, 3, \ldots, i, 2i, 3i, \ldots, i^2}_{n^* \text{ numbers}}$ $\quad \min_i \left(\frac{n}{i} + i \right) \doteq 2\sqrt{n}$

$$\sqrt{2 + \frac{4}{3\pi}} \leq n^* \leq \left(2 + \frac{1}{\sqrt{n}}\right) n$$

1-4

a

b a

c b a

c b

c

---

abc

acb

cba

May 5 1/64

Experiment for Mel

look for O^c for Y gene!

$i^+ z^+ y^+$

select in presence of PTG on melibiose for y const

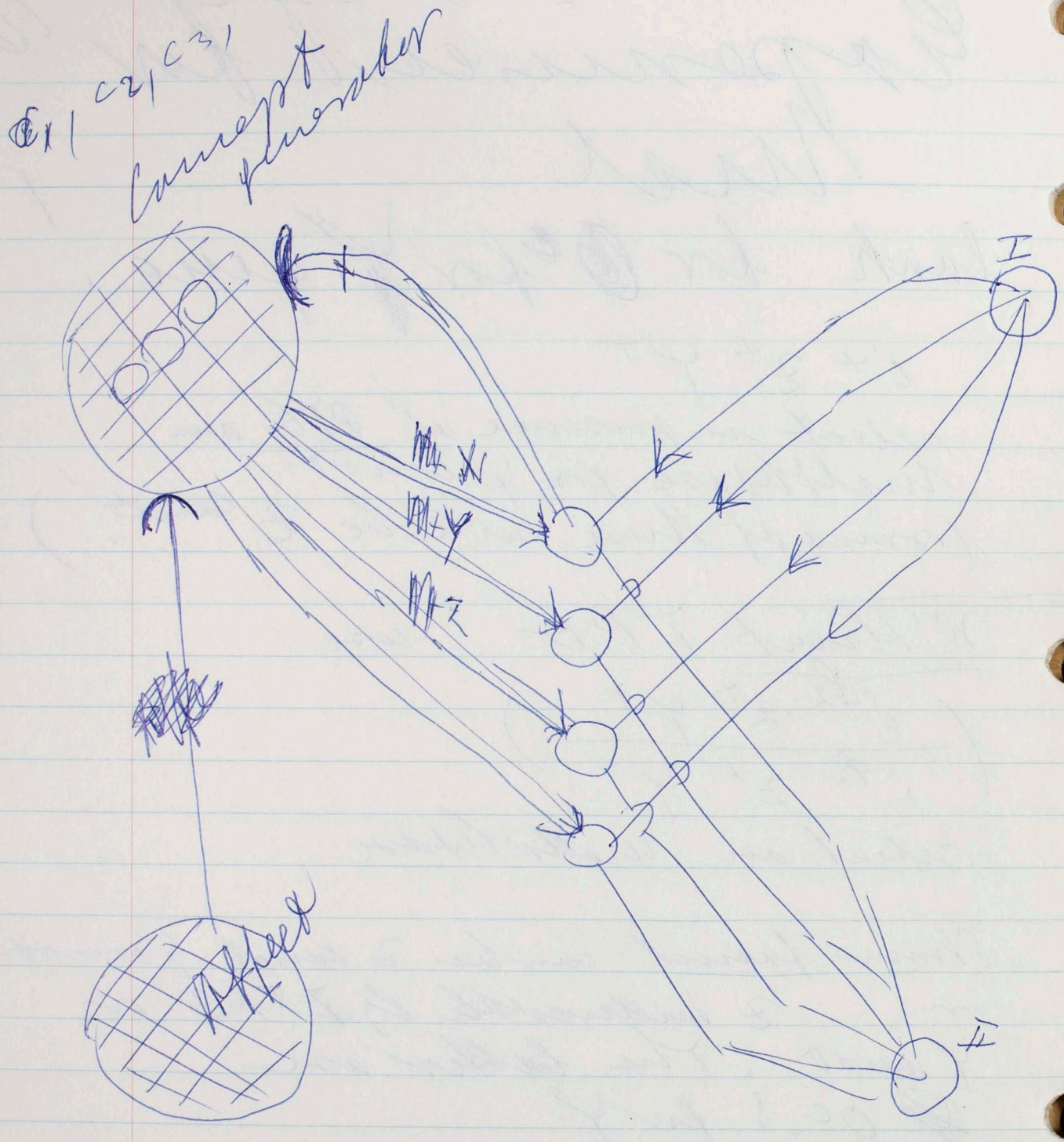
(some of these will be z const.)

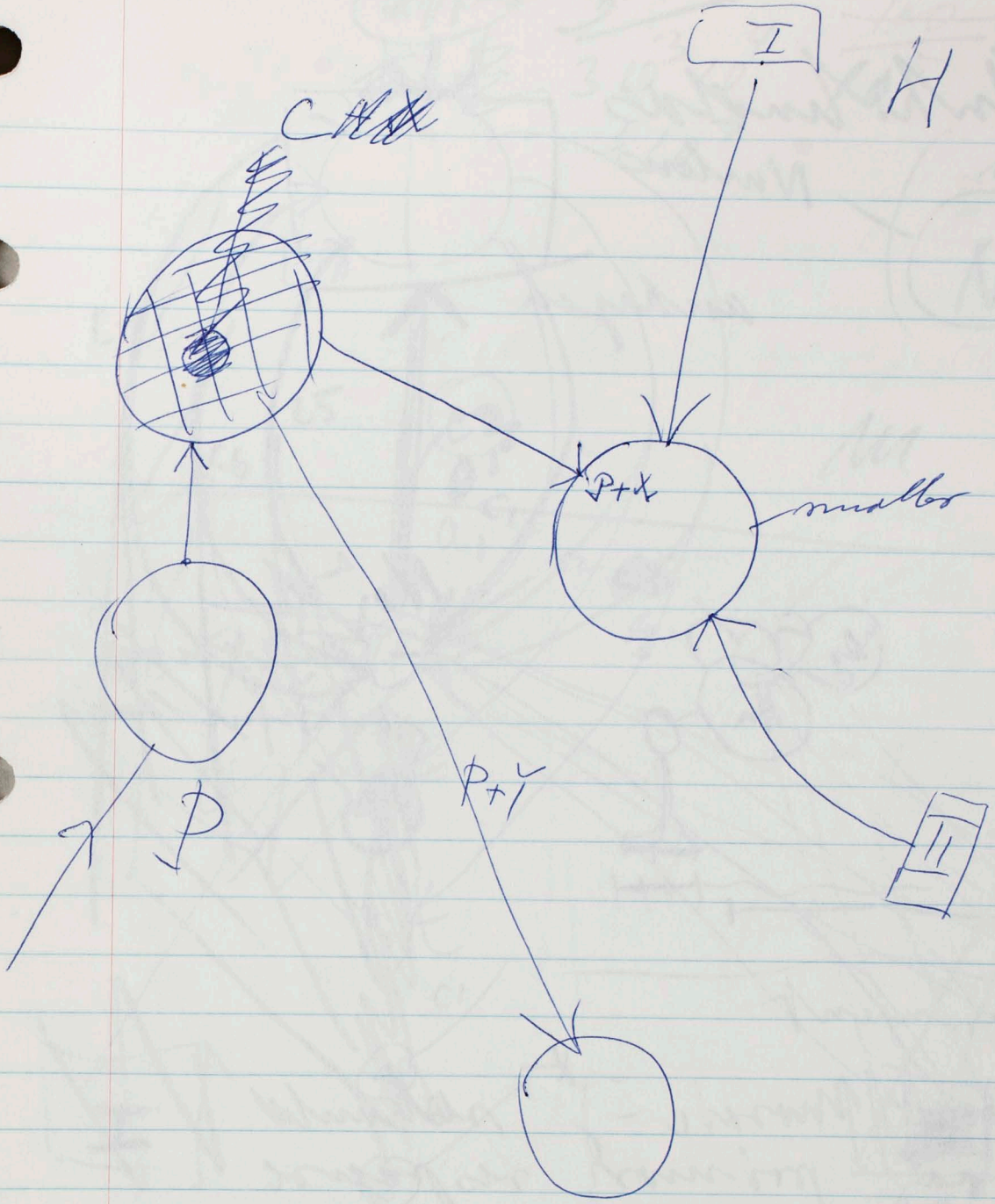
Without TPG use

$$\left(\frac{i^{s} z^+ y^+}{i^{s} z^+ y^+} \right)$$

select on melibiose

Strains found can be z const y const or z inducible by TPG or y const. The latter are O^c's for y

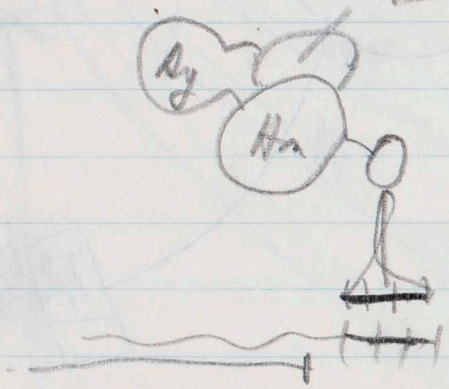

C1, C2, C3
Concept
Processor
I
II
Effect


I
H
p+X
smaller
p
p+γ
II

Antibody

Nucleus

antigen

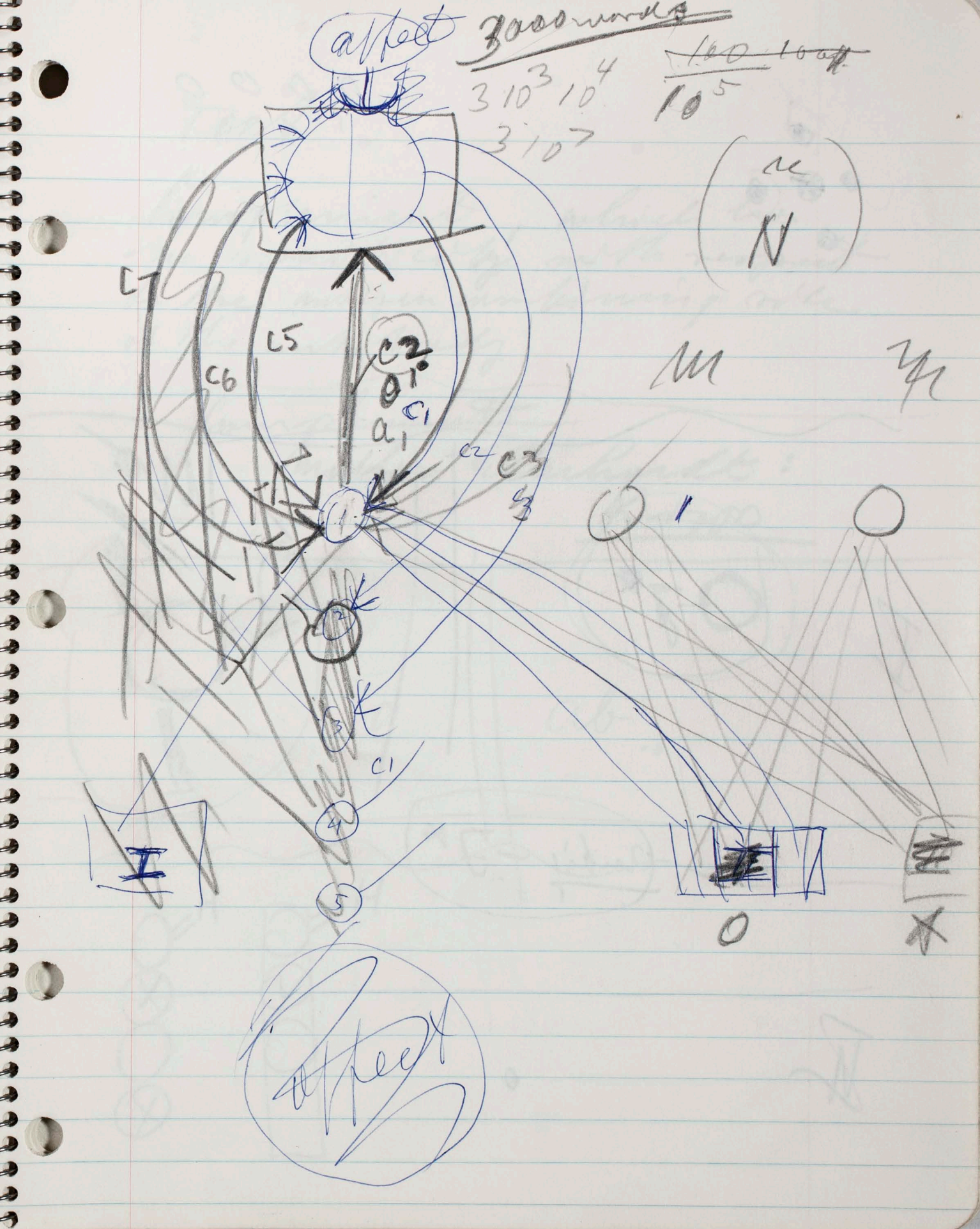


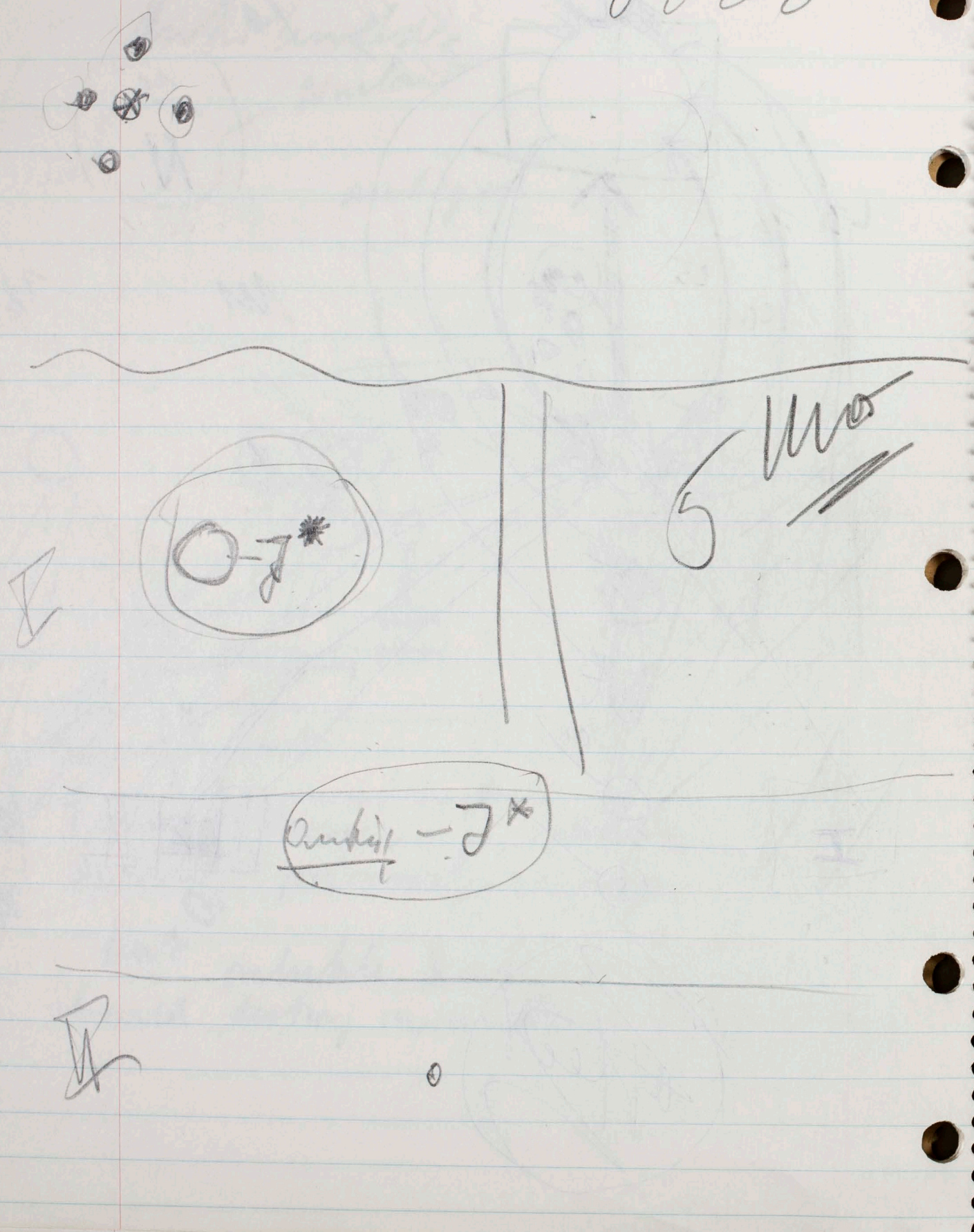
No Ab
enzyme
in nucleus

Experiment

Tubercle bacilli → [*] should destroy primary response

but soluble Antigen → [*] should destroy secondary response


C7
C5
C6
C2
C1
C3
1
2
3
4
5
C1
N
O
X



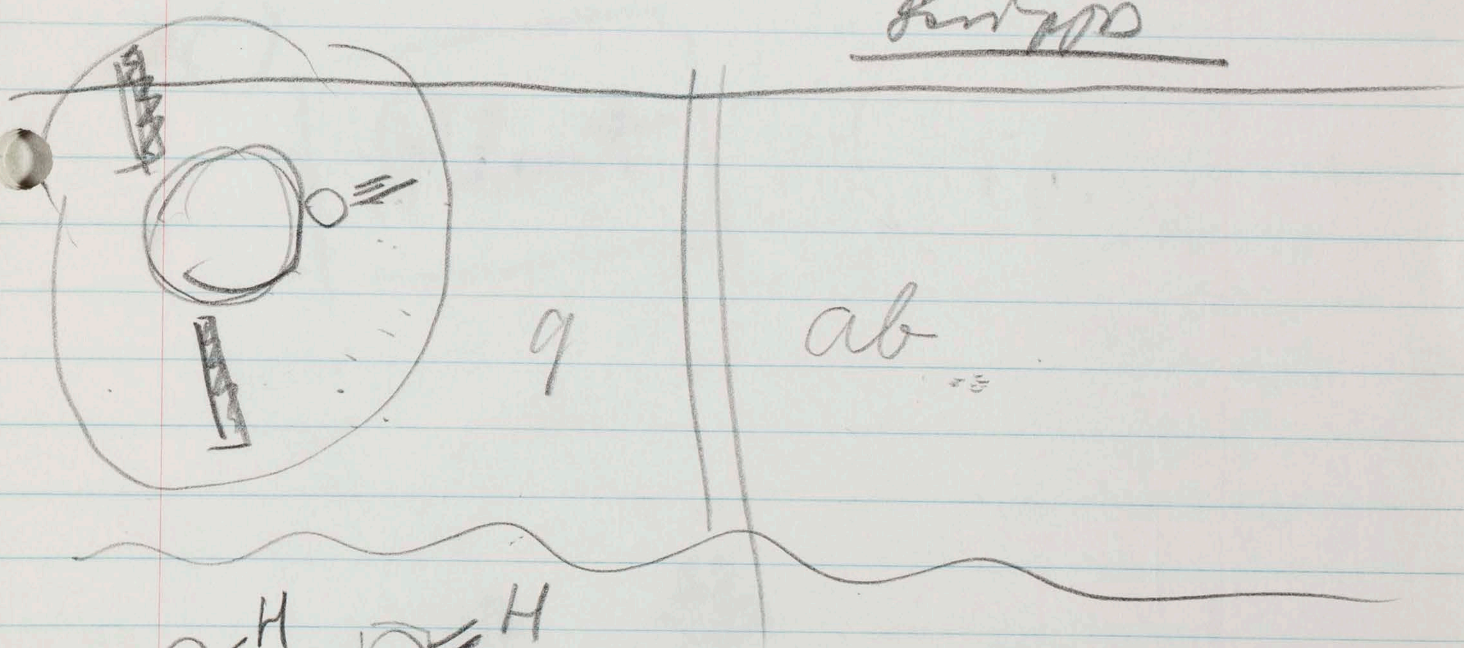
Test:

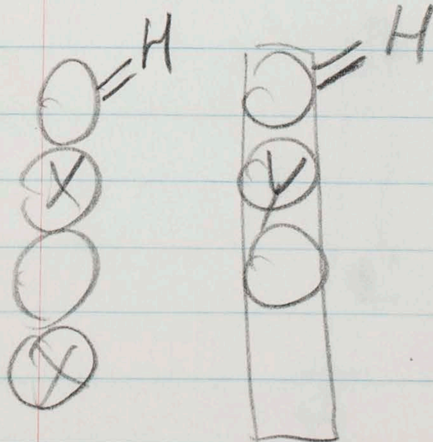
Complement, which has no specificity with respect to the antigen combining site of the antibody

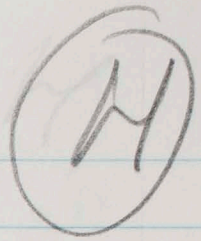
~~Complement~~

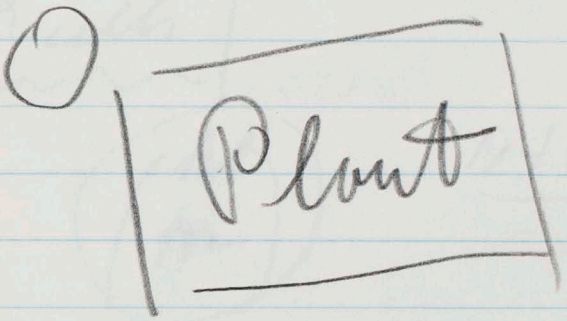
Müller-Eberhard:

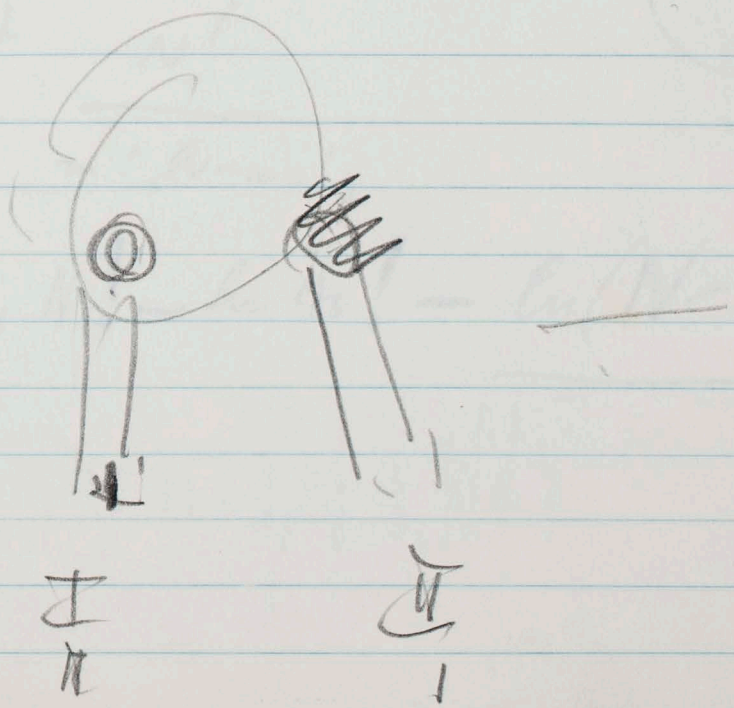
[illegible]








