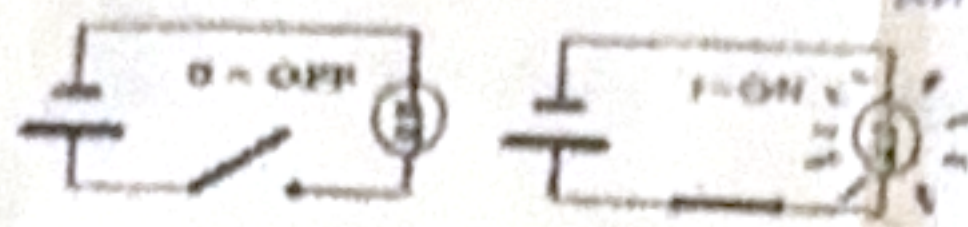


0 = false  
 1 = true

+ 0,1 5,3,26

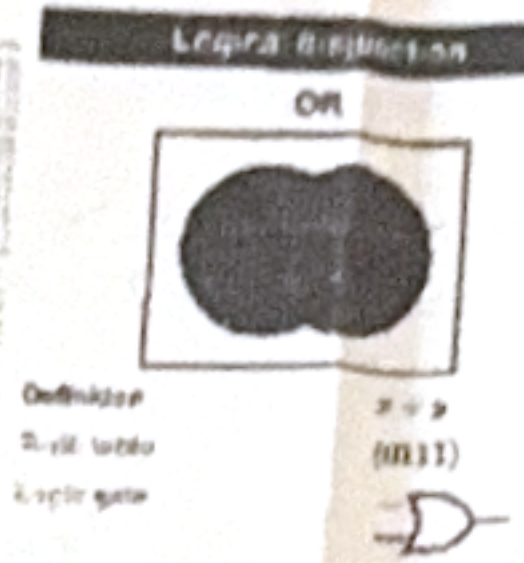
Lecture by Pr. Bob Gallager  
 Boole (1815-1864) & Shannon (1916-2001)



Logical addition (disjunction)

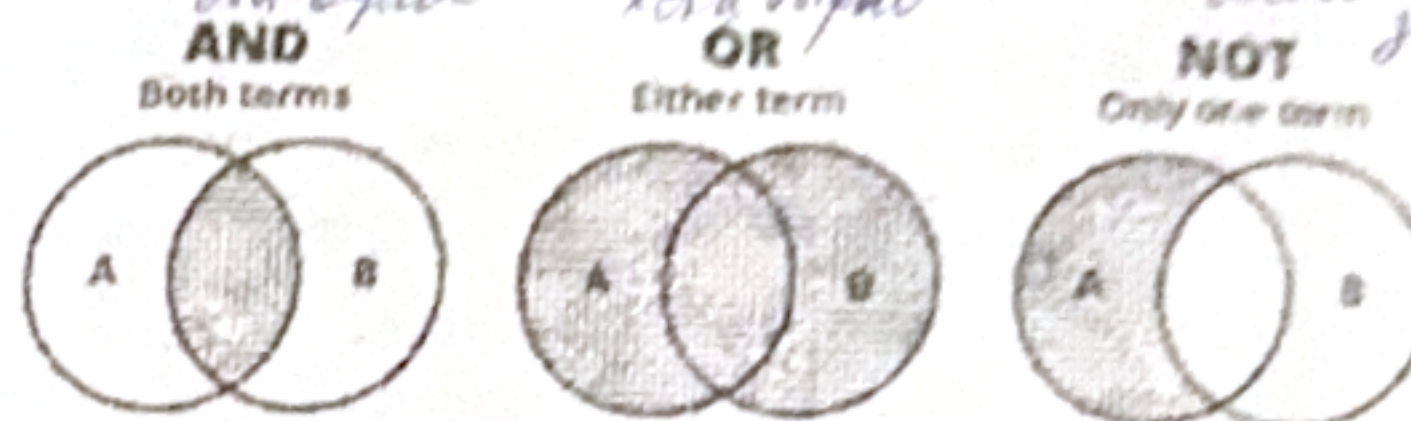
A	B	F=A∨B
0	0	0
0	1	1
1	0	1
1	1	1

A	B	A∨B
True	True	True
True	False	True
False	True	True
False	False	False



или-и-или

BOOLEAN LOGIC



Good logic



Socrates was a philosopher



Socrates



Plato

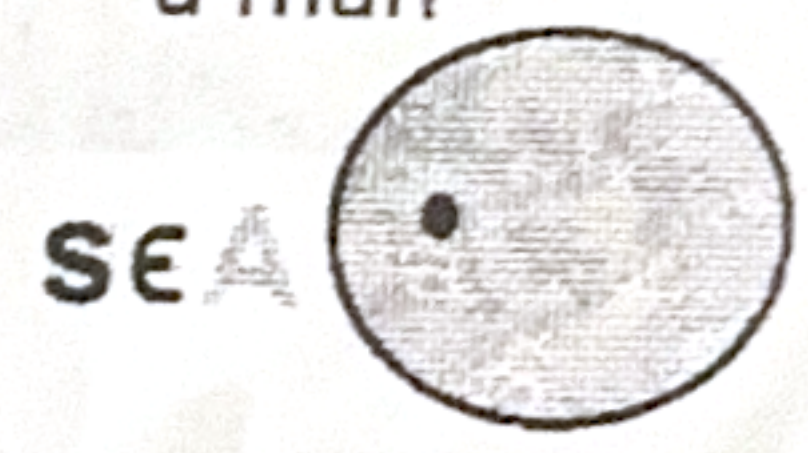


Aristotle

philosophers are men



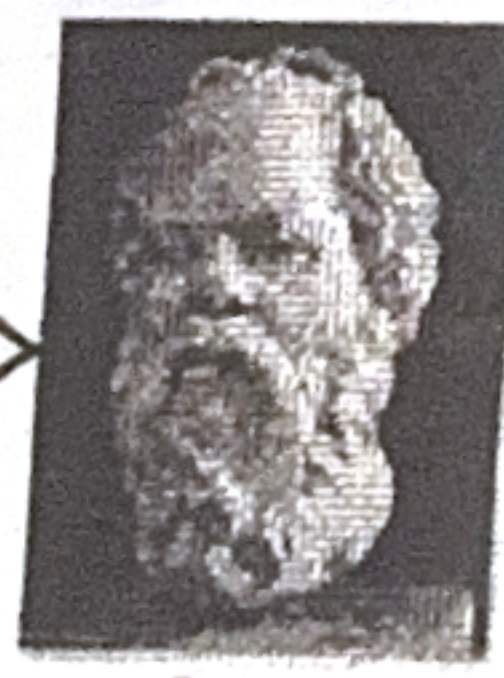
Socrates was a man



Bad logic



Socrates was a man



Socrates



Plato



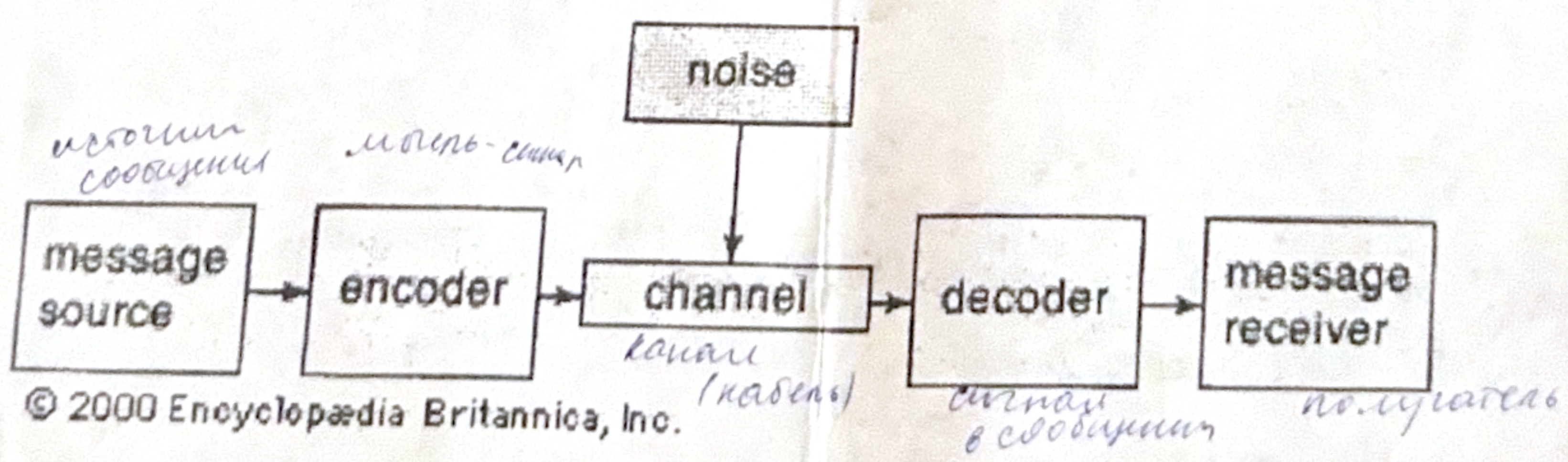
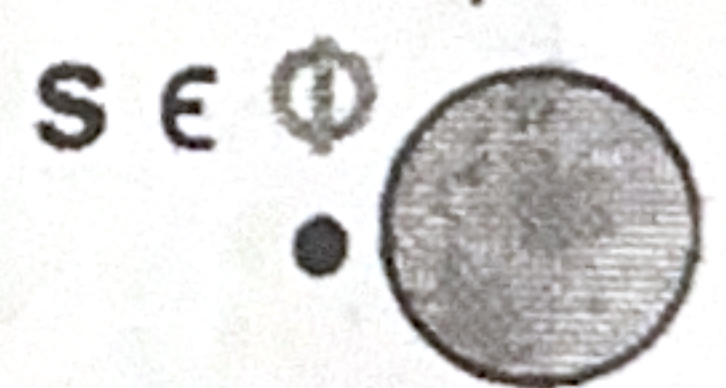
Aristotle

philosophers are men



Socrates

Socrates was a philosopher



спиритизм  
 (донец паносен)  
 (от заголовка «оды»)
   
  
 1. 2. 3.

