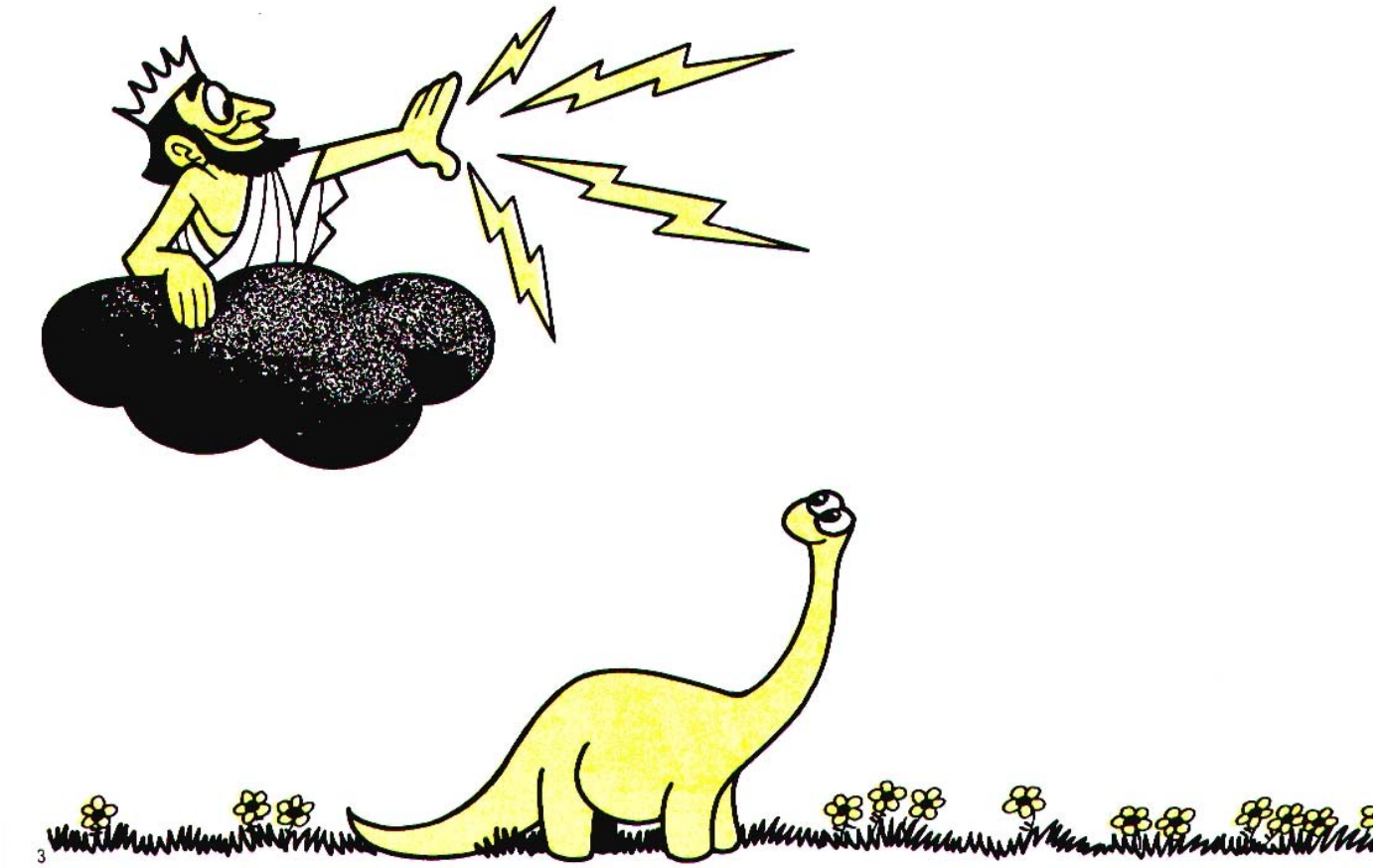
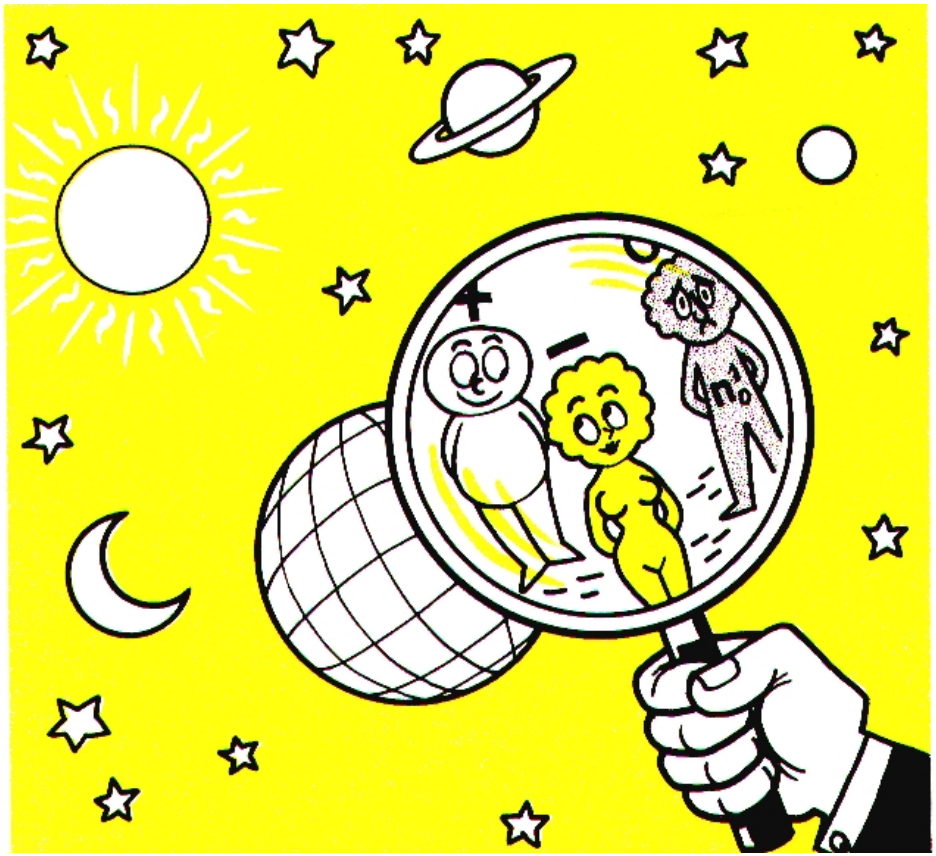
ORIGEN DE LA ELECTRICIDAD



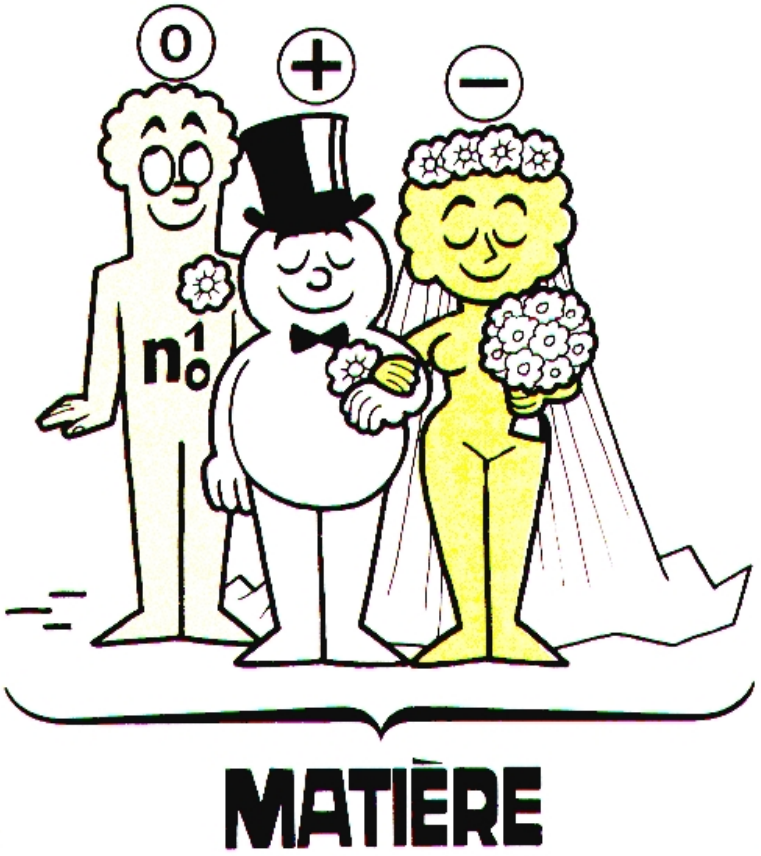
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

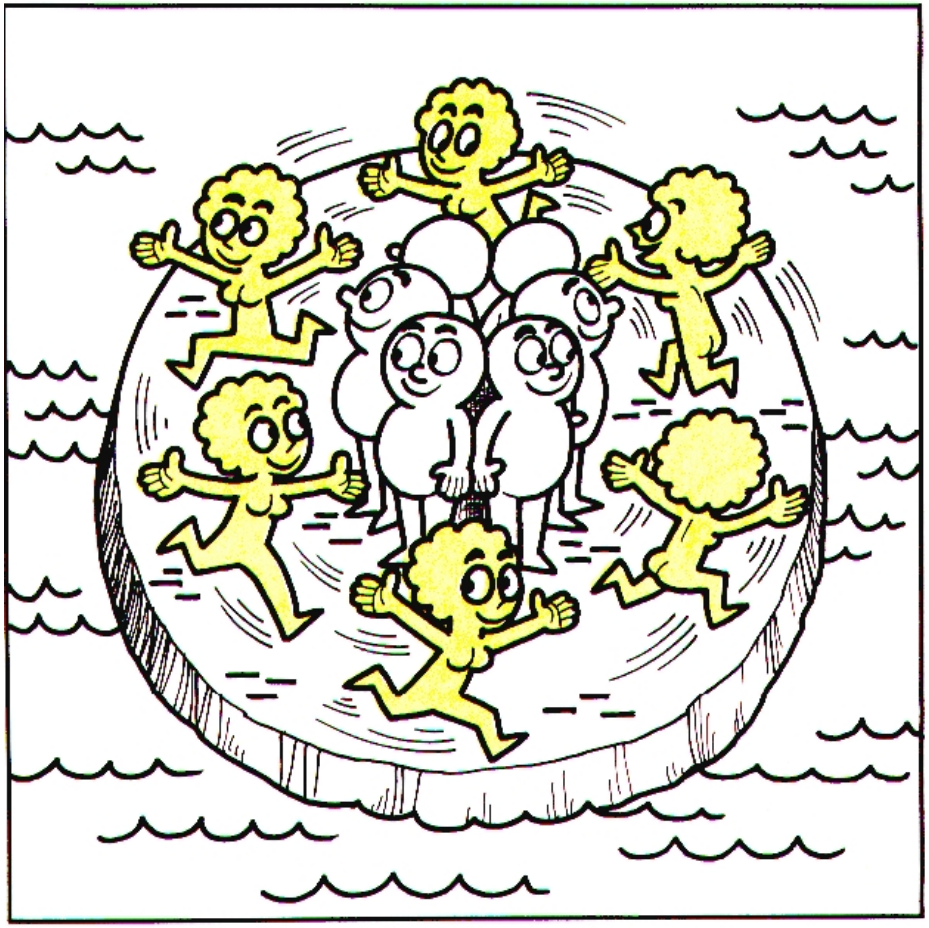
ESTRUCTURA DE LA MATERIA



L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

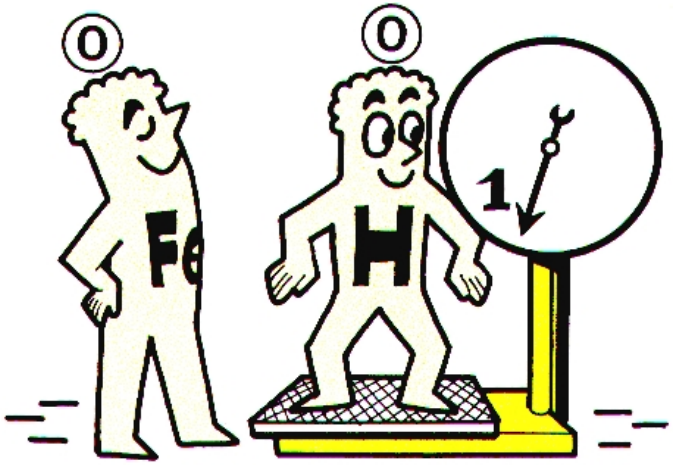
MATERIA Y CARGA

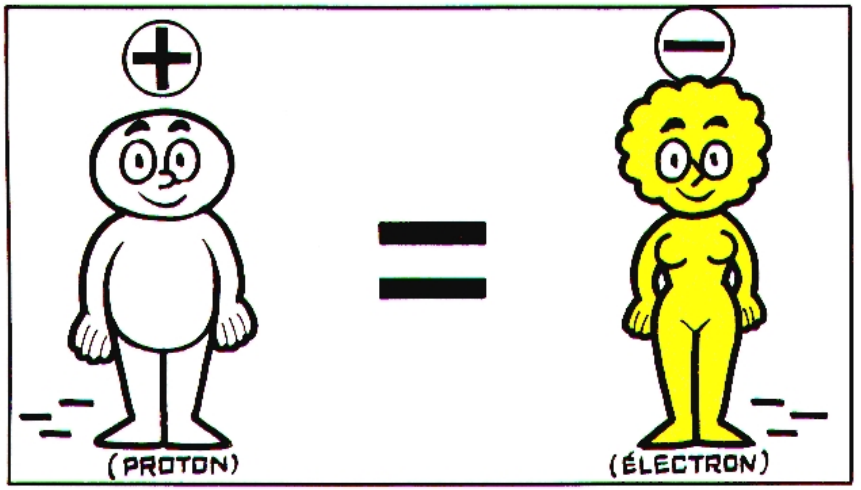




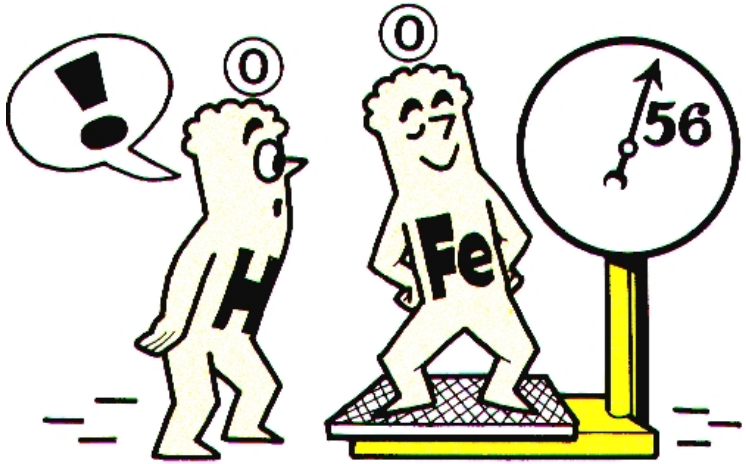
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