Plant



4

~~400 days~~

~~4×10^4 days~~

~~4×10^5~~

10^9 seconds

4×10^4 4×10^9 second

~~for second half~~

4 sec per memory base

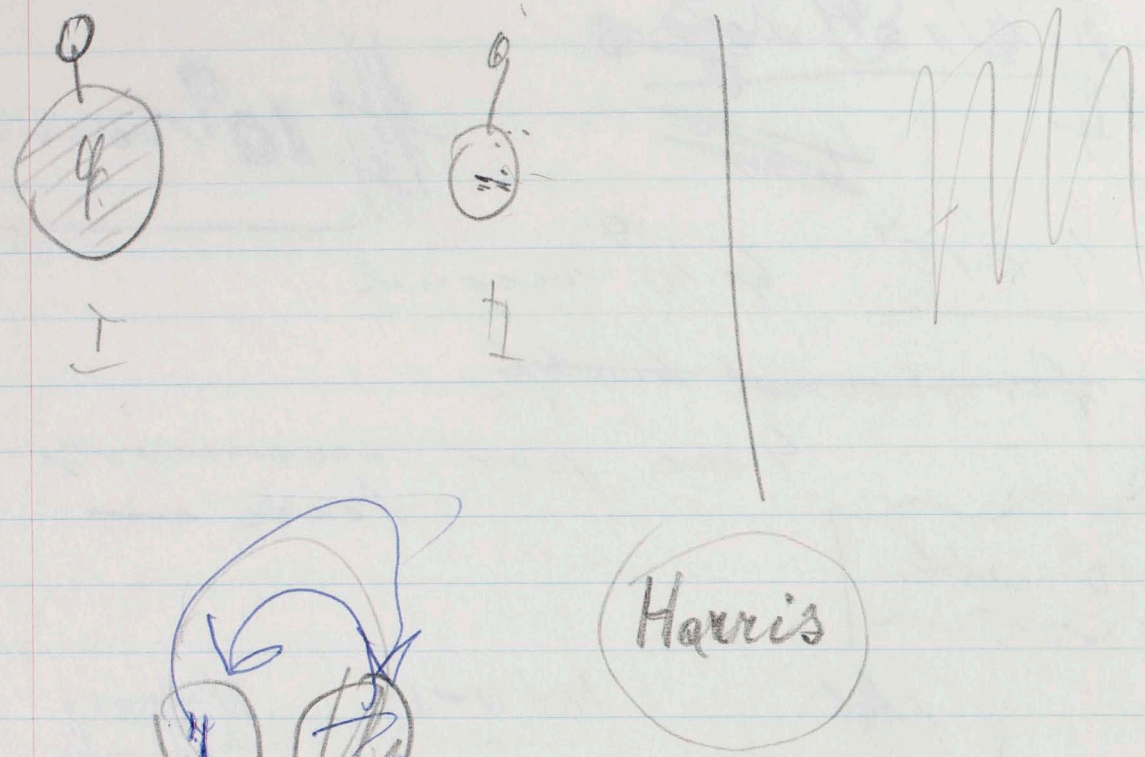
10^9 cells

$\binom{N}{n}$ $\frac{N(N-1)\ldots(N-(n-1))}{n!}$

10^{34}

$= \frac{(N)}{(N-n)}$ $\frac{N!}{n!(N-n)!}$

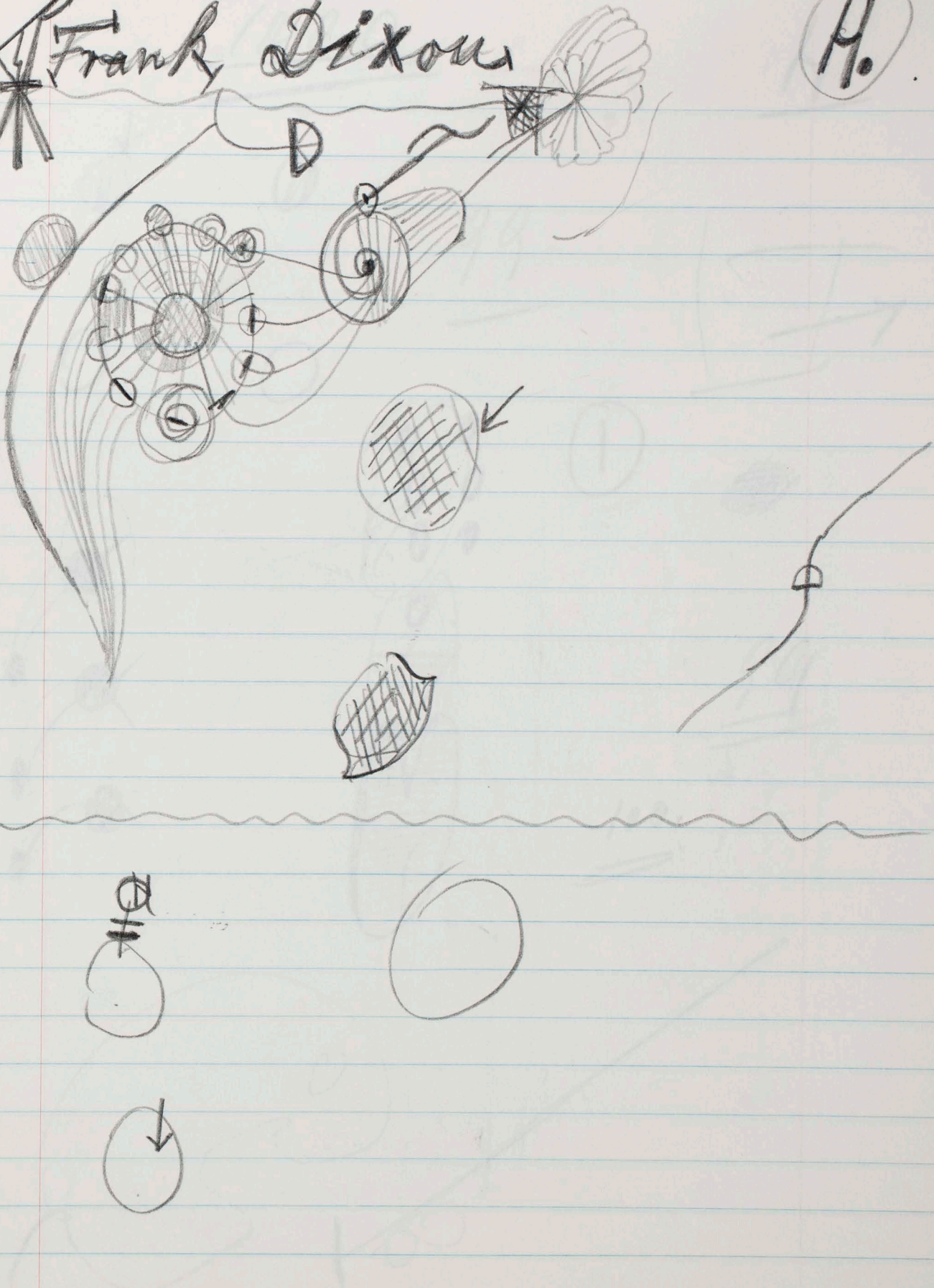
$\ln X = \ln N! - \ln n! - \ln (N-n)!$

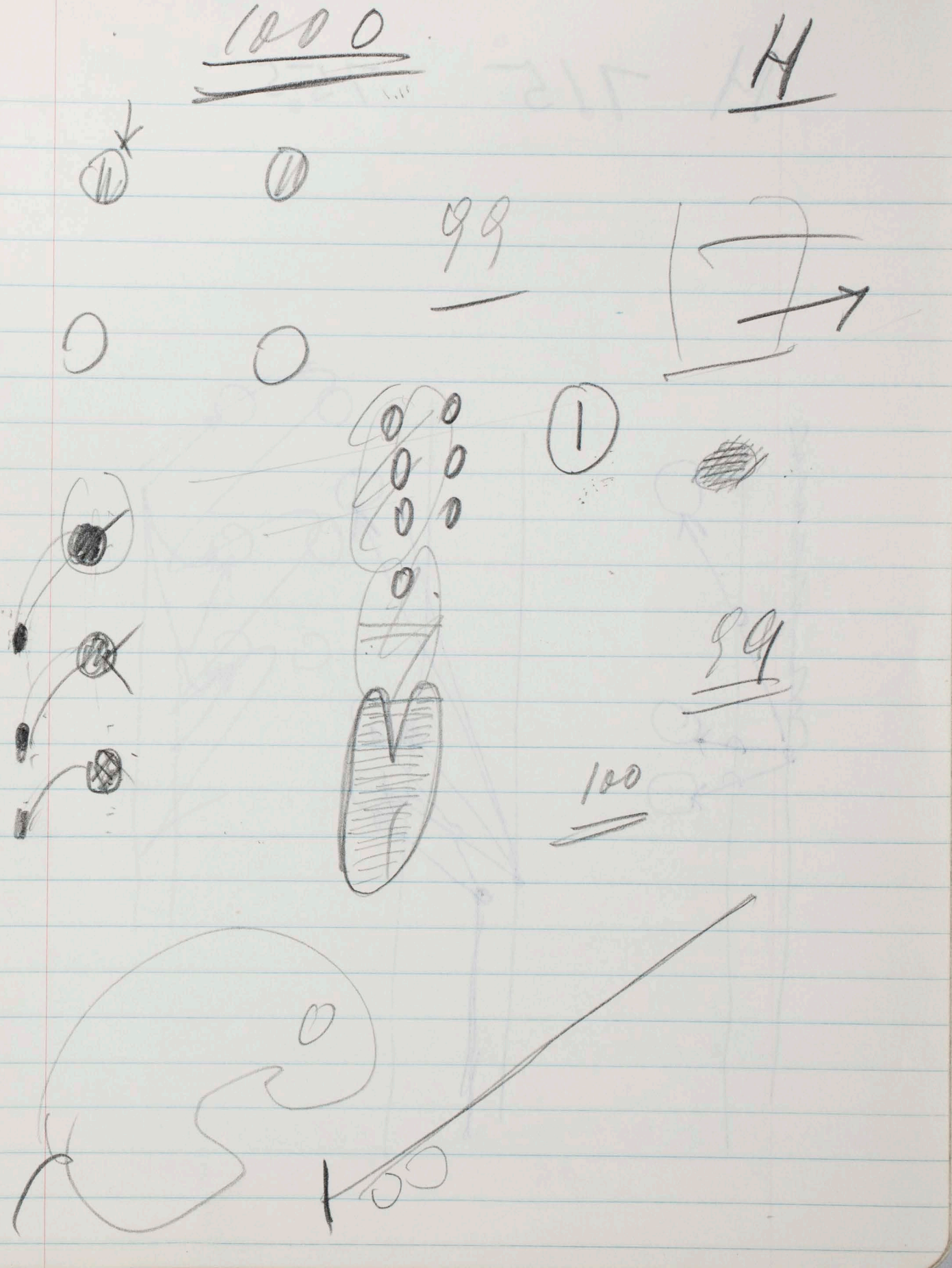


Makinodan

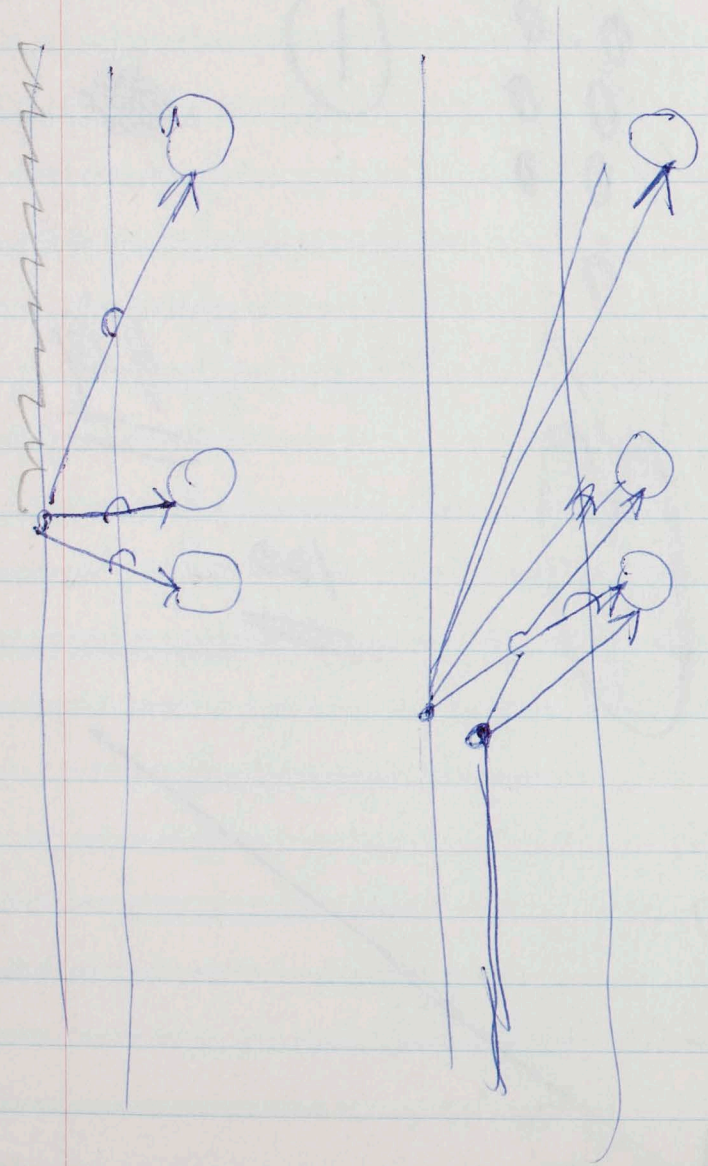
Frank Dixon

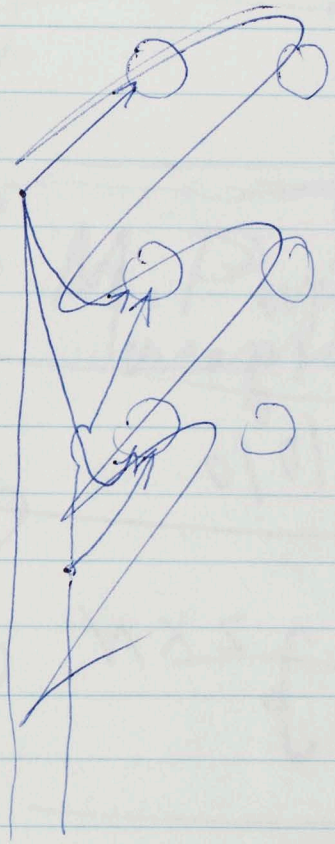
H.

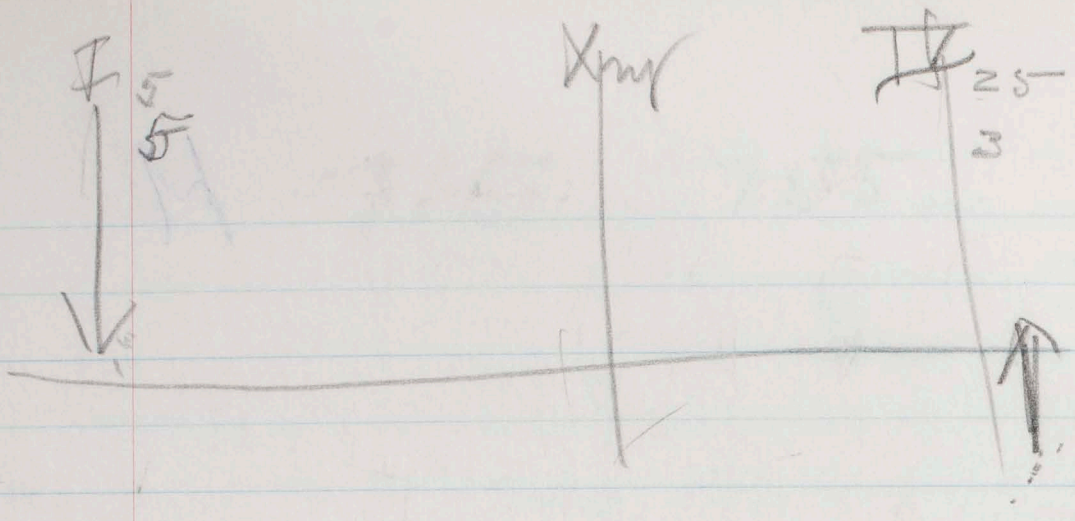


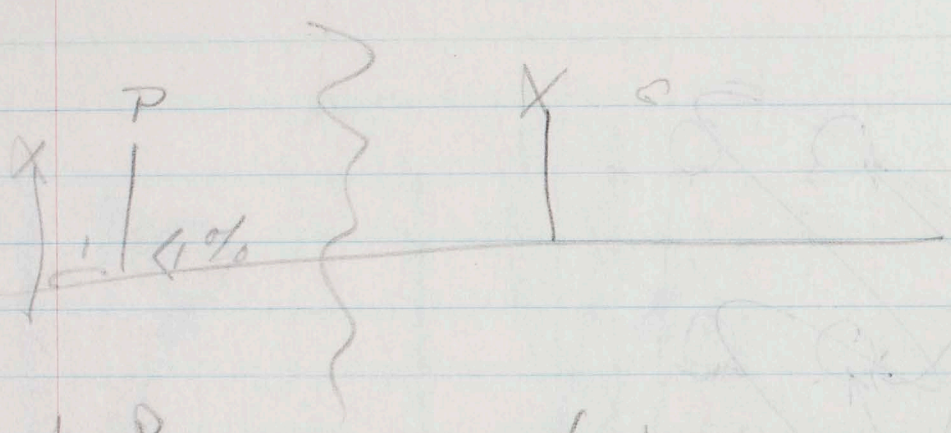

1000
H
99
99
100

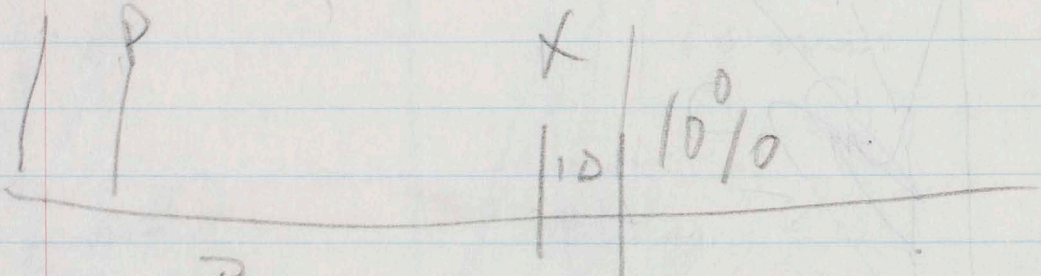
715 755

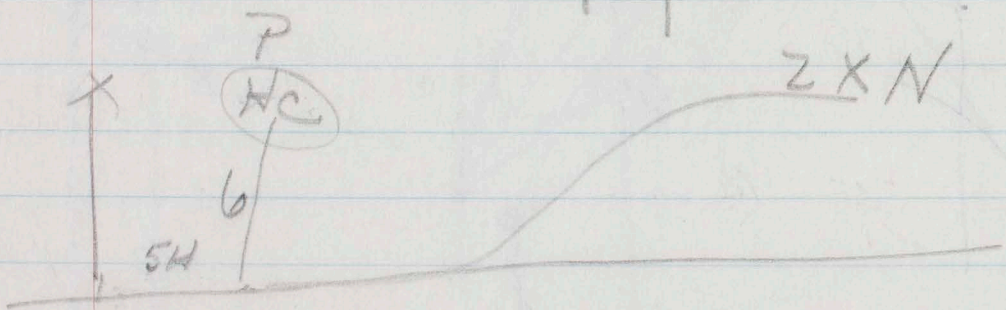


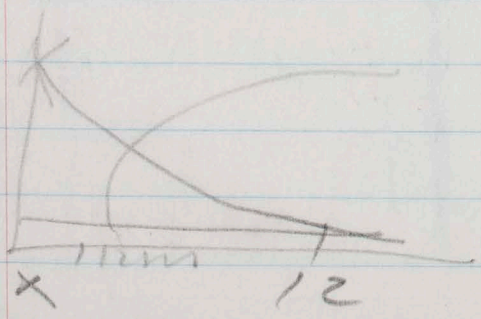



5
5
25
3


P
X
X
10%


P
X
10
10%

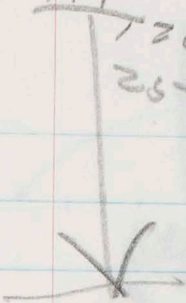

X
P
NC
6
5H
2XN


X
11cm
12
X

III

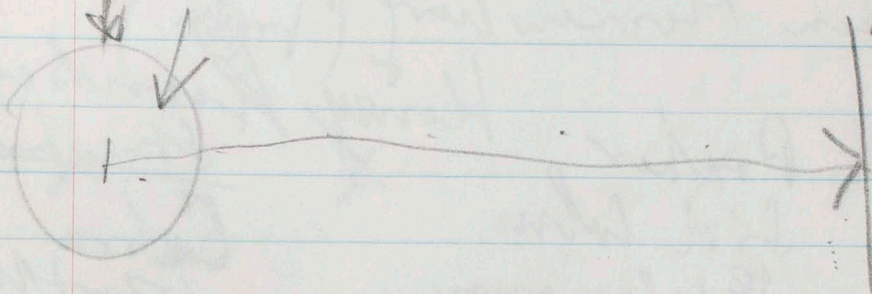
130

25



Acroflavin. – Fan

14



6 M. Pagin
[illegible]

18

4,50

Benacerraf
blocks macrophages

Schwartz

actinomycin // Imuran

Farkas || Mitchison

John Humphrey [illegible] || Benacerraf

Jerne Silverstein Brody ?

