Frise (Pays Bas), tournant du 19ième siècle

Tracts environnementalistes…

Épopée de Gilgamesh (3ième M BC)

Gilgamesh, Roi d'Uruk (~ 2750 - 2500 AE)

Collines Attique

~

“Squelette d’un corps rongé par la maladie…”

Platon (427-347 AE)

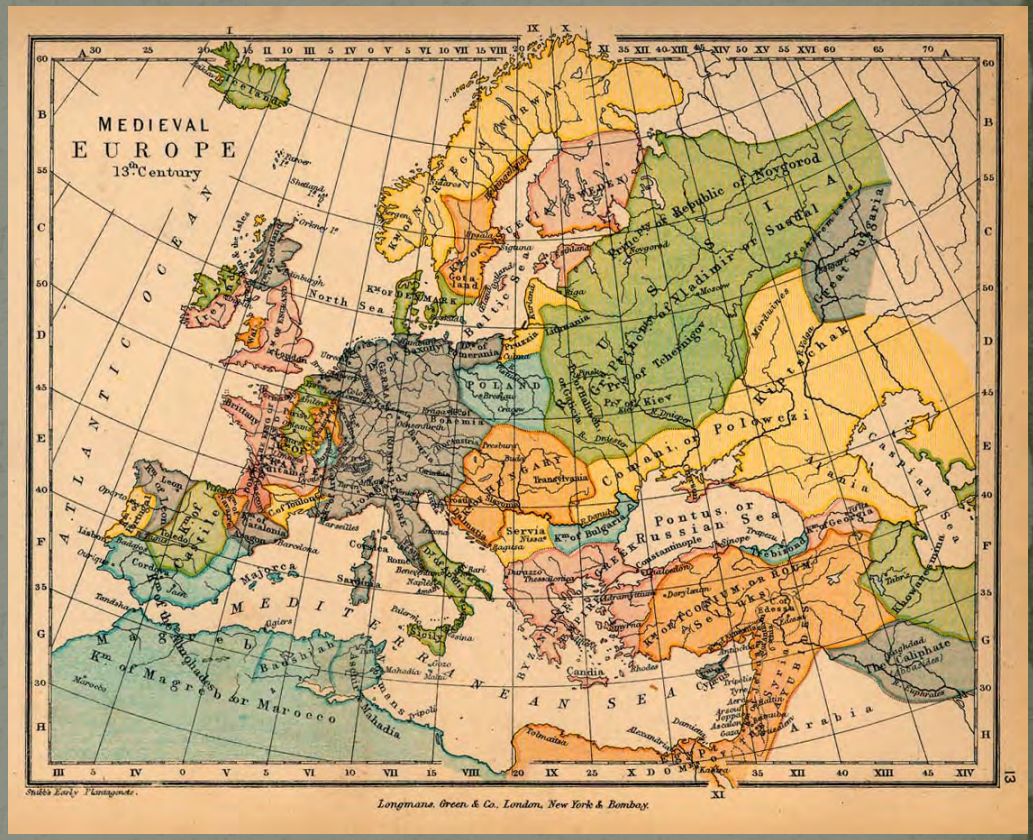
Déforestation (Europe)

12ième siècle

- Angleterre

(**1230**: Importations de Norvège)

- France



~ 1600

- (probablement) partout en Europe occidentale

‘Nature’