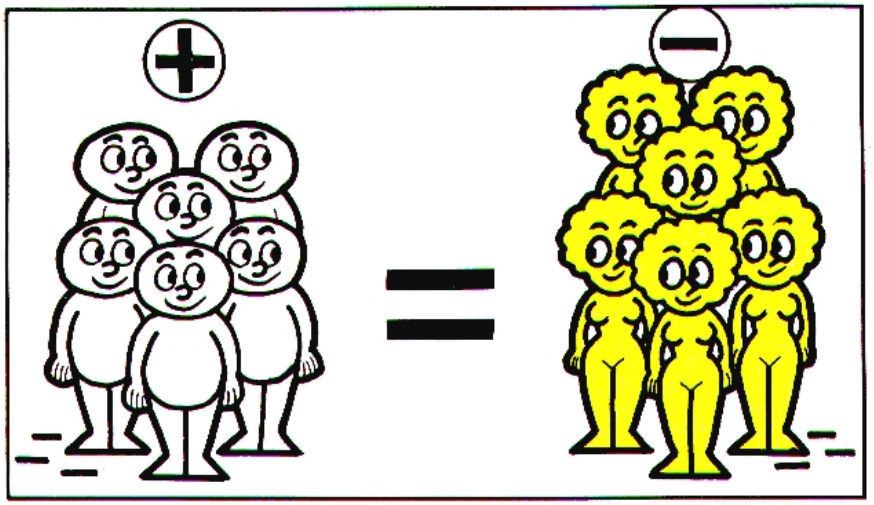
COMPOSICION Y PROPIEDADES DE LOS ATOMOS





$e = 1.6 \times 10^{-19}\ C$ $1C = 6.24 \times 10^{18}\ e$





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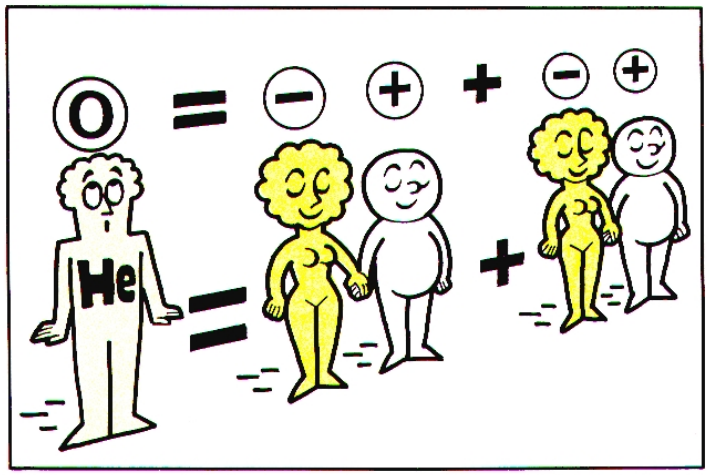
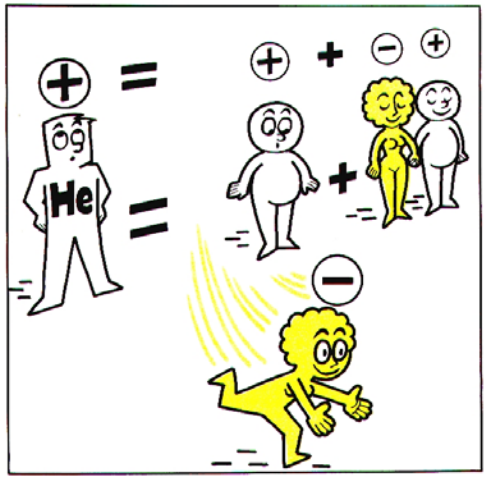
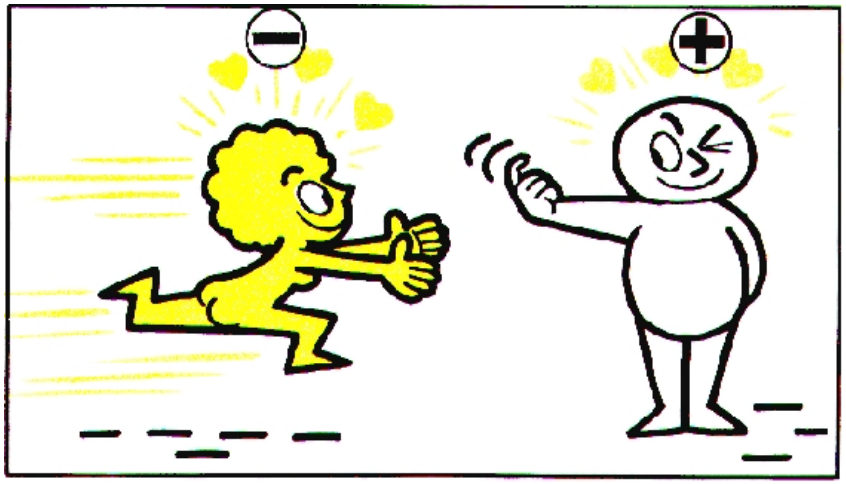
ATRACCION ELECTROSTATICA







Ley de Coulomb

$F = K \cdot (Q \cdot q / r^2)$

$K = 8.9 \times 10^9\ Nm^2/C^2$

$\epsilon_0 = 1/(4\pi \cdot K)$ permitividad espacio libre

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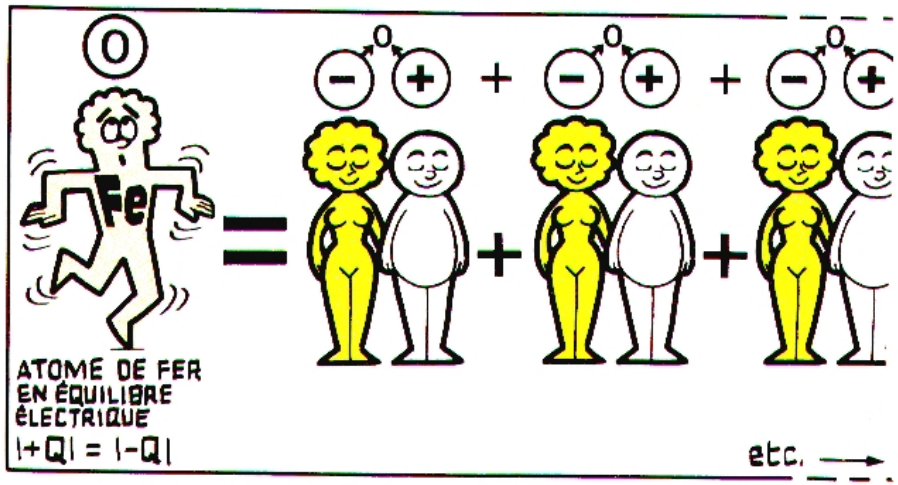
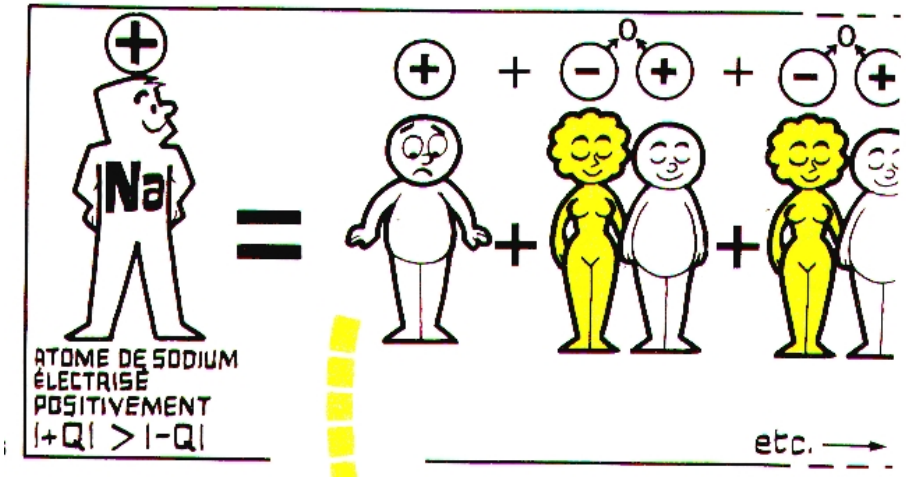
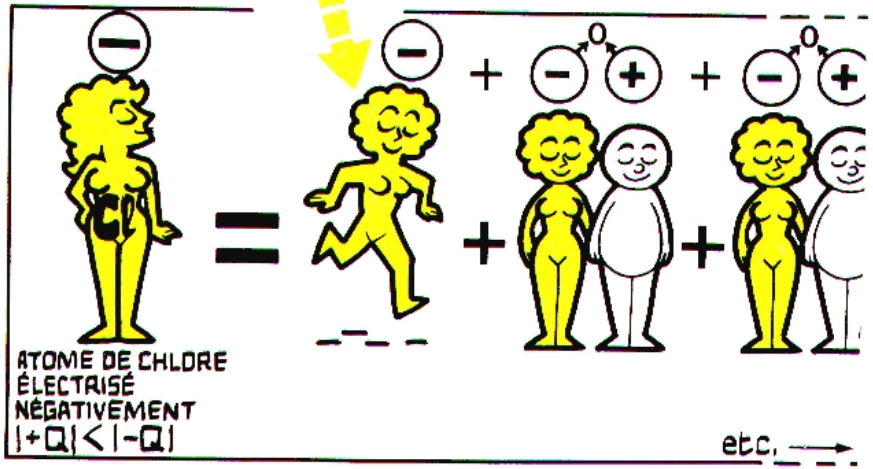
CARGAS ELECTRICAS