[illegible], Len Herzenberg (Josh)

Henry Kunkel

Strickner Porter ~~Strominger~~

Sid Cohn Cebra

Edelmann (Florida Gainesville

Kabat St. Louis ~~[illegible]~~ Uhr

Dixon Sid Bremner

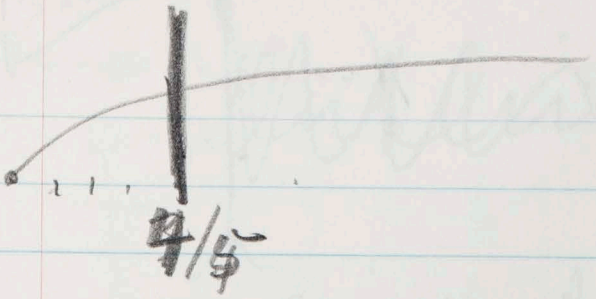
Cross Seymour Benzer 922239

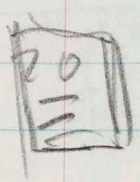
3 hrs diff Birnsdale 3-37-81

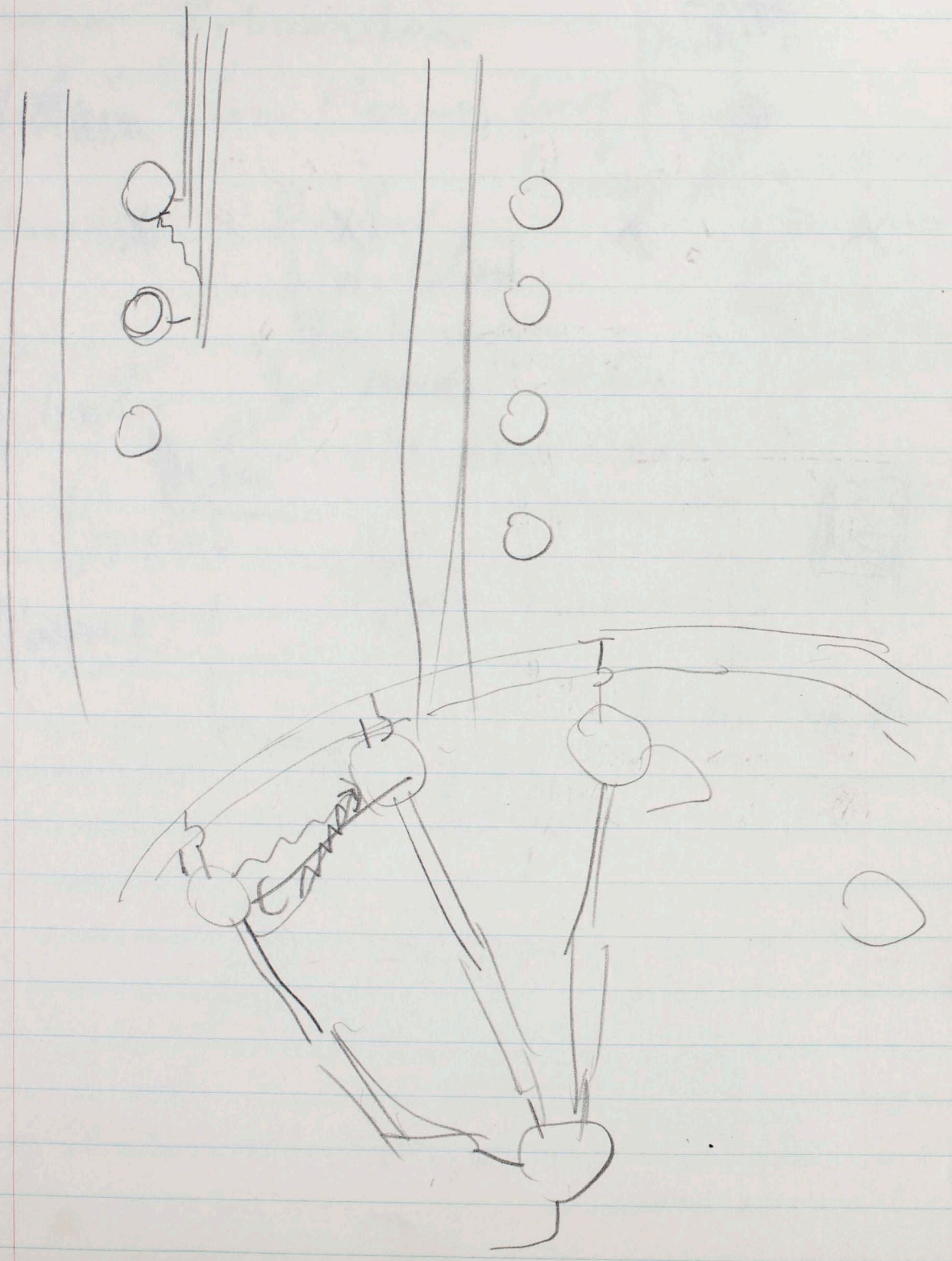
Potter NIH

Singer || Eberhard

Rosen

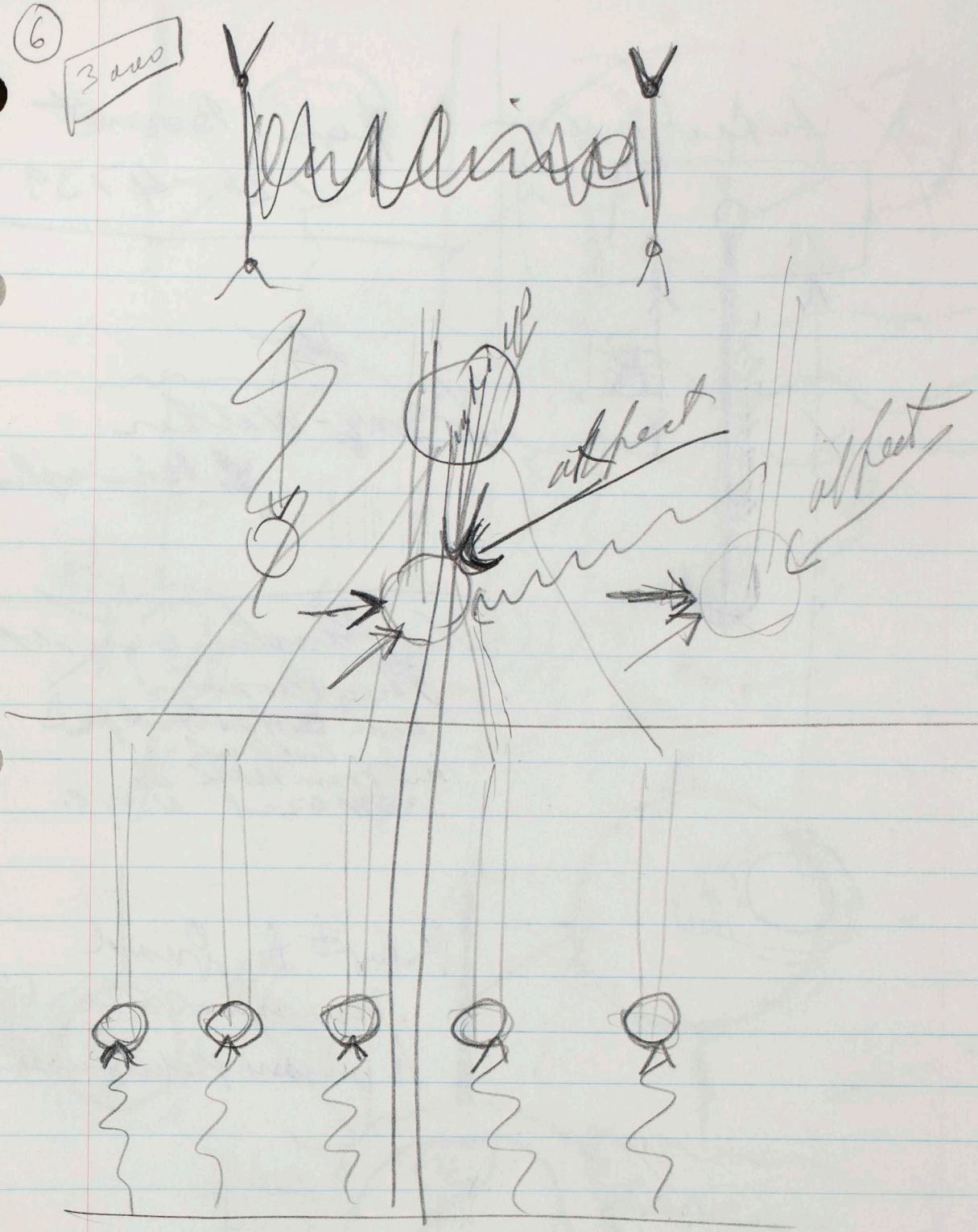


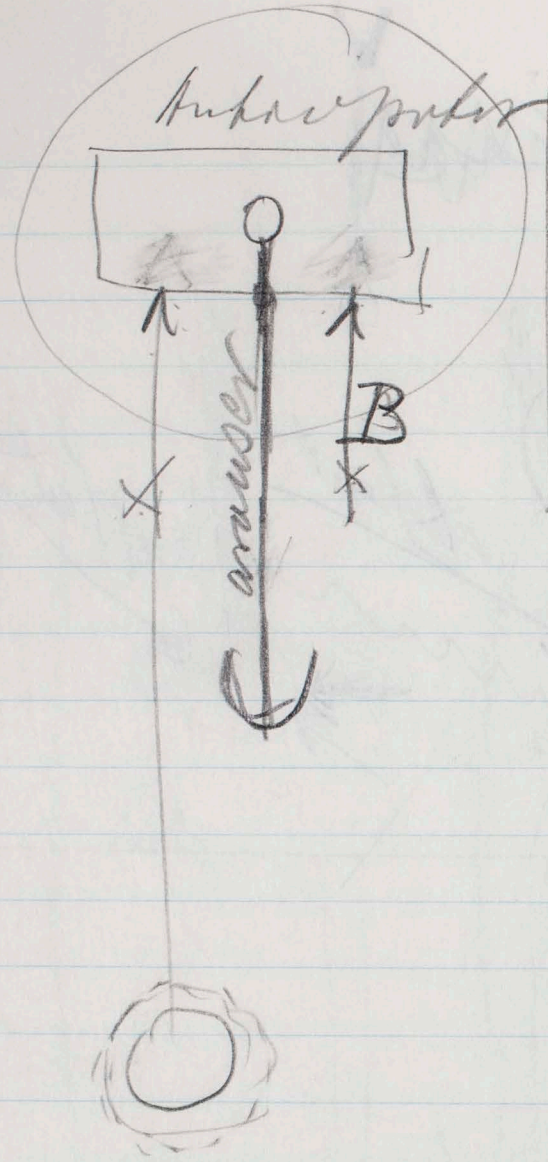




(6)

3 axes



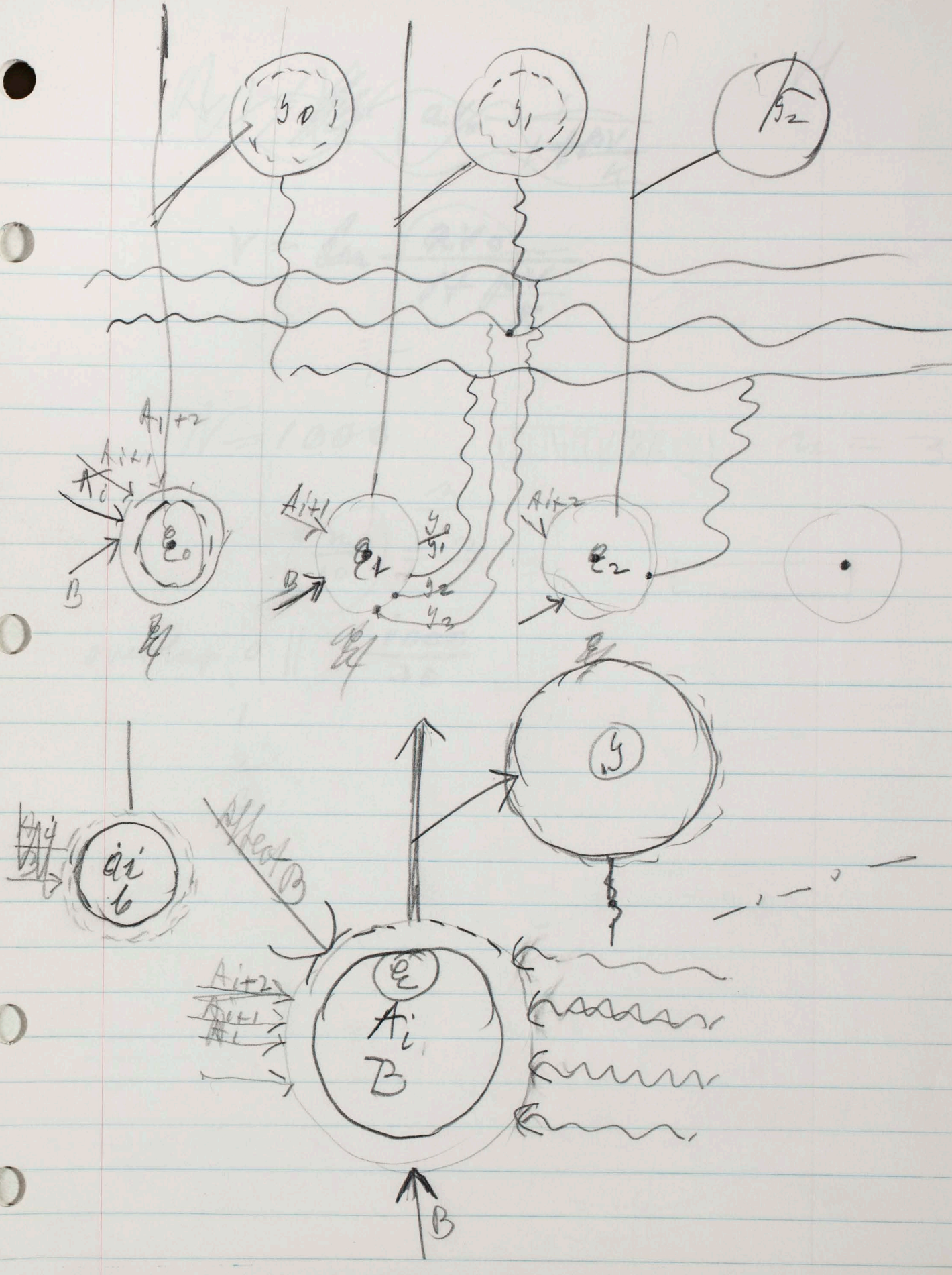


Ann Barnet
726-4739

W. Gray-Walker
Birmingham

The Machines as
The Brain
Dean E. Wooldridge
Cal Tech
The Rand Corp
3306 W 42nd N.Y.C.

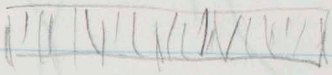
Robert A. Grant
Minnesota
Responsive Relationships


y_0
y_1
y_2
A_{i+2}
A_{i+1}
A_i
B
e_0
e_1
e_2
y_0
y_1
y_2
y
a_i
b
B/end B
e
A_i
B

~~$R = \frac{a v_0}{1 + \frac{\rho V}{4}}$~~

$$V = \ln \frac{a v_0}{1 + \frac{\rho V}{K}}$$

e^-

$N = 1000$  $n = 30$

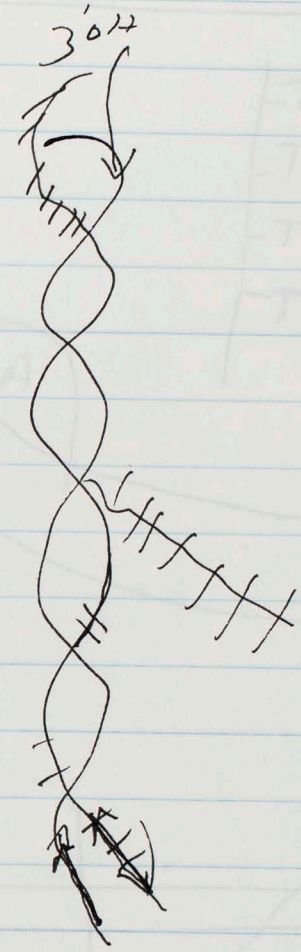
$\frac{n}{10} = 3$ $\frac{n}{}$

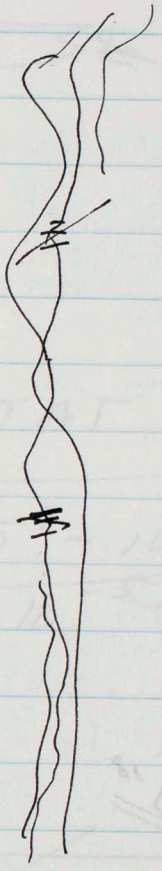
overlap 0 || $\frac{1000}{30}$

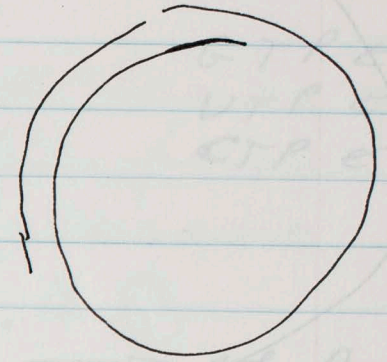
1

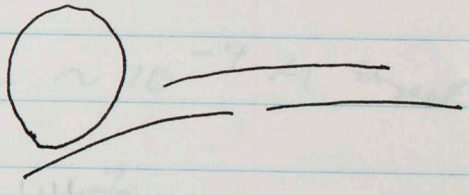
2

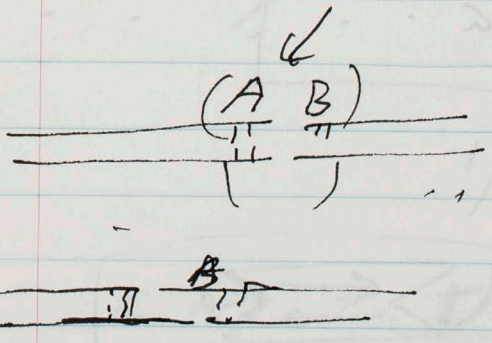
3

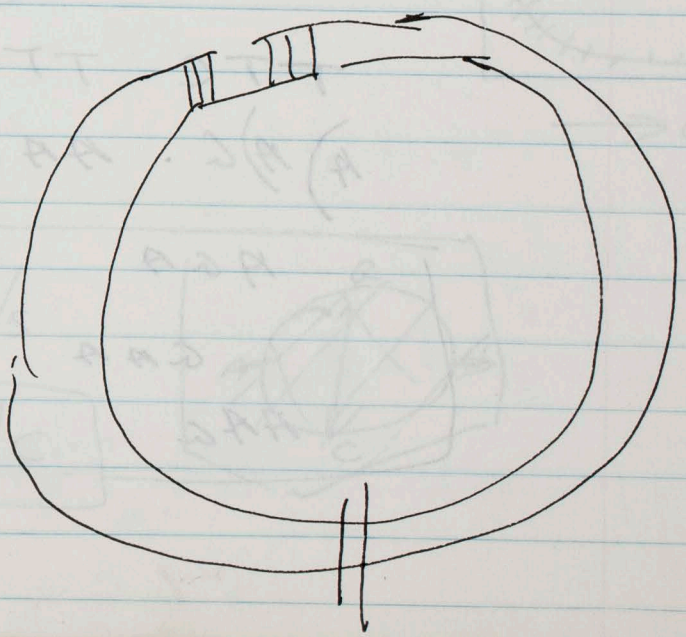

3'OH

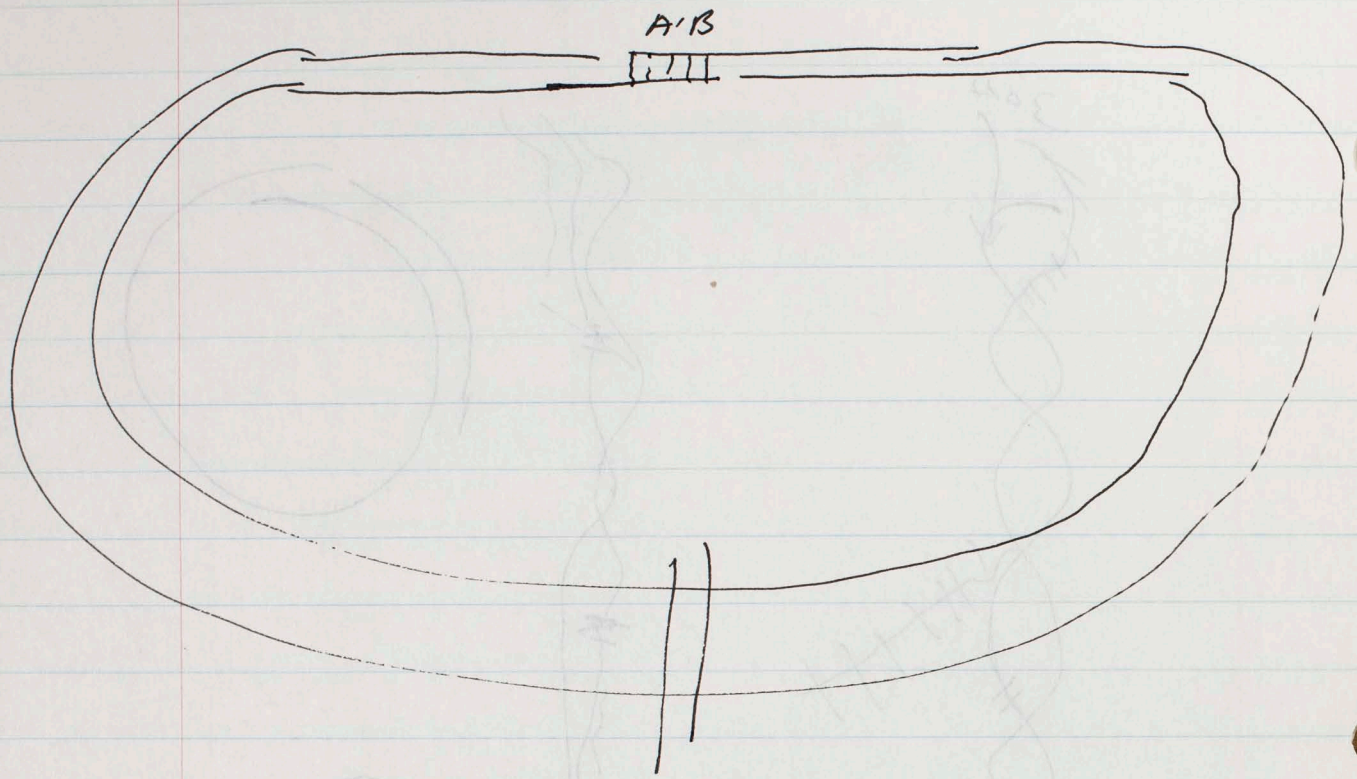


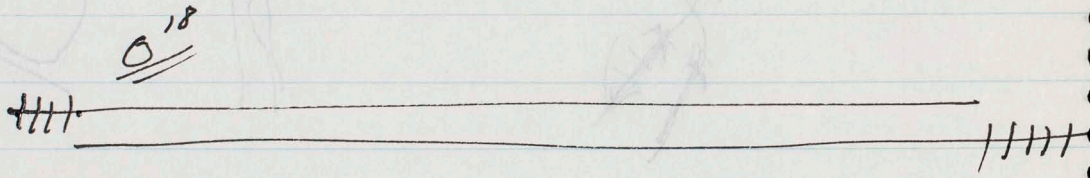





A
B
B







TTC · TTC · TTC · TTC · TTC ·

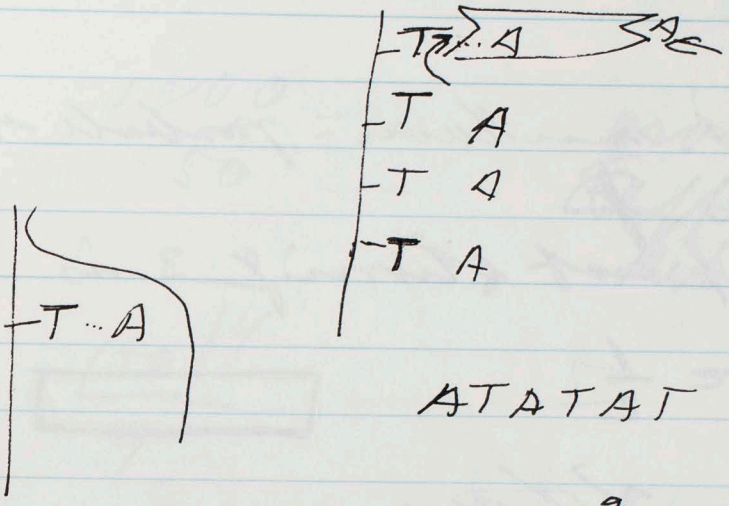
A) AG · AAG · · · · ·

AGA

GAA

AAG

DNA
ATP → poly A

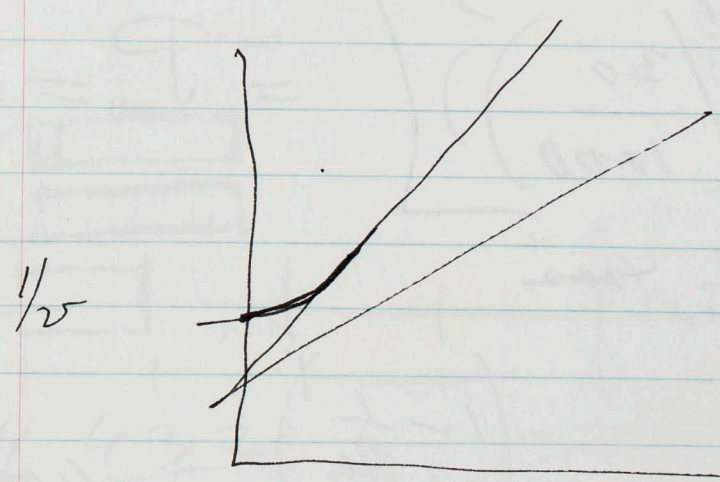


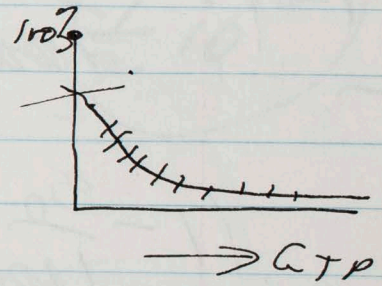
ATATAT → poly A

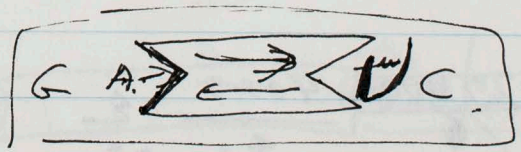
$10^{-9} - 10^{-5}$

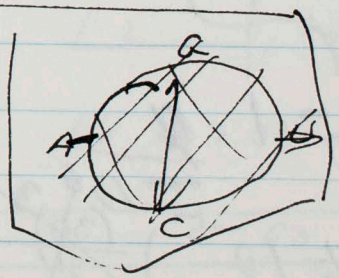
10^{-5} M – 10^{-2}

$K_I \sim 10^{-4}$ M

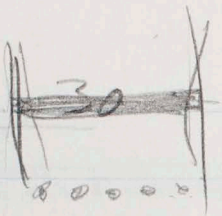






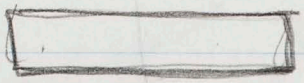


X × 30

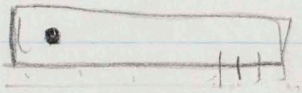


selected at random probable at two
boxes showing 3 is ~~p~~
probable of not showing 3 is q