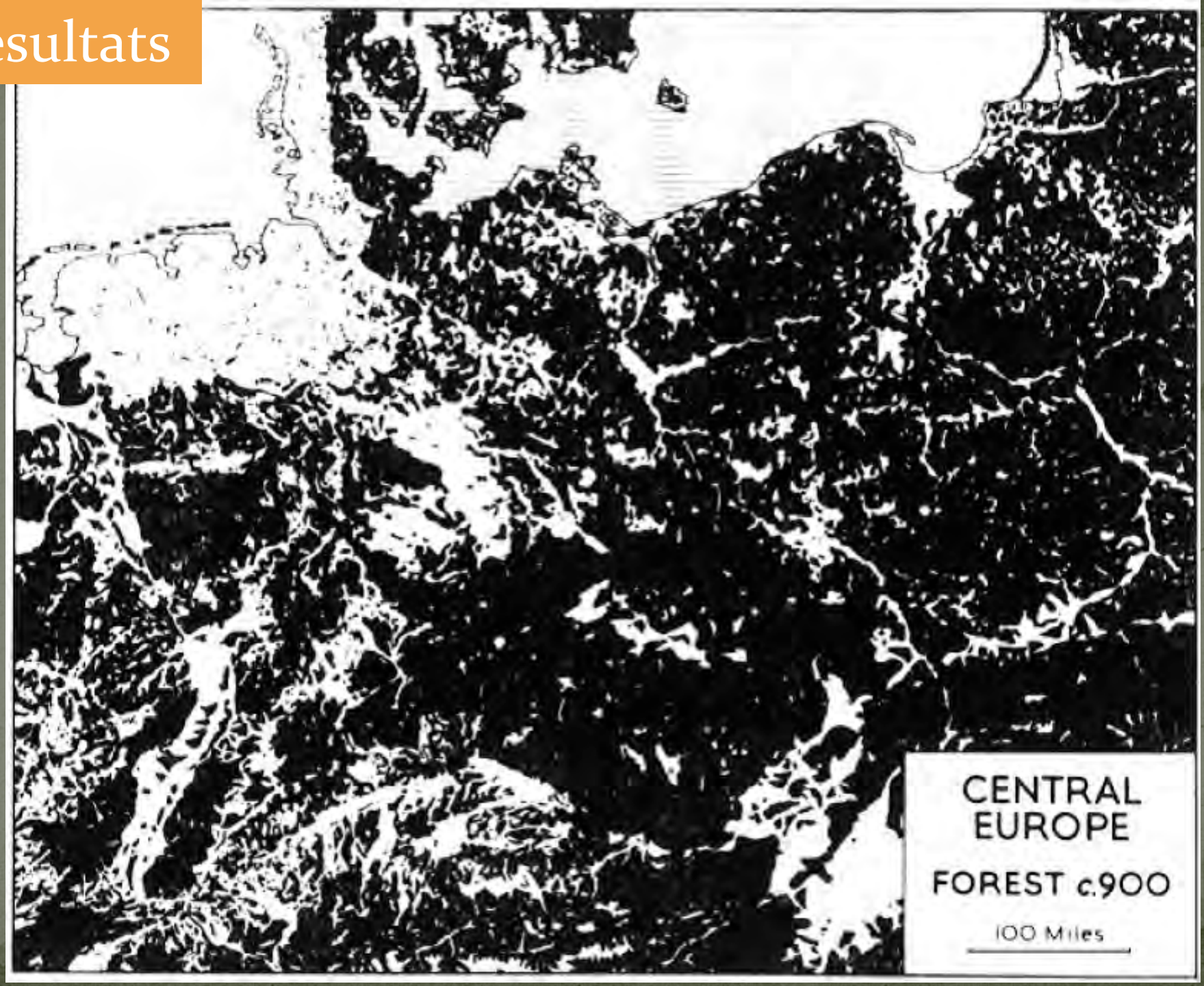
Bois de charpente et de feu

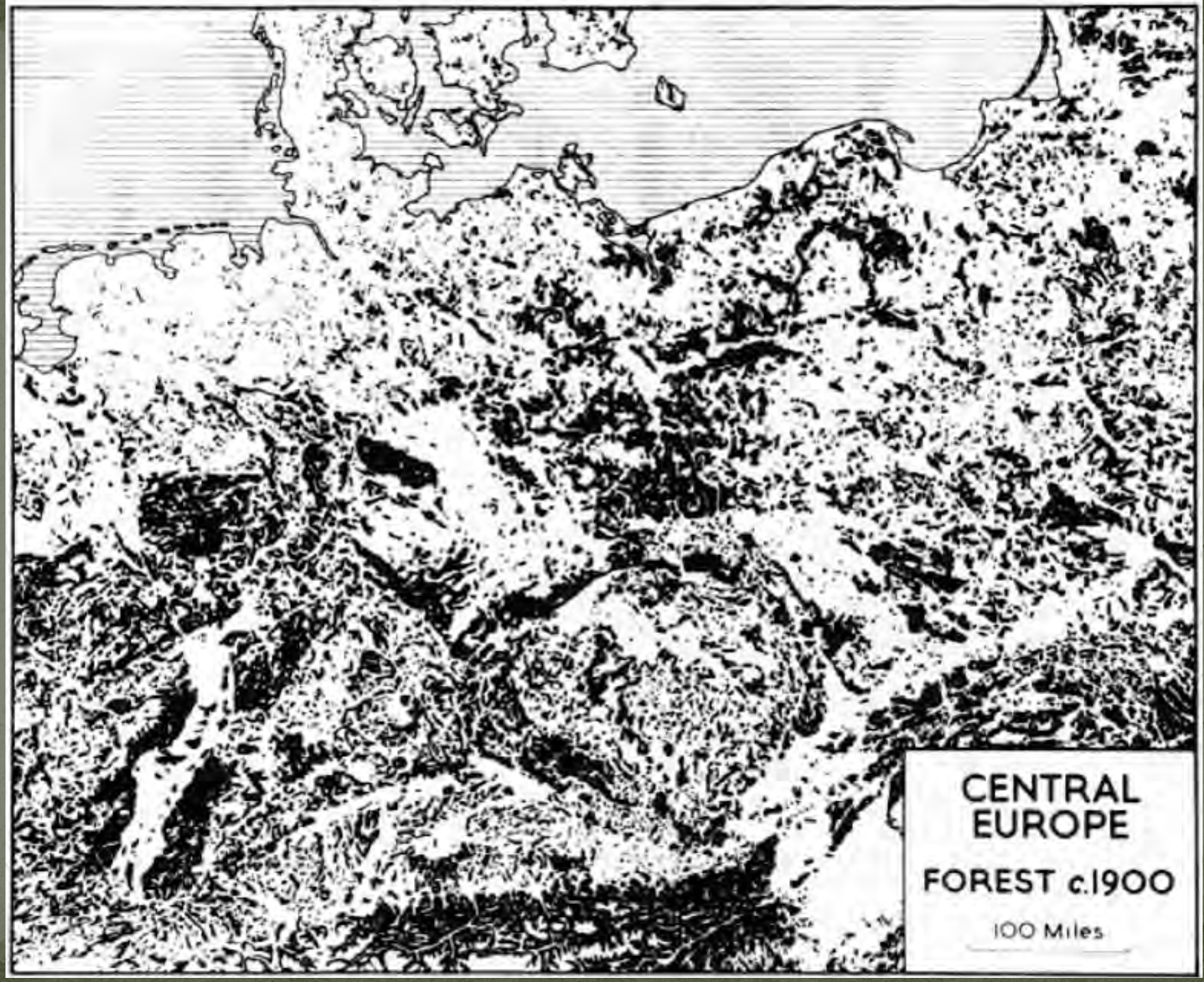
Feu et pâturages

Érosion…

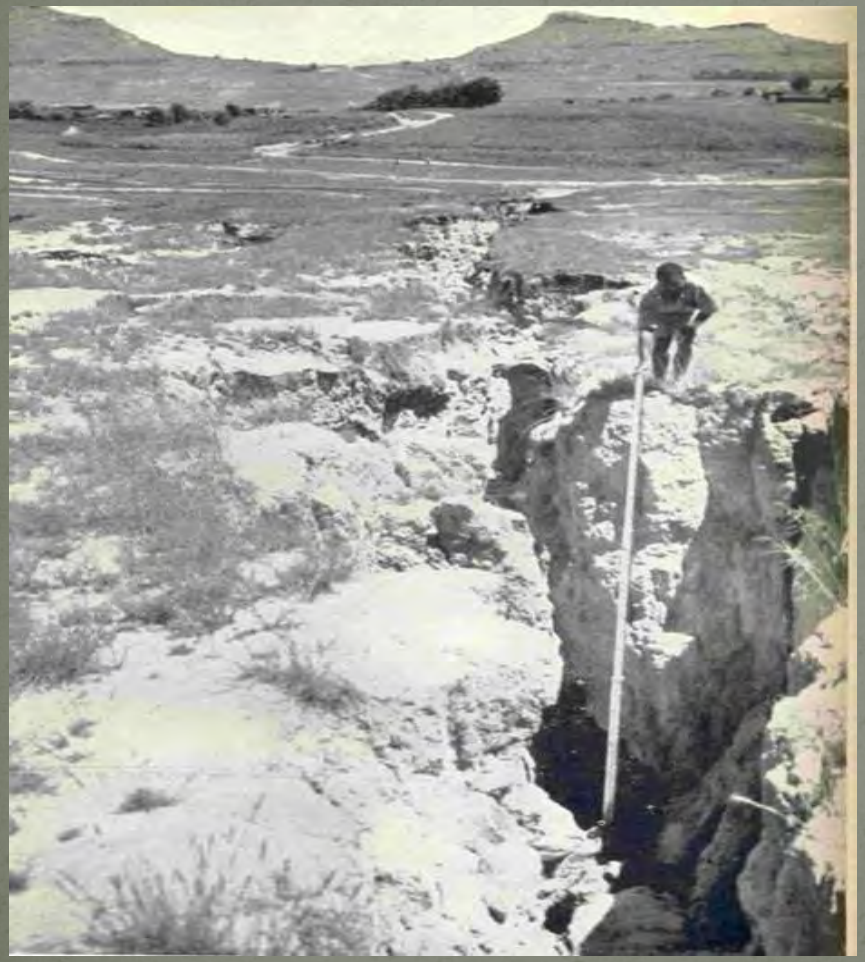
Déforestation, Vénitie 1601

Résultats




CENTRAL
EUROPE
FOREST c.1900
100 Miles

1920-1950…



THE RAPE
OF THE EARTH

A World Survey of
Soil Erosion

by
G.V. JACKS
and
R.O.WHYTE

1939

FABER AND FABER LTD
24 Russell Square
London

Our Plundered Planet

BY FAIRFIELD OSBORN

Boston • Little, Brown and Company • Toronto

WILLIAM VOGT

ROAD TO SURVIVAL

with an introduction by BERNARD M. BARUCH

Illustrations by STUART I. FREEMAN

WILLIAM SLOANE ASSOCIATES, INC.
Publishers, New York

1948

William Vogt

- La planète au pillage, 1949
- La faim du monde, 1950

Note:
Reforestation à l'ancienne…

Maya

Peste noire

3. Transition forestière

19ième siècle…

Dans plusieurs pays ,

croissance économique et démographique

ET

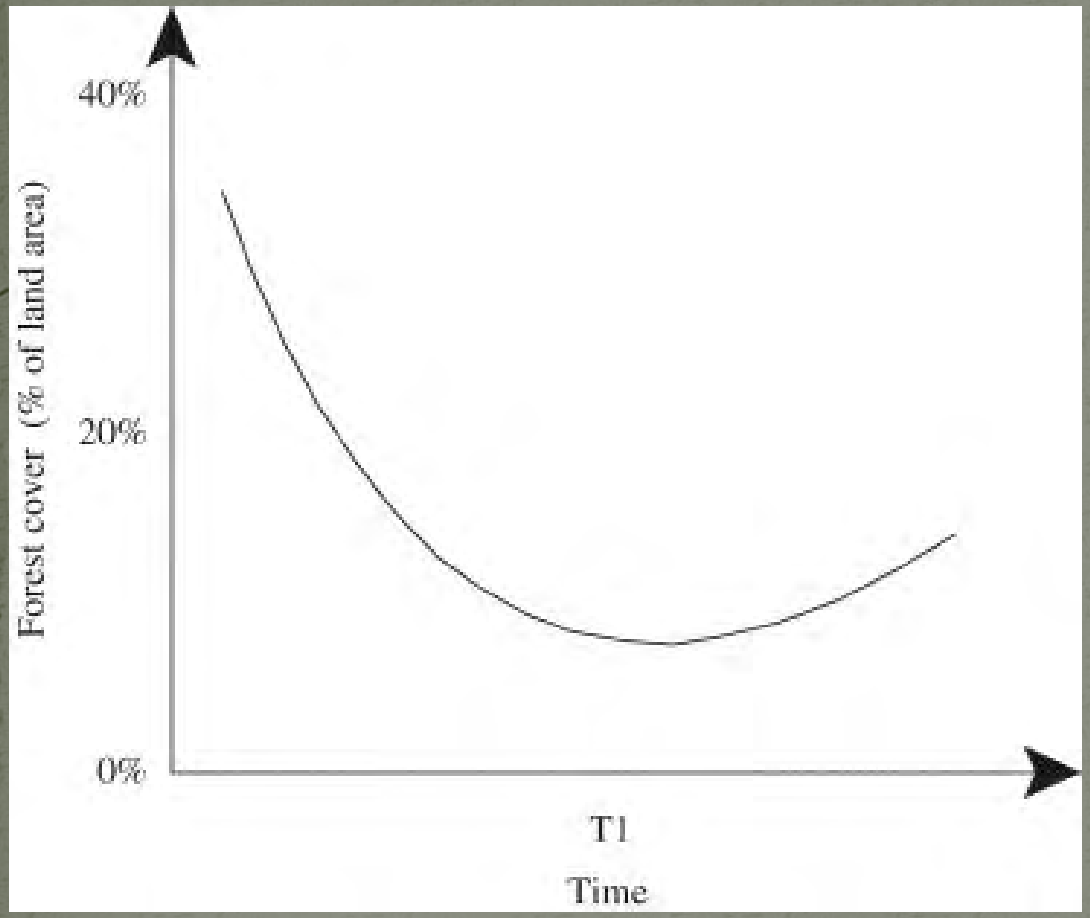
reforestation

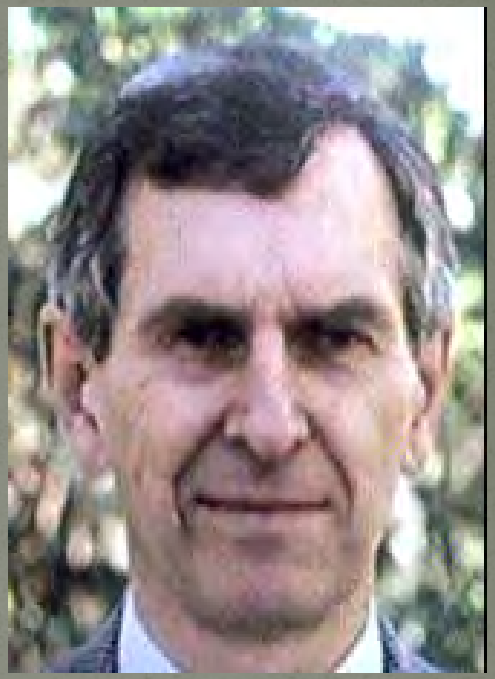
1990s:

Couvert forestier >>

- économies développées
- certaines économies en développement (Inde, Chine)

Reforestation à la moderne…

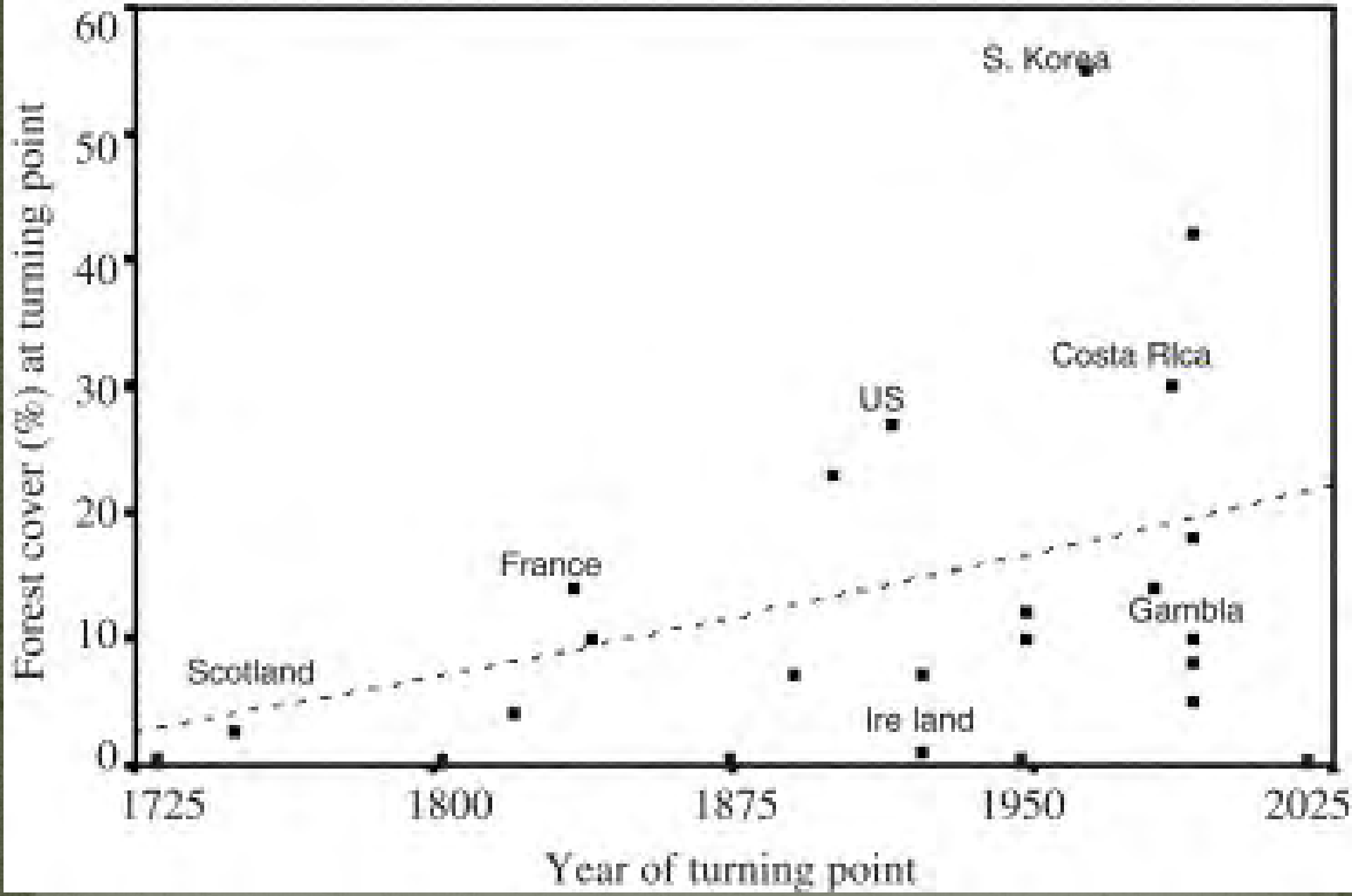




Alexander Mather

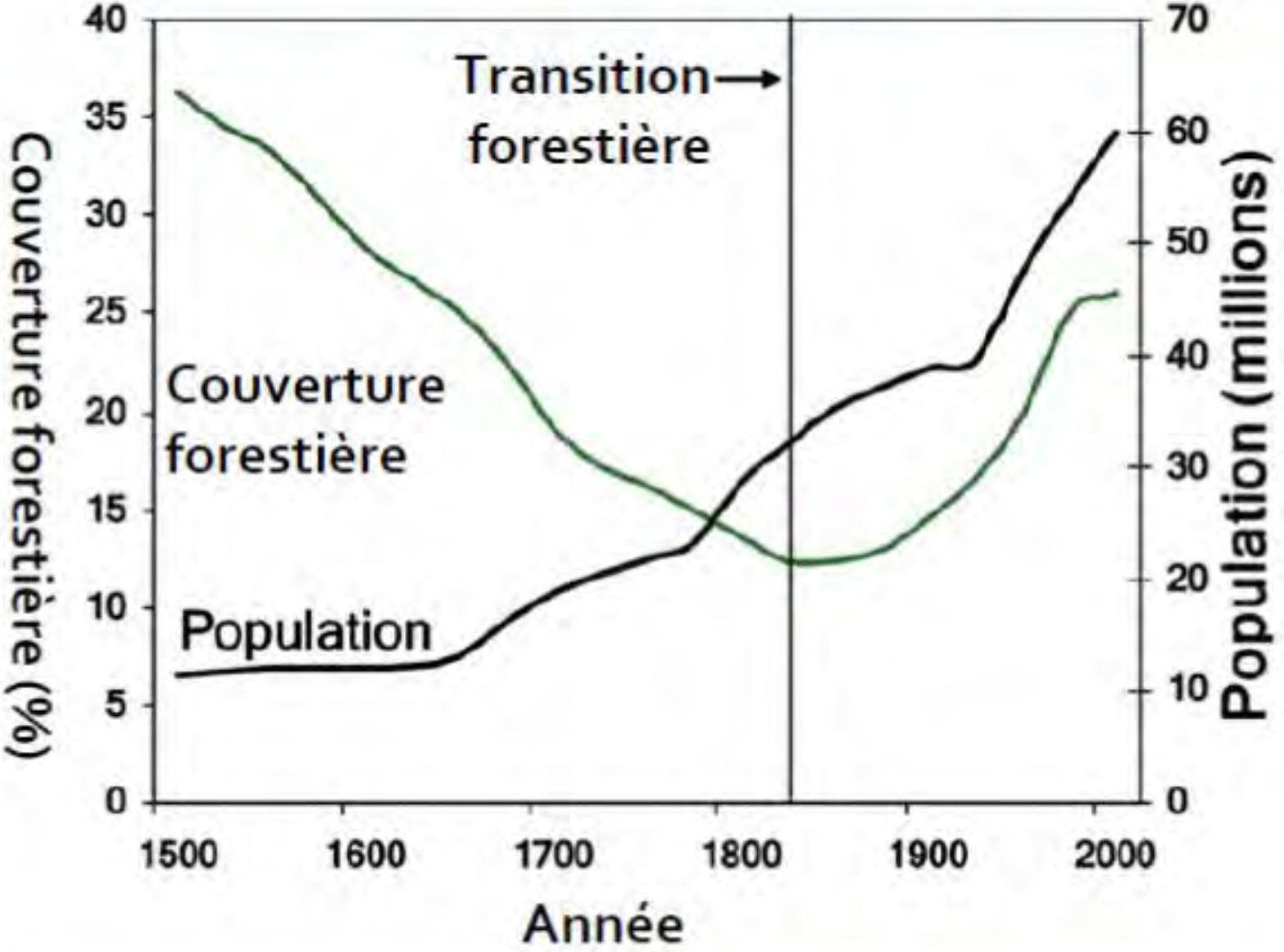
University of Aberdeen (Geography)

“Transition forestière” (> richesse & > couvert forestier)