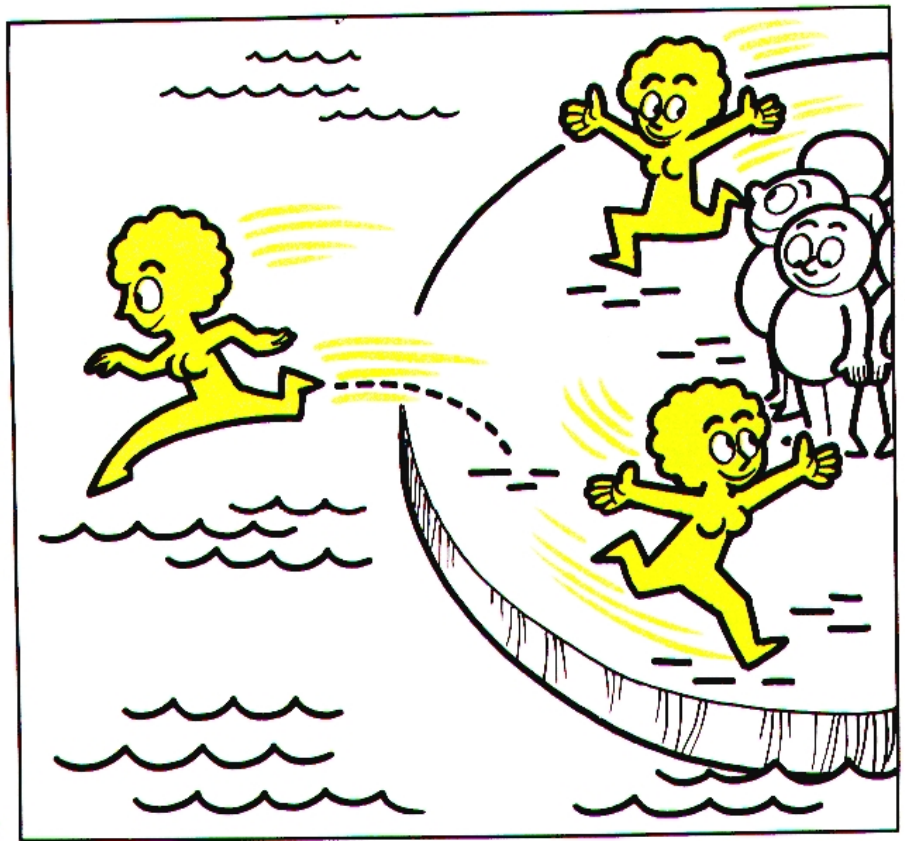


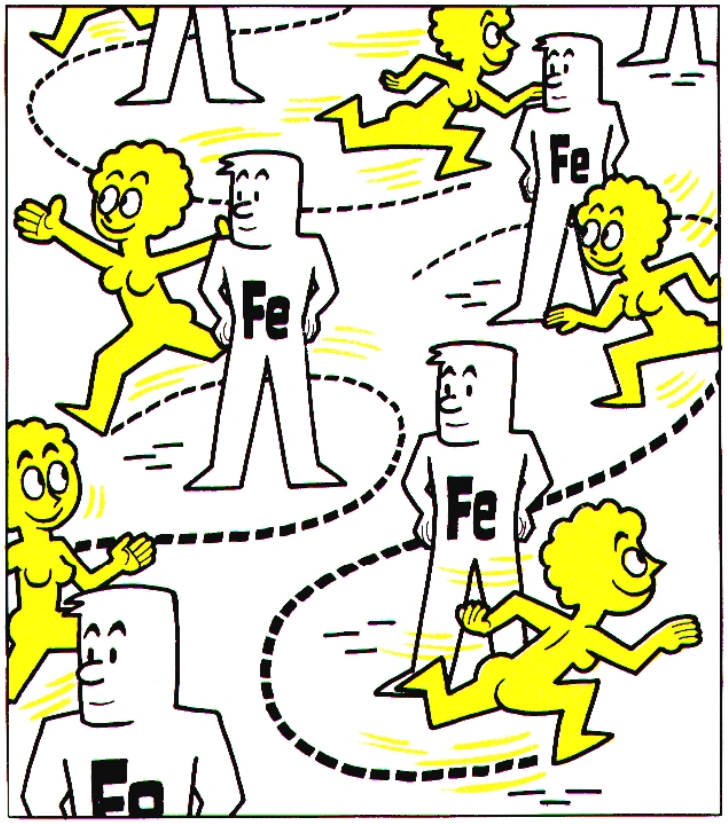




L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

CONDUCTOR IDEAL





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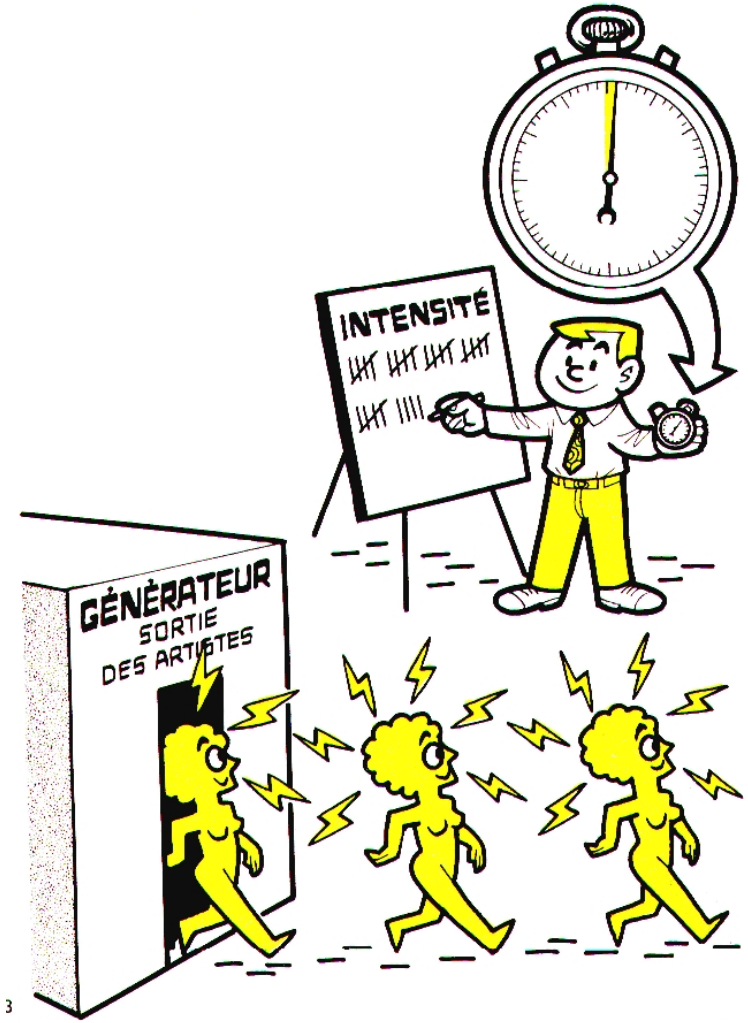
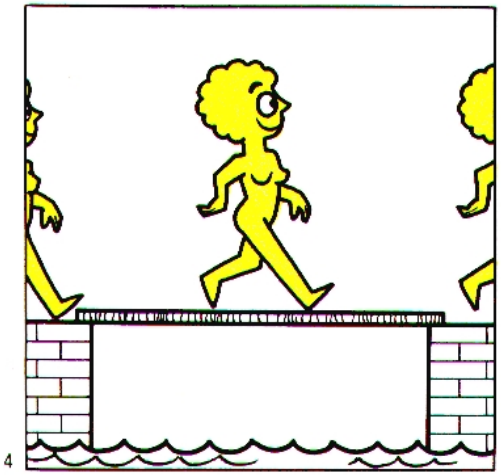
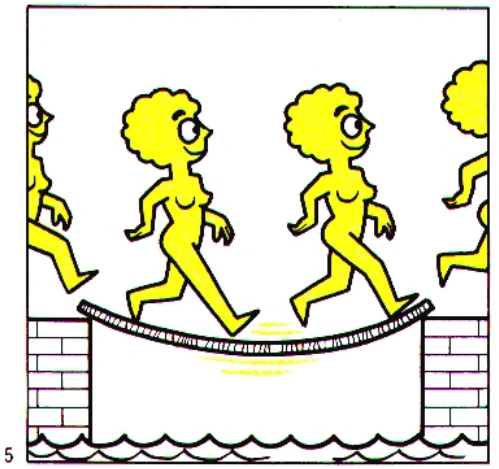
INTENSIDAD DE CORRIENTE

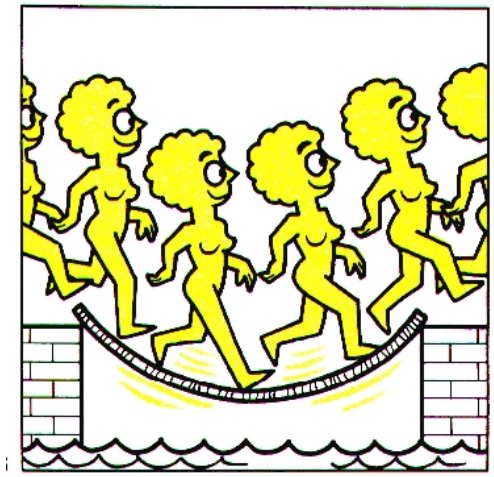


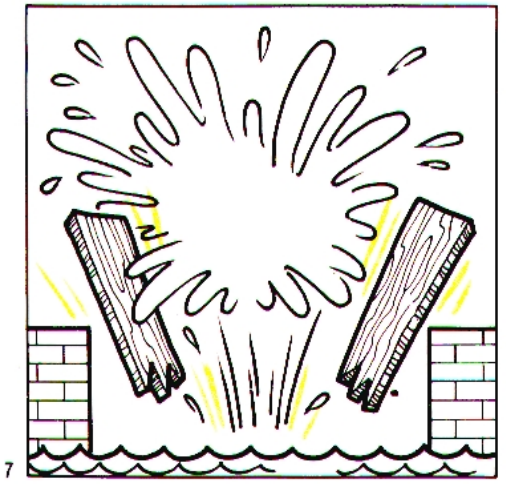
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

FUSIBLES









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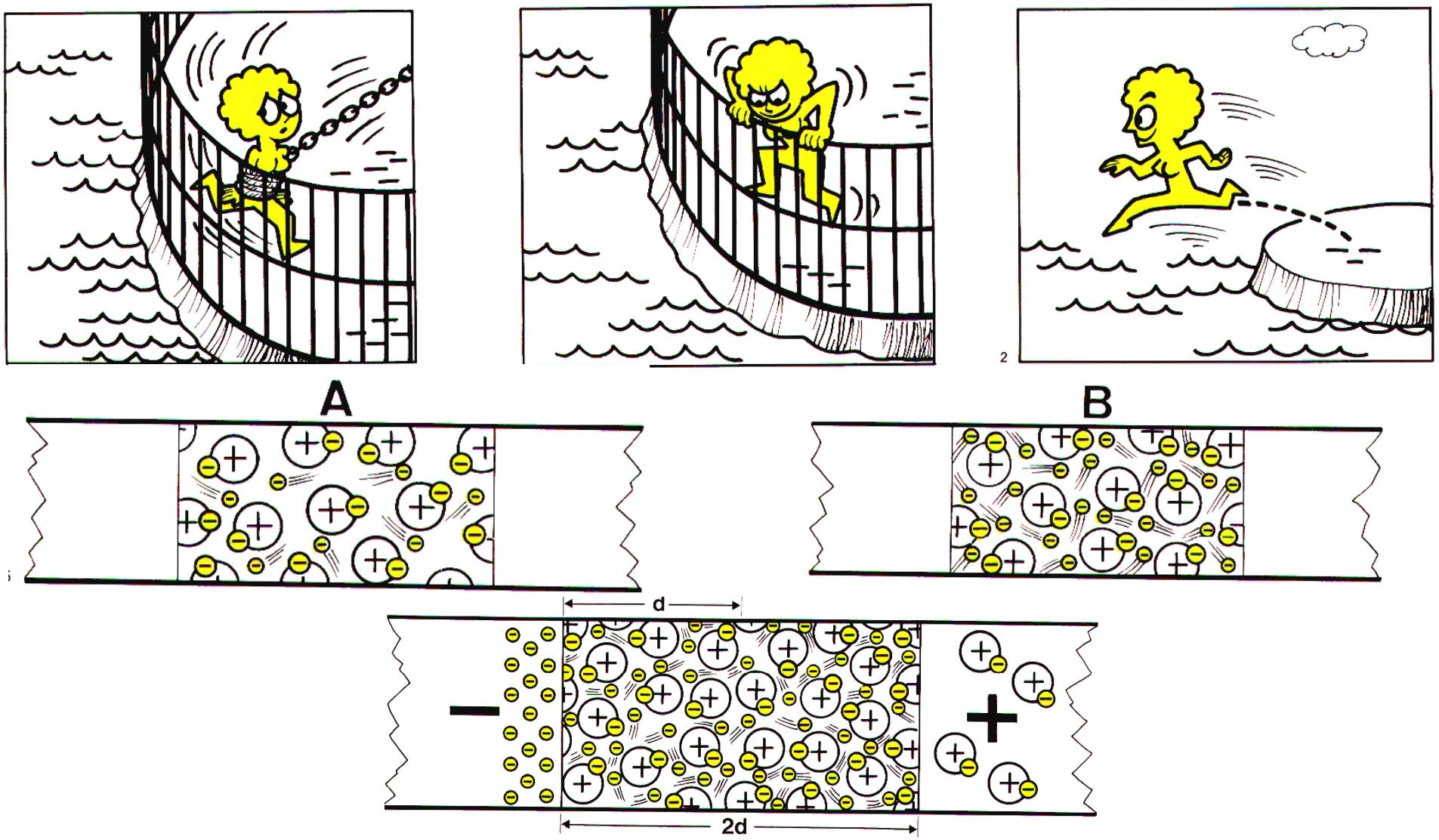
RESISTIVIDAD ρ