$q^{\not 4} = \frac{1}{2}$



$q = 1 - \left(1 - \frac{30}{1000}\right)^{27}$ $\frac{30}{1000}$ 3 $\binom{3}{30}$



$1 - \left[1 - \left(1 - \frac{30}{1000}\right)^{27}\left(\frac{30}{1000}\right)^{3}\right]^{\binom{3}{30}} = P = \frac{4}{3}10^{-3}$

$\left(1 - \frac{30}{1000}\right)^{\frac{27}{1000}}$ ~~1000~~ $\left(1 - \frac{1}{n}\right)^{4000}$

e^{-1} q $\left(1 - \frac{1}{3}10^{-5}\right)^{\frac{(30)^3}{3!}\frac{27000}{6}\frac{4000}{4}\epsilon}$

$P = e^{-\frac{4}{3}10^{-2}} = 1 - \frac{4}{3}10^{-2}$

$N = 1000$ $n = 50$
overlaps 5

$$\binom{50}{5} = \frac{(50)^5}{5!} = \frac{10^{10}}{2^5 \cdot 5!} = \frac{10^{10}}{24 \times 100}$$

$$\frac{1000}{50} = 20$$

gives $= 10^8$
Assignment comp. Lit. neurons

$$\frac{(50)^4}{4!}$$

50

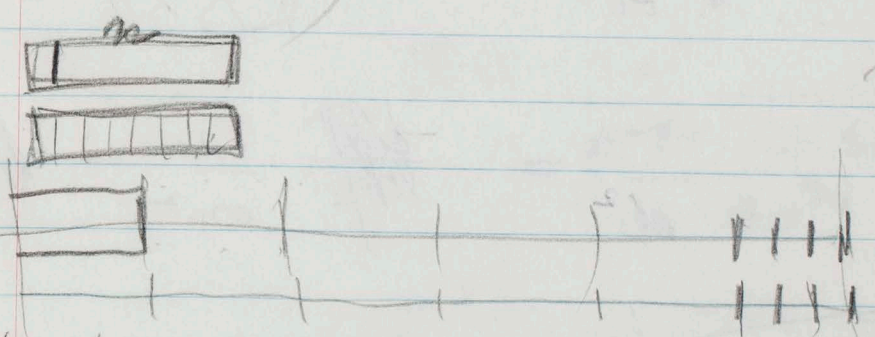
maximum number to match

$$\binom{3}{1000}$$

1000^3

$$\frac{10^9}{6} 30$$

$$\approx \frac{1}{2} 10^{10}$$

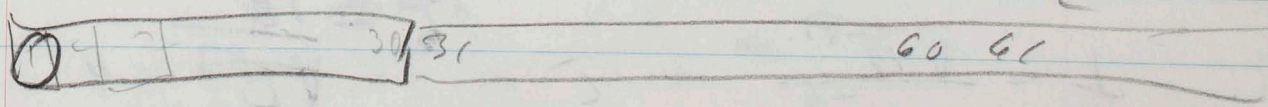


$4 \quad \frac{4 \cdot 3 \cdot 2}{3!} \quad \frac{20 \cdot 20}{2}$

20

$\frac{20 \cdot 19}{2} \quad 190 \cdot 27$

$14 \times 20 = \frac{20}{2} \times 20$



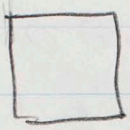
$gm/sec = \frac{gm}{cm^3} \frac{cm^2}{cm}$

$[D] = cm$

$\frac{gm}{sec} = D \frac{cm^2}{cm^3} cm$

$D = \frac{cm^2}{sec}$

$\frac{1}{100}$



$\sqrt{\frac{t}{d}} = \frac{1}{\sqrt{D}}$

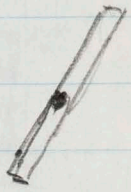
$= \frac{\sqrt{sec}}{cm}$

$\sqrt{\frac{\tau}{d^2}} = \frac{1}{\sqrt{D}}$

$D \frac{Conc}{d^2} \tau = \frac{Conc}{2}$

$\tau = \frac{d^2}{D}$

$\frac{\tau}{d^2} = \frac{sec}{cm^2}$



$\sqrt{\frac{\tau}{d^2}} = \frac{1}{\sqrt{D}}$

$D = 10^{-5} = \frac{1}{10^5}$

$d = 10^{-3} cm$

$\tau = \frac{10^{-6}}{\sqrt{D}}$ 300

$\frac{1}{C} = \frac{\sqrt{10^{-5}}}{10^{-6}}$ τ

1 cm long.

$\tau = 3 \times 10^{-4} sec$

$Q^x = \frac{1}{\text{Binomial}}$

$Q = 1 - \frac{4}{3}10^{-2}$ $\quad Q = 1 - \varepsilon$

$\varepsilon = \frac{4}{3}10^{-2}$

$Q^{\frac{x\varepsilon}{\varepsilon}} = e^{-x\varepsilon} = \frac{1}{\text{Binomial}}$

$x\varepsilon \cong 1$

(75)

$B = \binom{30}{1000} = \frac{1000^{30}}{30!}$

$30! = e^{-30}(30)^{30}\sqrt{2\pi 30}$

$B = \frac{(30)^{30}}{e^{-30}\sqrt{2\pi 30}} \cong 10^{30}$

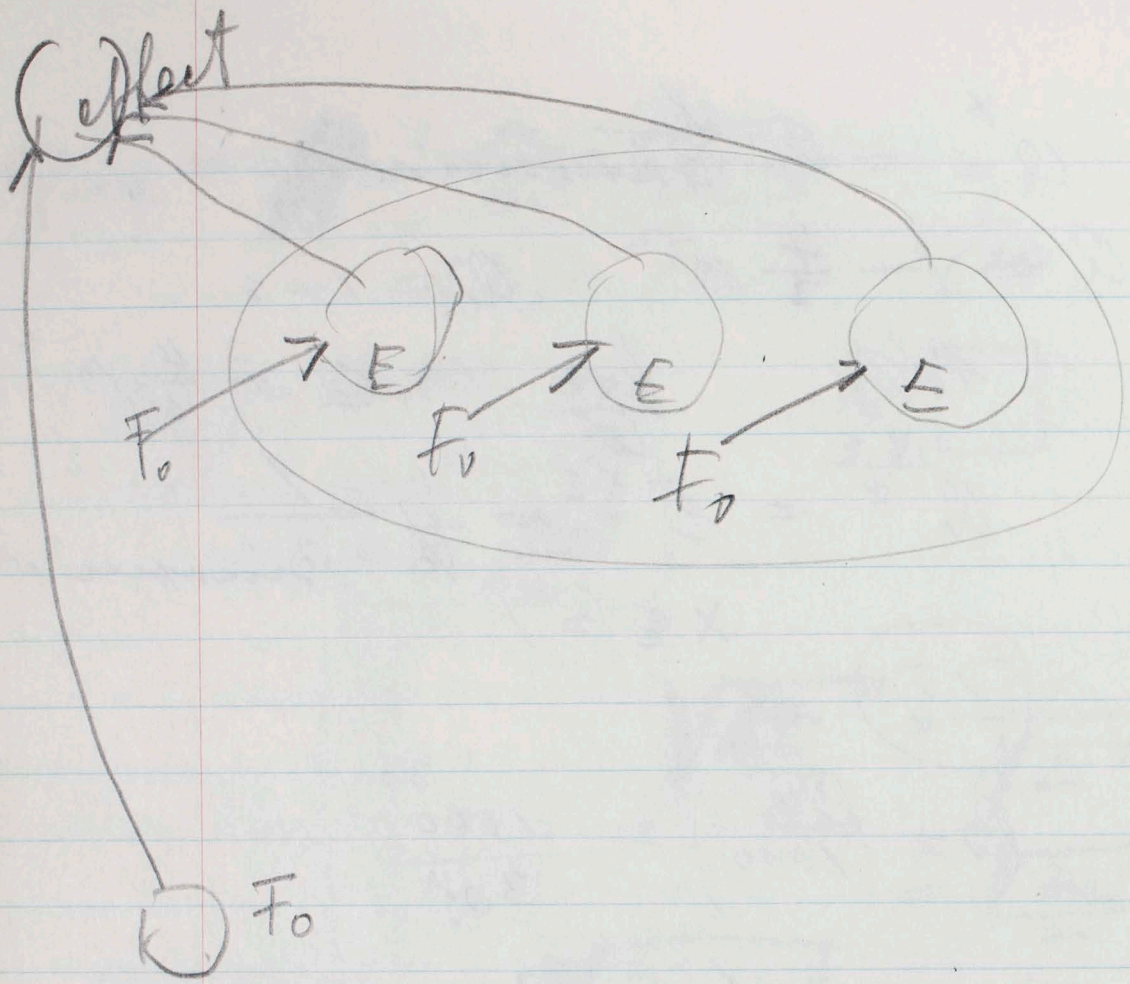
$= 30^{30}$

$e^{-x\varepsilon} = 10^{-30}$

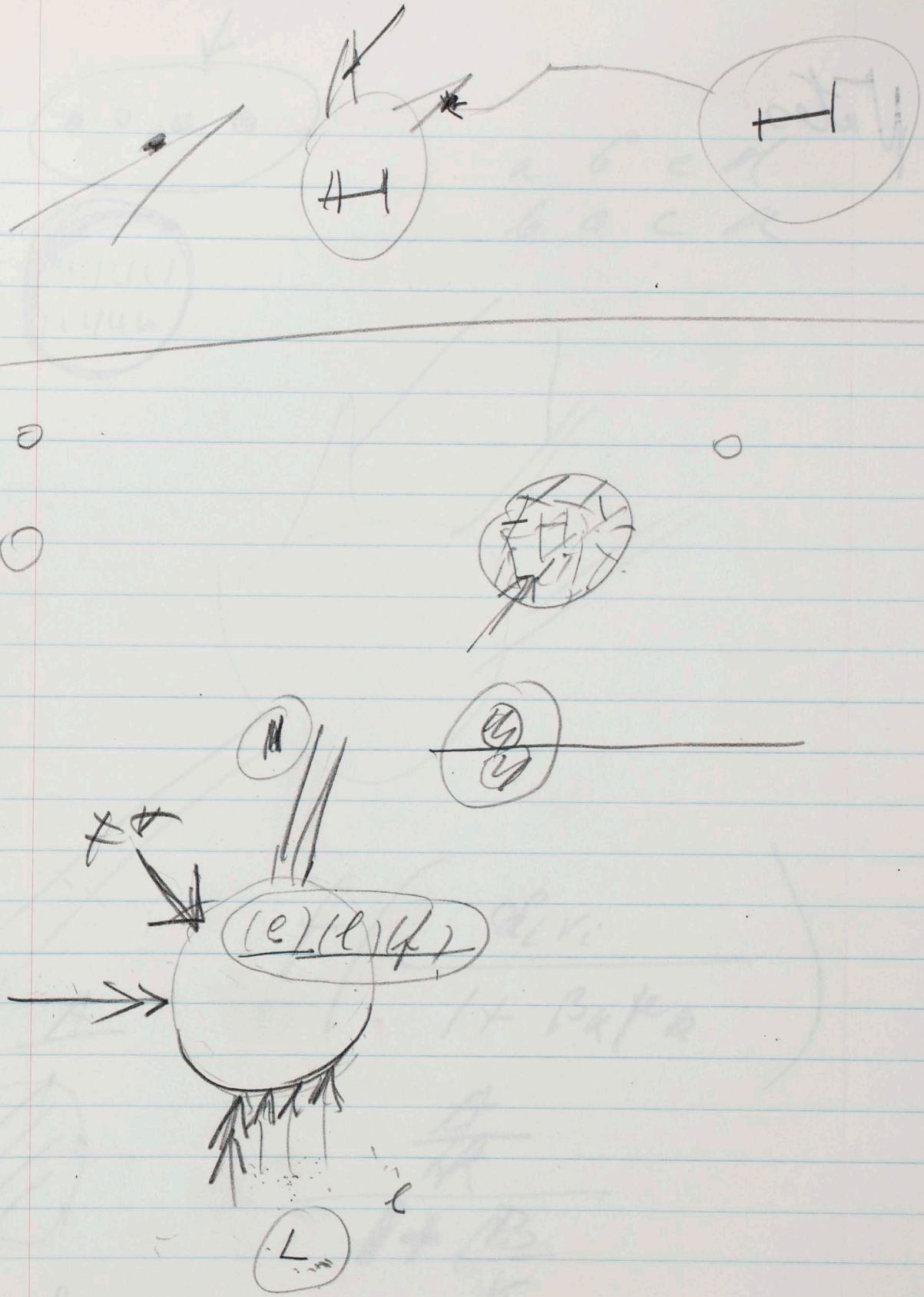
$10^{\frac{-x\varepsilon}{2.3}}$

$\frac{x\varepsilon}{2.3} = 30$

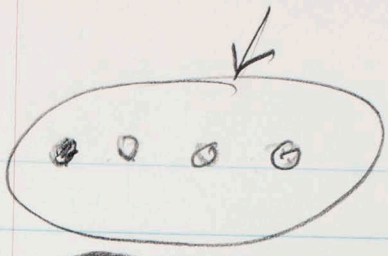
$x = \frac{2.3 \times 3000}{\frac{4}{3}}$

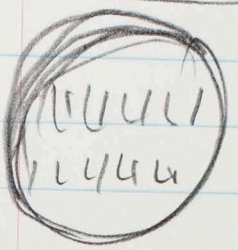


10 minutes Sunset 1/2

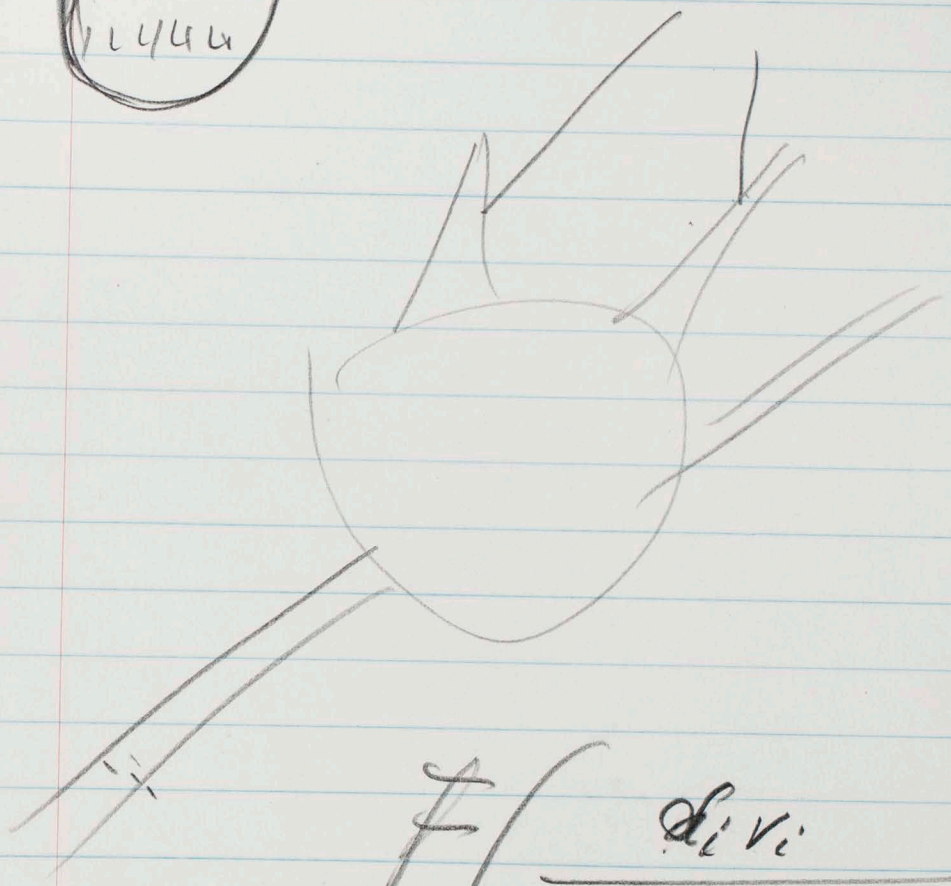


Notes



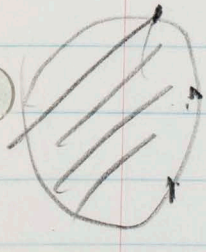


a b c d
b a c d



$$F\left(\frac{d_i v_i}{1+\beta_k \gamma_k}\right)$$

A

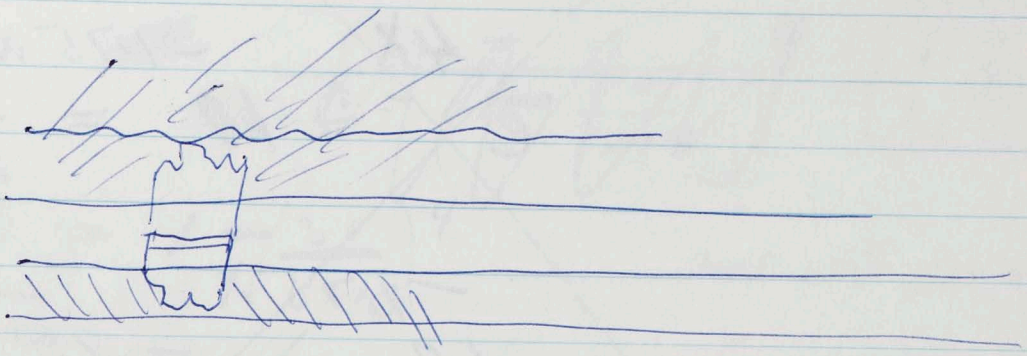


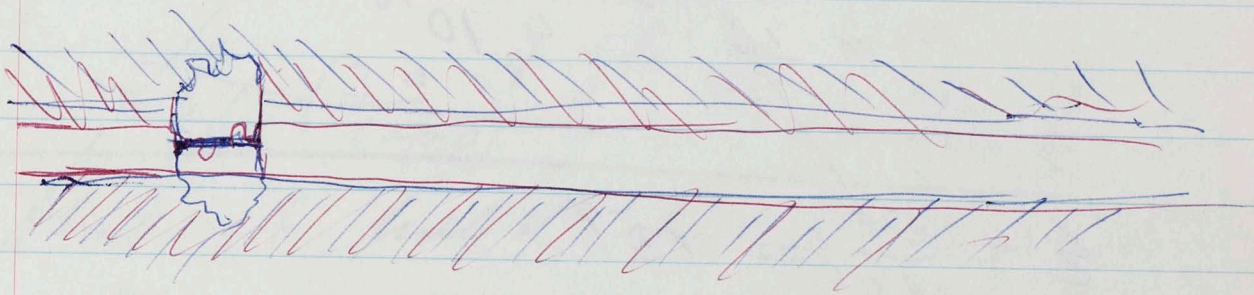
B

$$\frac{\frac{A}{K}}{1+\frac{B}{K}}$$

Predicate....

...the part of a sentence or clause that expresses what is said of the subject and that usually consists of a verb with or without objects, complements or adverbial modifiers





$$\varepsilon = \frac{81}{106} = 0.8 \times 10^{-4} \quad \frac{30}{24}^{4} \times$$

$$= 4\ 10^{-6} (30)^4 = 4 \times 81 \times 10^{-2} \times$$

$$-4x \qquad -1.75x$$

$$e = 10 = \frac{1}{B}$$

$$\frac{-1.75x}{10} = 10^{-}$$

$$B = \frac{10^{12}}{24} = 4\ 10^{10}$$

$$\varepsilon = \frac{81}{106} = 10^{-4}$$

$$b = \frac{(30)^4}{24} = \frac{80\ 10^4}{24} = \frac{4 \times 80\ 10^2}{}$$

$$\varepsilon = 10^{-12} \quad ; \quad b = \frac{[30]^4}{24} = \frac{4 \times 80 \times 100}{4 \times 10^4}$$

$$\varepsilon b = 4\ 10^{-8}$$

$$-\varepsilon bx \qquad -\frac{4}{213}\ 10^{-8} x$$

$$e \qquad = 10$$

p = Probability that 4 selected at random out of 30 all present in another random set of 30

$$\binom{4}{30} = 6$$

$$p = 1 - \left(\frac{30}{1000}\right)^4$$ not all present

Prob that this is true for $\binom{4}{30}$ choices

$$1 - \left(\frac{1}{1000}\right)^4$$

Prob it holds for x sets of 30

$$p^x = \frac{1}{B}$$

$$B = \left\{\begin{matrix} 30 \\ 1000 \end{matrix}\right\}$$

$$\left\{1 - \left(\frac{30}{1000}\right)^4\right\}^{6x} = \frac{1}{B}$$

$$\{1 - \varepsilon\}^{6x} = \frac{1}{B}$$

$$e^{-\varepsilon 6x} = \frac{1}{B}$$

Overlap case $N = 10^4$

$\left(1 - \frac{3}{1000}\right)^{30}$ is prob of not winning any matches

$\left(1 - \frac{3}{1000}\right)^{30} \approx$

$e^{-\frac{30}{10}} = 10^{-\frac{x}{23}} = \frac{1}{10^{4 \times 30}} =$

$\frac{1}{30! \cdot 10^{50}}$

$= 10^{-70}$

$B = \frac{10^{120}}{10^{50}} = 10^{70}$

$x = 870$

$x \approx 23 \times 70 = 1600$

$x =$ Standard 300

From mean $23 \times 1600 = 23000$

15×10

150

200

da Capo

$$e^{-\varepsilon b x} = \frac{1}{B}$$

$$10^{\frac{-\varepsilon b x}{2.3}} = \frac{1}{B}$$

$$\varepsilon = \left(\frac{3}{100}\right)^4 = \frac{81}{10^6} \approx 80 \times 10^{-6}$$

$$b = \frac{30^4}{24} = \frac{81}{24} 10^4$$

$$\frac{\varepsilon b}{2.3} = 80 \times 10^{-6} \; 80 \times 4 \times 10^2$$

$$= 64 \times \frac{4}{2.3} \; 10^{-2} = 110 \; 10^{-2} \approx 1$$

$$10^{-x} = \frac{1}{B} \qquad x = 57$$

$$\frac{(100)^{30}}{30!} = \frac{10^{90}}{10^{33}} \simeq 10^{57}$$

$$30! = e^{-30} (30)^{30} \sqrt{2\pi 30} \approx 10^{46-13}$$

$$10^{-13} \; 10^{45} \times 14$$

$$e^{-30} \; 3^{30} \; 10^{30} \; 10^{30}$$

$$30! = e^{-30} \; 30^{30} \times 14$$

$$10^{-\frac{30}{2.3}} \; 3^{30} \times 10^{30} \times 14$$

$$10^{-\frac{30}{2.3}} \times 27^{10} \times 10^{30} \times 14$$

$$10^{-\frac{26}{2.3}} \times 10^{-\frac{30}{2.3}} (27)^{10} \; 10^{10} \; 10^{30} \; 14 = 10^{50}$$