(не ба мори  
 гуртоспа)

канал

канал (надеж)

канал в свободном

но.у.матеро

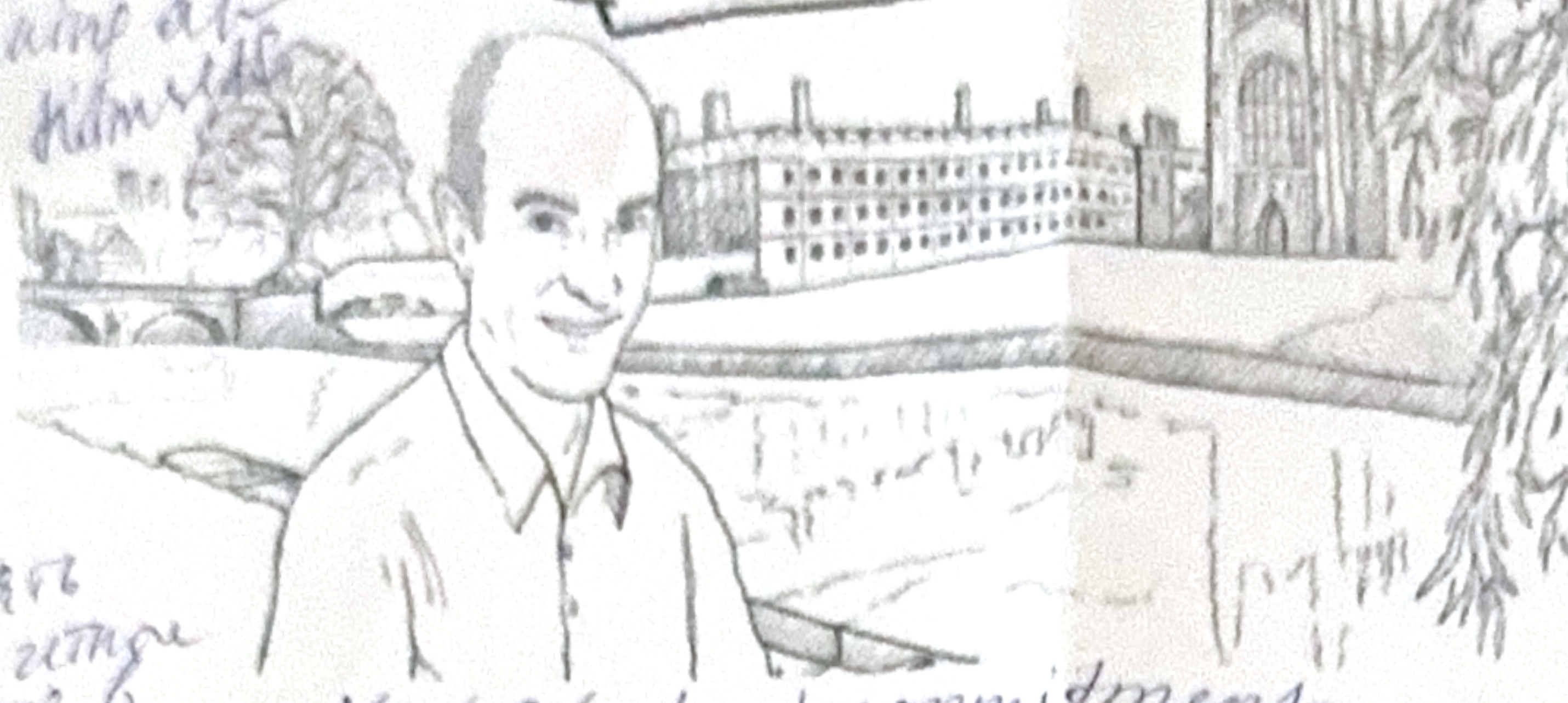
+0.1 +0.1

The joke is that he is talking about mistakes while making an error himself.