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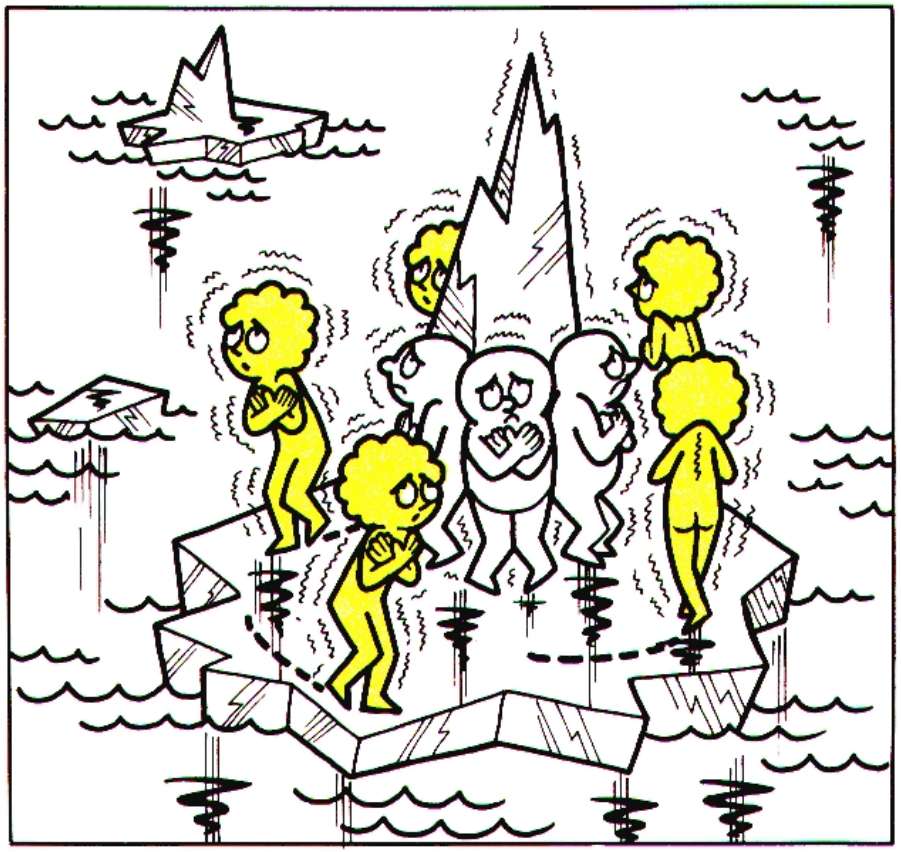
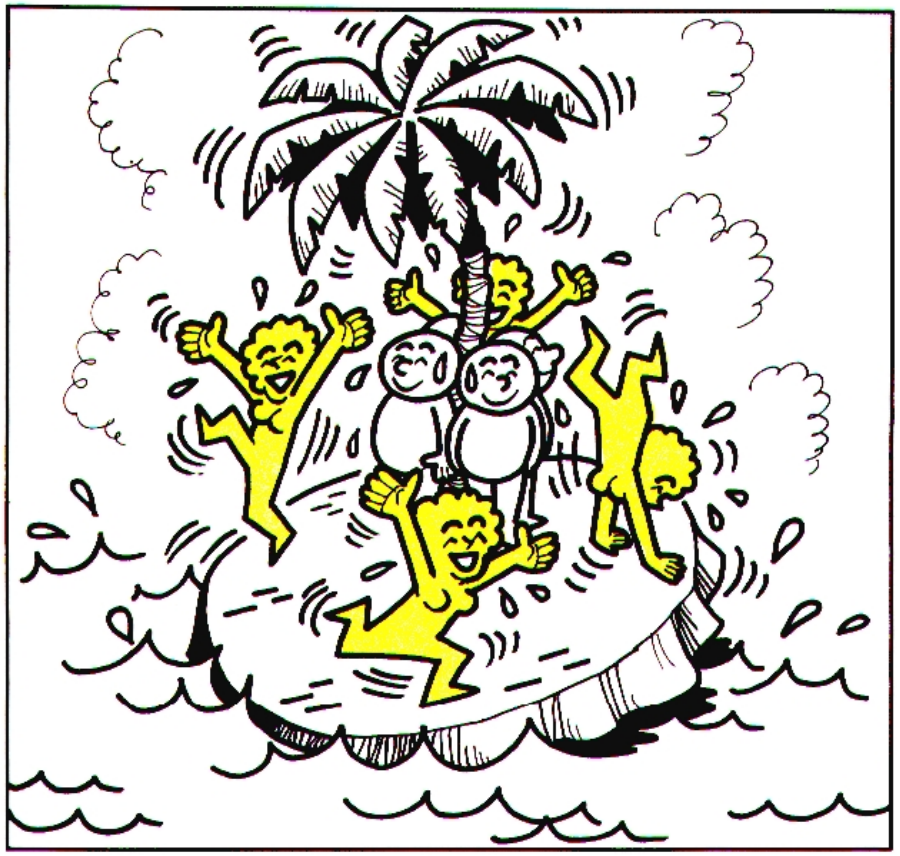
RESISTIVIDAD Y TEMPERATURA

$\rho(T)$





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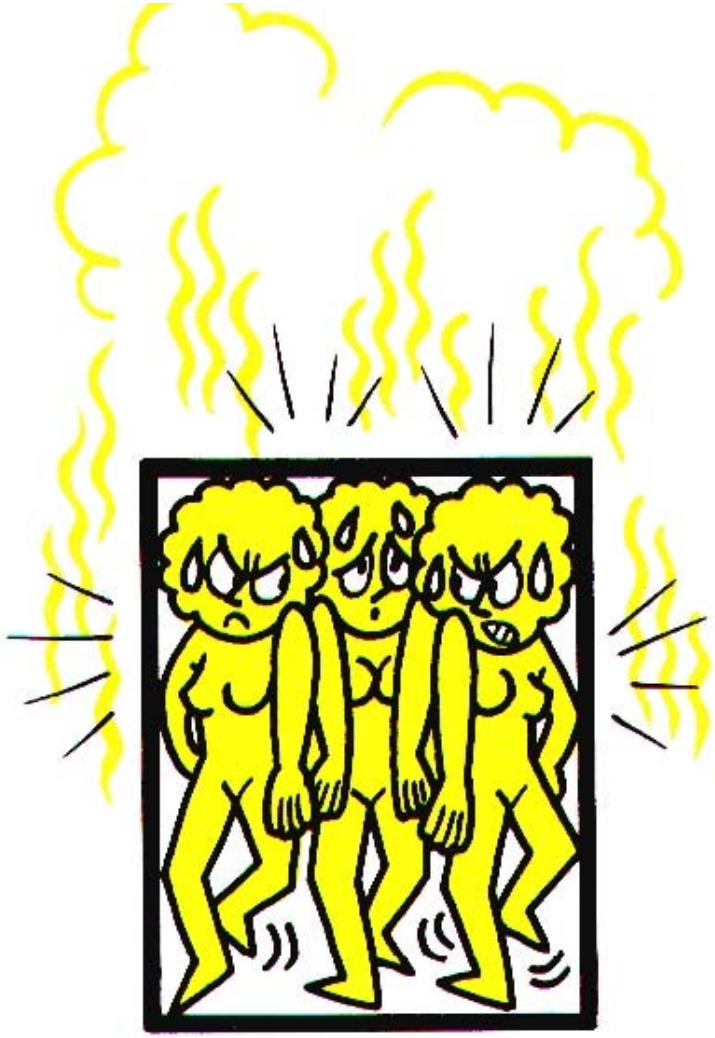
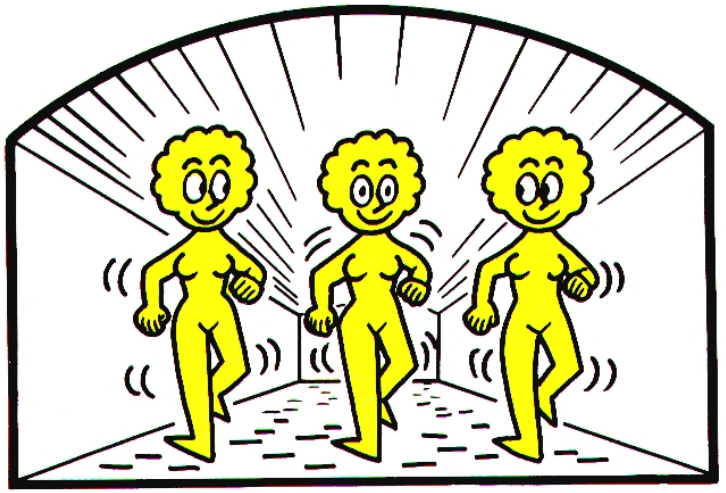
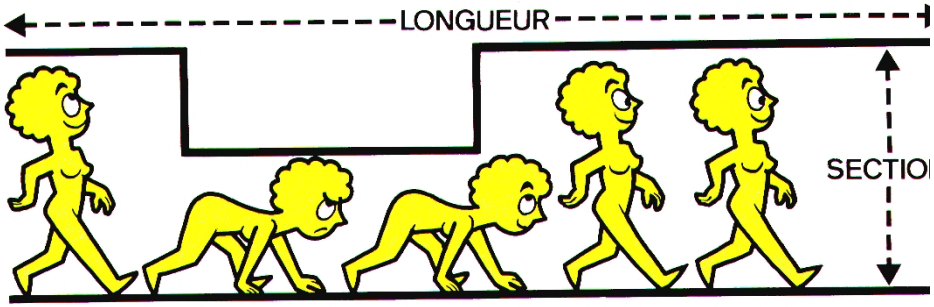
RESISTENCIA Y RESISTIVIDAD





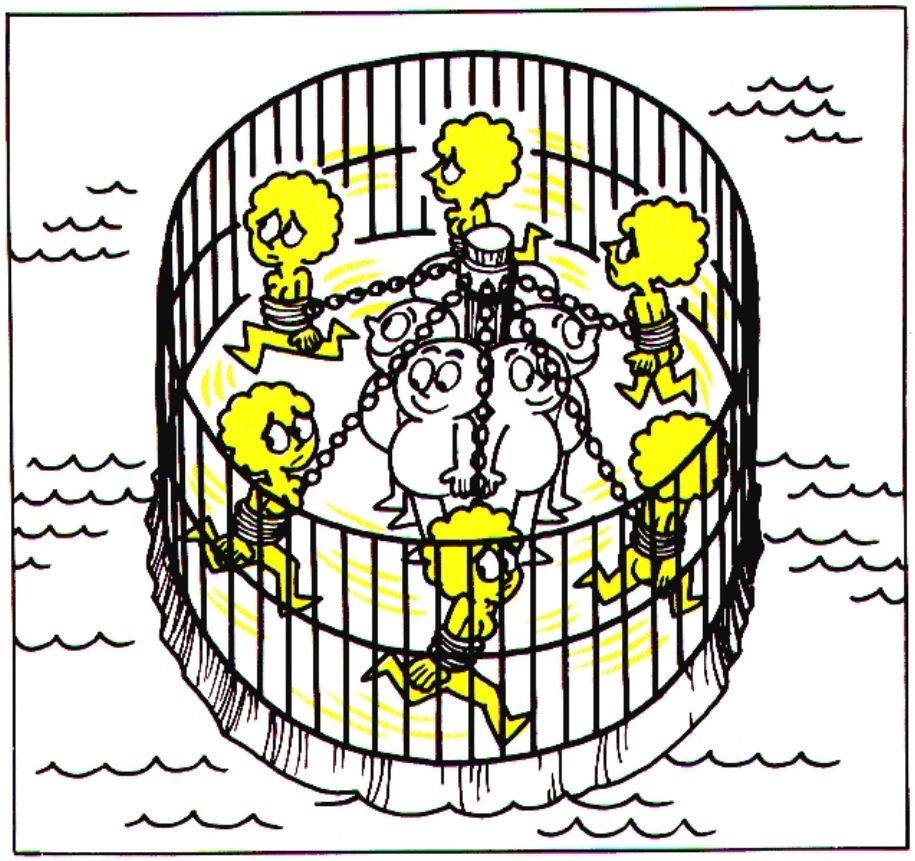
$$R = \rho(T°) \times (L/A)$$



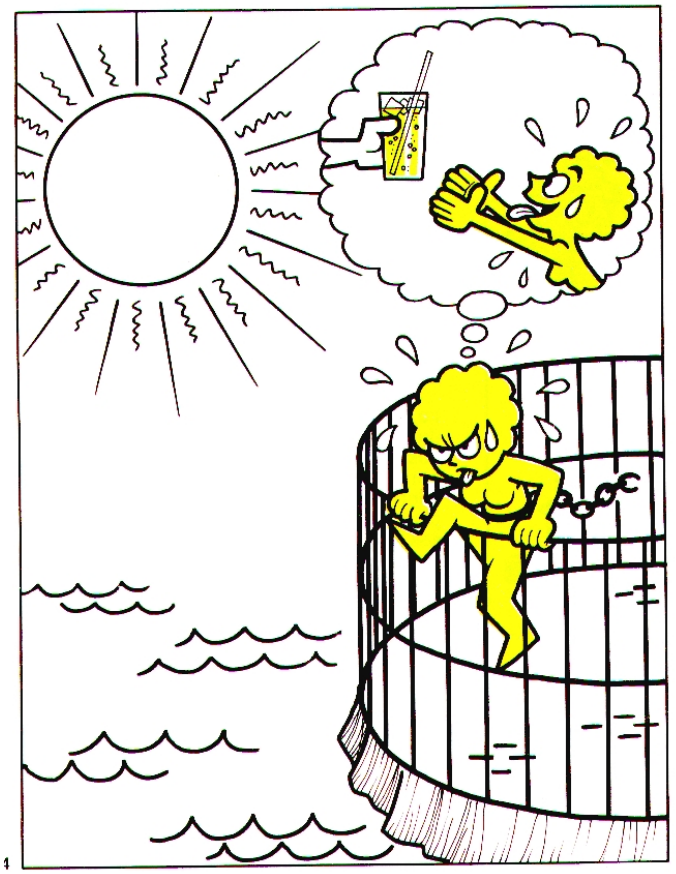
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