$N = 10^4$

$n = 30$

$k = 4$

$$b = \binom{4}{30} = \frac{30^4}{4!} = \frac{81 \times 10^4}{24}$$

$$e^{-\varepsilon b x} = \frac{1}{B}$$

$$\varepsilon = \left(\frac{3x}{10^3}\right)^4 = \frac{81}{10^{12}} = 10^{-10}$$

$$30! \cong 10^{50}$$

$$B = \binom{30}{10 \times 10} = 10^{70}$$

$$10^{\frac{-10 \cdot 3 \cdot 10^4 x}{2.3}} = 10^{-70}$$

$$10^{-6x} = 70$$

$$x = 70 \cdot 10^6$$

or

$$x = 10^6$$

~~distribute~~ We shall ~~distribute~~ the chance spec. of two neurons ~~as~~ individually different of overlap number 10^{6} or less of say $n = 50$. i.e. ~~6~~ less than 6

$$\varepsilon = \left(\frac{5}{10^3}\right)^6 = \frac{1.5\,10^4}{10^{18}}$$

$$b = \binom{6}{50} \simeq \frac{(50)^6}{6!} = \frac{(125)^2\,10^6}{24 \times 30}$$

$$B = \binom{50}{104}$$

$$e^{-\varepsilon b x} \qquad 10^{-\frac{\varepsilon b x}{2.3}}$$

lower limit $\quad \frac{\varepsilon b x}{2.3} = 1.$

$$b = \frac{1.5\;10^4\;10^6}{7.5\;100}$$

$$b = 2\;10^7$$

$$\varepsilon = 1.5\;10^{-14}$$

$$\varepsilon b = 3.10^{-7}$$

$$\varepsilon b \times 10^{-7}$$

$$\varepsilon b = \left(\frac{50}{104}\right)^6 \cdot \frac{(50)^6}{6!}$$

$$(30\sqrt{30}) - 10^6 \qquad (2500)^3 = 100 \times 10^6$$

Experiment

1.) Introduction

a.) Establish response to light + sound in 9 trials.

b.) Test strength with light alone

a) test strength with sound alone

2.) Establish response to light alone then add sound 9 times (with reinforcement) then test strength with sound alone

---

manipulated variable a_i or measured variable b_i

whichever is smaller

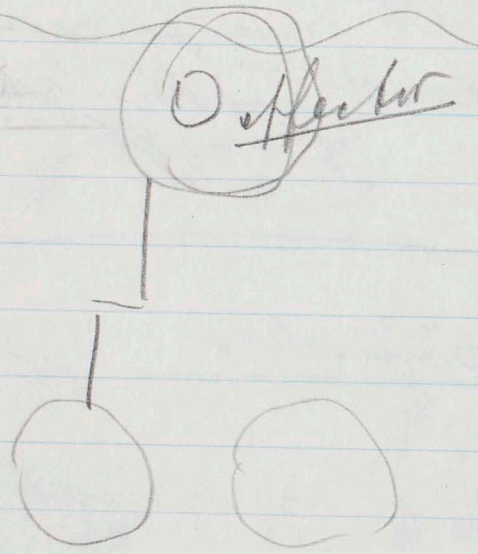
$$50! = e^{-50}\,(50)^{50}\sqrt{2\pi 50}$$

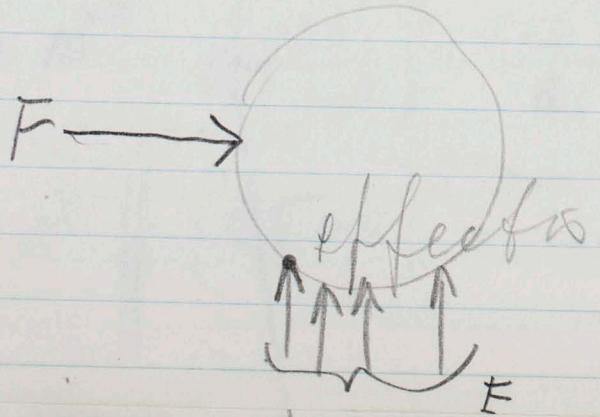
$$\frac{100^{50}}{2^{50}} = 10^{84}$$

$$50! \approx 10^{63}$$

$$B = \frac{10^{9\times 50}}{10^{63}} = 10^{137}$$

$$\varepsilon\delta x = 10^{-137}$$





$\left(1-\frac{1}{B}\right)^{B} = \left(\frac{1}{e}\right)$ OK

$\left(1-\frac{1}{B}\right)$ $\frac{1}{B}$

4

$\frac{B}{}$

$\frac{1}{e}$

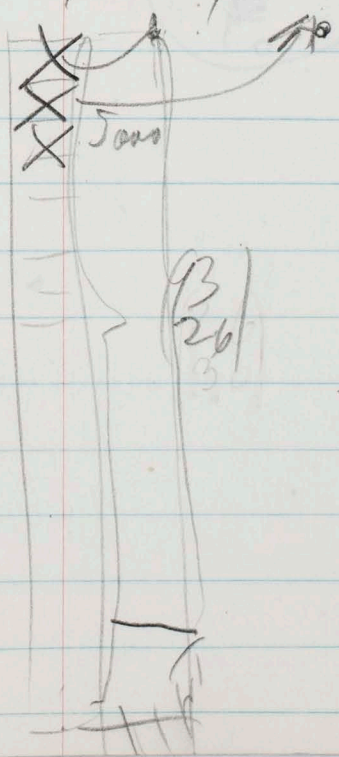
divide $\frac{x}{2}$. probable that some of them hit

50!

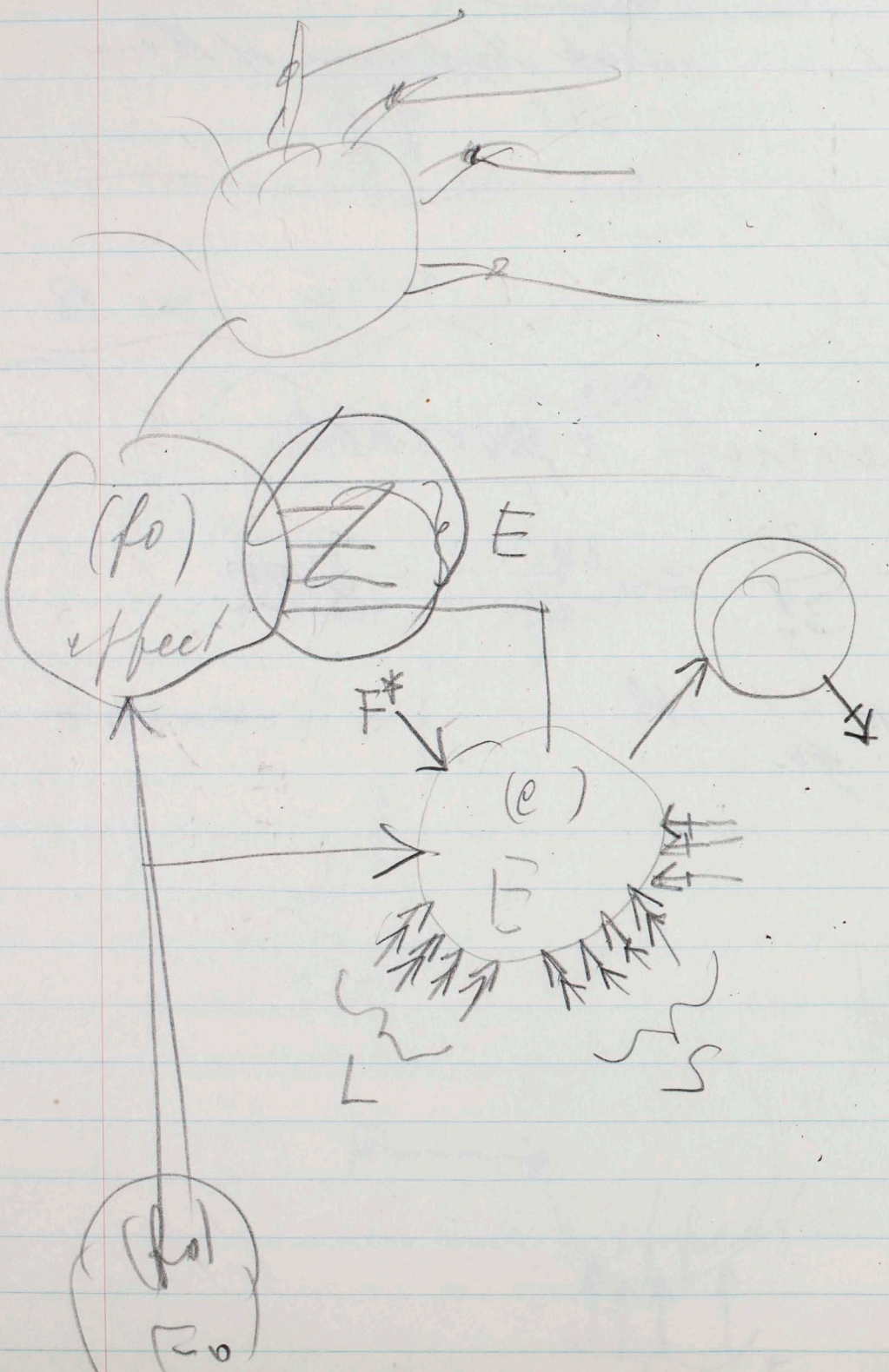
Different approach

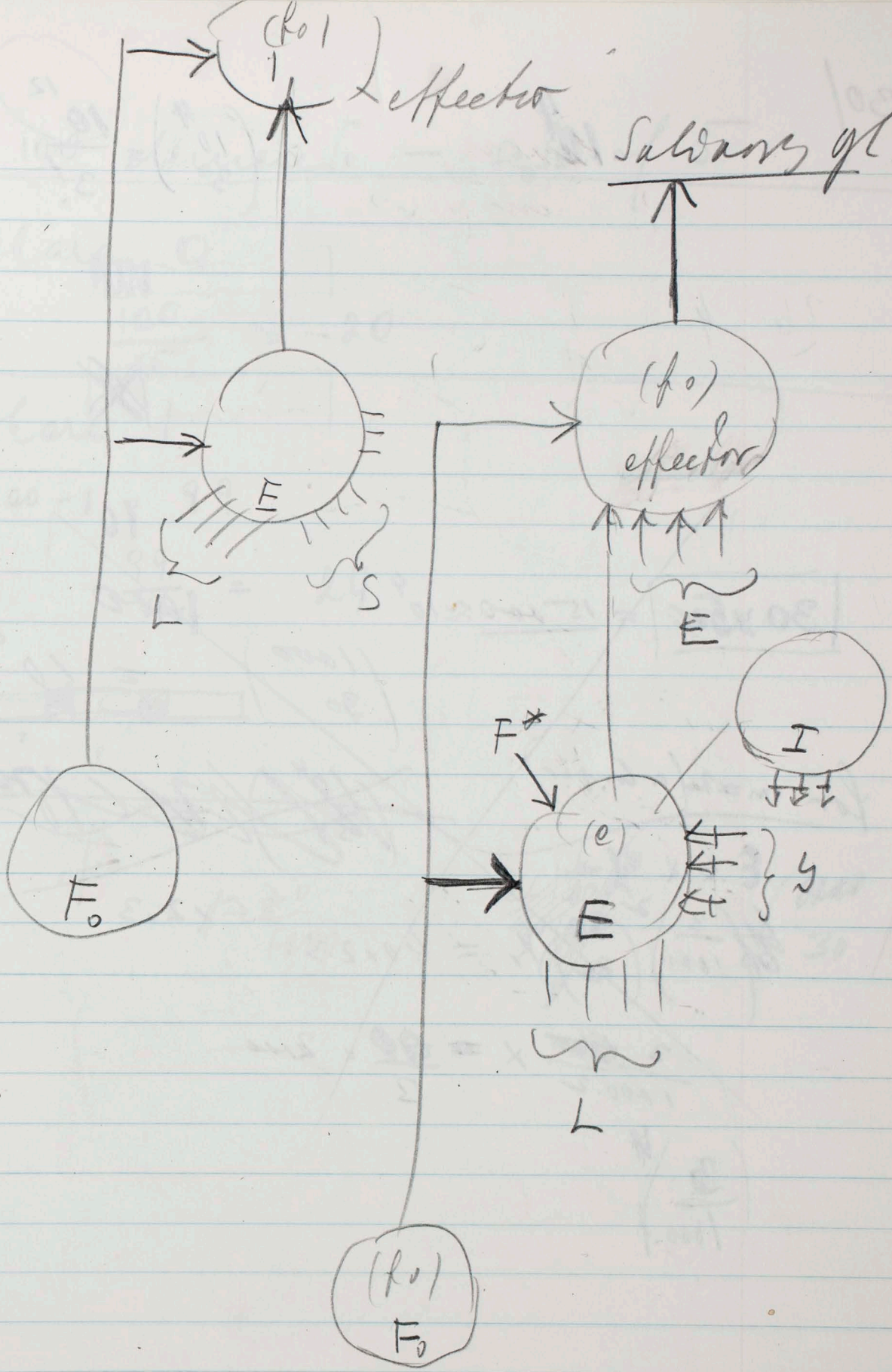
$\binom{3}{30} = \frac{(30)^3}{3!} \simeq \frac{30 \text{ ans}}{6} = \underline{5000}$

30, 26, 22, 18 . . .



{ developmentally det.
neurons.

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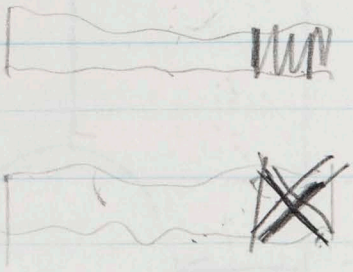
30/

10^4

$\binom{10^4}{3} = \frac{10^{12}}{3!}$



$|30 \times 500| = 15000 \approx 10^4$

10

1000

$\binom{1000}{30} = 10^{40}$ (1)

for $m=2$ (n large)

$\binom{10^4}{30} \neq 10^{70}$

ε 6 x

$\left(\frac{3}{1000}\right)^2 \binom{30}{2} x = 40 \times 2.3$

35×2.3

$\frac{3}{1000 \cdot 2} x = \frac{90}{3} \times 2100$

$\left(\frac{3}{1000}\right)^4$

100 elements — sets of 5

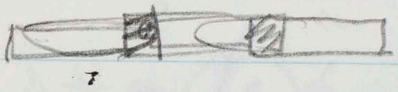
a) share 0

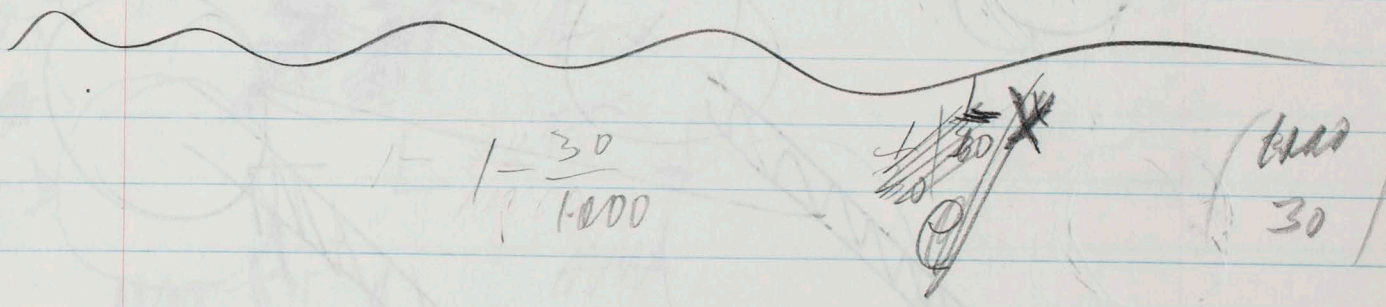
$$\frac{100}{5} = 20$$

b) share 1

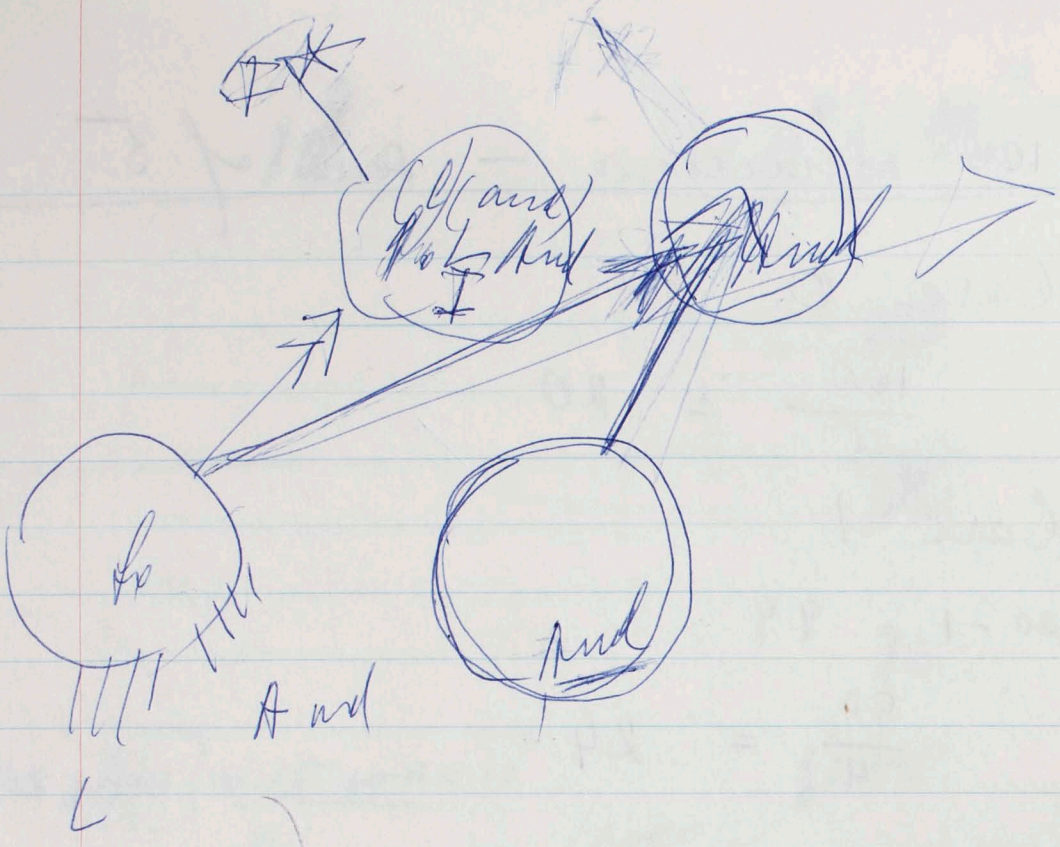
$100 - 1 = 99$

$$\frac{99}{4} = 24..$$





$1 - \frac{30}{1000}$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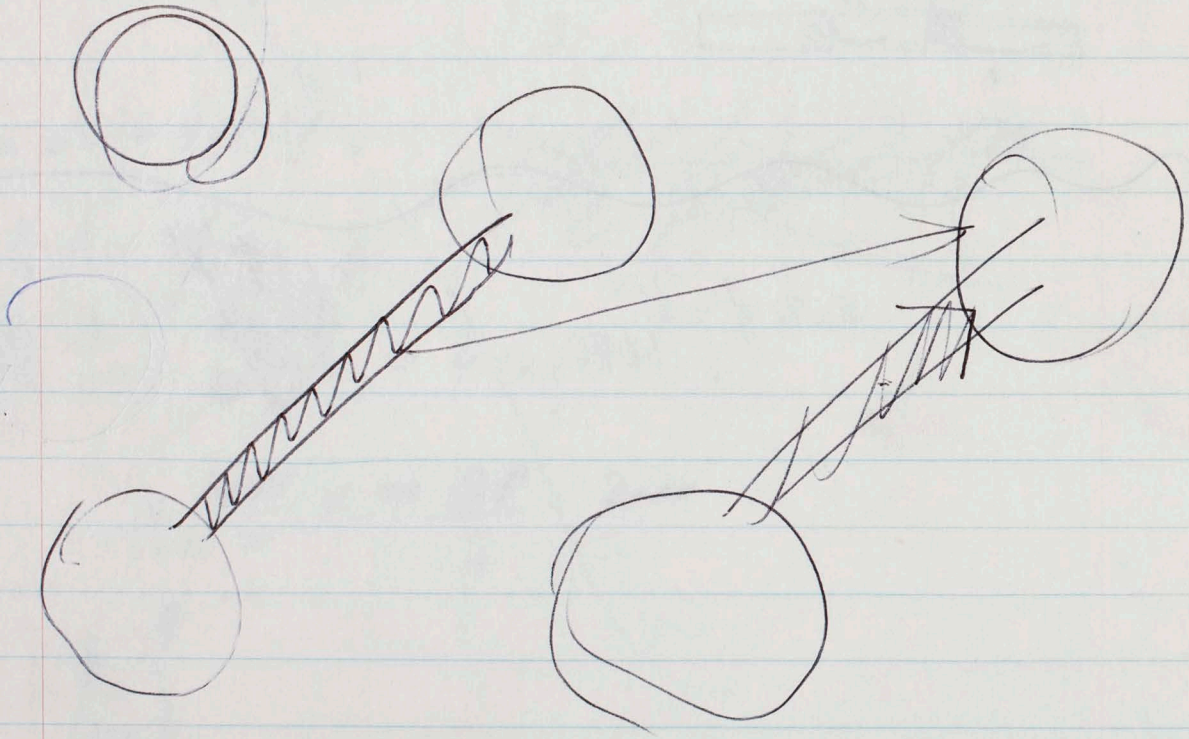

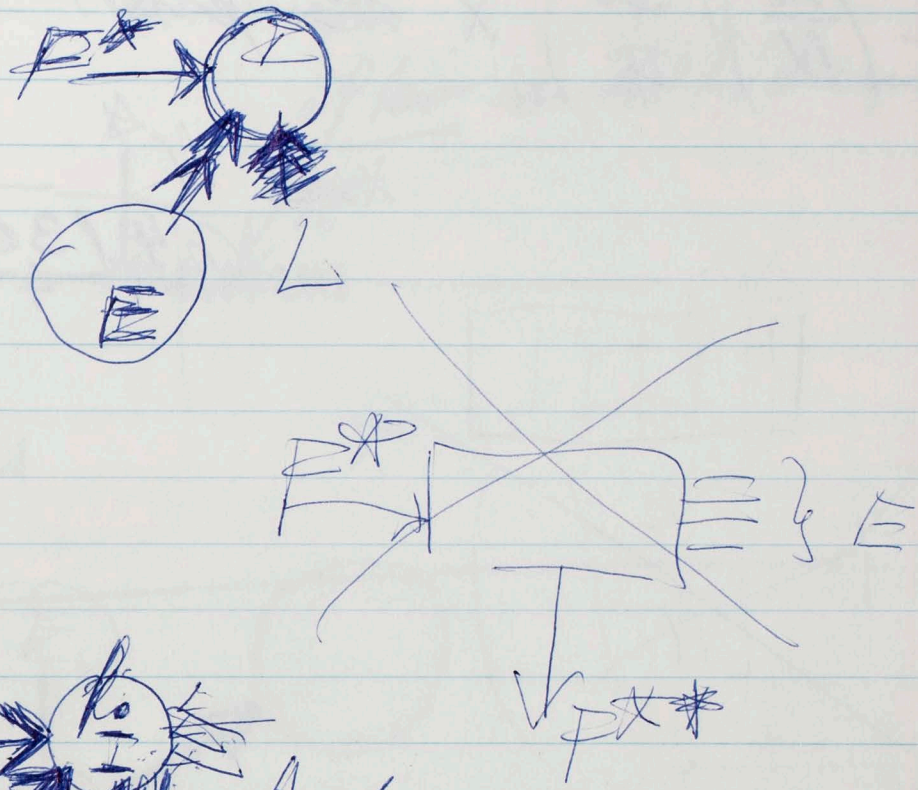
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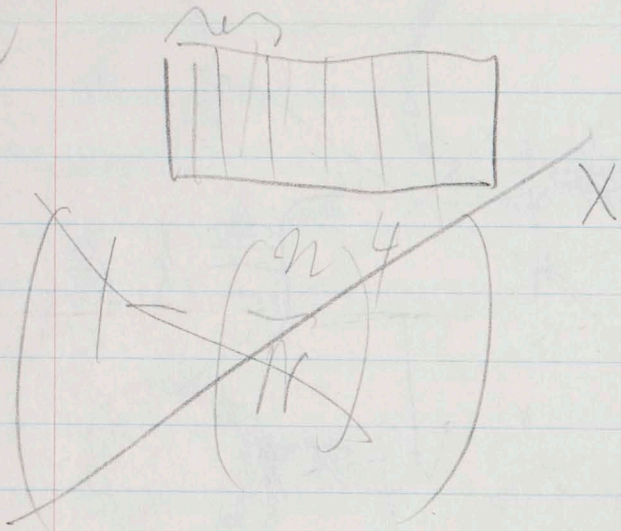
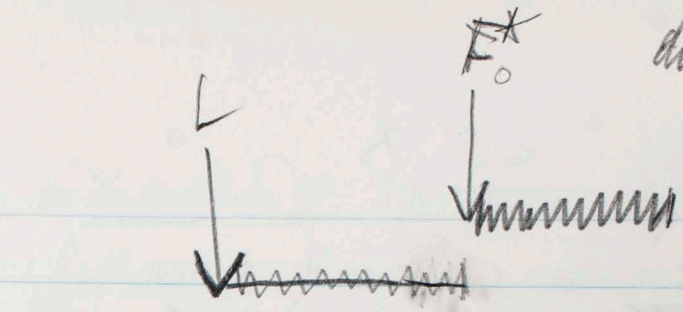
$$\left(\frac{n}{N}\right)^4 \binom{30}{4} x \approx \text{Bin } B$$