a notable figure in IT and error correction willingness to be corrected

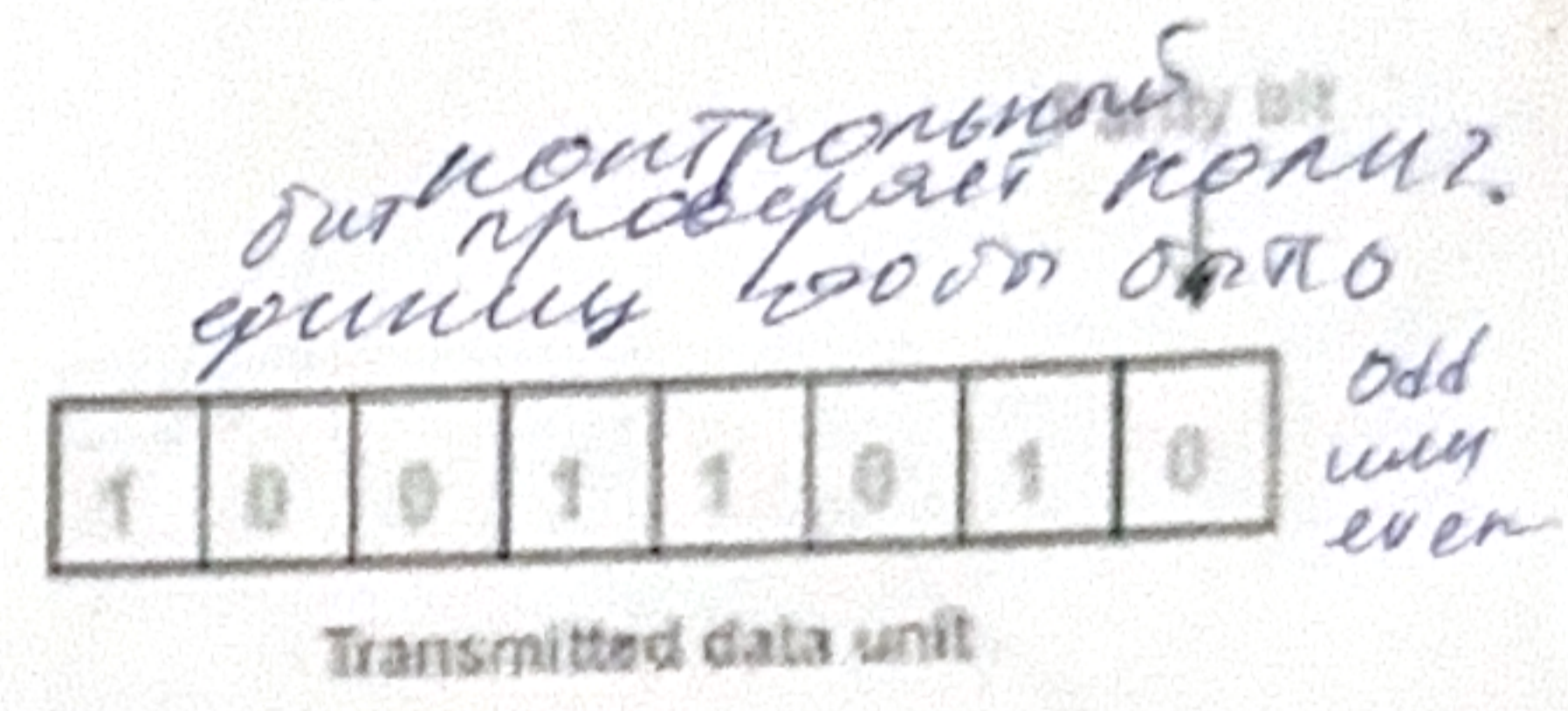
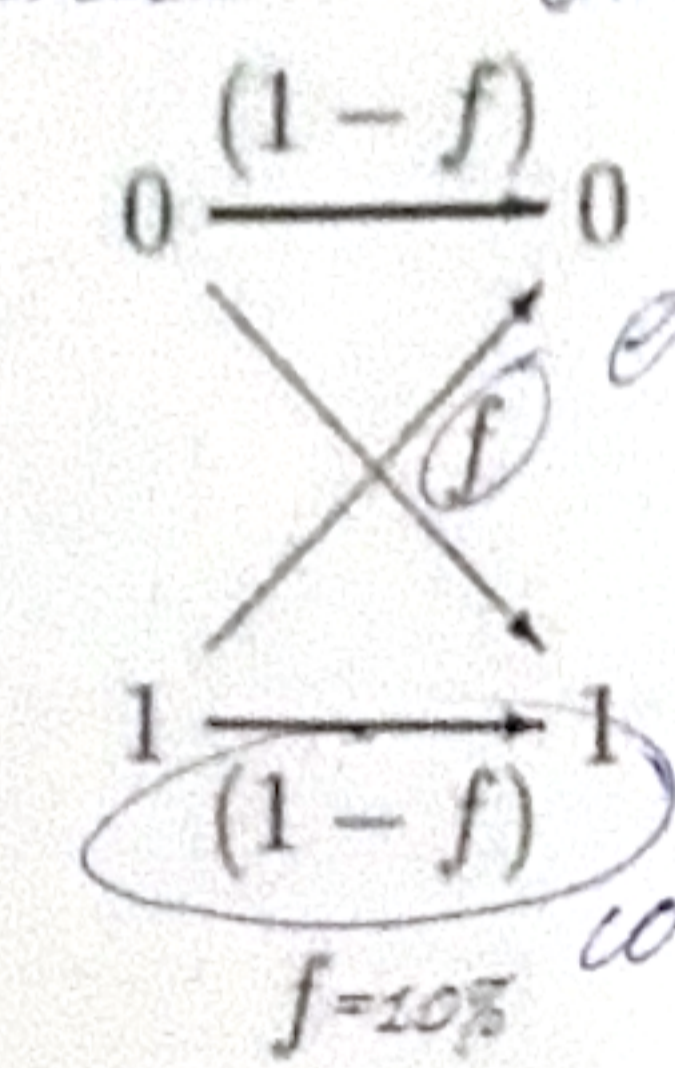
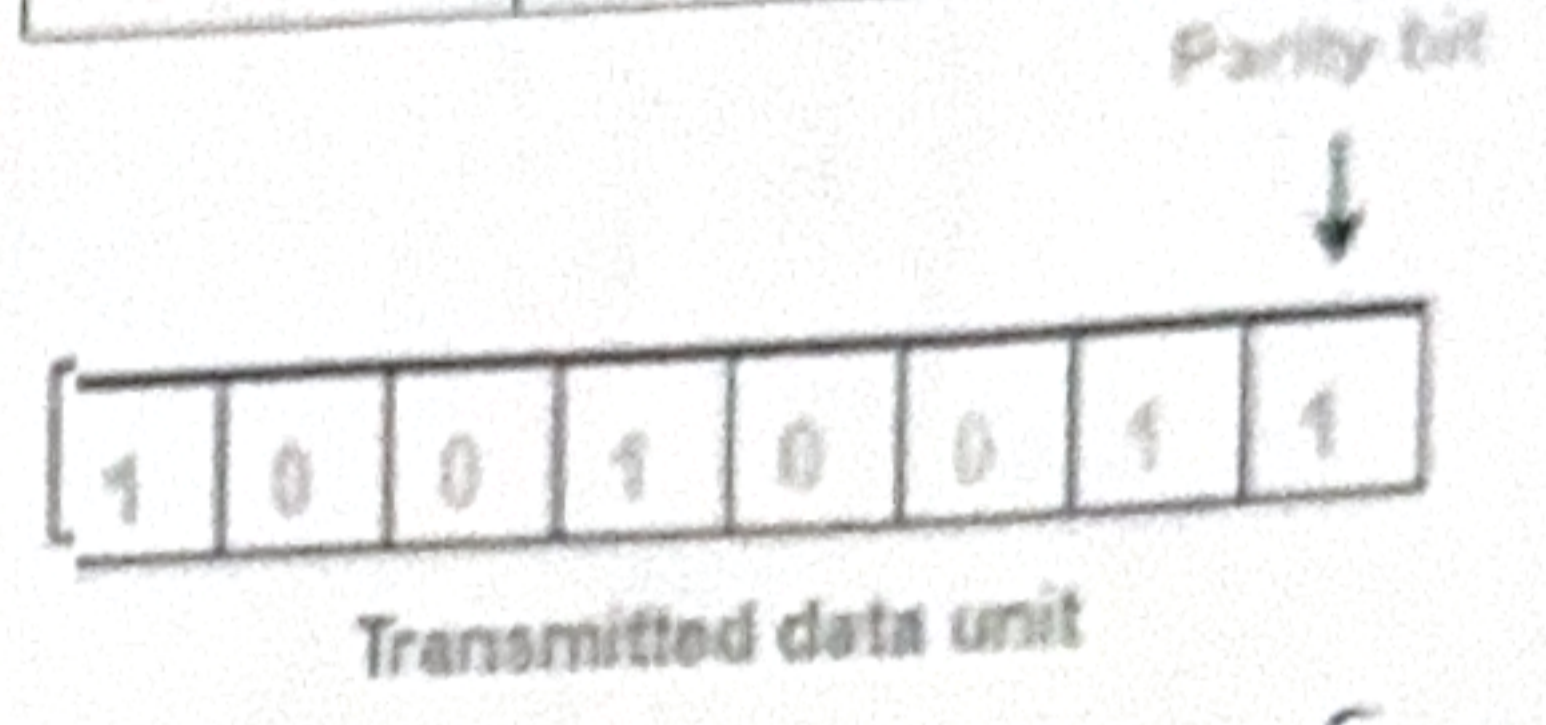
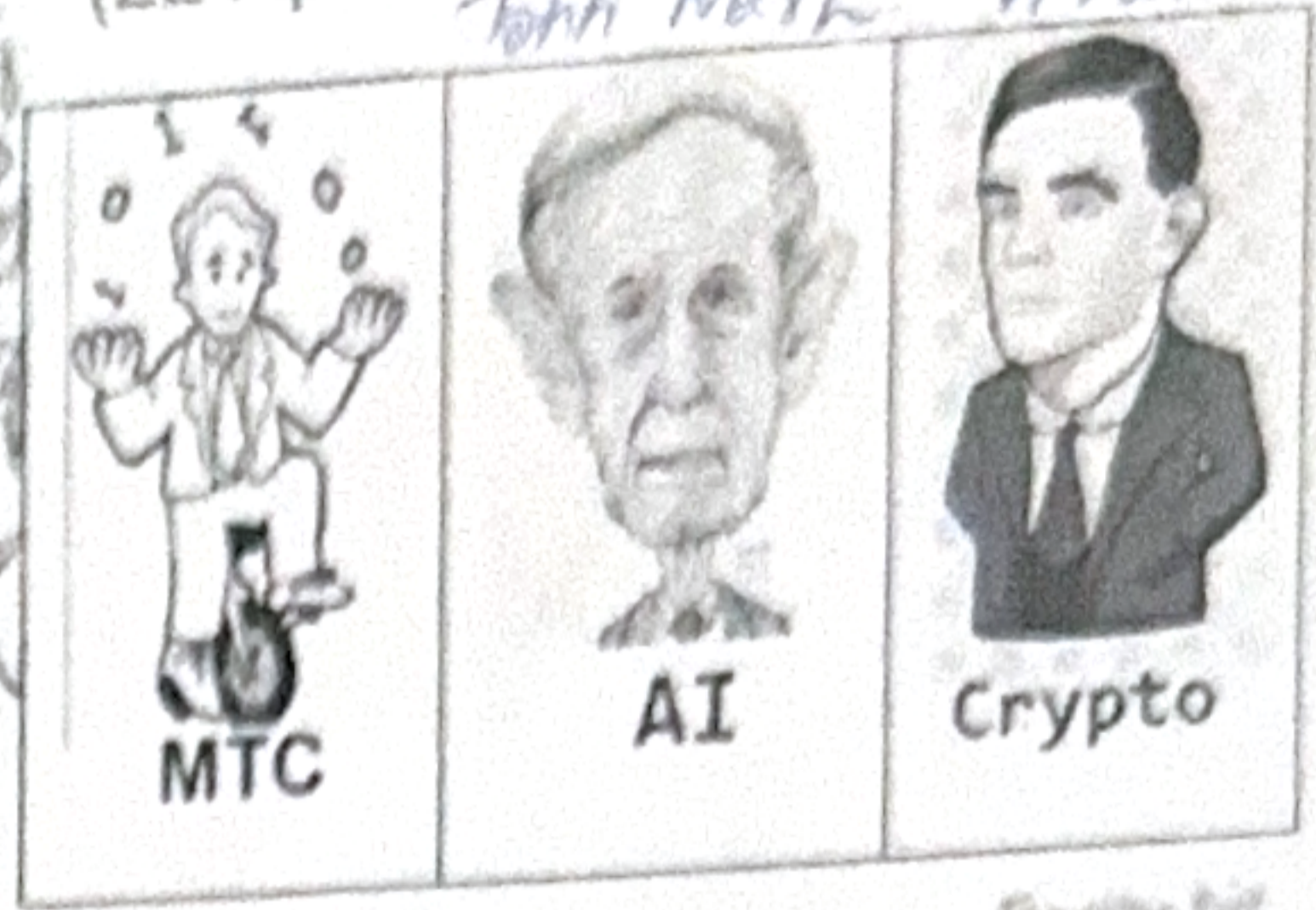
+0.1 7.4