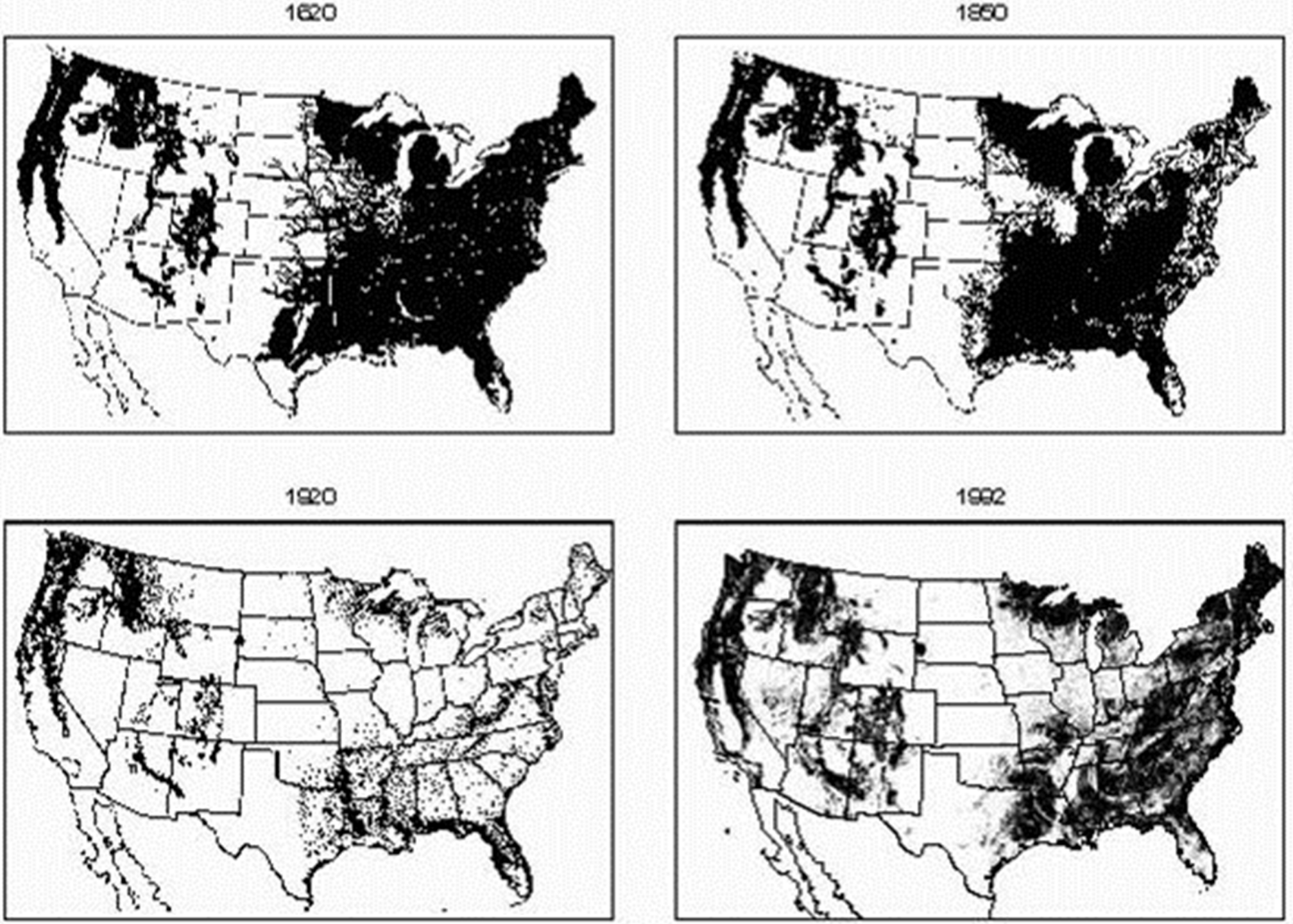
« Transition forestière »

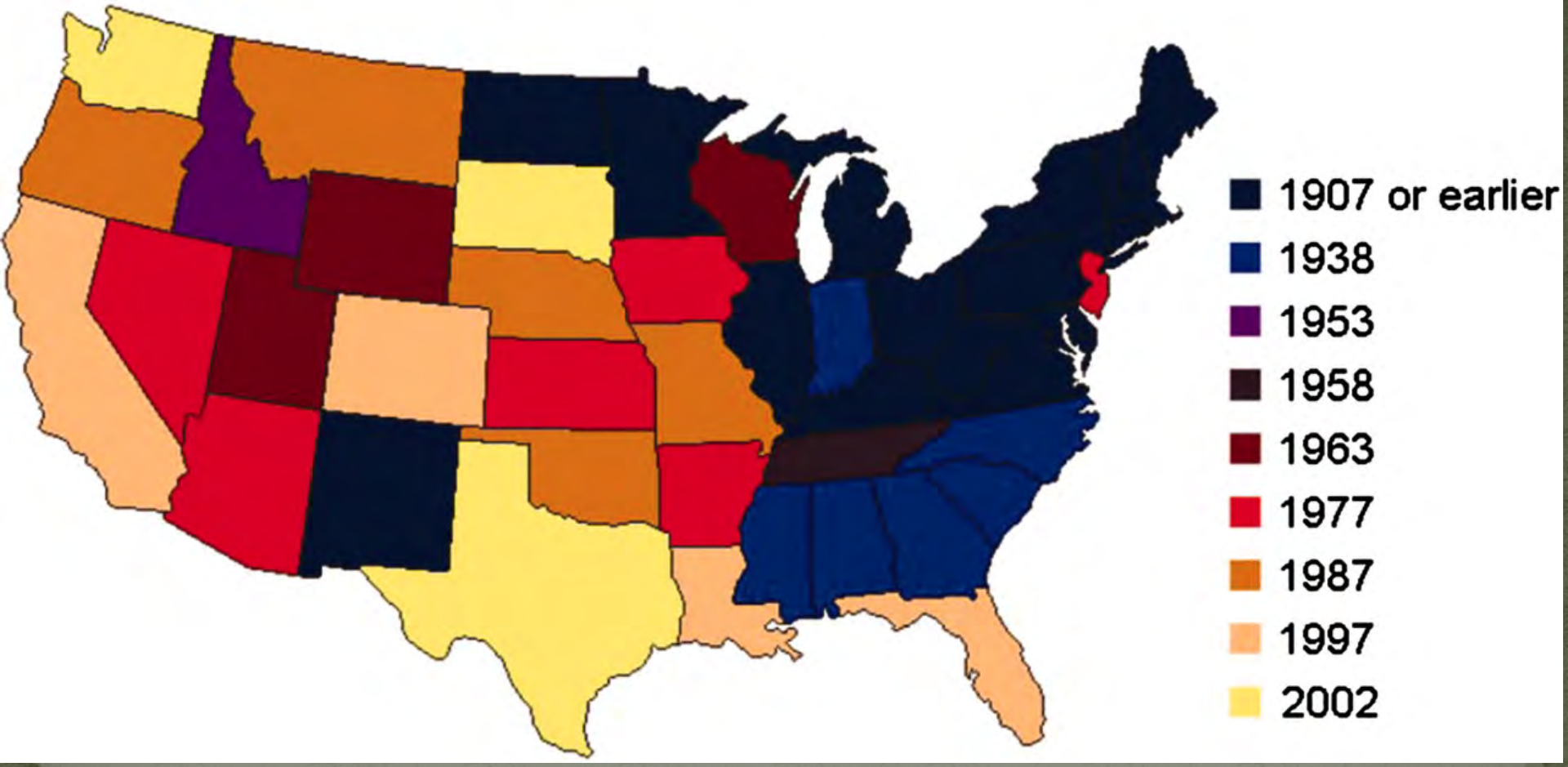
Tendances du couvert forestier français et de la population



Source : Kauppi et al. 2006; 1755.

Figure 12. Forest Land in the United States, 1620, 1850, 1920, and 1992





US “Forest Transition” by States

Nouvelle-Angleterre

Vermont

1850: 37%

2000: 77%

New Hampshire

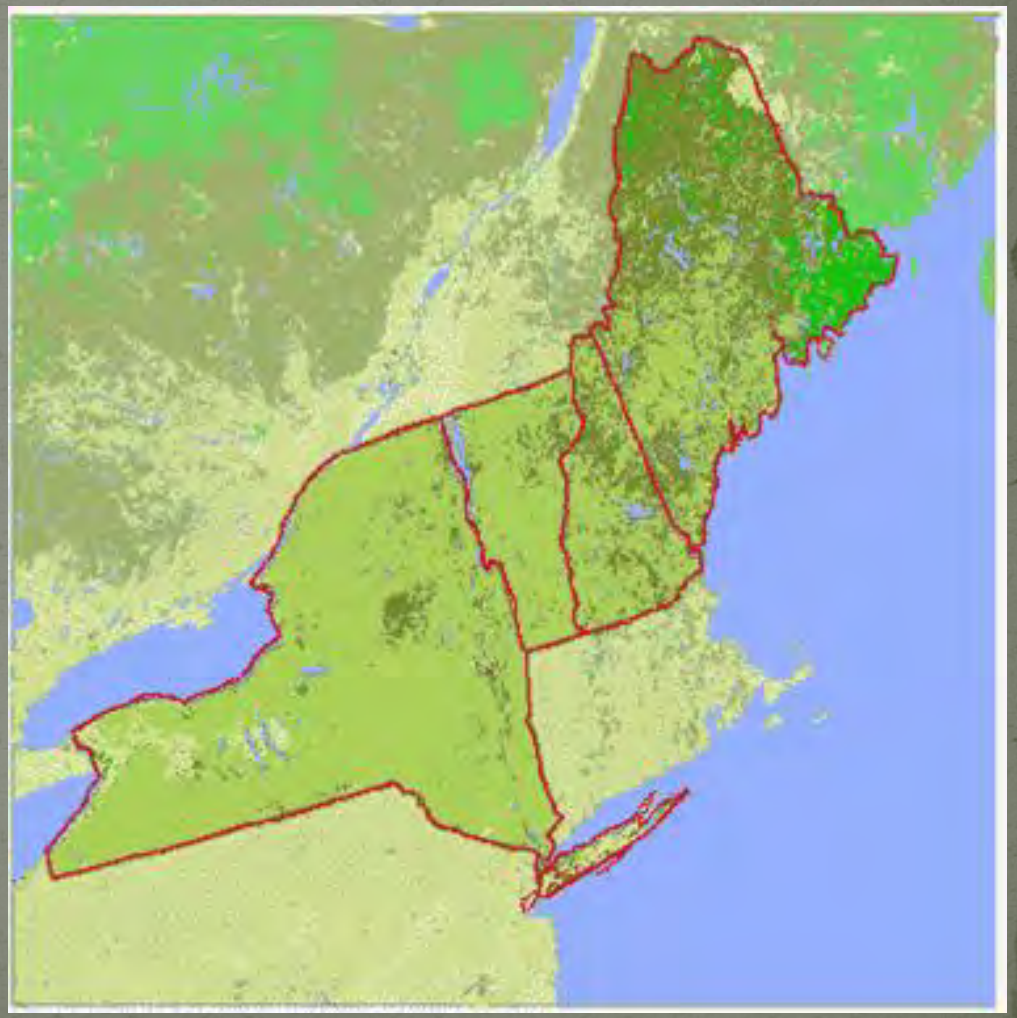
1850: 50%

2000: 87%

Connecticut

1860: 29%

2000: 60%



Harvard Forest (Western Massachusetts)

PRE-SETTLEMENT FOREST 1700 A.D.