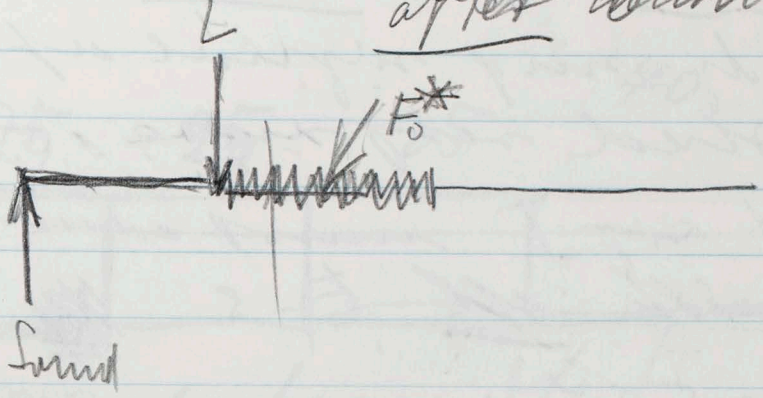
$$x \equiv \frac{N^4}{n^4 \binom{30}{4}}$$

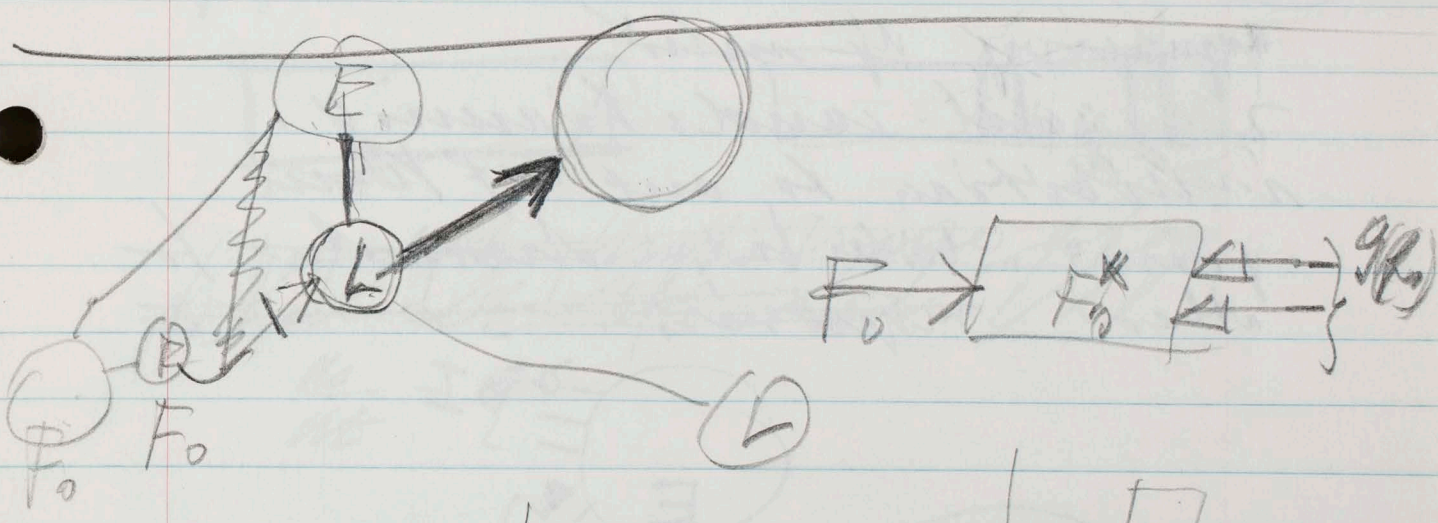


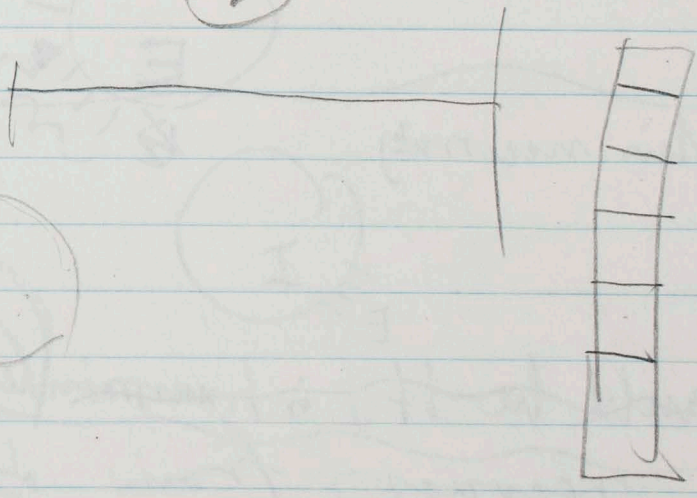
during conditioning

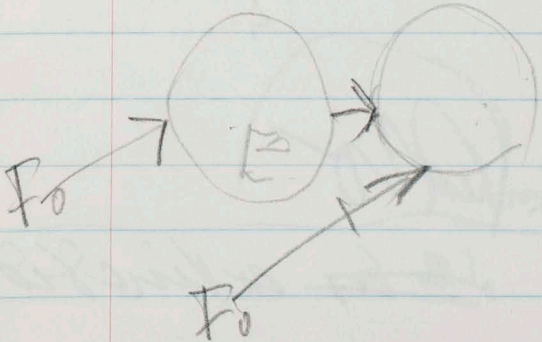


after conditioning





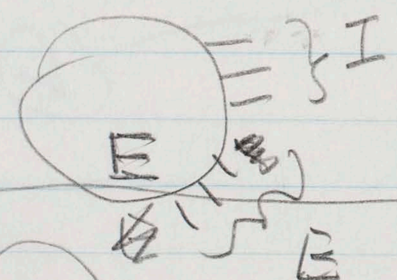




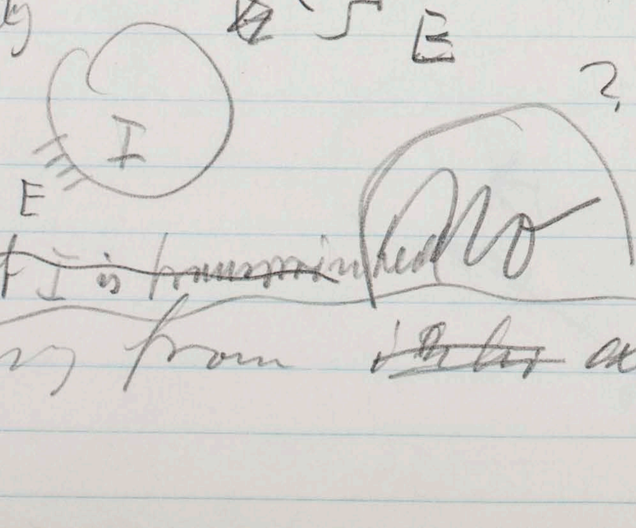
Notes

Inhibition of a cond. response by using signal of extinguished response. — shows that ~~[illegible]~~ I must communicate with all E-s ~~[illegible]~~

~~[illegible] of [illegible]~~
2 paired conditioning. inhibition to one of them giving inhibitory character to other responses;



Is this necessary



~~would be if I is [illegible]~~

recovery from ~~[illegible]~~ extinction

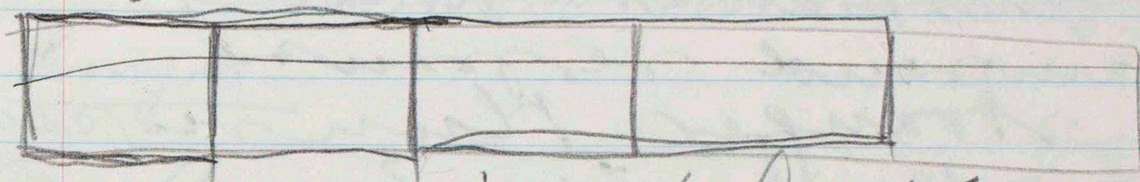
$\left(1 - \frac{30}{1000}\right)^{x} \quad \underline{30}$

~~30~~ 90

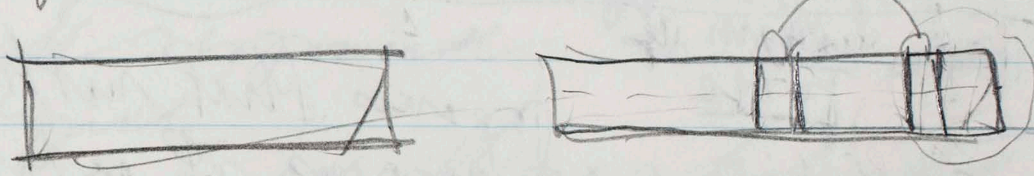
ln = ~~[illegible]~~ 10

40

25 25 25



upper limit [illegible]



~~[illegible] that [illegible]~~

~~[illegible] 30 - 27~~

$\frac{ds}{dt} = A5$

but if compound stim is reinforced more and more neurons E are transplanted a minority of which has more fibers from visual than normal

Question: is actually compound response stronger than response to input alone?

143 bottom of page

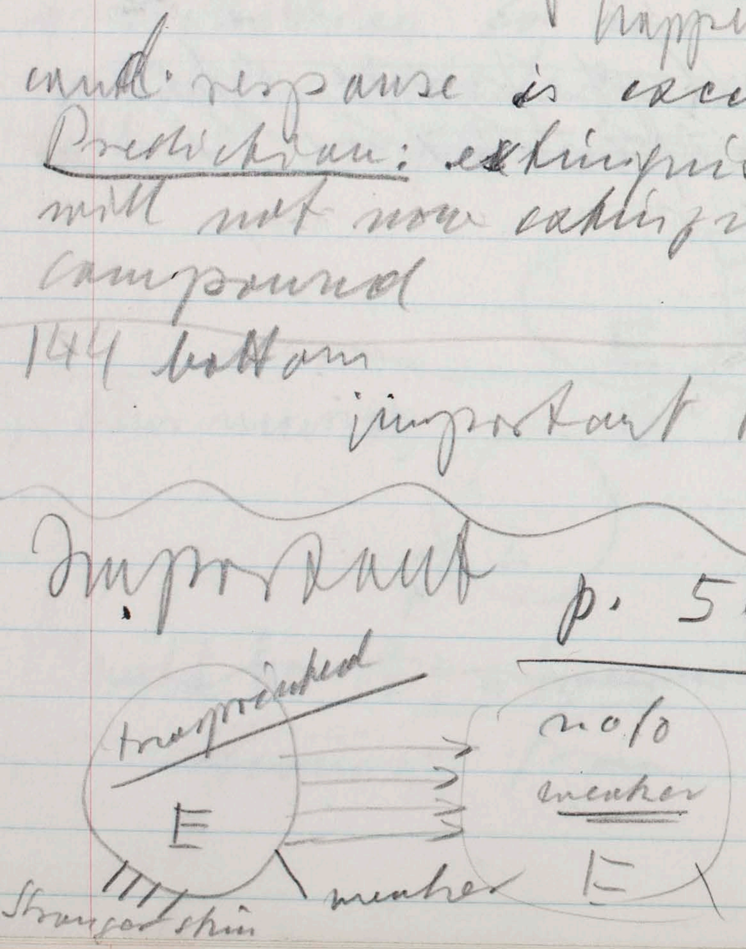
proposes that nothing happens if established and response is exercised.

Prediction: extinguishing one will not now extinguish pseudo-compound

144 bottom

important to think through

Important p. 56



will be excited by stranger

W

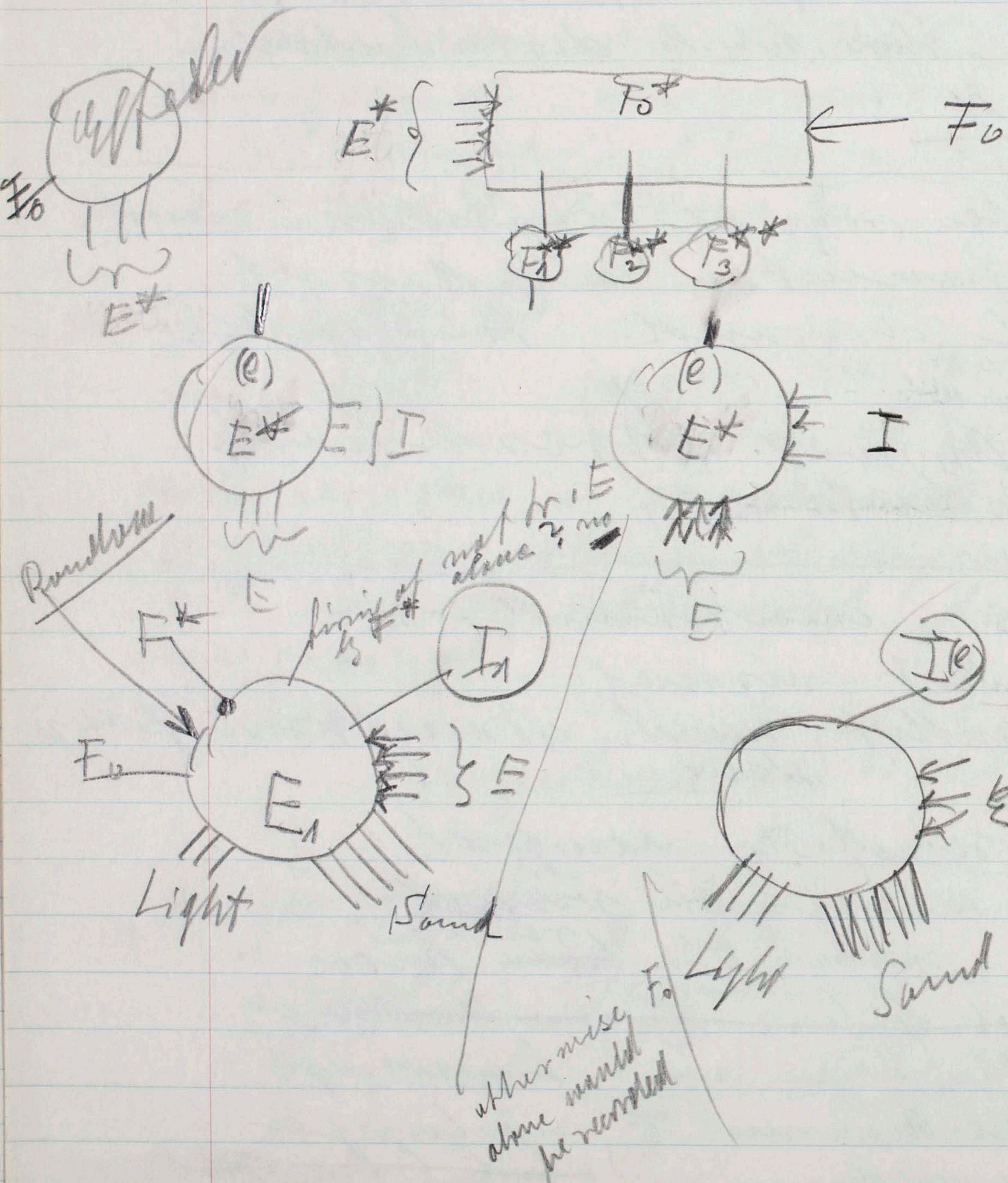
Permanent extinction:
A few stray neurons which send fibers to I* but not to Effector

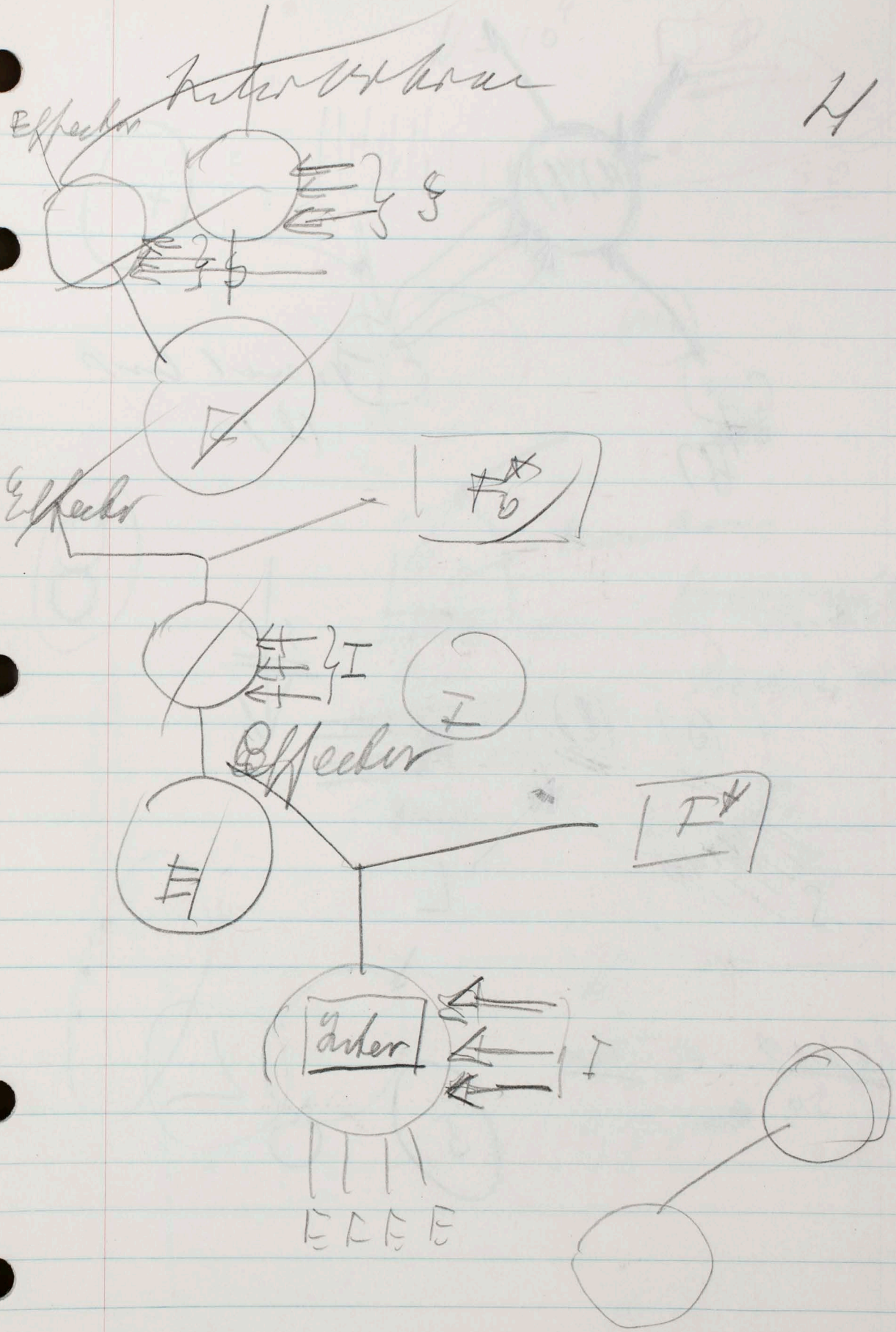
Recovery after extinction:
assume threshold distribution changes

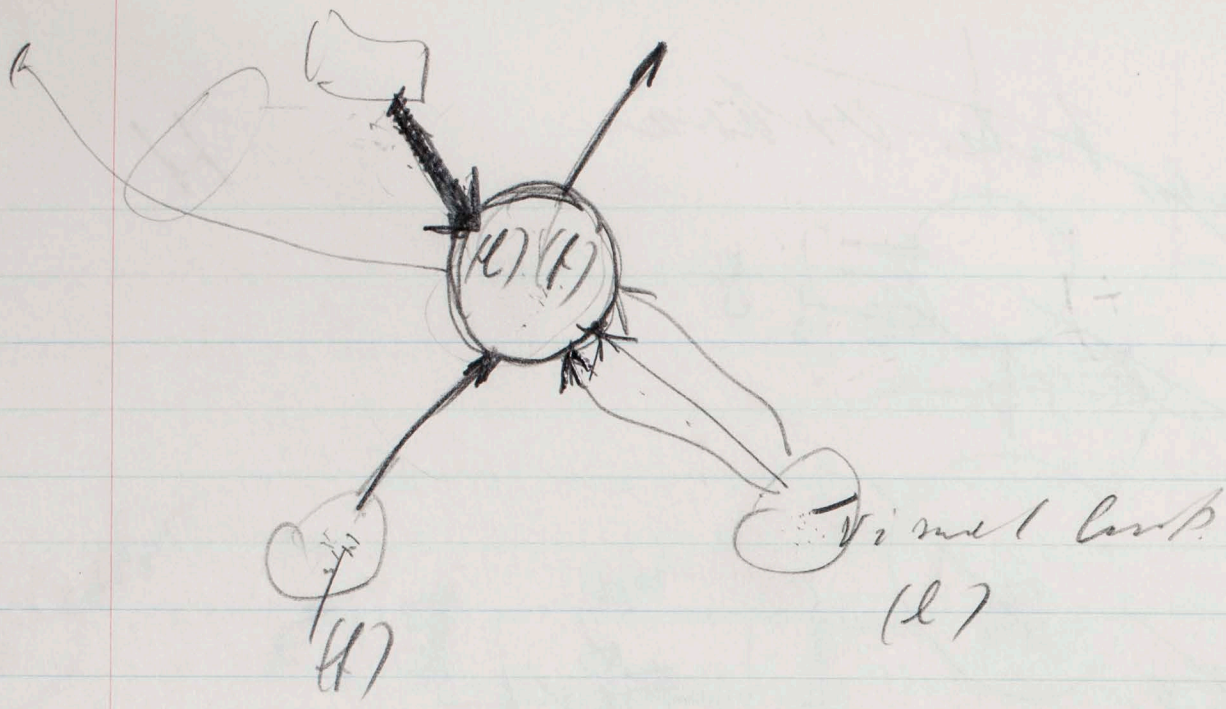
Double signal, ~~inhibit both~~ components; why does it still respond to double signal
 answer threshold distribution,
~~[illegible]~~