Sir Dr. D. MacKay,  
University of Cambridge  
(22 April 1967 - 14 April 2016)  
John Nash Alan Turing

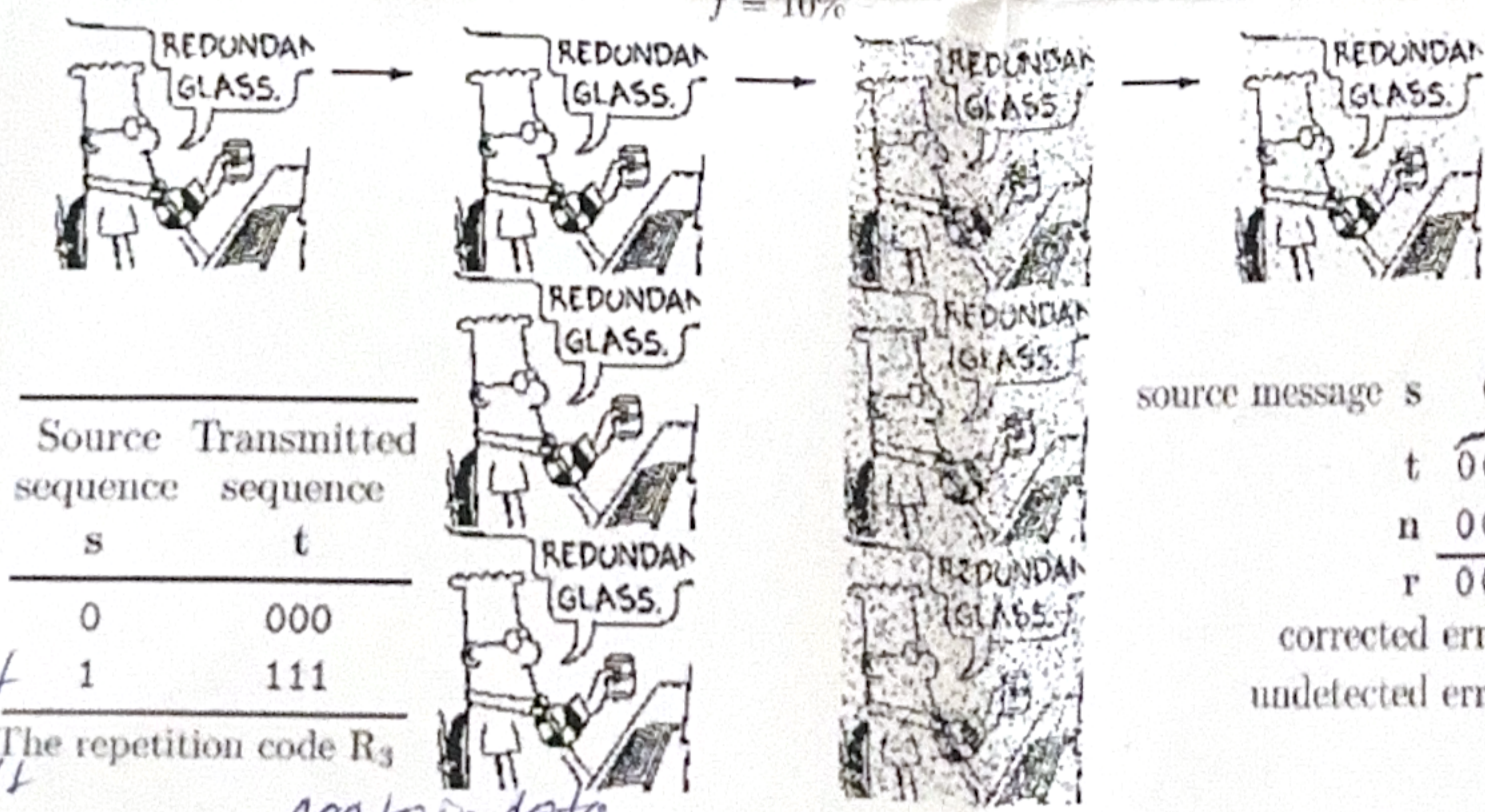


Parity bit  
yuzum onpep...  
making wrong  
even 000  
have in  
yuzumpe  
beprug...  
epunay...

"I believe in clean energy, but I also believe in mathematics"