CLEARING OF A HOMESTEAD BY AN EARLY SETTLER 1740 A.D.

HEIGHT OF AGRICULTURE 1830 A.D.

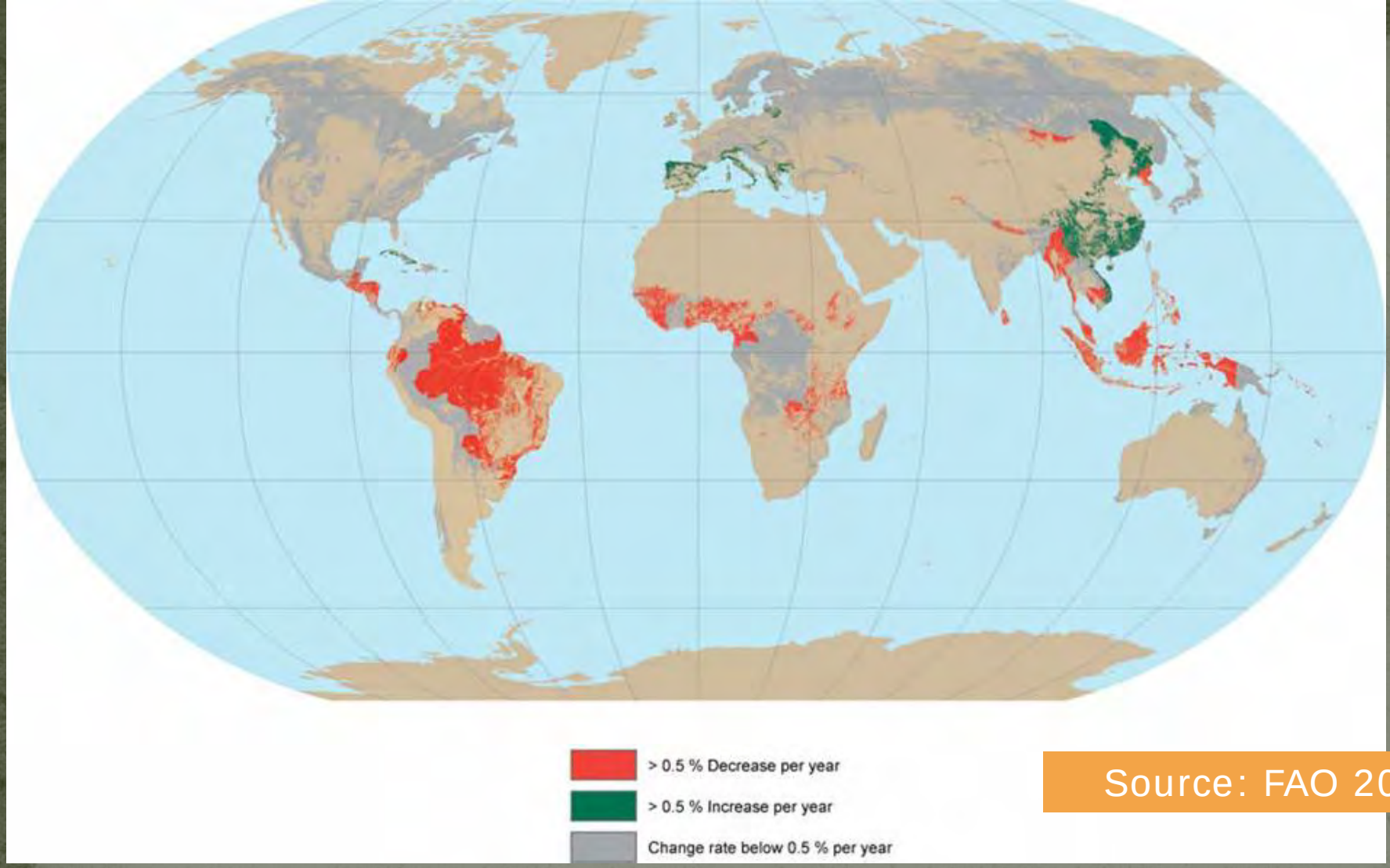
FARM ABANDONMENT 1850 A.D.

"OLD-FIELD" WHITE PINE ON ABANDONED LAND 1910 A.D.

WHITE PINE IS SUCCEEDED BY HARDWOODS 1915 A.D.

AN AGGRADING FOREST OF HARDWOODS 1930 A.D.

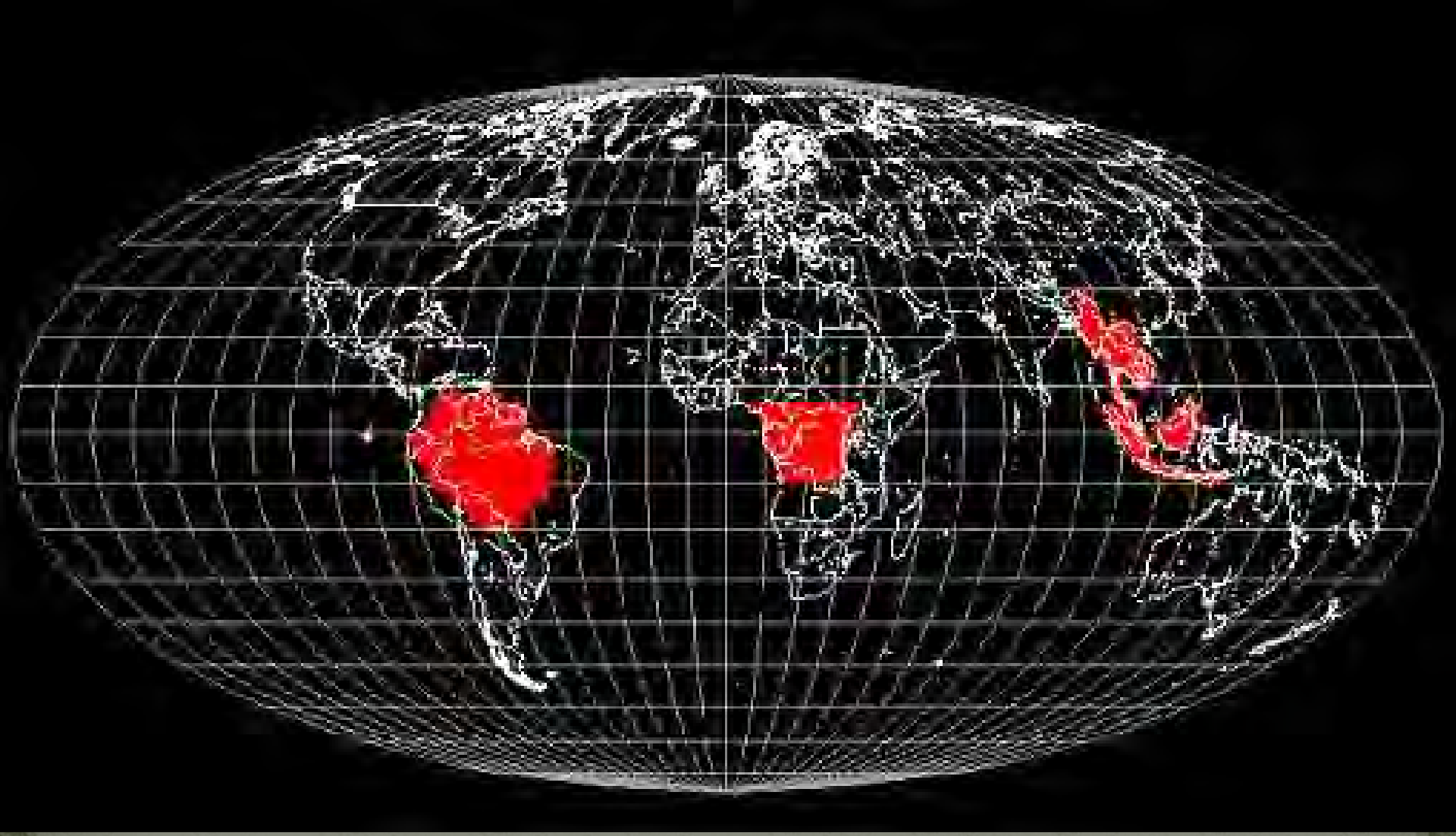
Aujourd’hui…



Source: FAO 2005

Bonne nouvelle: (PNAS 2005)

- depuis 15 ans, couvert forestier >> 22 des 50 pays > couvert forestier
- Pays PIB/capita > US $4600 (~ Chili) = “richer is greener”
- ~ 50% pays avec plus grand couvert forestier, biomasse et C >>>