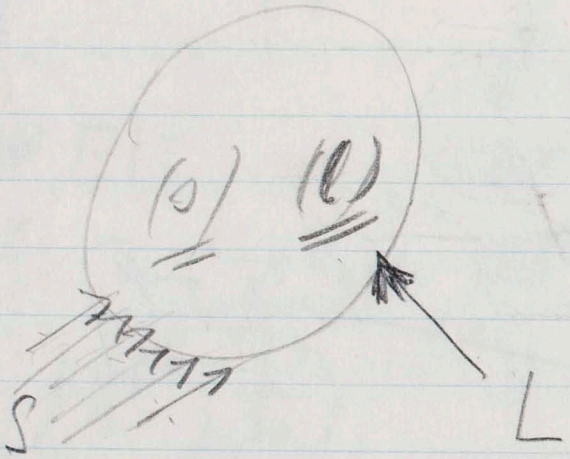
p. 143 compound sig
 audit visual
 audit alone much stronger response

now: reinforce compd.
~~[illegible]~~ extinguish visual }
some neurons which ~~have~~ receive more
~~visual fibers than auditory~~,
inhibition will build up
until neurons which no longer
fire under ~~which have~~ ~~[illegible]~~
influence ~~[illegible]~~ ~~[illegible]~~ of sound


E*
F0*
F0
F1*
F2*
F3*
(e)
E*
I
E
Random
F*
E0
E1
I1
E
Light
Sound
F0
I(e)
Light
Sound

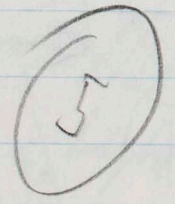

Effector
Effector
Effector
Worker

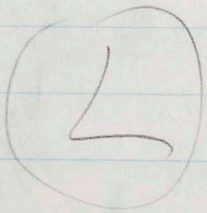




50

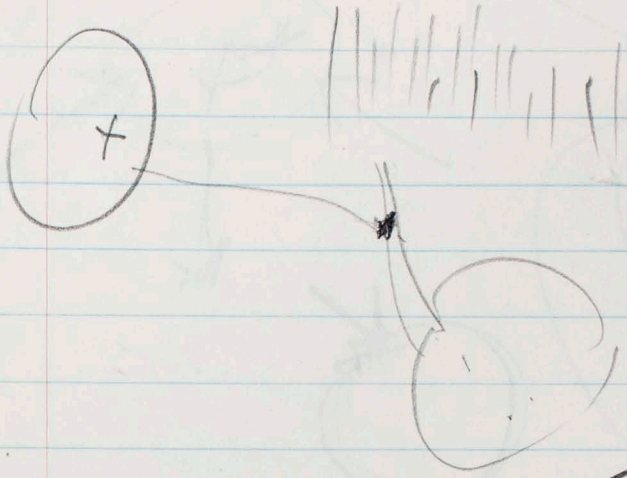
$\frac{10 \text{ and } 8}{50} = \frac{200}{}$

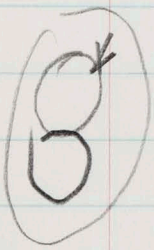


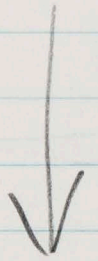


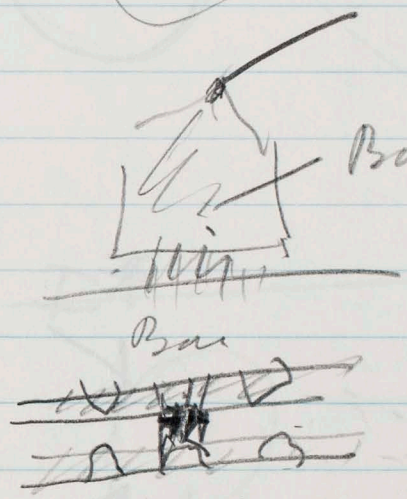
$N = 10^4$ 50

50

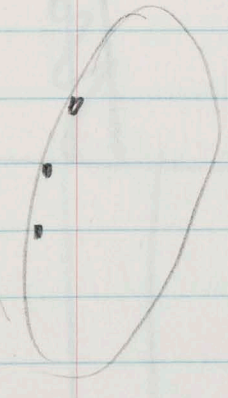


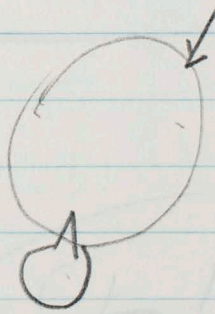


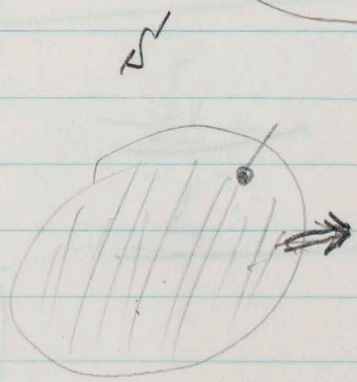


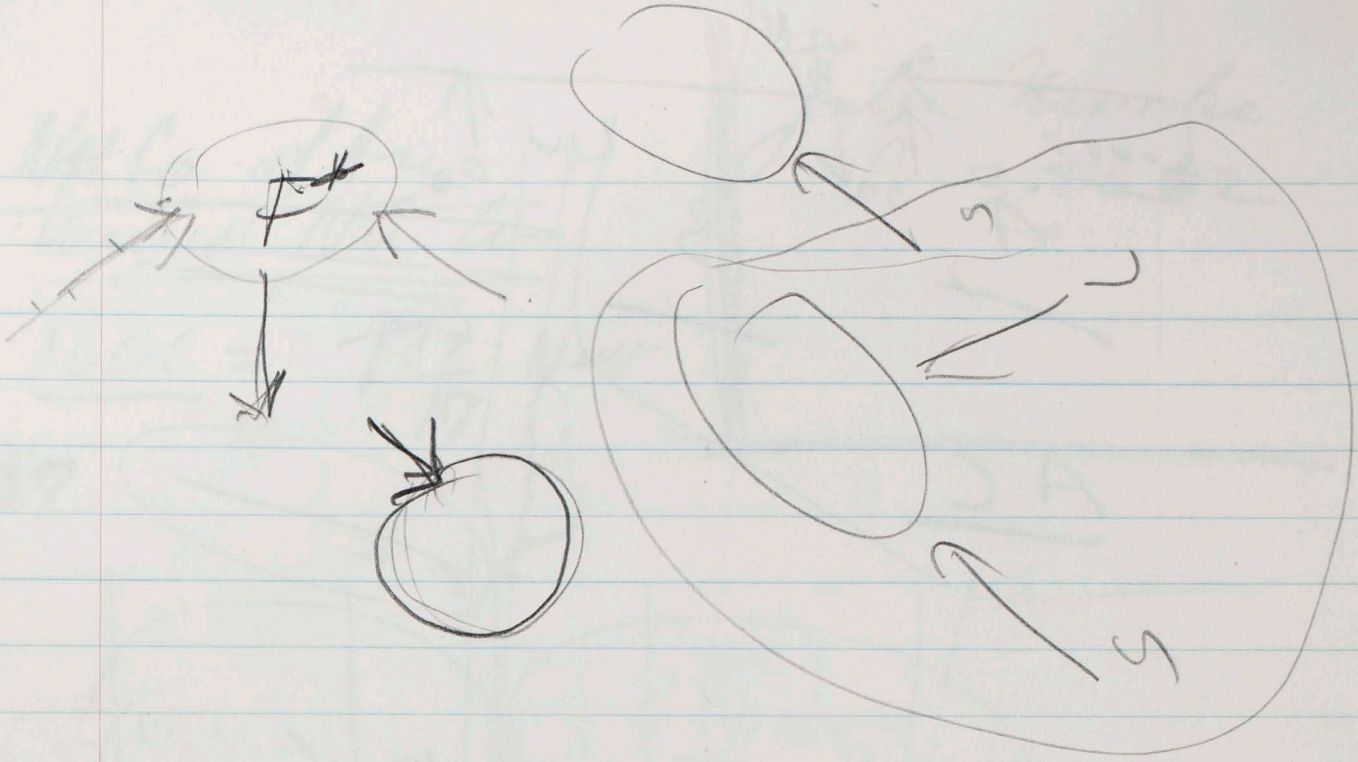


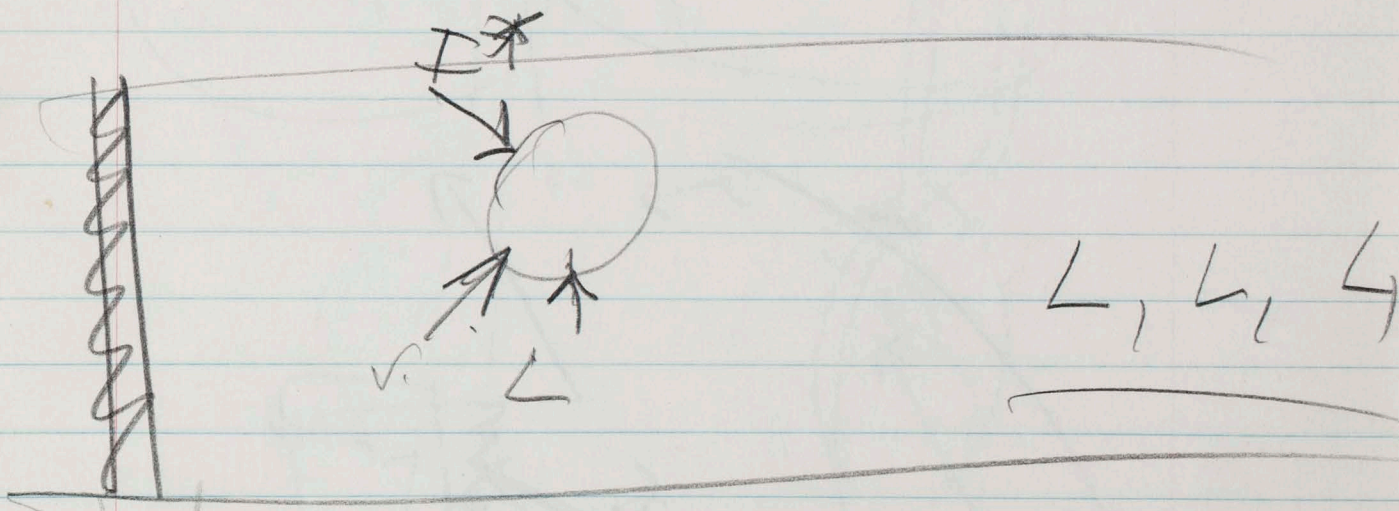
$\frac{T_1}{1 + T_2}$



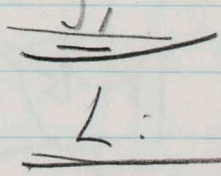


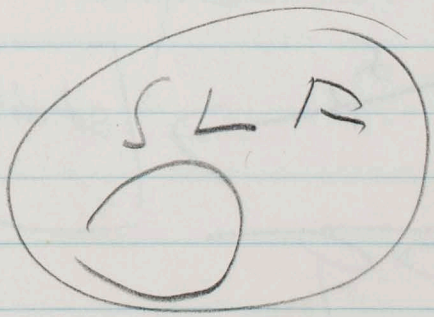


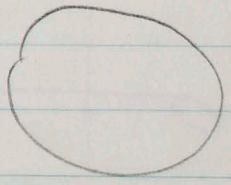


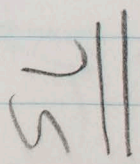


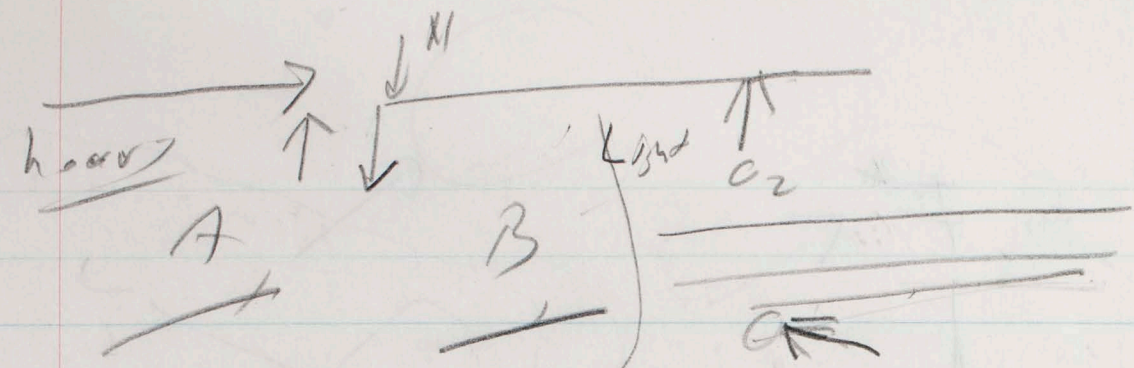
L, L, L











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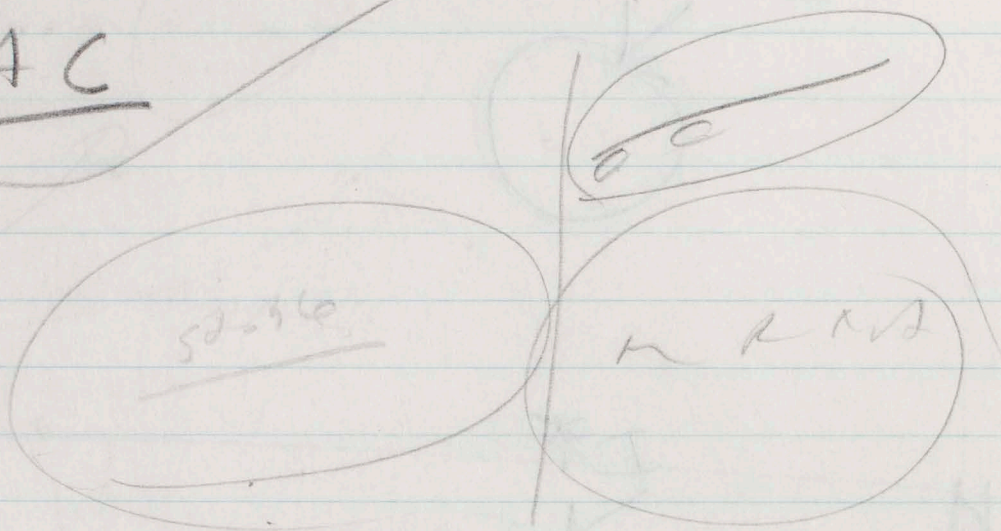
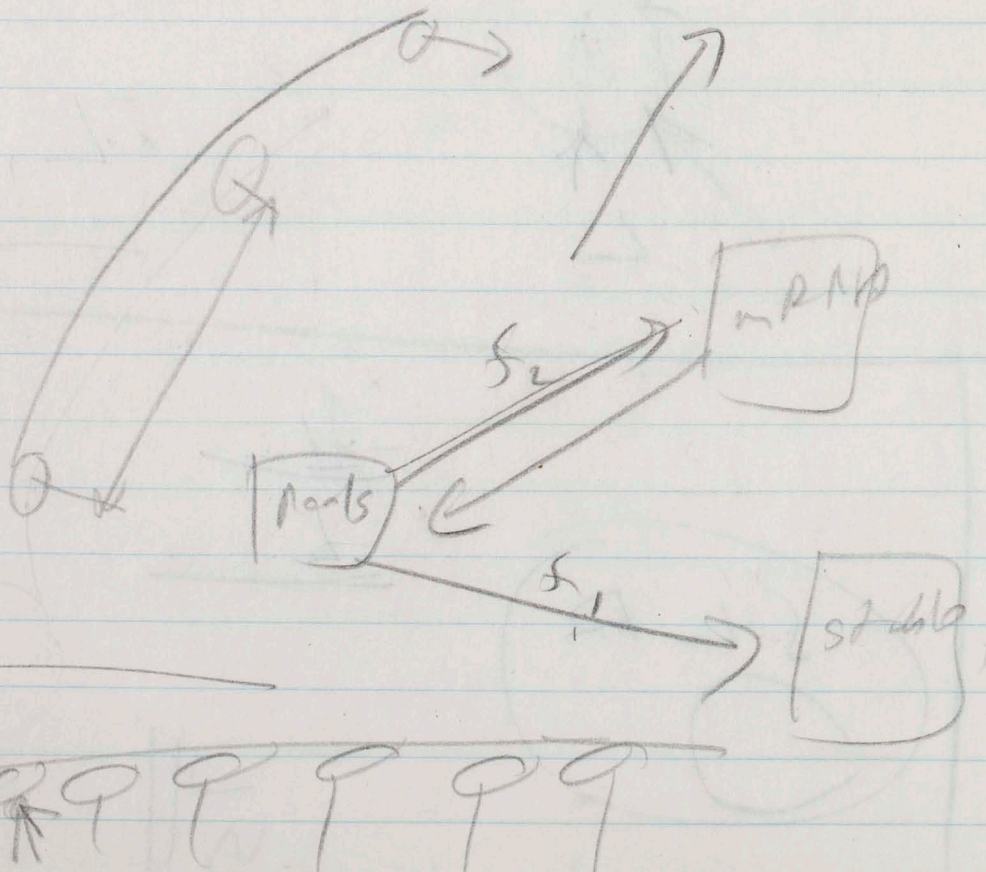