S ENCODER t CHANNEL r DECODER S



source message s 0 0 1 0 1 1 0

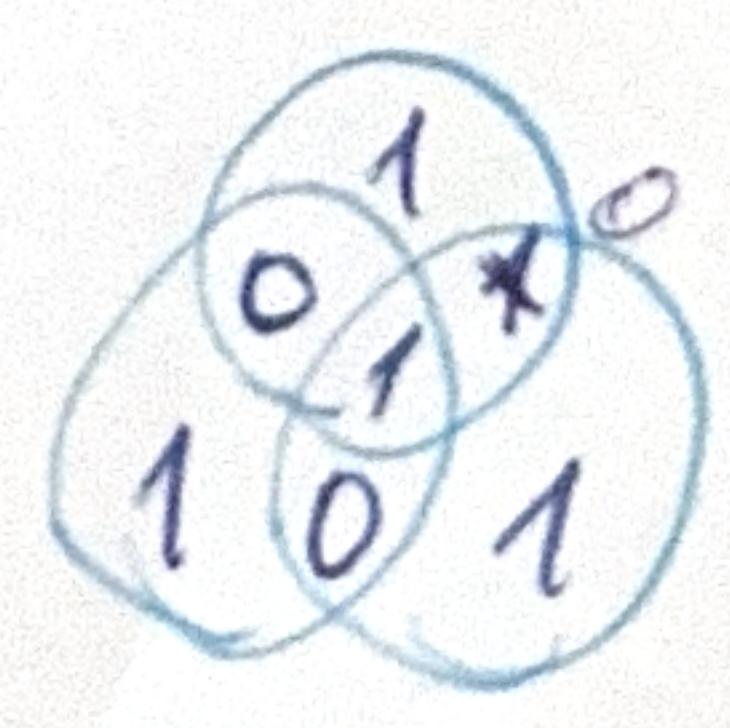
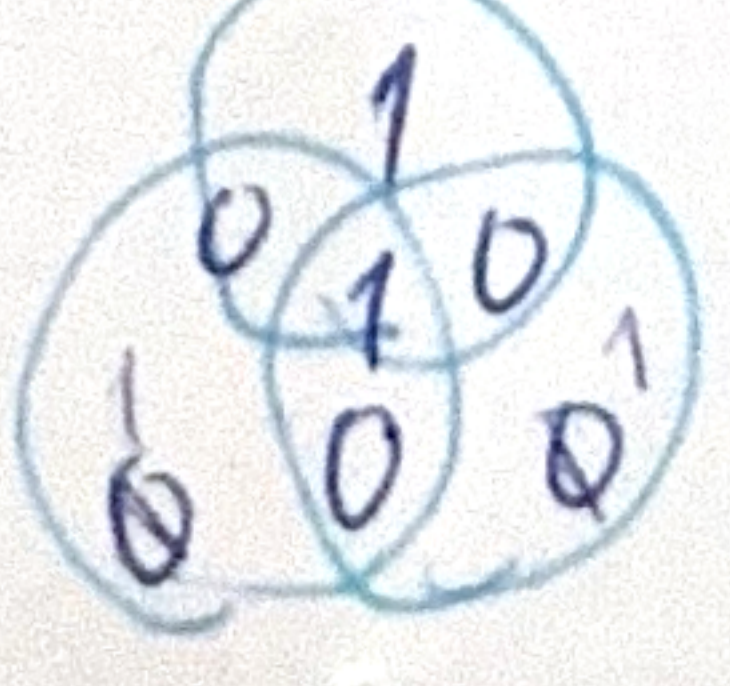
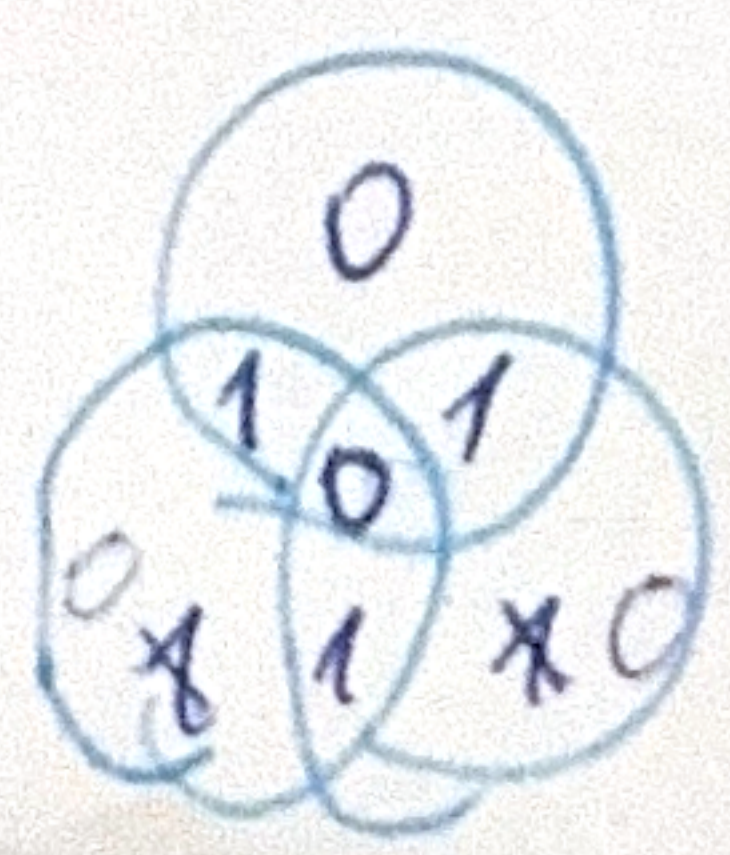
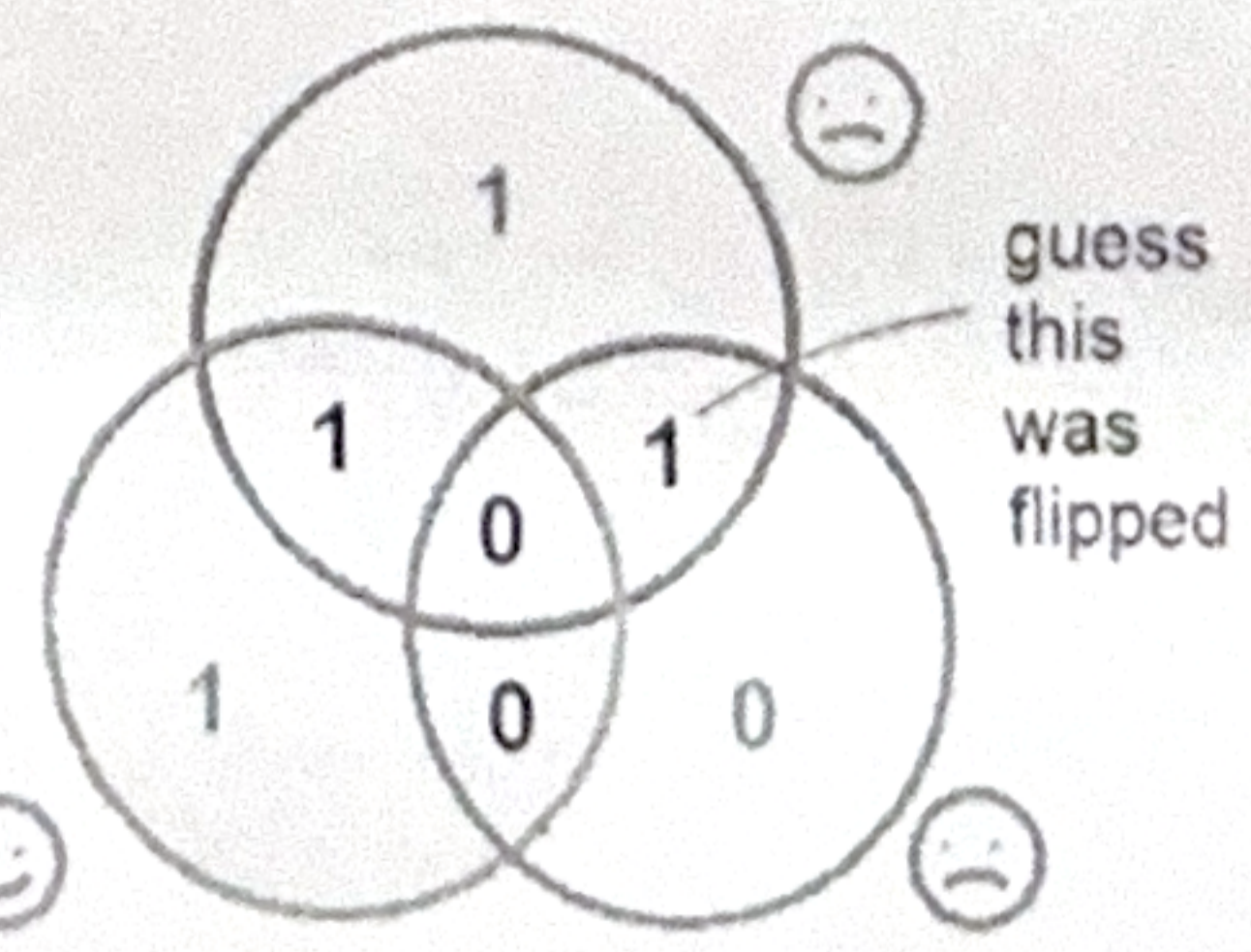
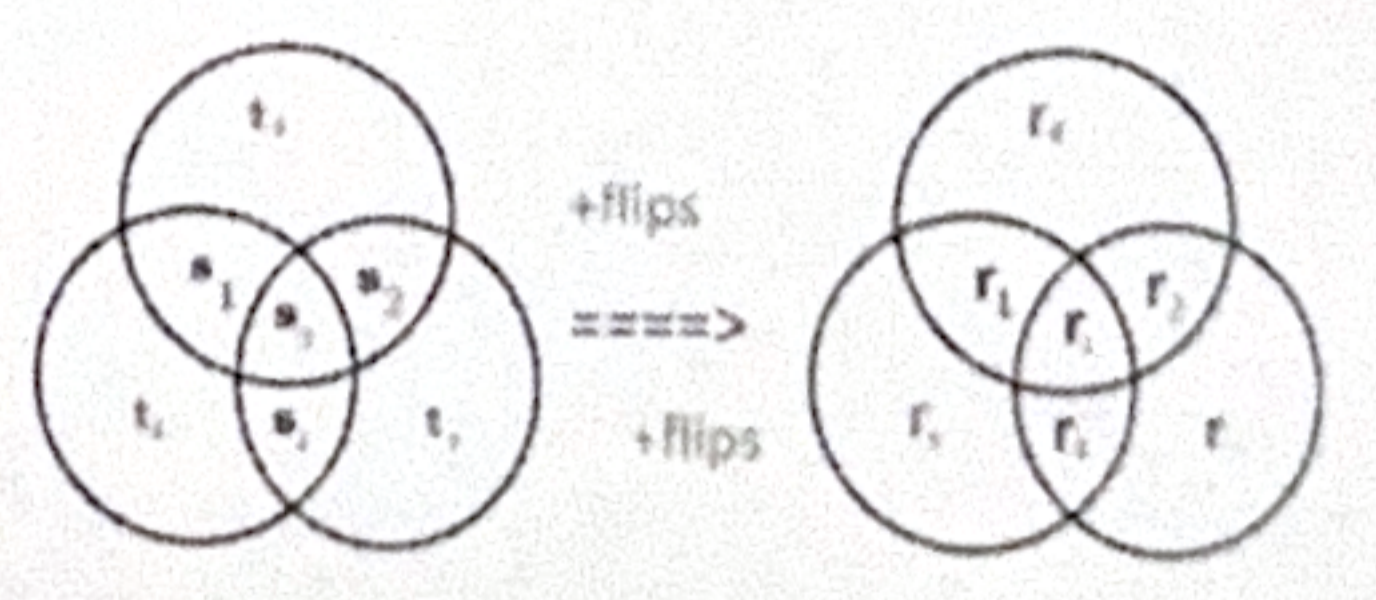
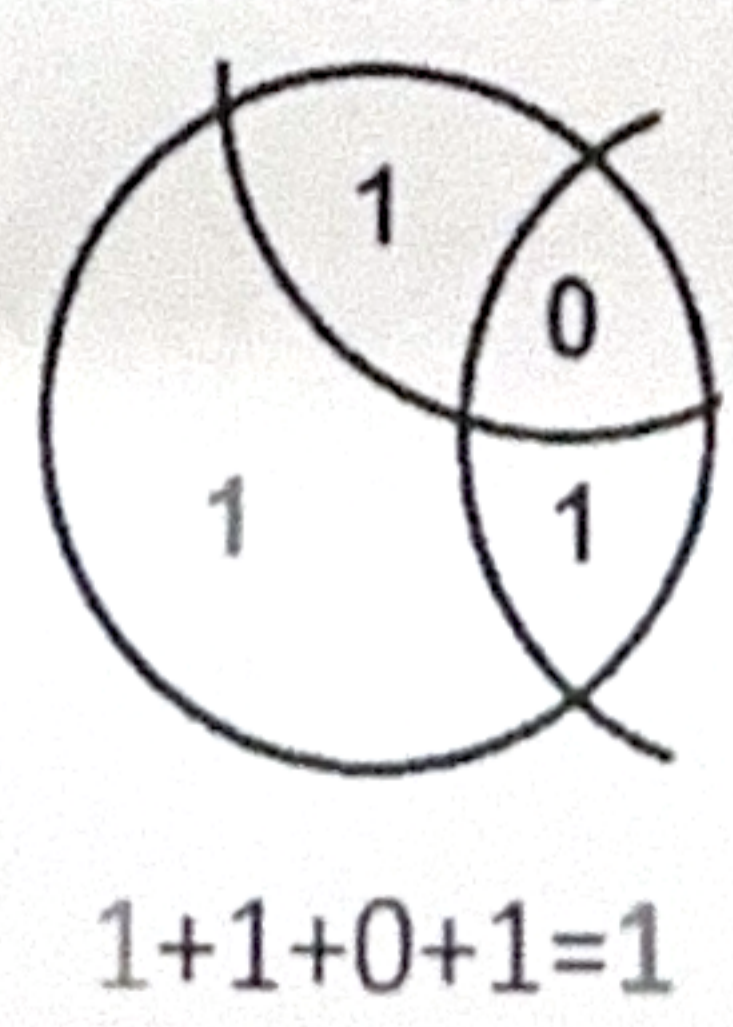
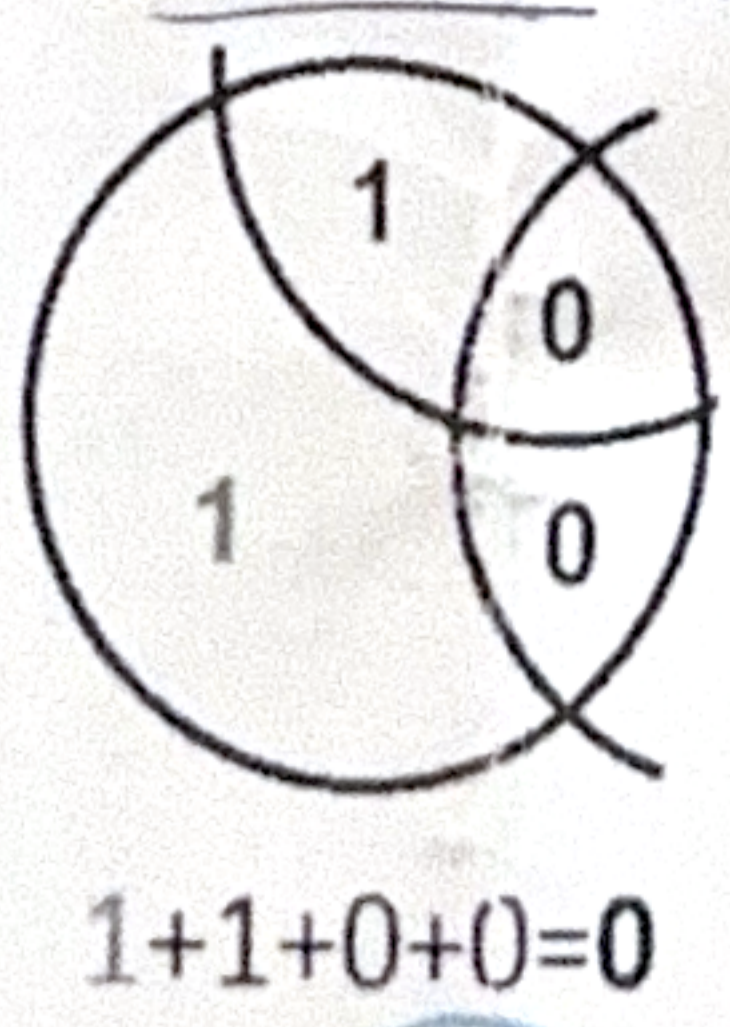
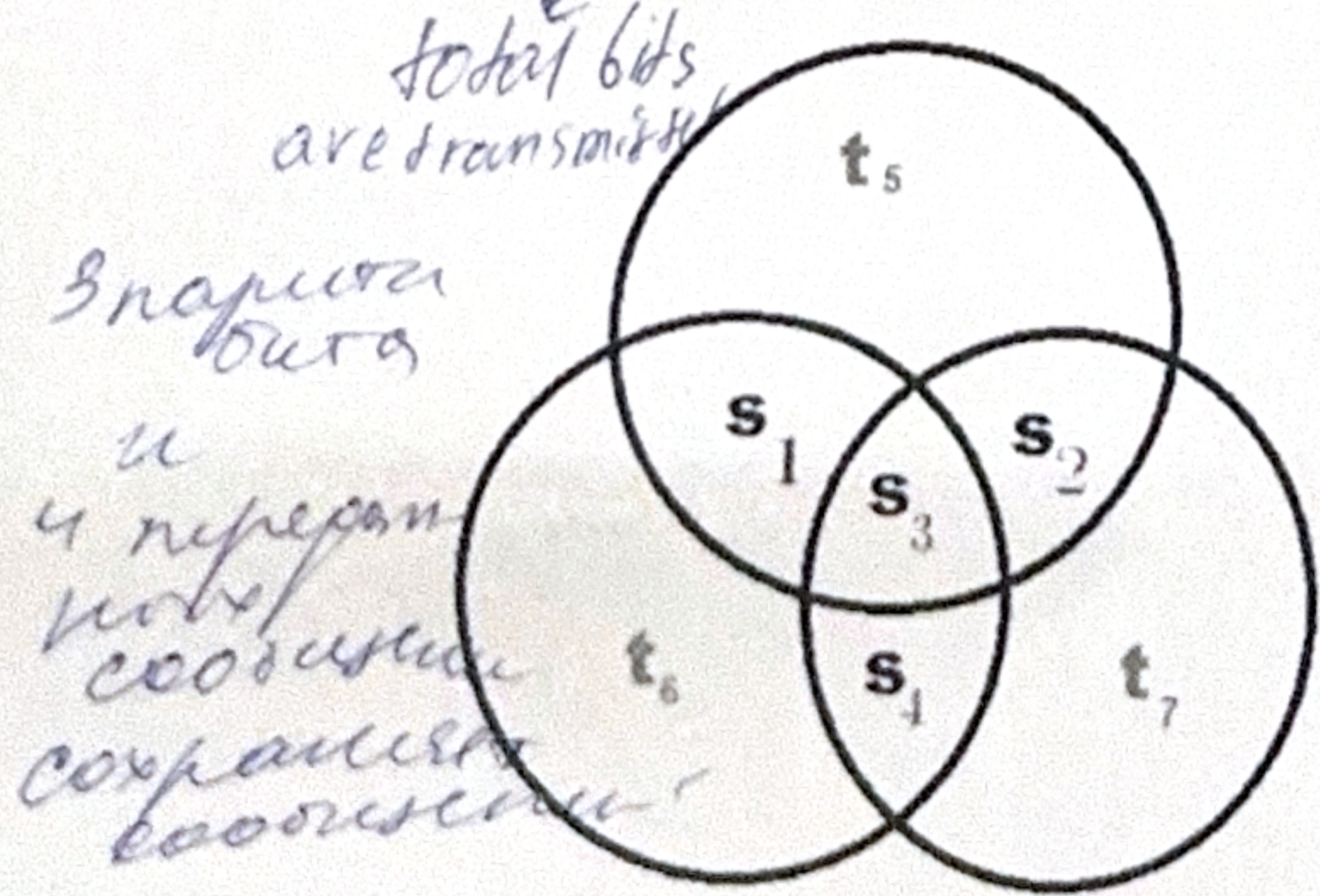
t	000	000	111	000	111	111	000
n	000	001	000	000	101	000	000
r	000	001	111	000	010	111	000