AISLADORES

IDEAL: $\rho(T) = \infty$



REAL: $\rho(T) \neq \infty$



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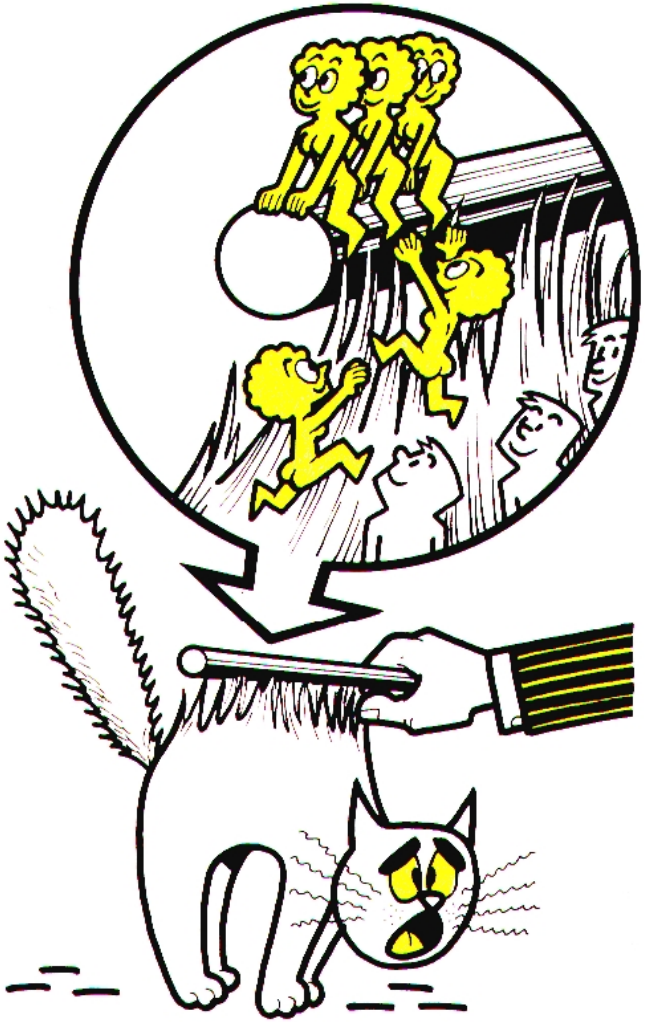
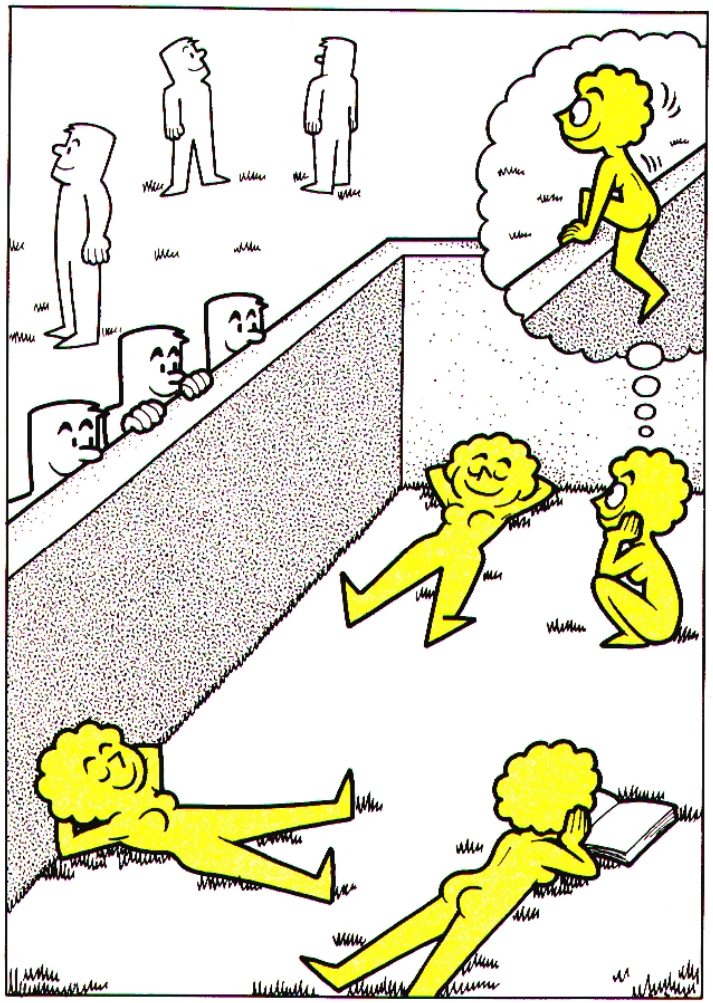
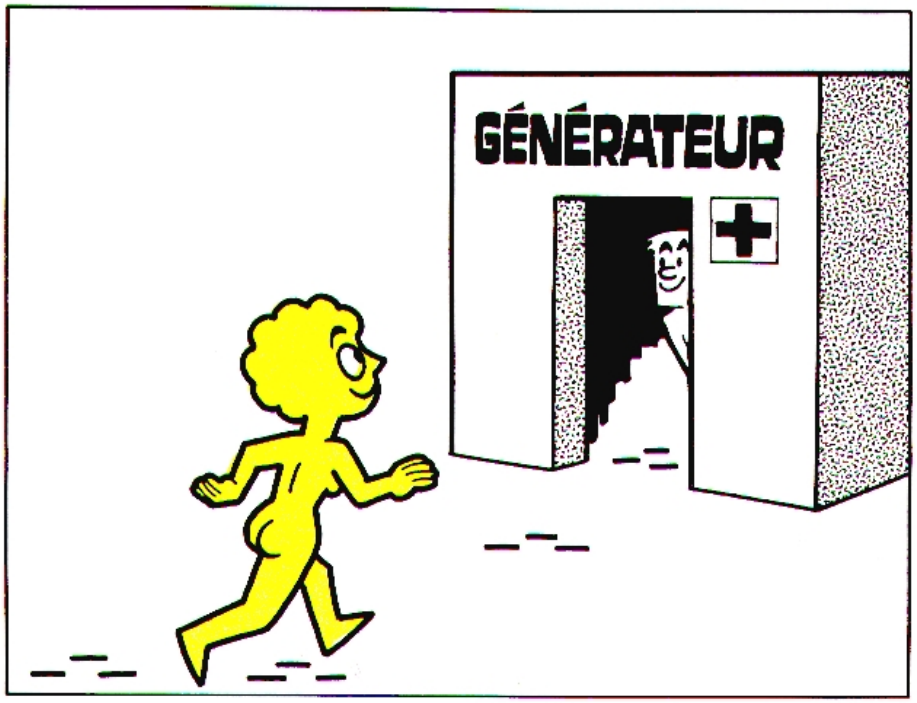
ELECTRICIDAD ESTATICA

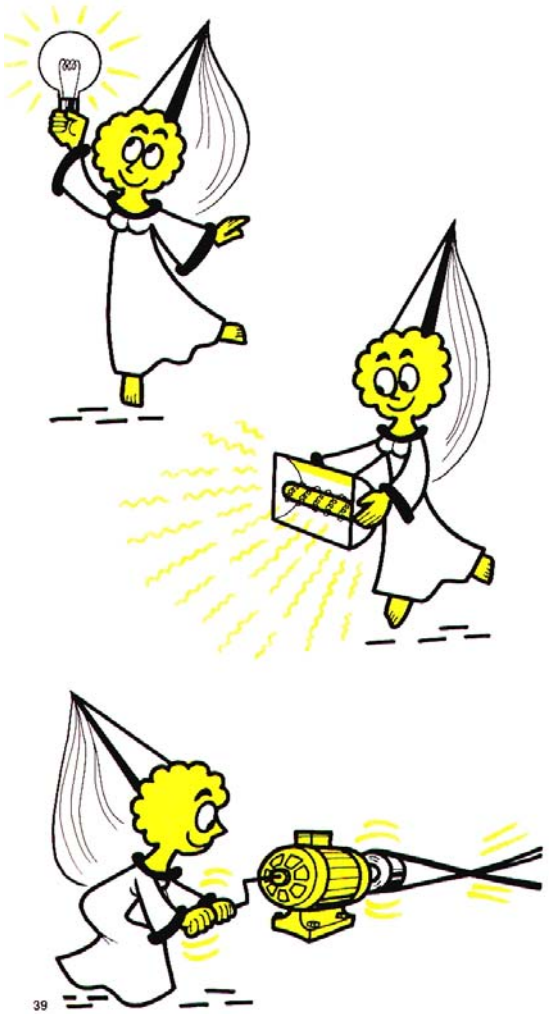




L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

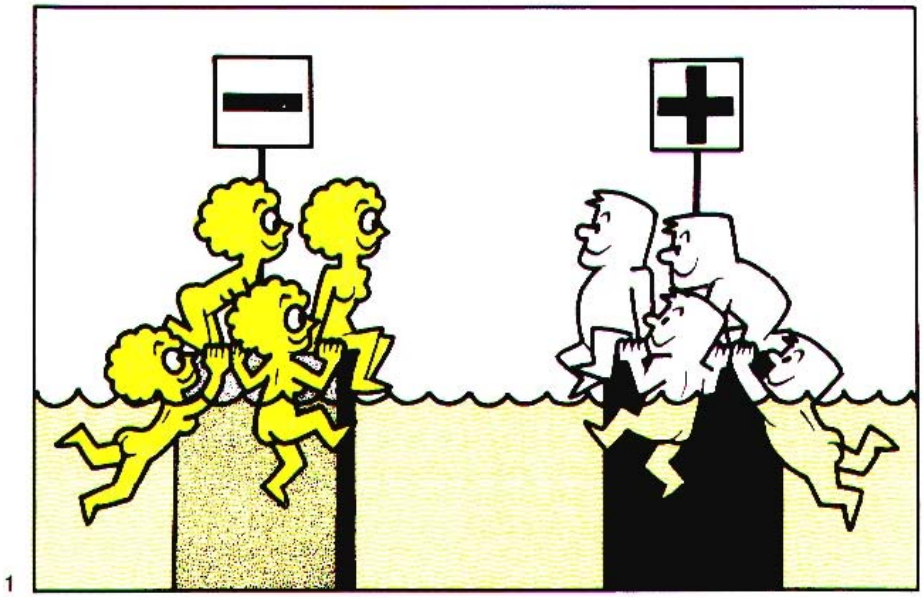
GENERADORES ELECTRICOS

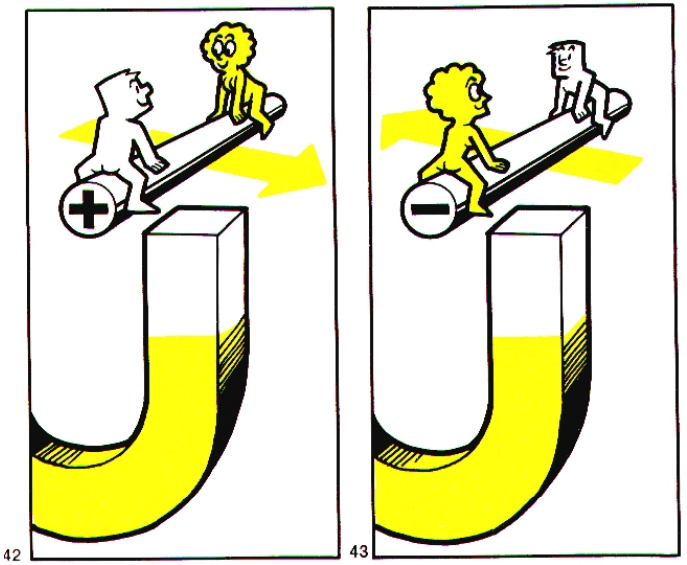


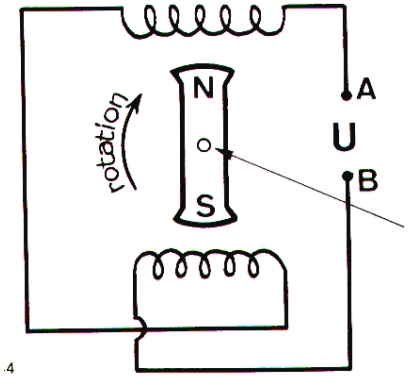


L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

GENERADORES ELECTROQUIMICOS Y ELECTROMAGNETICOS



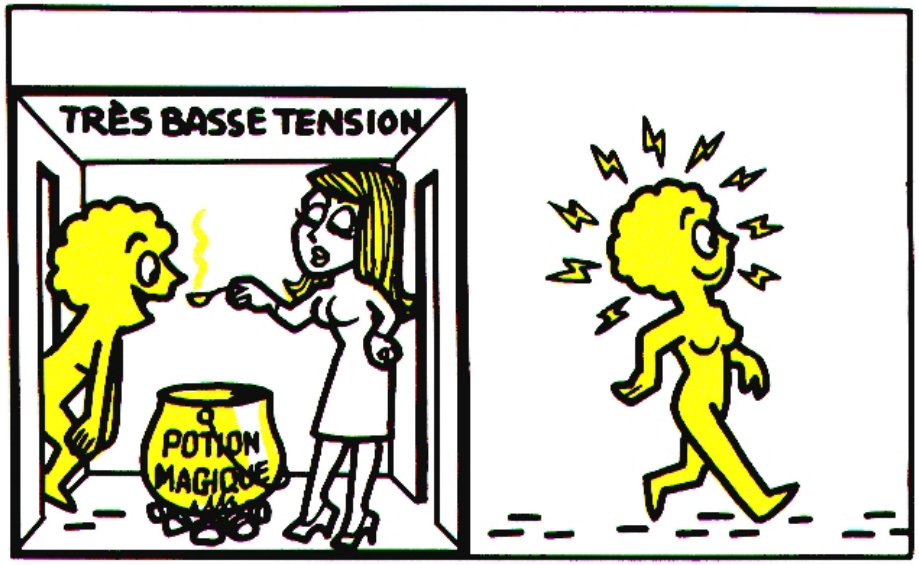




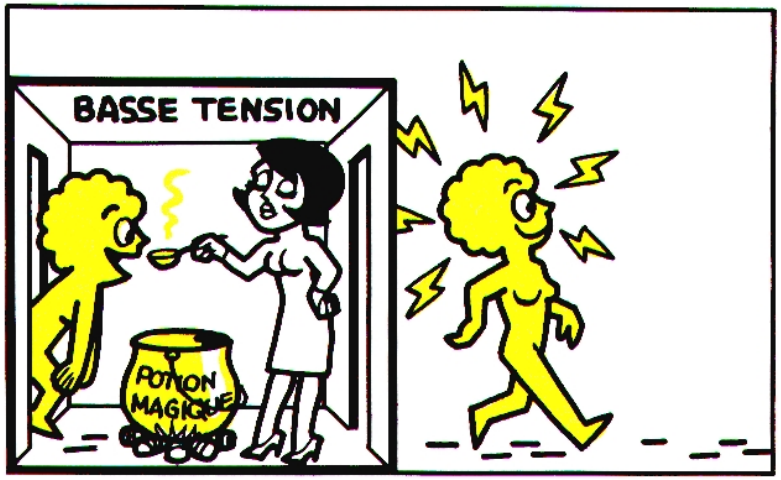
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