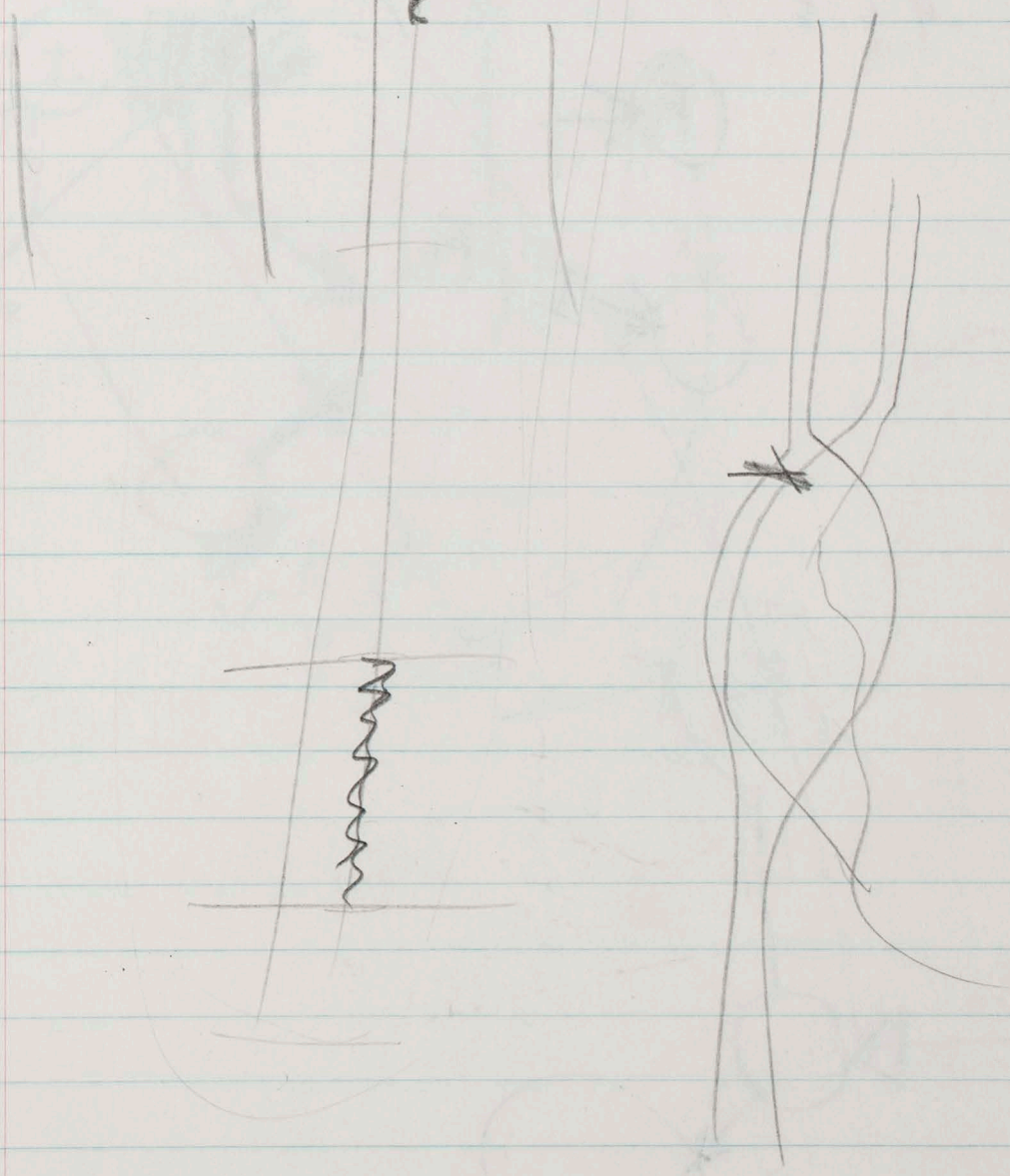


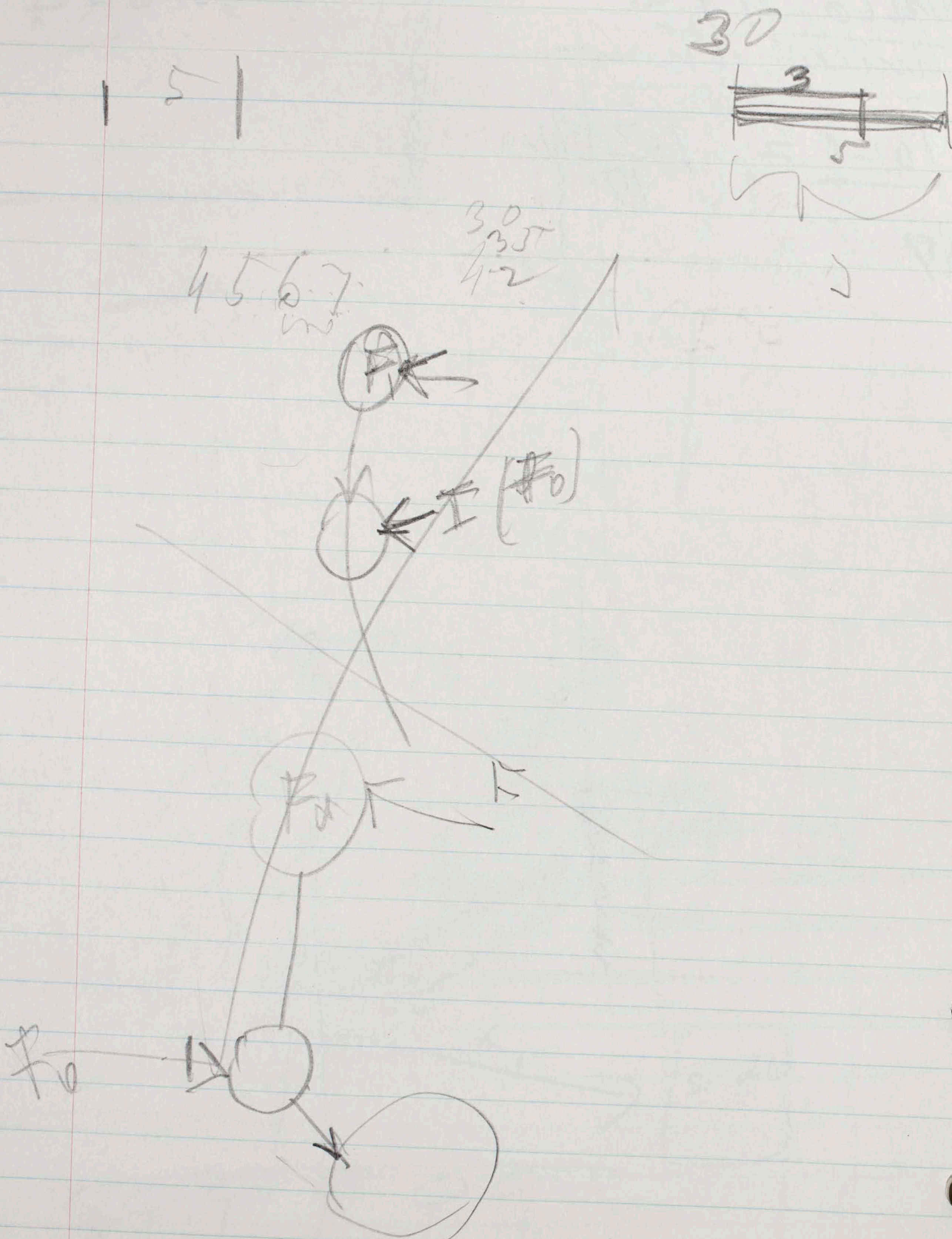
Wyl Co of Am
Limited Nu Co

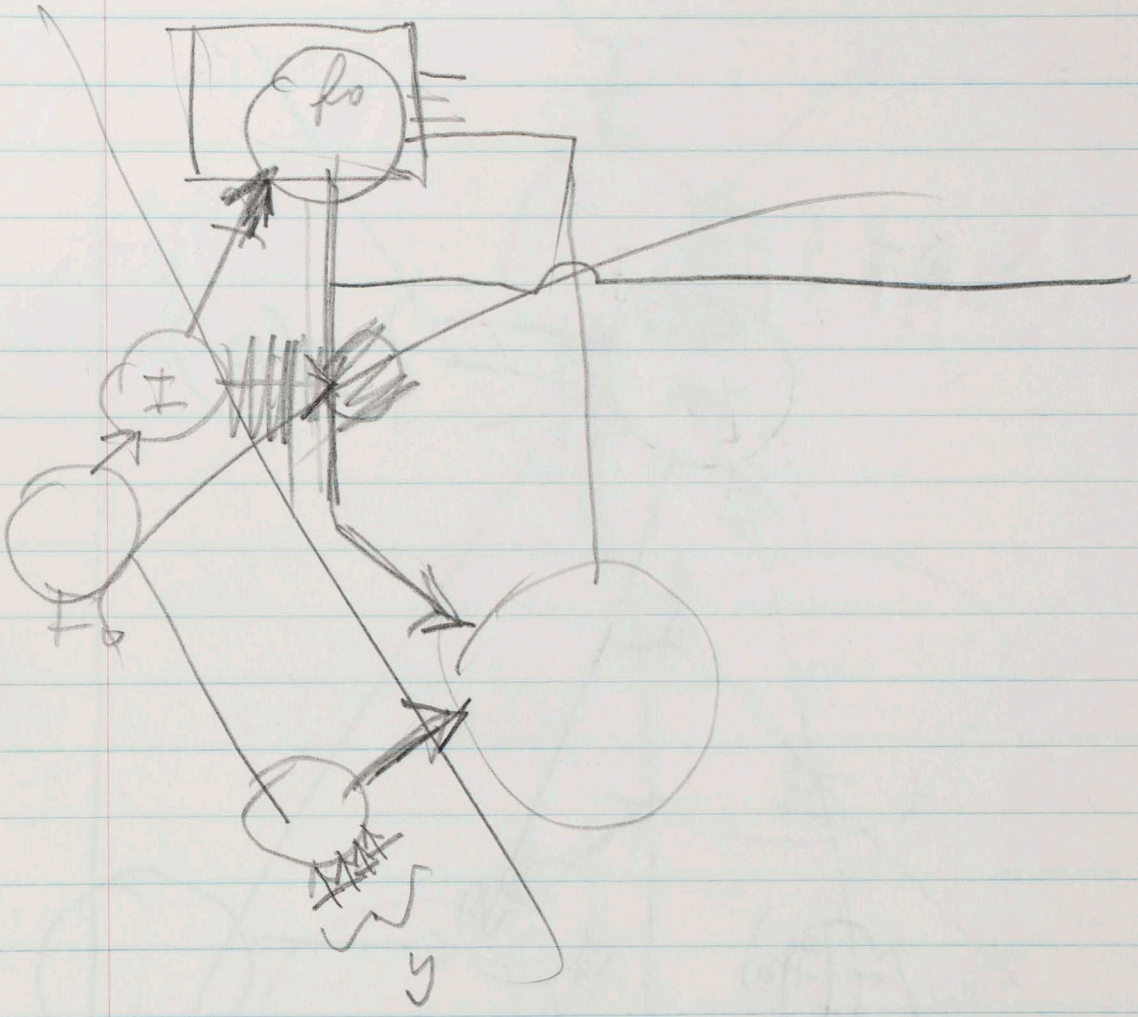
John Monke
Sc 3-2602

Old = 1.7/17 New

#7




30
3
5
4 5 6 7


fo
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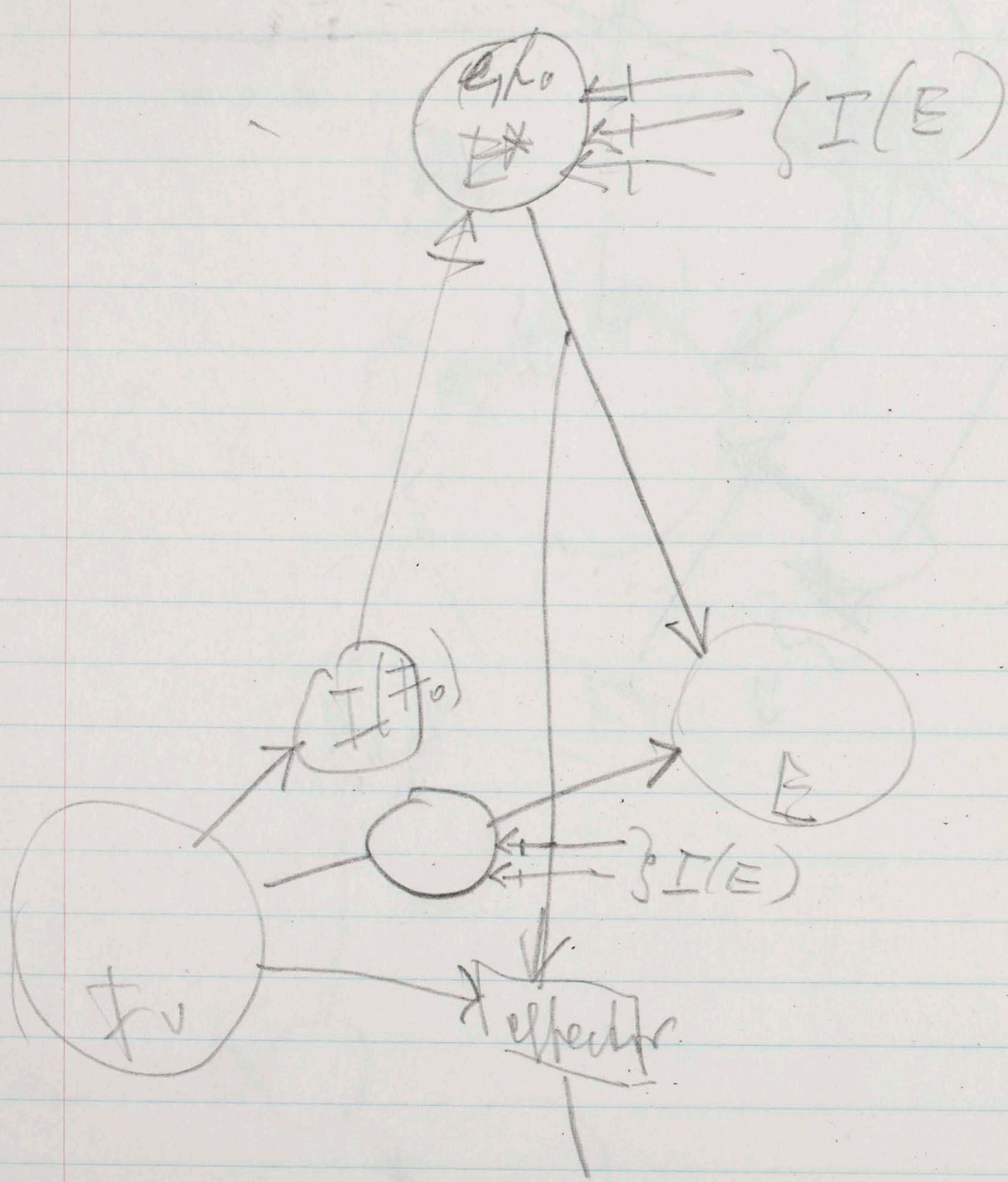
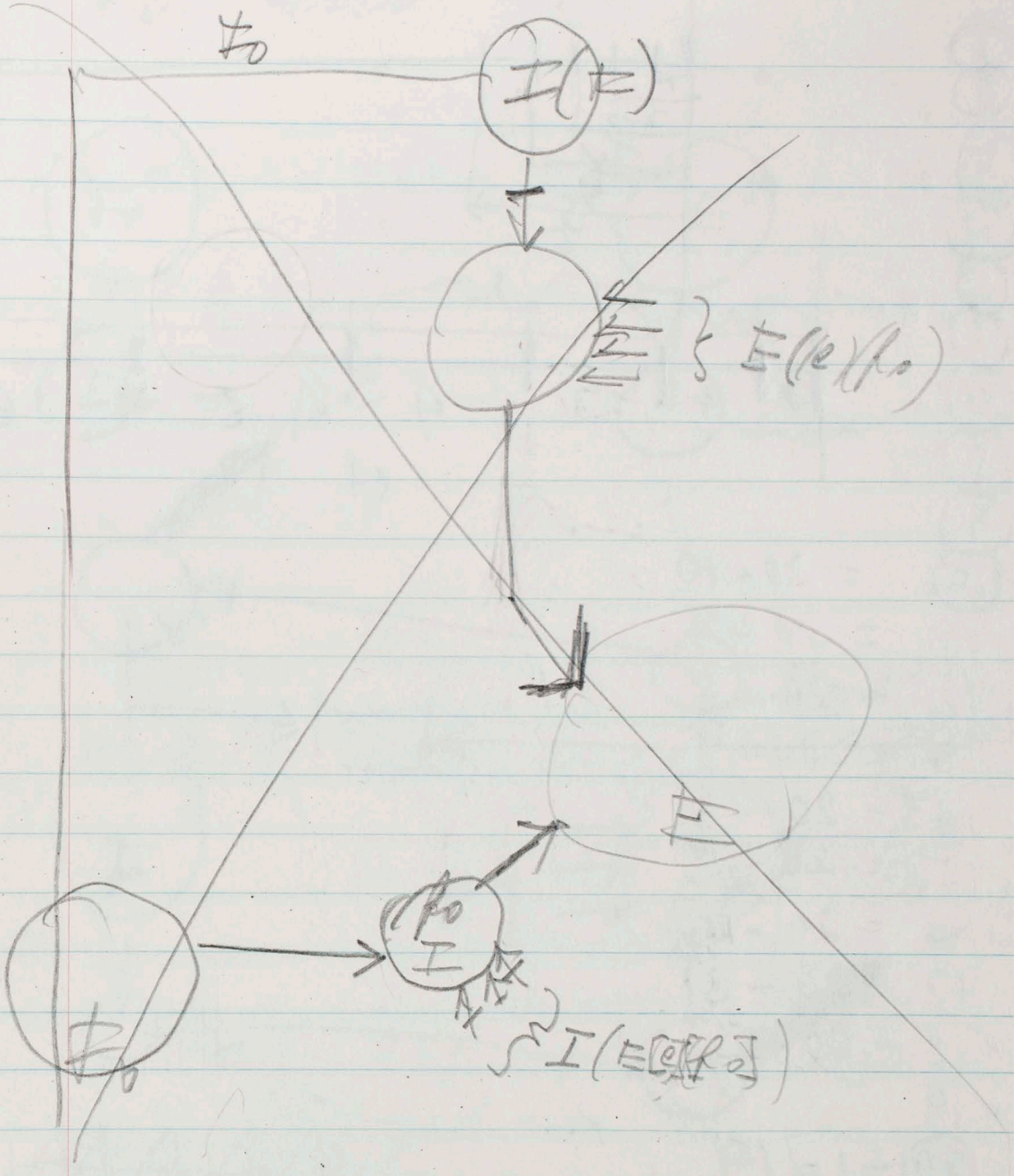
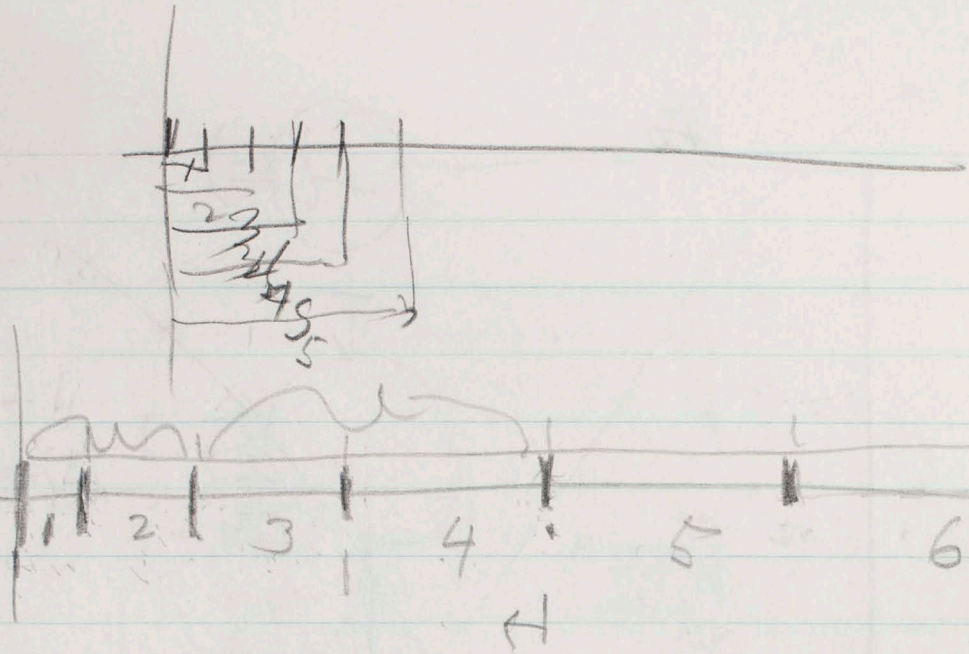

I(E)
I(E)
Effects


t_0
$I(t)$
E
$E(t)(t_0)$
E
t_0
I
$I(E(t)(t_0))$
E_0



= 20 - 10

11 = 20 - 9

12 = 20 - 8

13 = 20 - 7

14 = 20 - 6

15 = 20 - 5

16 = 20 - 4

17 = 20 - 3

✓18 = 20 - 2

✓19

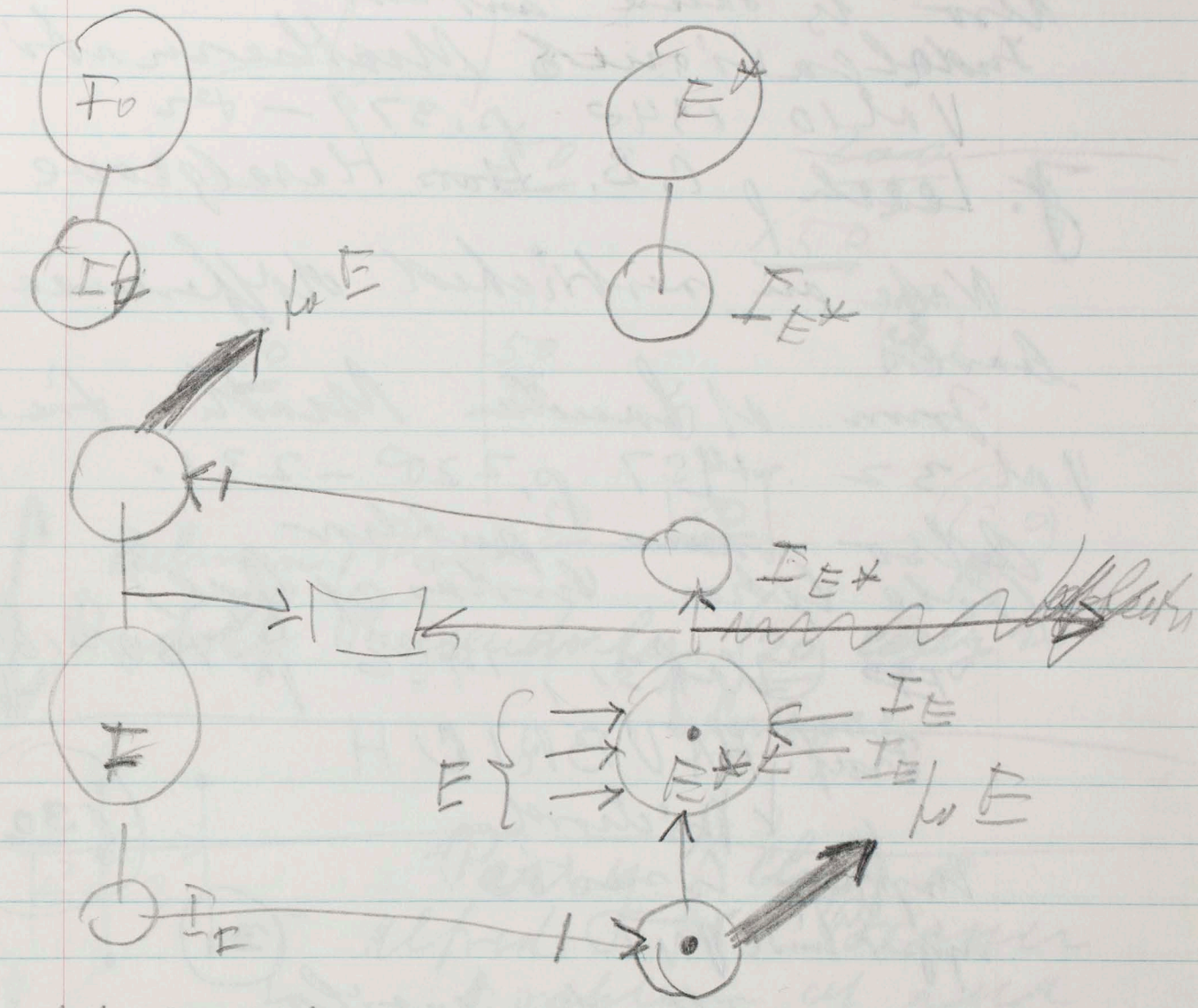
20 - 1 = 19

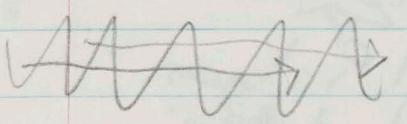
$\begin{array}{r} 10 \\ -\ 1 \\ \hline 9 \end{array}$

for int

0 1 2 4 5

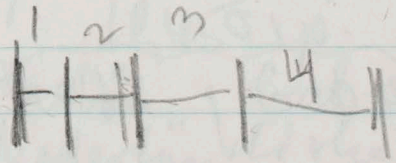
F_0 and E^*





1 2 3 4 5 6 7 8 9 10

20 30 35 40 42 44 48 50 56 63



755-1649

Vol 51 1948 p. 1155 - 58

also by same author

Tabulations of Mathematics

Vol 10 1948 p. 379 - 402

J. Leech & C. B. ~~Haas~~ Haselgrove

Note on restricted differences

bases

Journ of London Math Soc.

Vol 32 . 1957 p. 220 - 231.

Also same author

(title other than 1 just)

⇒ Vol 31, 1956 p. 160 - 169

Prof. HAUBRICH

↓ Richard

upper limit

upper limit N

20 will do easily

30

6 30

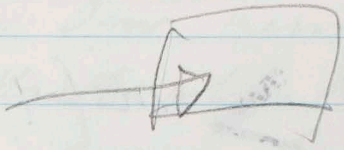
1, 1, 1

10, 10, 10, 10

0, 1, 2, 3, 10

20 30 40 100

453 4100
Lev 2350



50 | 200

150

3

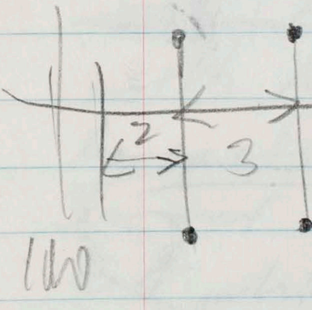
30 | 50

50 | 70 | 130

Belman ; Brand

Rudolf Preisendorfer (20) early 20

Scripps



100

Parry (Clay)

Alfred Brauer

[A problem cf. add number theory and its appl. in El. Engineering]

Jo Elisha Mitchell Society 1945 p. 55 to 66 B

Erdös ; Gal

Proc of Nederländische Acad Wetenschappen

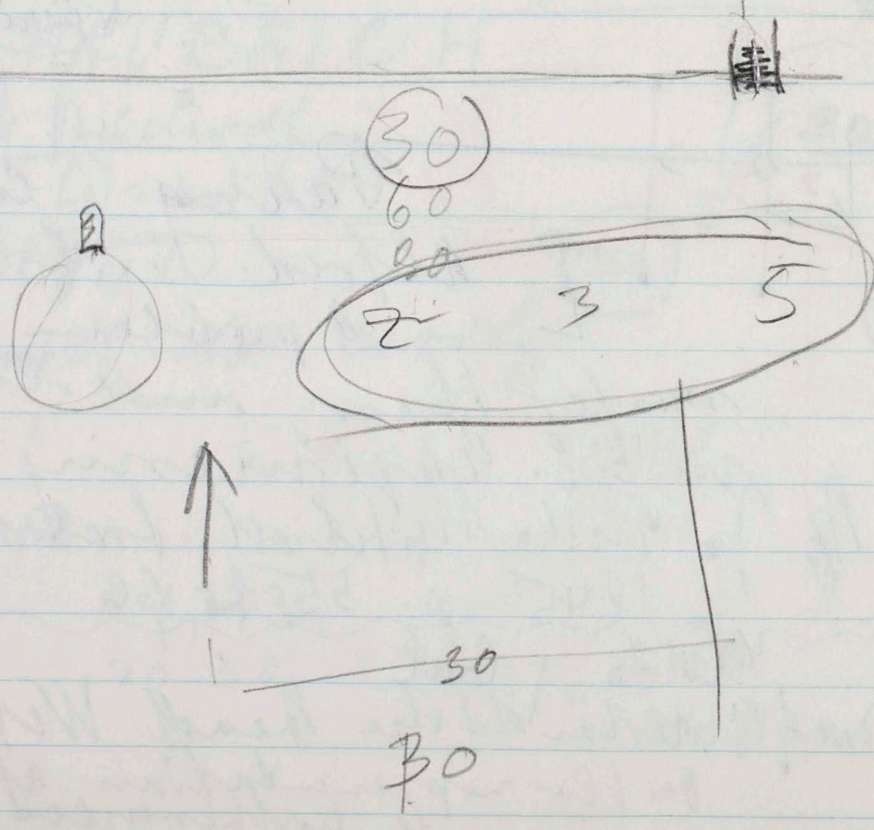
On the representation of 1, 2, 3 up n by differences

Erm. Ledeys Peter Buch Co

$$\frac{n^*(n^*-1)}{2} \geq n(100)$$

$$\sqrt{2} \leq \frac{n^*}{\sqrt{m}} \leq 2 + \frac{1}{\sqrt{m}}$$

$$\prod p_i^{x_i}$$



~~When~~ Our neural network is such that when the fully connected dog is presented with

~~In our network marked a dog which~~
~~had been fully exp~~ signal from the
neurons E which the transcription
neurons ~~when~~ When the dog which
has been fully constituted to
the unprocessed signal is presented
with the visual signal, ~~reinforced~~
~~so that~~ reinforced, ~~the~~ the
~~neurons~~ neurons E which had been
transcripted during event.
with the set (f) (b) will ~~have~~
be excited and will fire. ~~But~~
In our network marked if a neuron
E which has been transcripted
with the set (f) fires but the
neuron F does not fire the
neuron E will be caused to fire

$$\left(1+\frac{1}{20}\right)^{20} = e$$