corrected errors \*

undetected errors \*

### 7.4. Hamming code.

$\frac{4}{\Sigma} \rightarrow \frac{7}{t}$

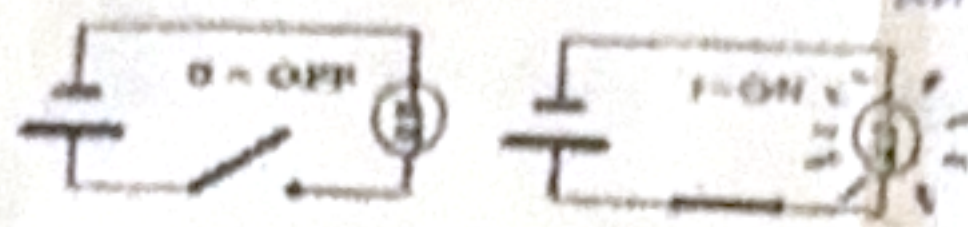


- Flips

0 = false  
 1 = true

+ 0,1 5,3,26

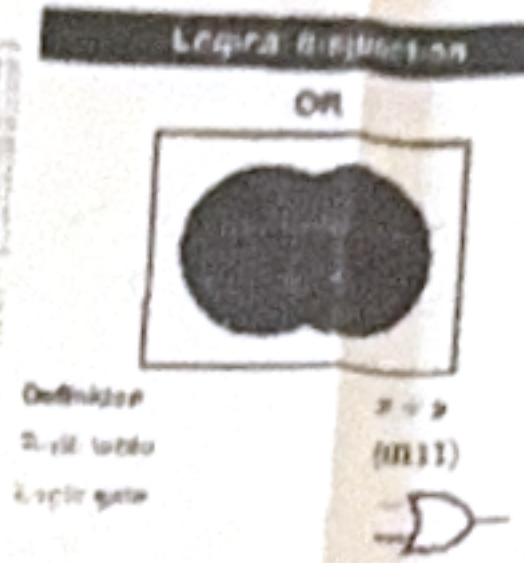
Lecture by Pr. Bob Gallager  
 Boole (1815-1864) & Shannon (1916-2001)