NIVEL DE TENSION ELECTRICA

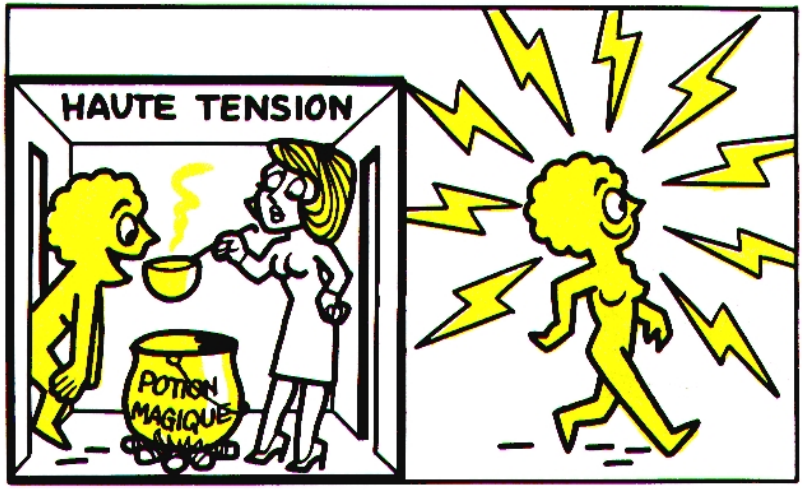
5 µV – 1mV – 5V



120V – 208V -1000 V

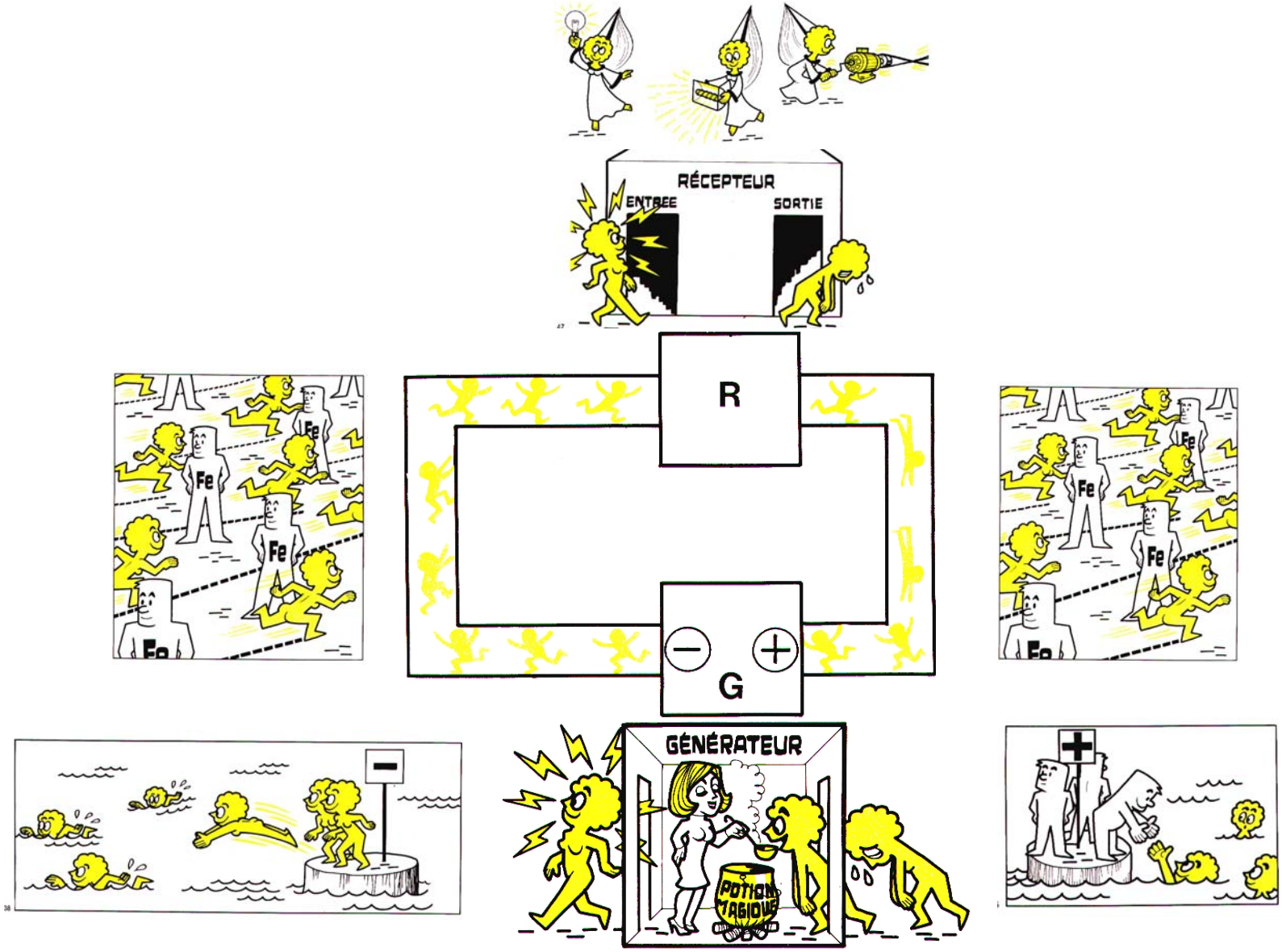


1kV - 500 kV



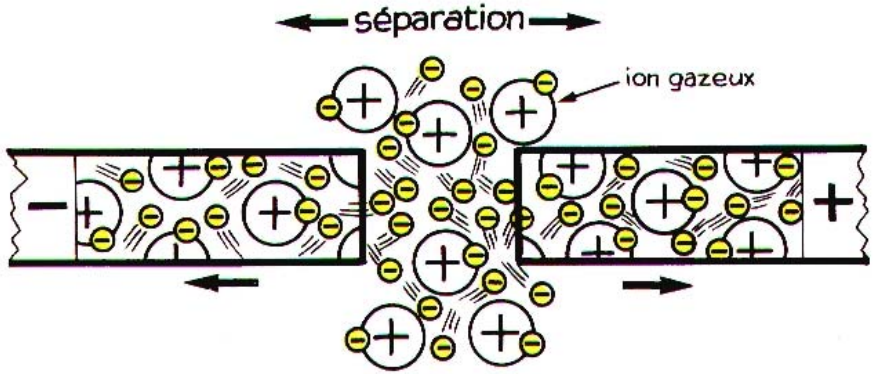
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

ELECTRICIDAD DINAMICA - CIRCUITO



L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

INTERRUPCION
ARCO ELECTRICO



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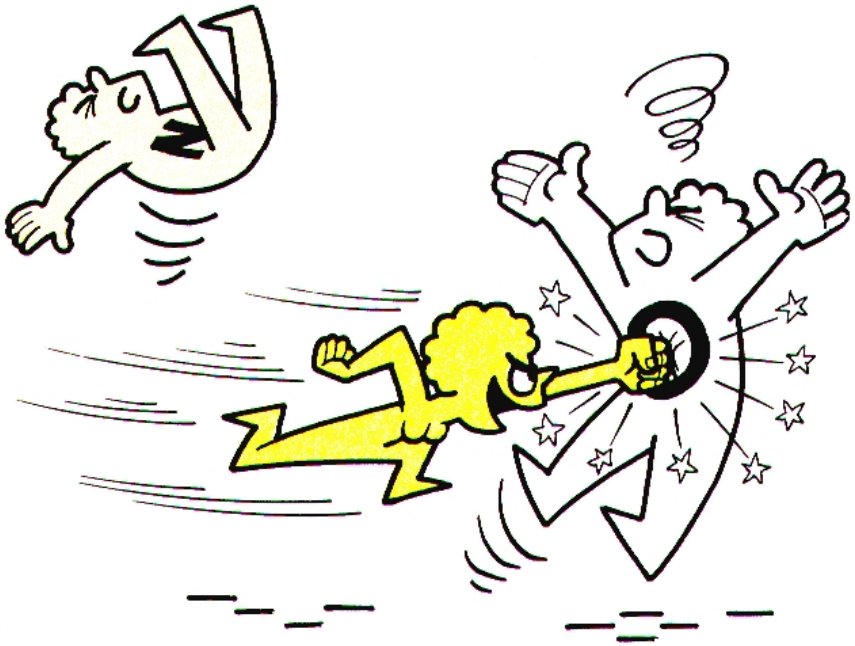

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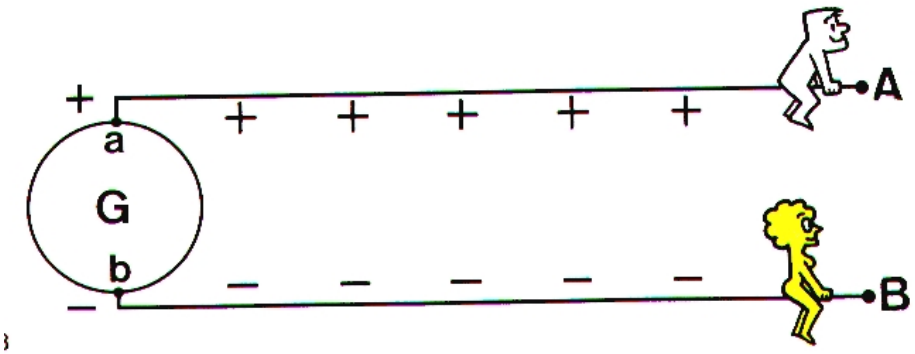
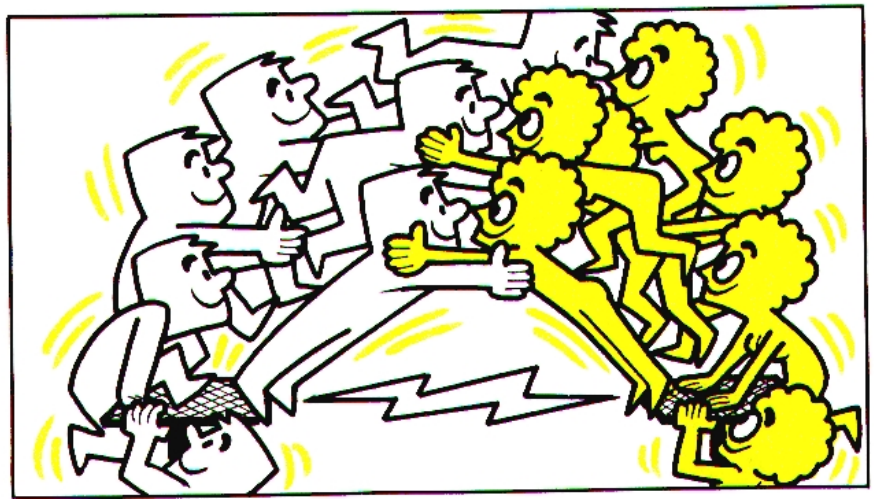
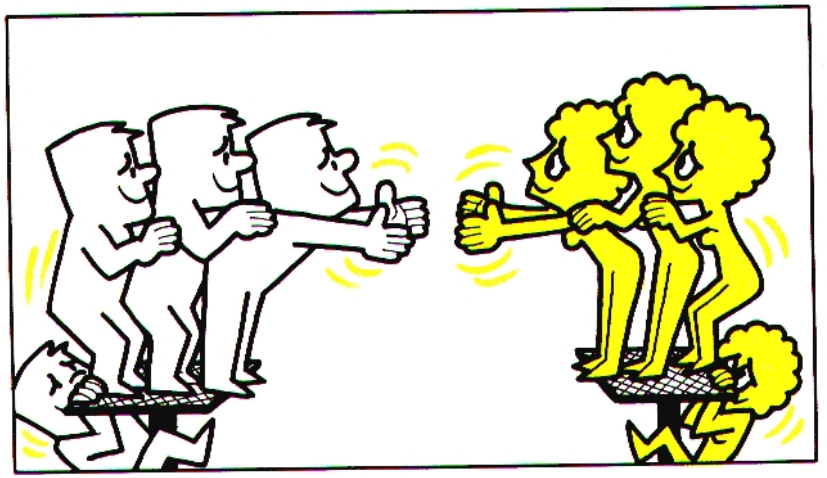
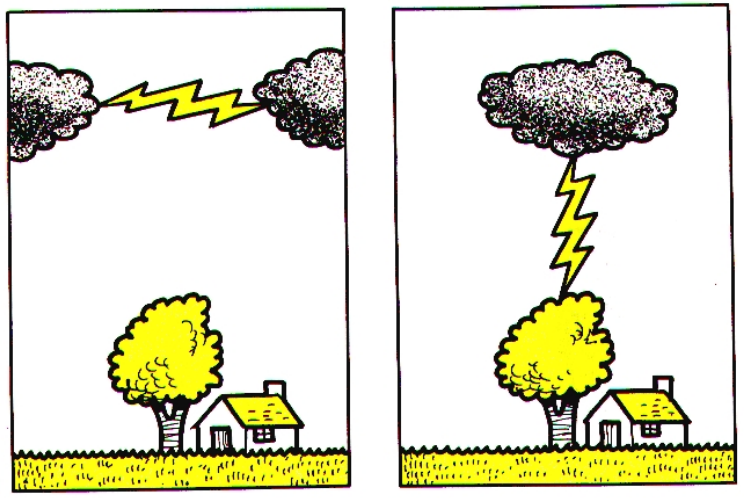
L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