Pauvreté = déforestation

4. Le pouce vert de la main invisible

Processus de marché

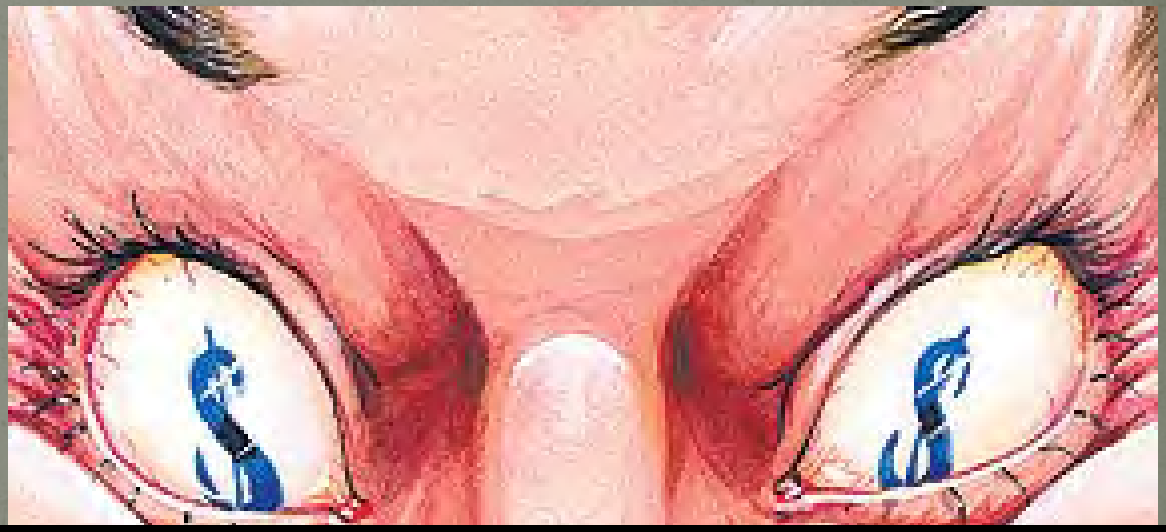
- > efficience
- sous-produits
- substituts

Profits et environnement

Question:

Pourquoi des gens d'affaires gaspilleraient-ils des ressources coûteuses?

- air
- sol
- eau



Réponse: aussi peu que possible…

Gens d'affaires créatifs…

"If goal ~ lose weight, ~ cutting off leg…

Cost-cutting for its own sake… just as shortsighted.

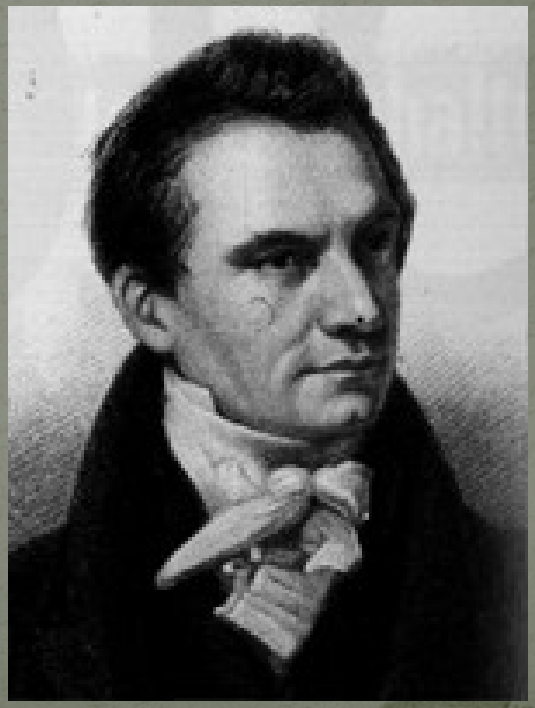
[Better] to focus on
eliminating waste."

Charles Koch (2007)

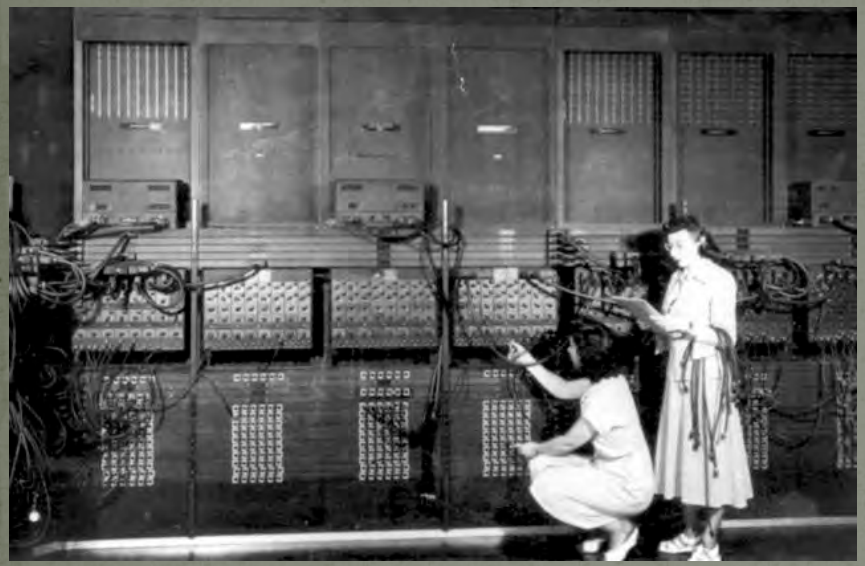
>> Efficience

Progrès technique ~

« économie notable dans la quantité des matières brutes employées… »



Charles Babbage (1832)



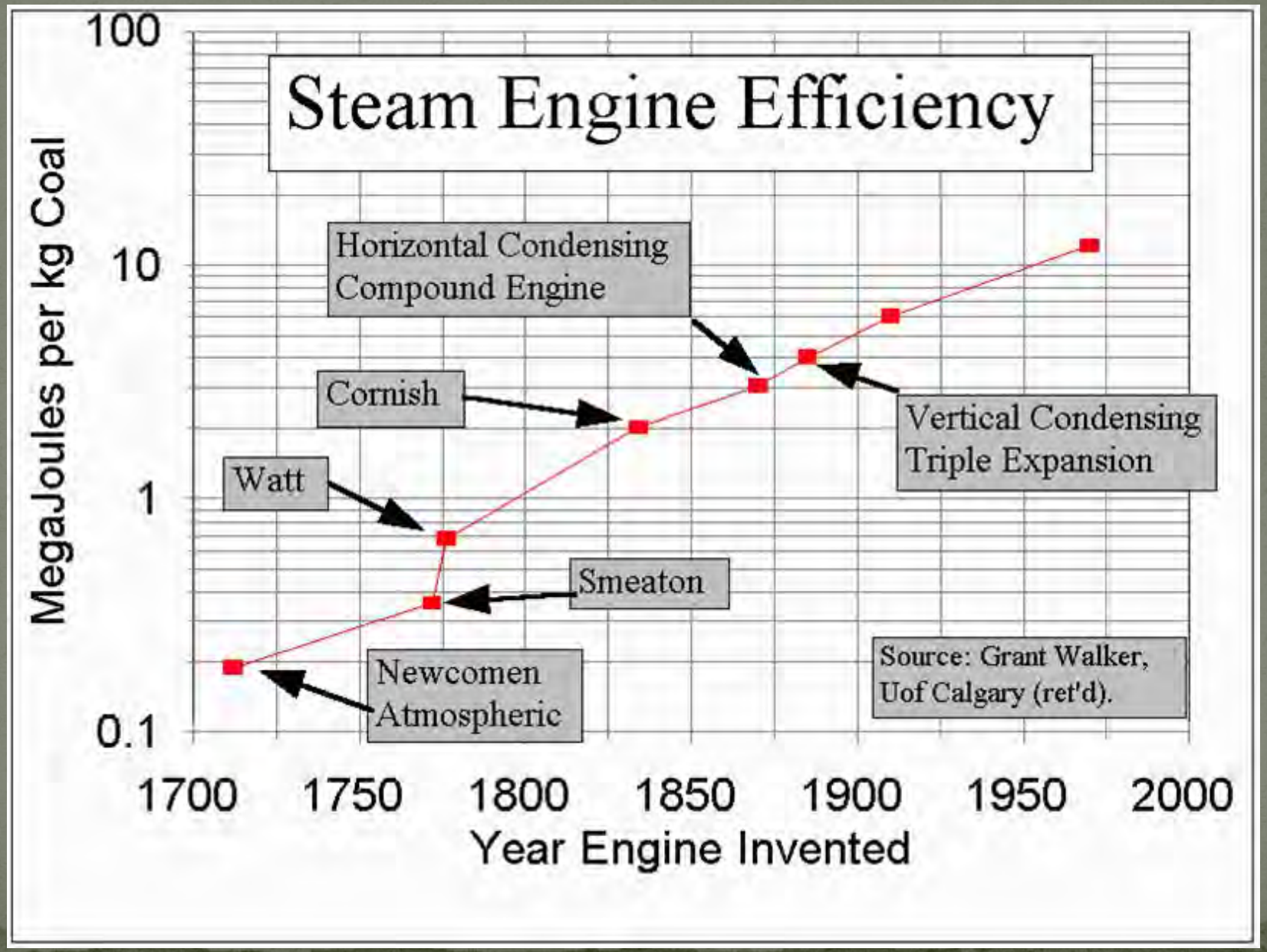
ENIAC (1945)