Logical addition (disjunction)

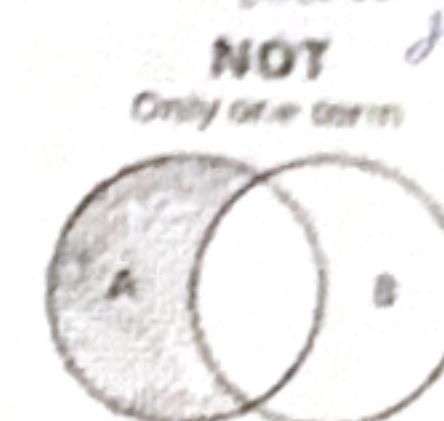
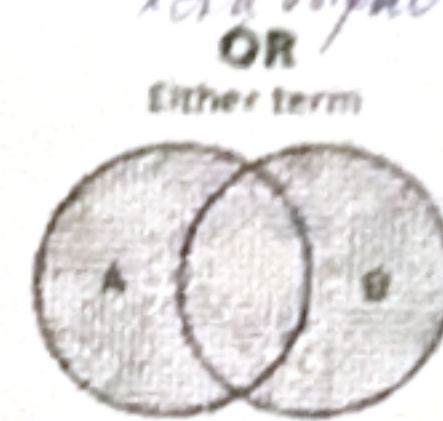
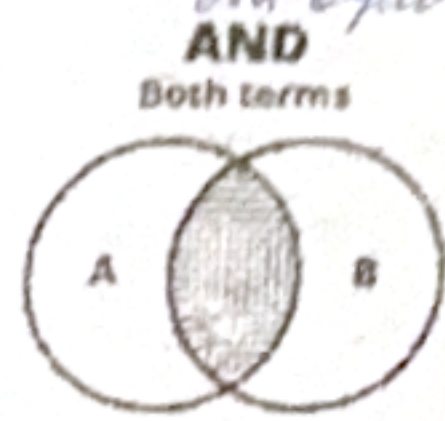
A	B	F=A∨B
0	0	0
0	1	1
1	0	1
1	1	1

A	B	A∨B
True	True	True
True	False	True
False	True	True
False	False	False



или-и-или

BOOLEAN LOGIC



хорошая логика

Good logic



Socrates was a philosopher



Socrates



Plato

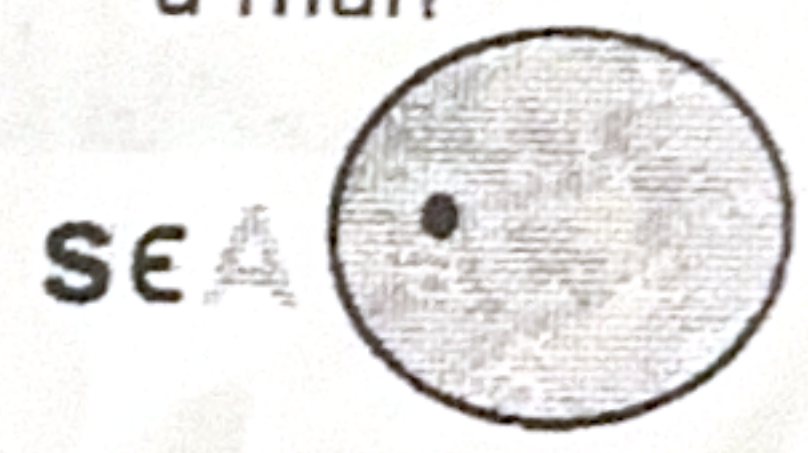


Aristotle

philosophers are men



Socrates was a man

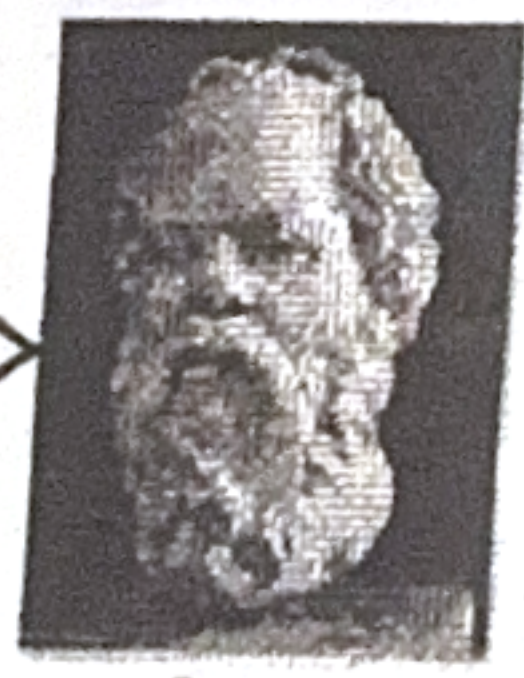


хорошая логика (добра логика)

Bad logic



Socrates was a man



Socrates



Plato



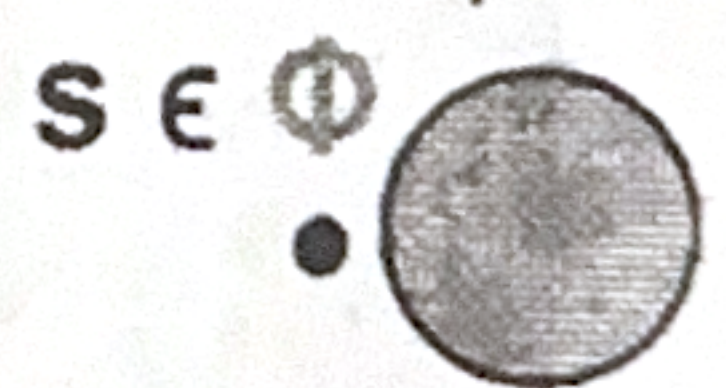
Aristotle

philosophers are men



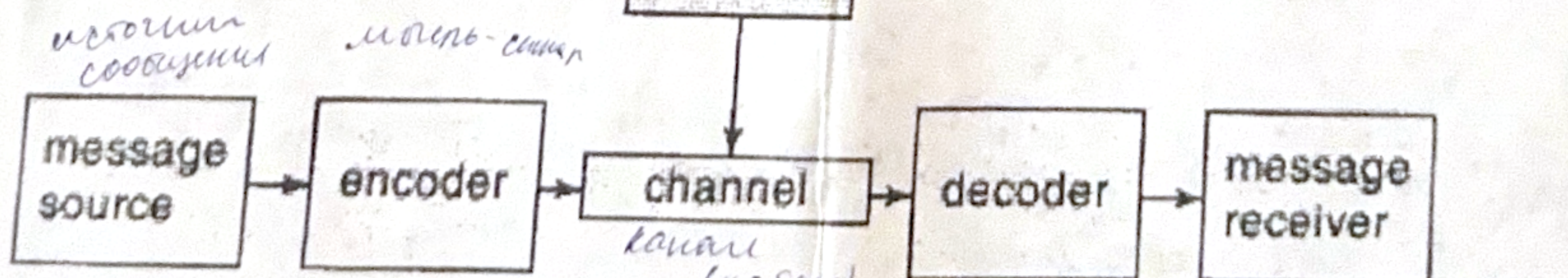
Socrates

Socrates was a philosopher



плохая логика (добра логика)