TENSION DE RUPTURA









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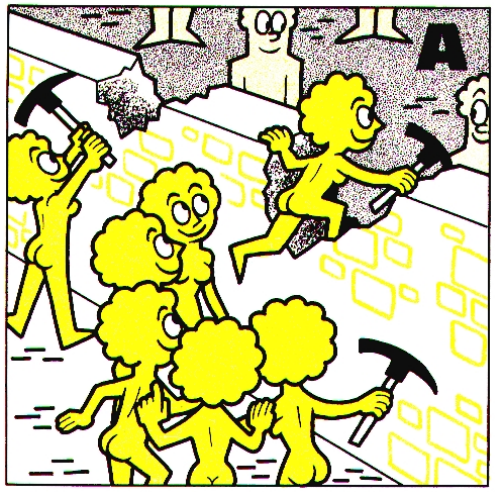
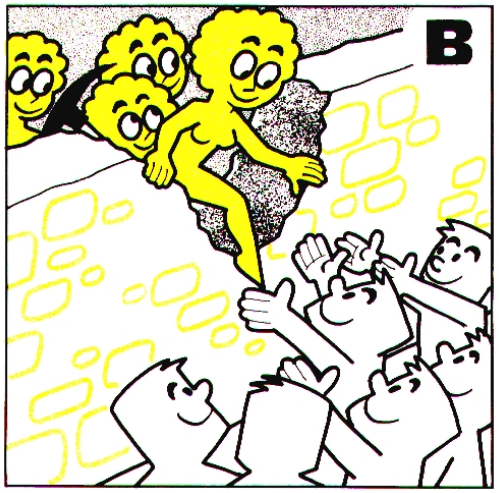
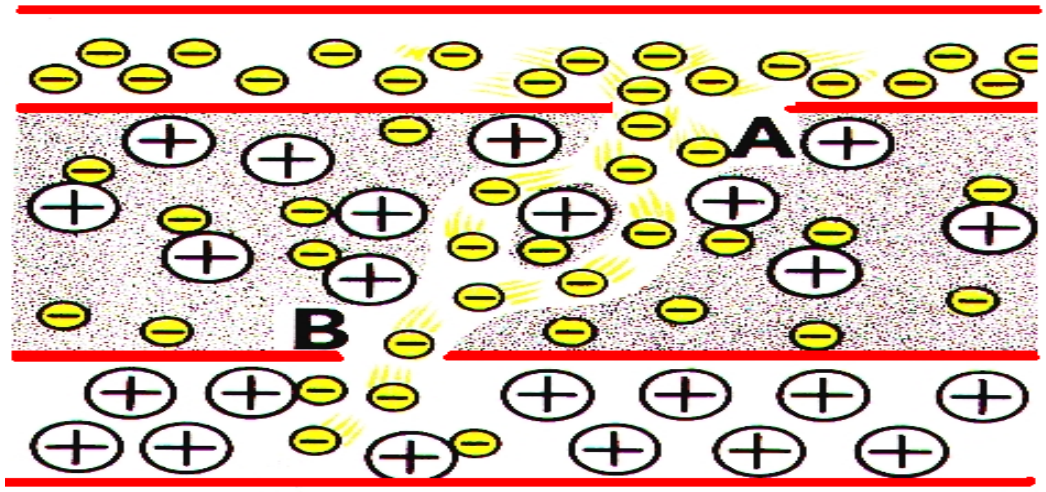
RUPTURA DE AISLANTE – CORRIENTE DE FUGA