> 30 tonnes

200 KWS

+/- 18,000 tubes électroniques

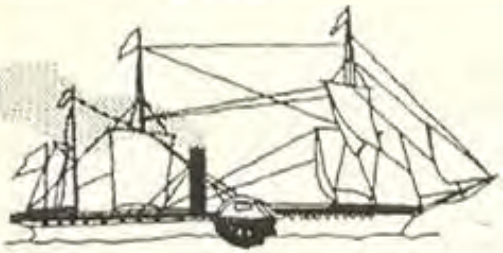
Machines à vapeur



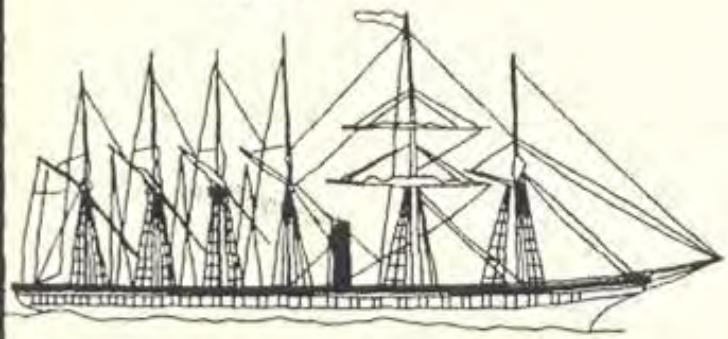
Navires

1807

1840

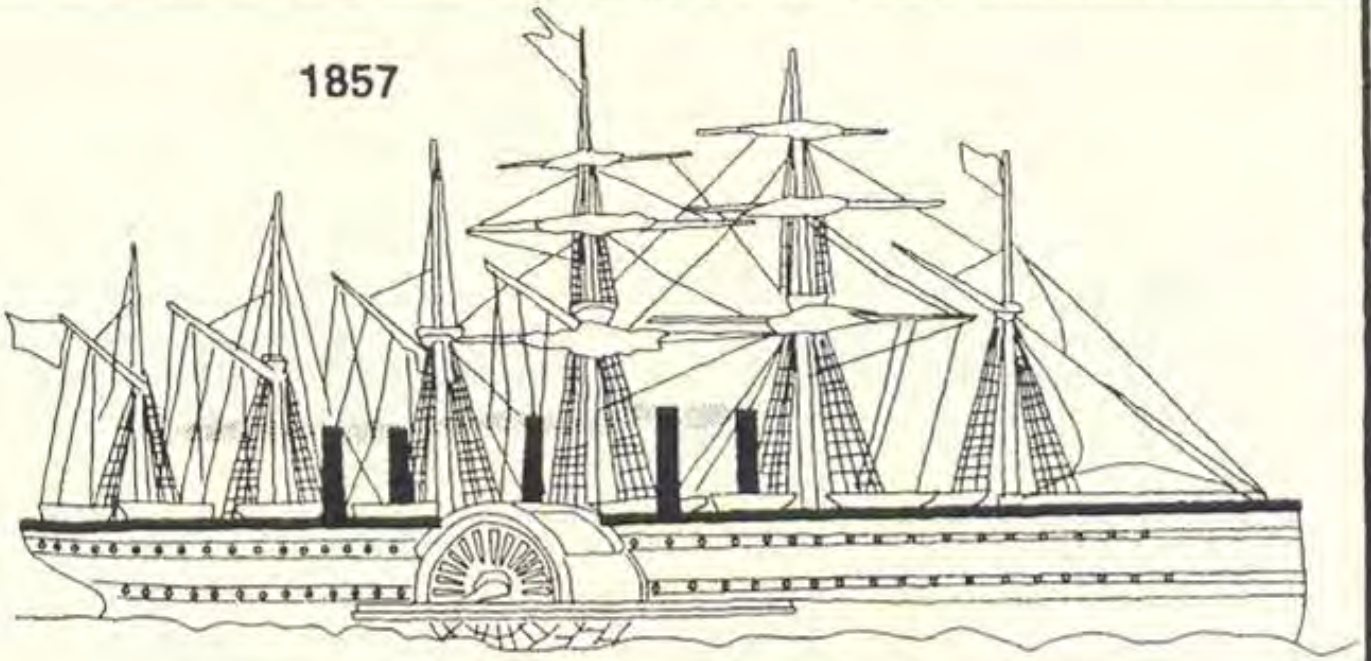


1845

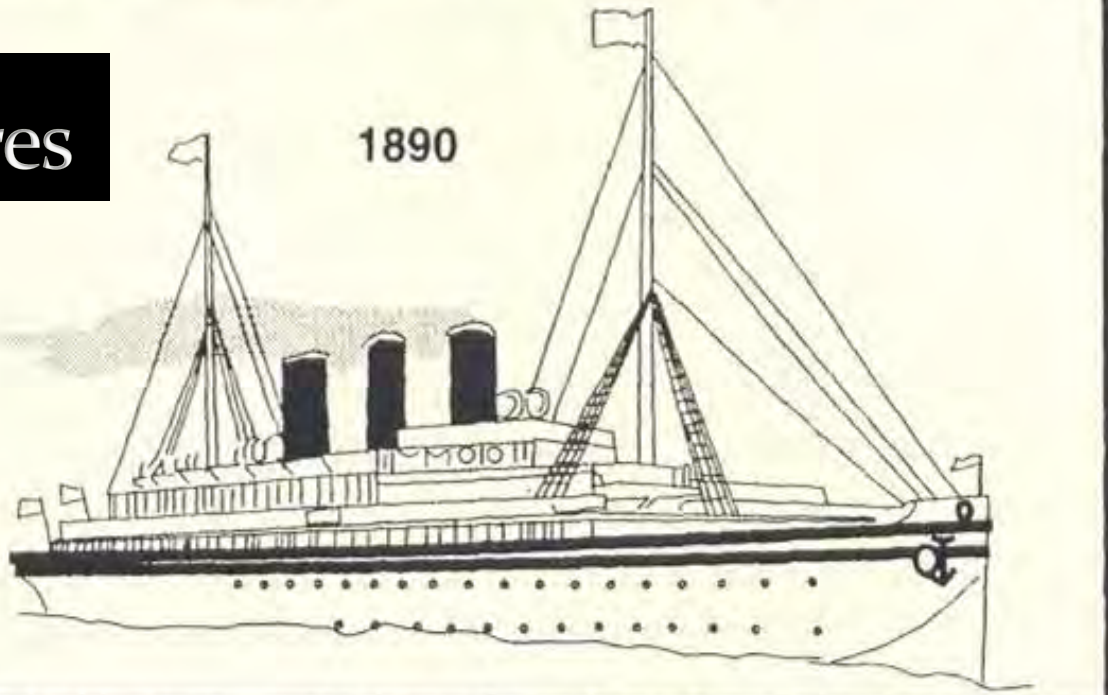


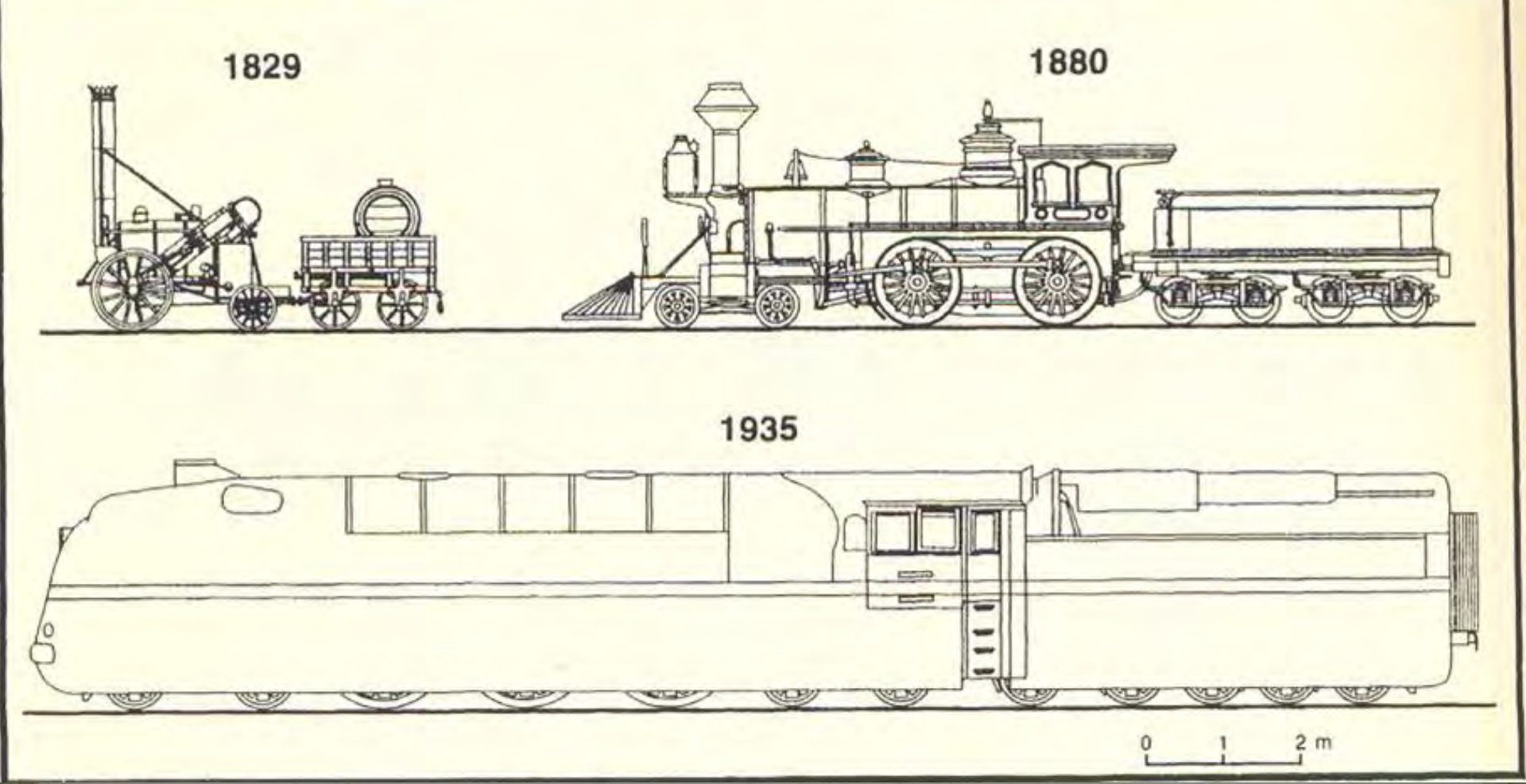
0 10 20 m

1857



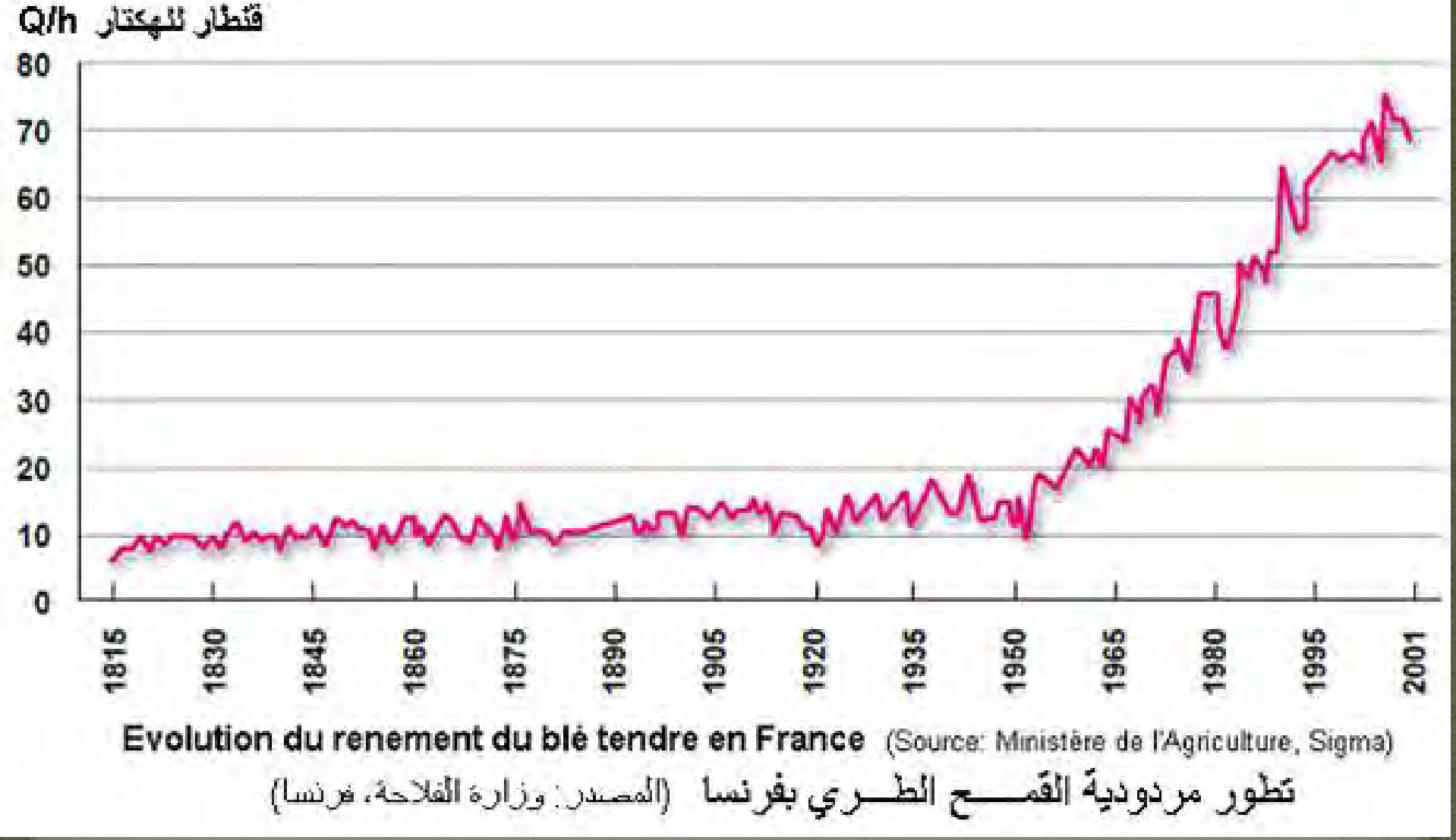
1890





Locomotives

Agriculture



Evolution du renement du blé tendre en France (Source: Ministère de l'Agriculture, Sigma)

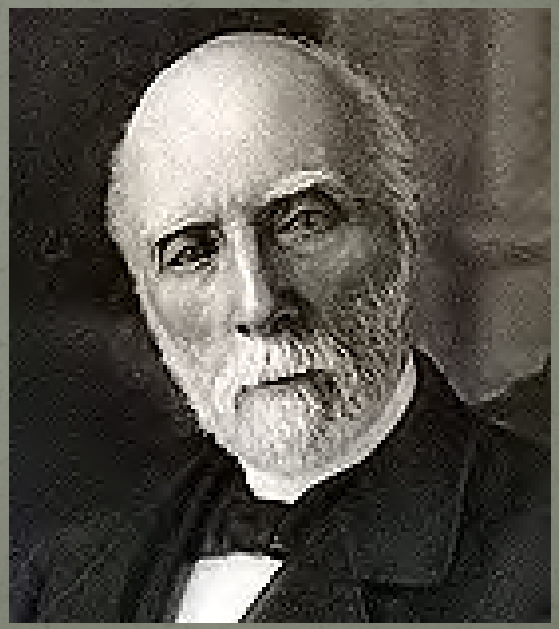
تطور مردودية القمـــح الطـــري بفرنسا (المصدر: وزارة الفلاحة، فرنسا)

Sous-produits (~ pollution)