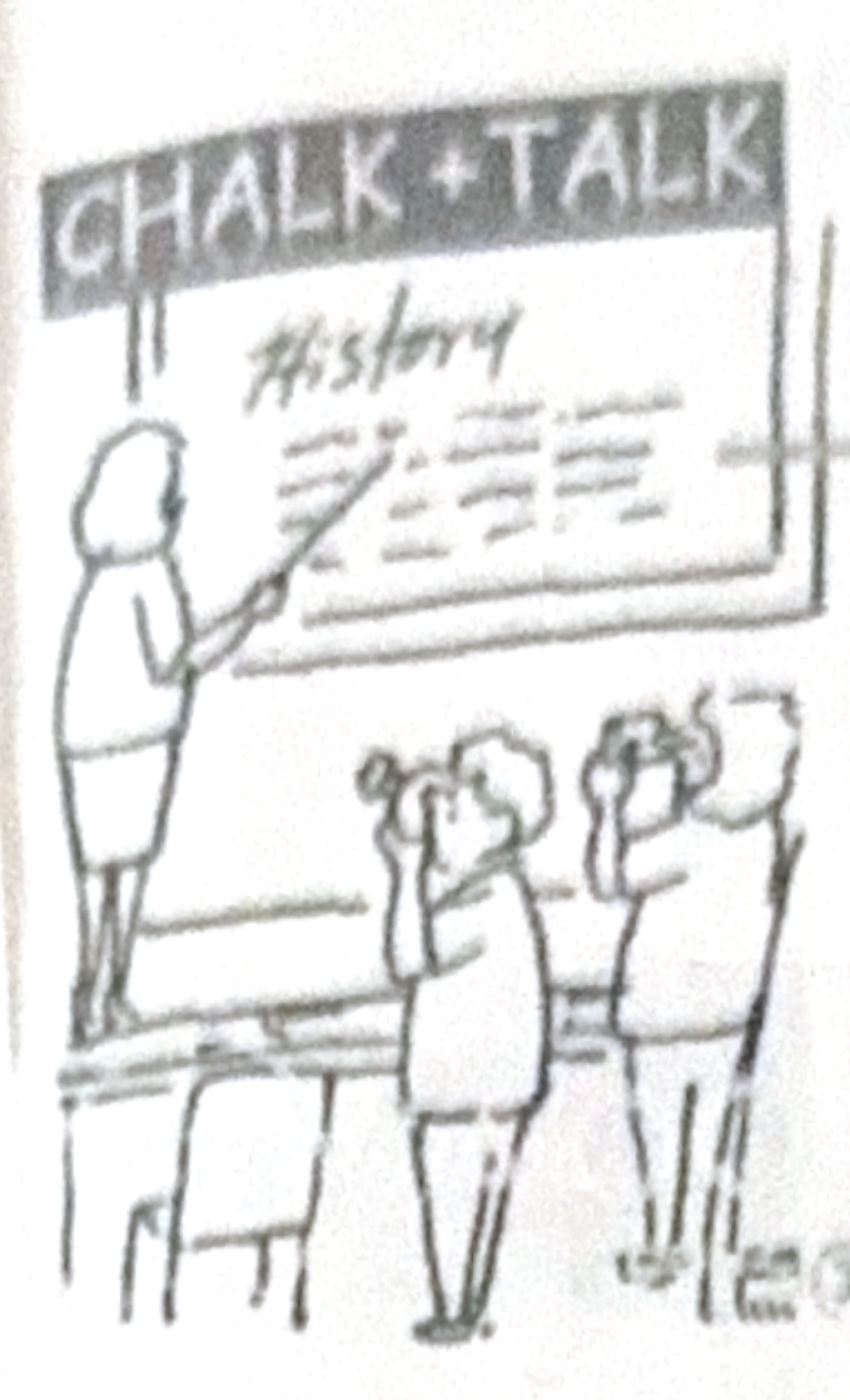
noise



marked in '...'  
 +0.5 142.26



(+0.1) 17.6



**ink + think**

1. Listening  
 2. The way of processing  
 3. Writing, not rth. you're not quite sure about

School → gravity → MOTION ==formalism==> University  $E=MC^2$

**CONCRETE AND ABSTRACT THINKING**

Isaac Newton

↓ gravity ↓

Real object

why thing?

Motion

Acceleration

**ISAAC NEWTON**

$E=MC^2$

$W=2\pi f$

$\beta = \frac{\Delta I_c}{\Delta I_s}$

$E = \frac{1}{2} h \nu / m$

$\lambda = \frac{h}{2\pi m v}$

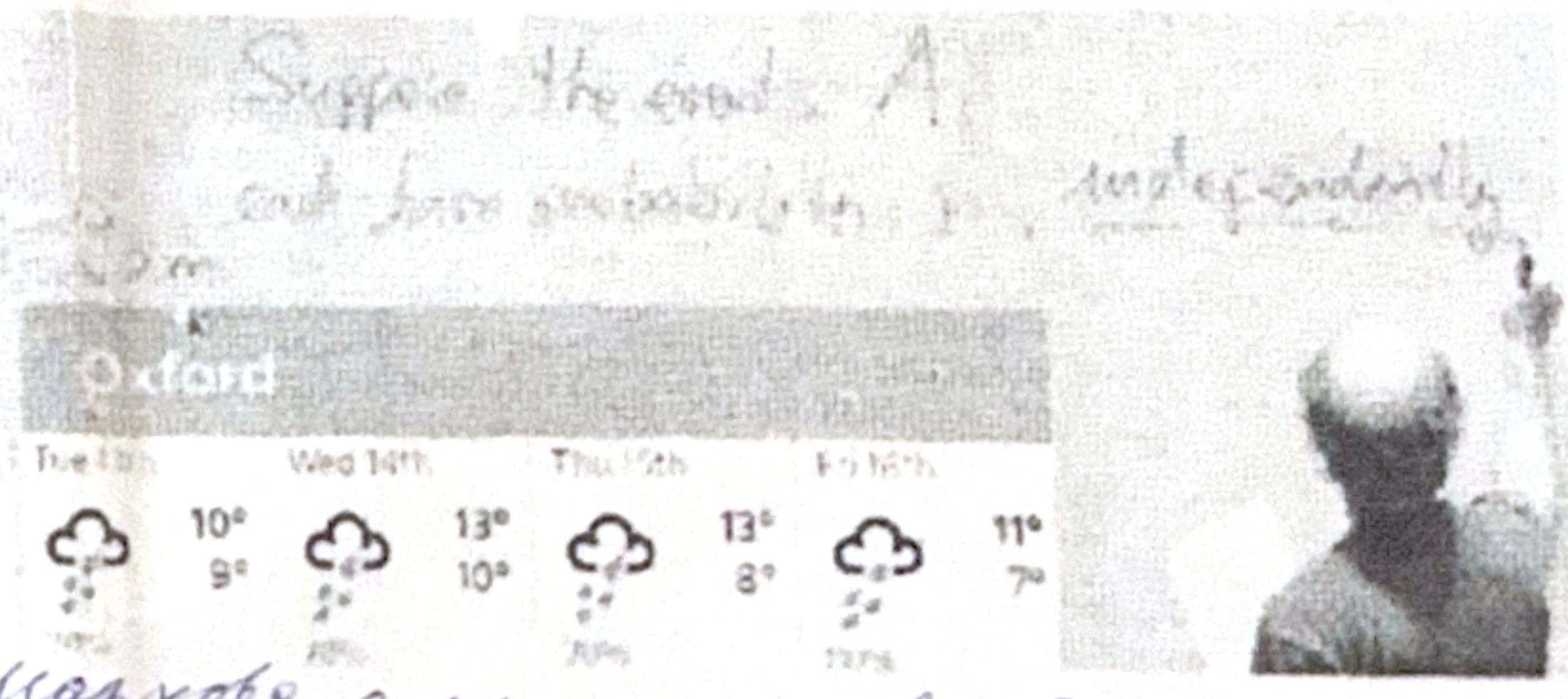
$\int \nabla \cdot \mathbf{D} \mathbf{d} \mathbf{S} = q$

$\Gamma$  counts possible ways that smth can occur

$\frac{h-m/m^2}{c^2}$

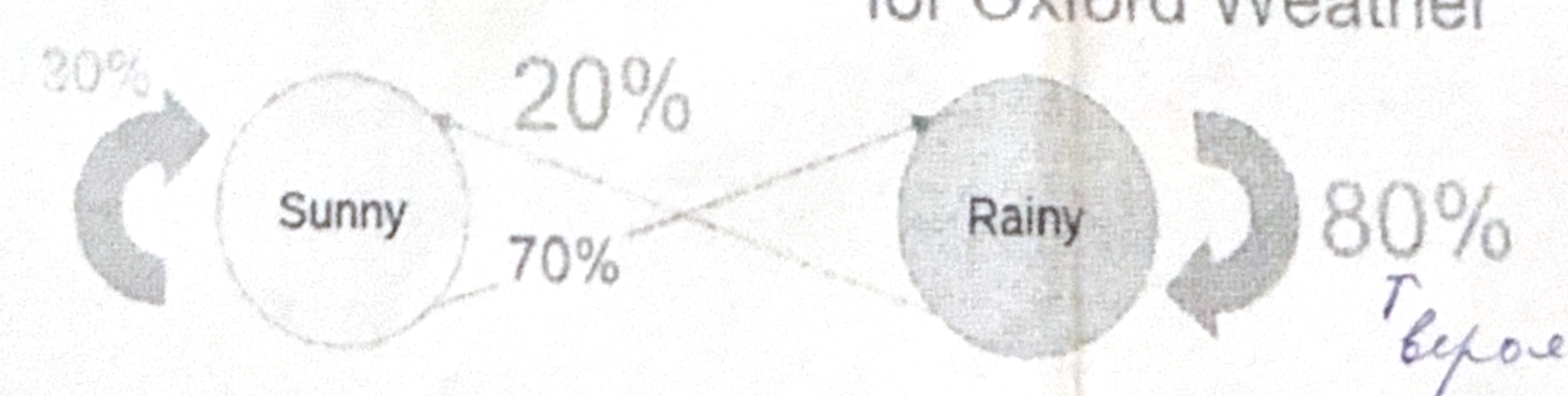
**ALBERT EINSTEIN**

Motivation: 80% chance of rain  
 let  $A_1$  be the event of rain  
 on day  $j$  of this term,  $1 \leq j \leq 10$



Markoff Chain Probability Model

for Oxford Weather



Вероятность перехода из S в R

будущее зависит от текущего состояния