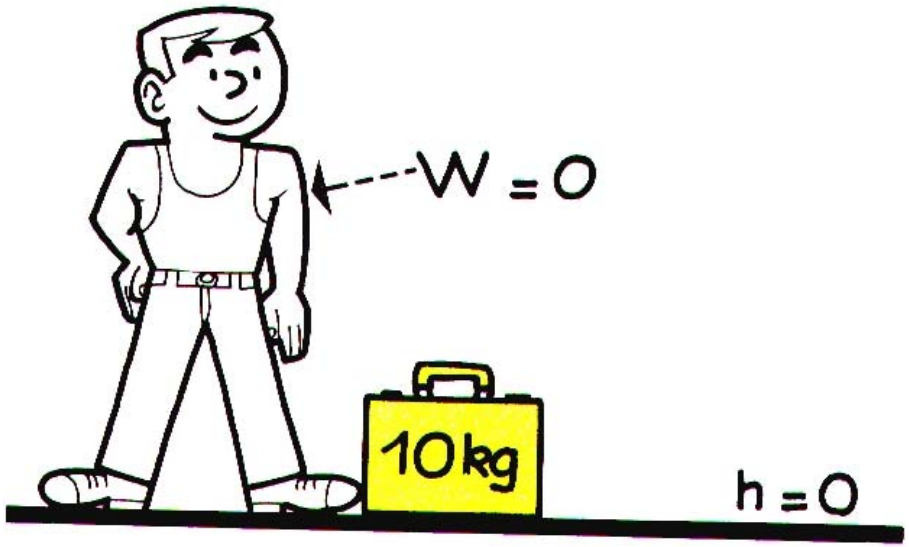


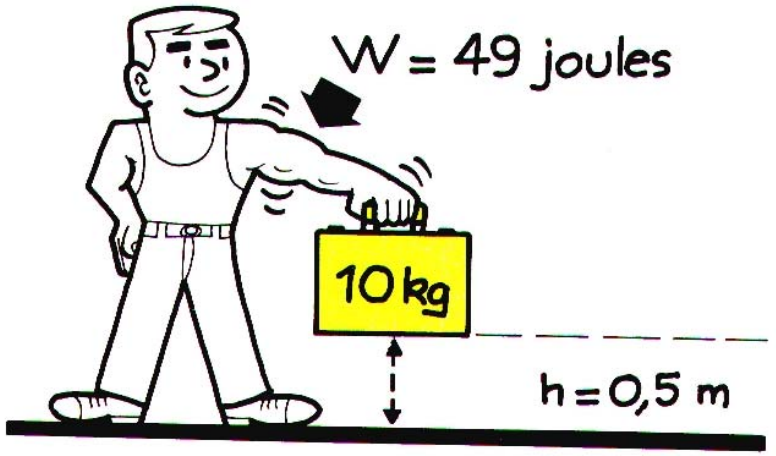


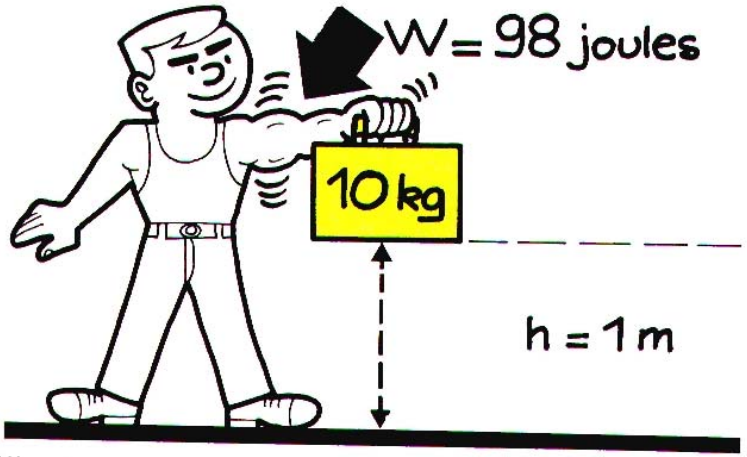


L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

ENERGIA POTENCIAL

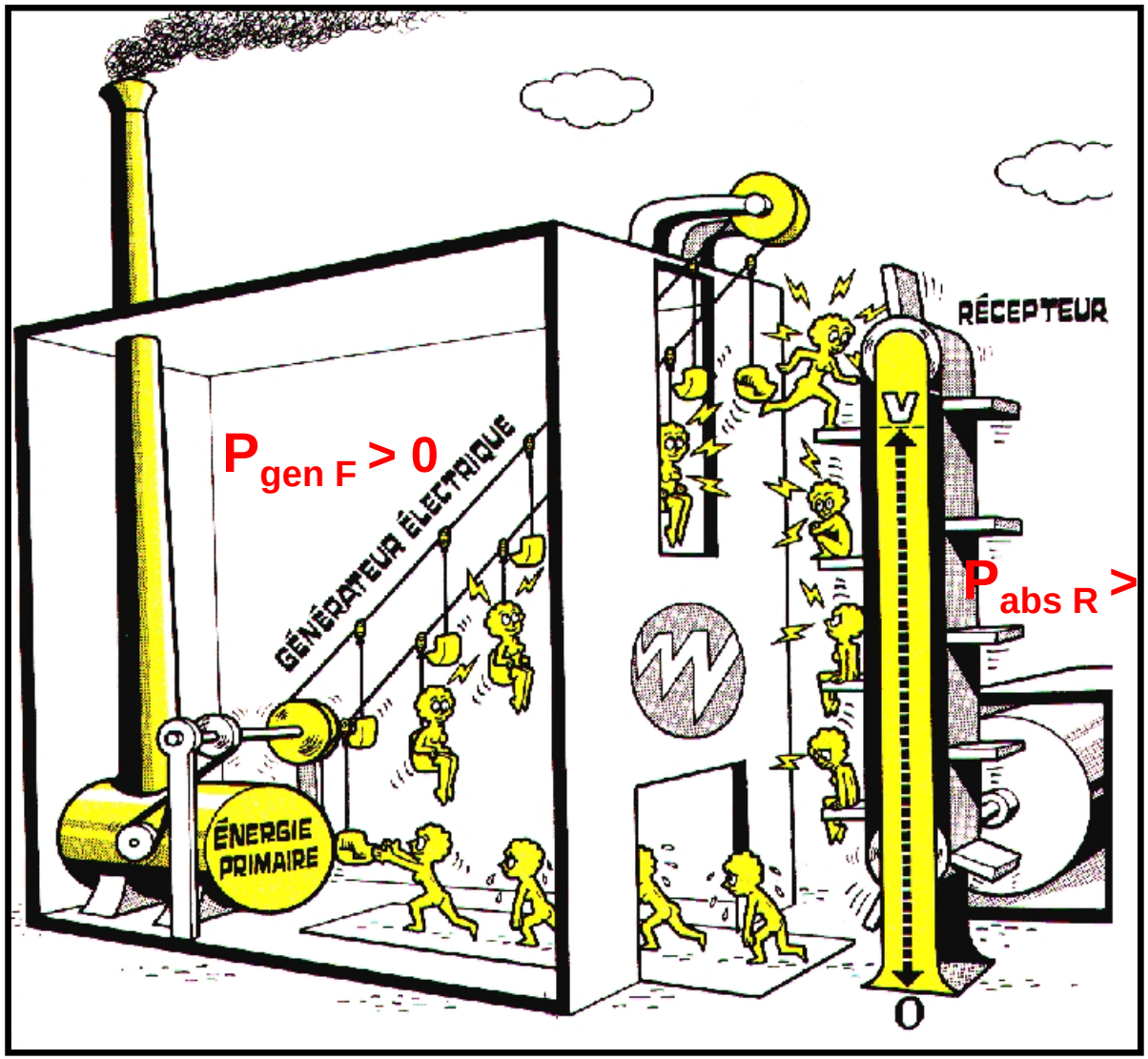






L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

POTENCIAL DE CARGAS



$F = K \cdot (Q \cdot q / r^2)$

$E = K \cdot (Q / r^2)$

$F = q \cdot E$

$\Delta V = E \cdot \Delta d$

$\Delta W = F \cdot \Delta d = (q \cdot E) \cdot \Delta d$

$\Delta W = q \cdot (E \cdot \Delta d) = q \cdot \Delta V$

$\Delta W = \Delta V \cdot \Delta q$

$V = \Delta W / \Delta q \rightarrow v(t) = dw/dq$

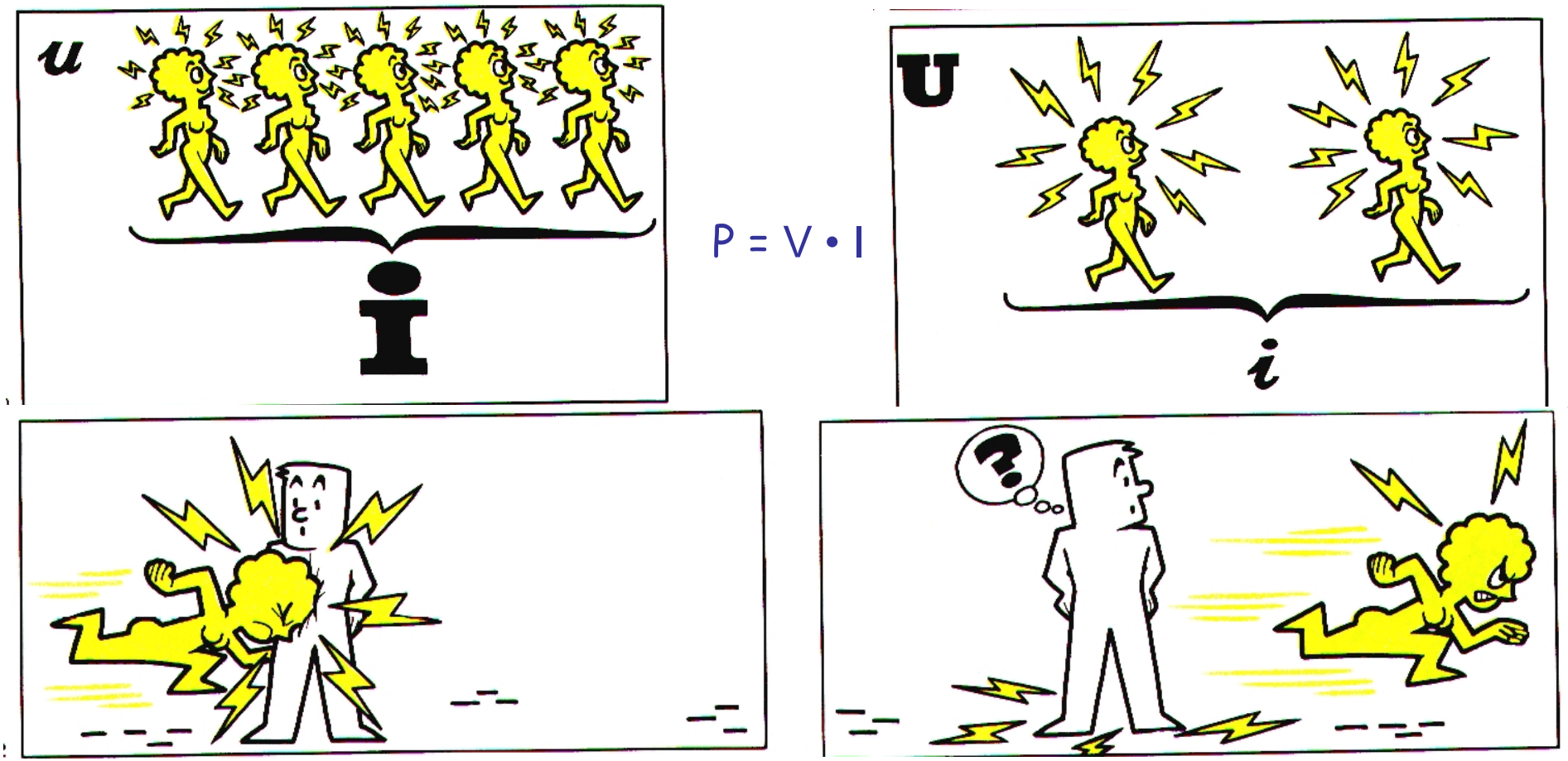
$P = \Delta W / \Delta T = (\Delta V \cdot \Delta q) / \Delta T$

$= \Delta V \cdot (\Delta q / \Delta T)$

$P = V \cdot I \ ; \ p(t) = v(t) \cdot i(t)$

L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

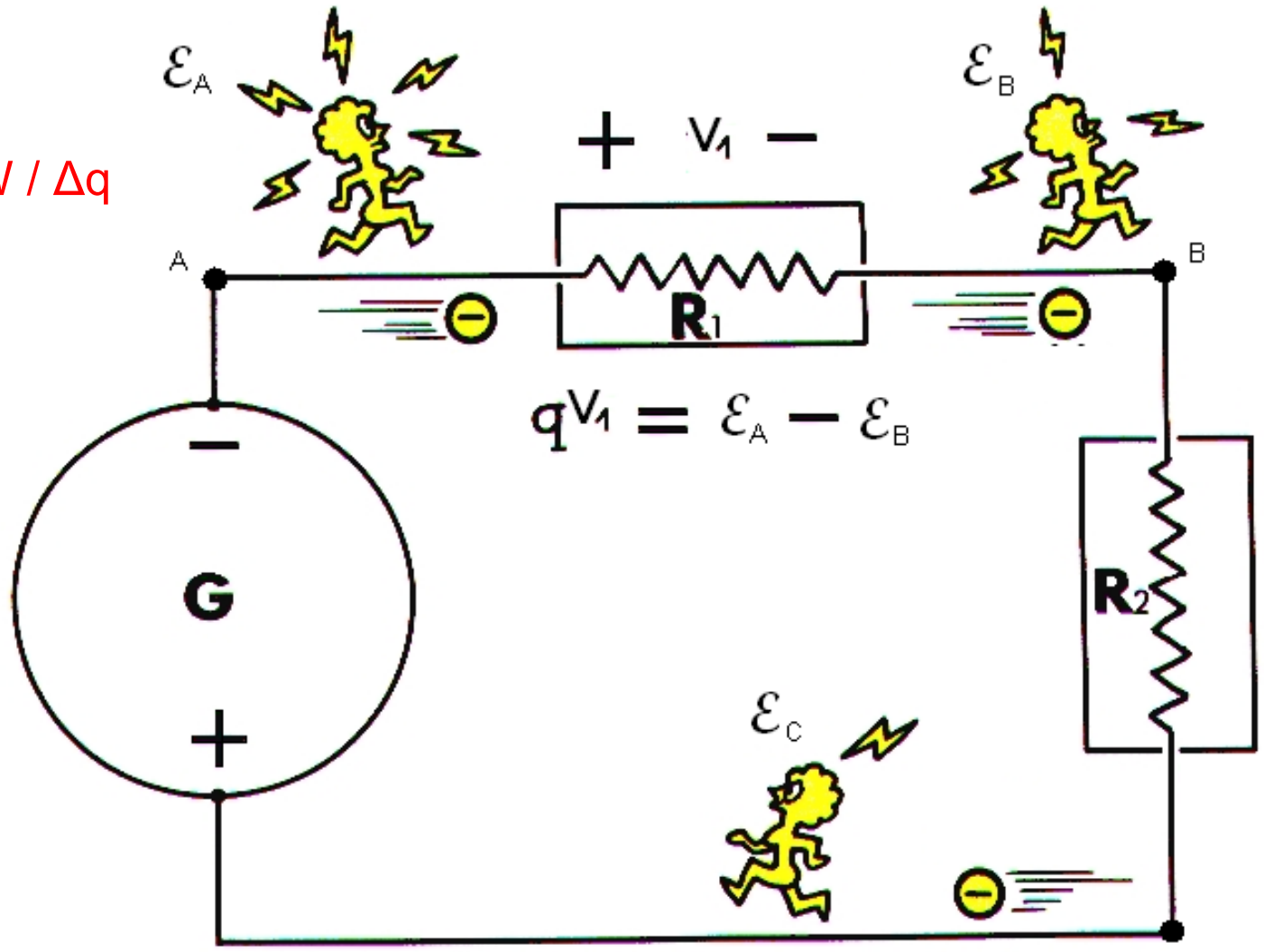
POTENCIA E INTENSIDAD



L'ELECTRICITE G. DUBOIS – INRS PARIS, 1986.

POTENCIAL EN UN CIRCUITO

$V = \Delta W / \Delta q$



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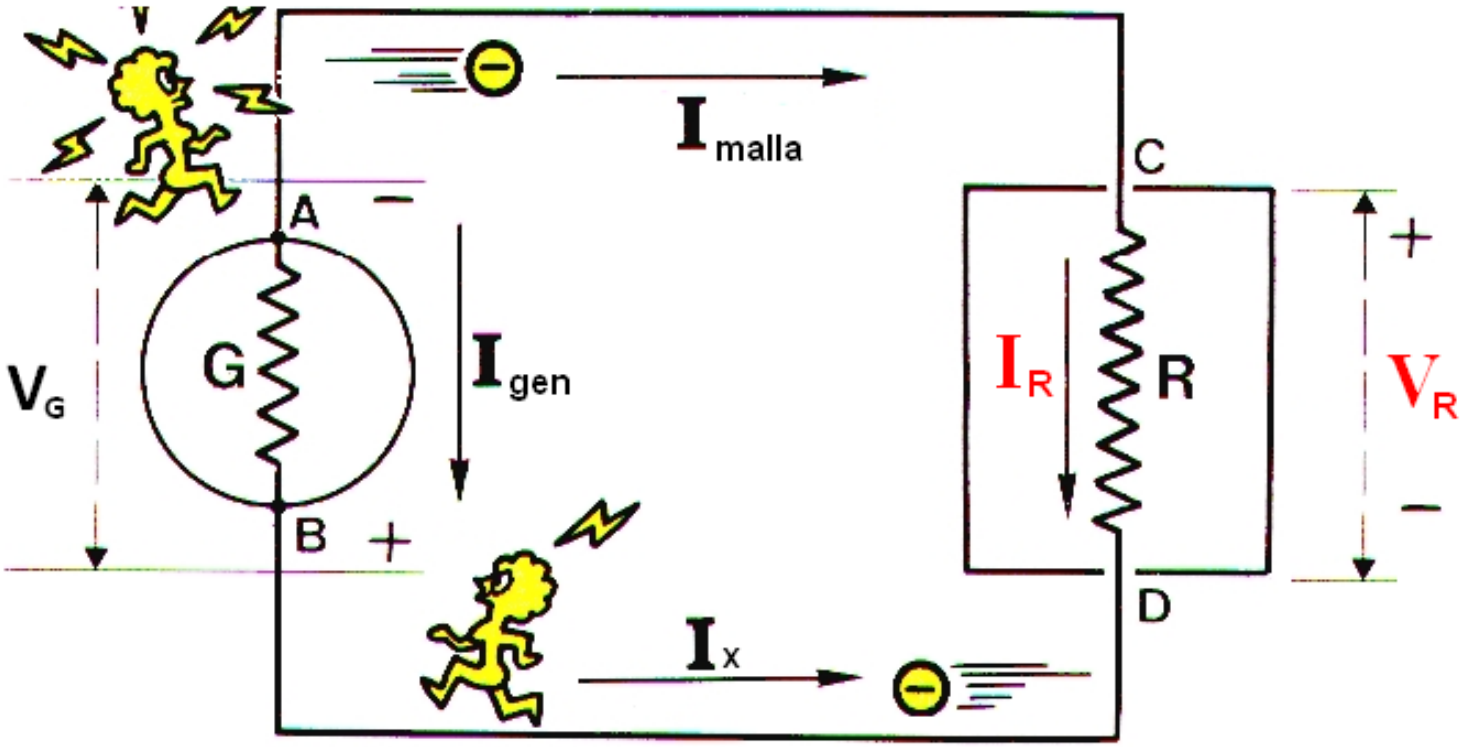
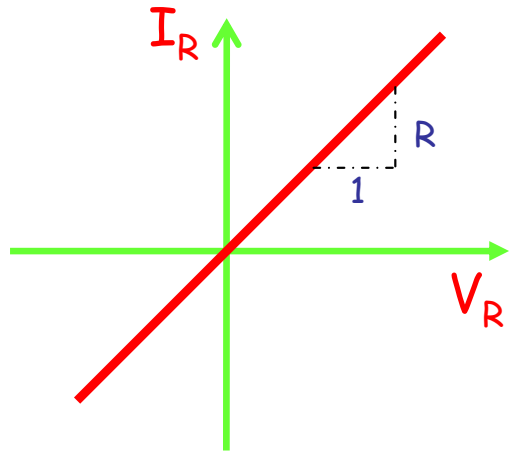
RESISTENCIA EN UN CIRCUITO
Ley de Ohm





$I_R = V_R/R$

$R = V_R/I_R$

$[R] = \Omega$ Ohmio

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CONVENCIONES

- Notación de signos de V, I
- Convención pasiva y activa
- Potencia absorbida y generada
- Convención de Potencia
- Principio de conservación de potencia

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