Aujourd'hui les usines les plus florissantes…

- tirent le meilleur parti de leurs résidus
- savent le mieux les faire rentrer dans le cercle des opérations.

L'intérêt du fabricant est en
« *parfait accord* »
avec l'intérêt général.

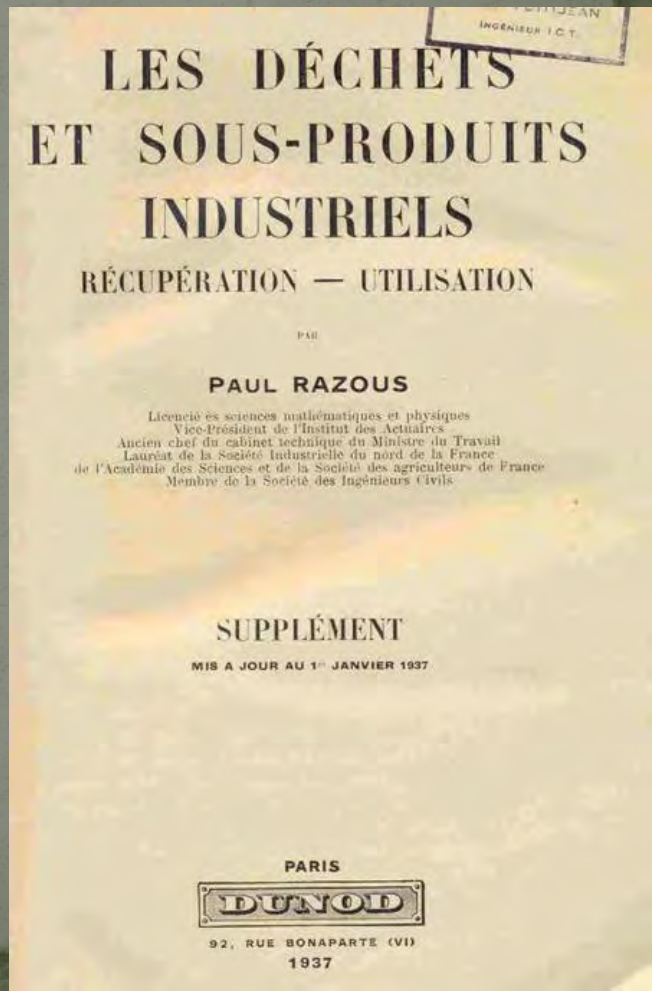


Charles de Freycinet (1870)

Des milliers de solutions « gagnant – gagnant »

- ***Waste Products and Undeveloped Substances*** (1862 – 1876) (~ 500 pages)
- ***The Utilization of Waste Products*** (1880 - 1921) (~ 340 pages)
- ***The Recovery and Use of Industrial and Other Waste*** (1928) (212 pages)
- ***Industrial Waste and Salvage*** (1951 - 1963) (~ 400 pages)

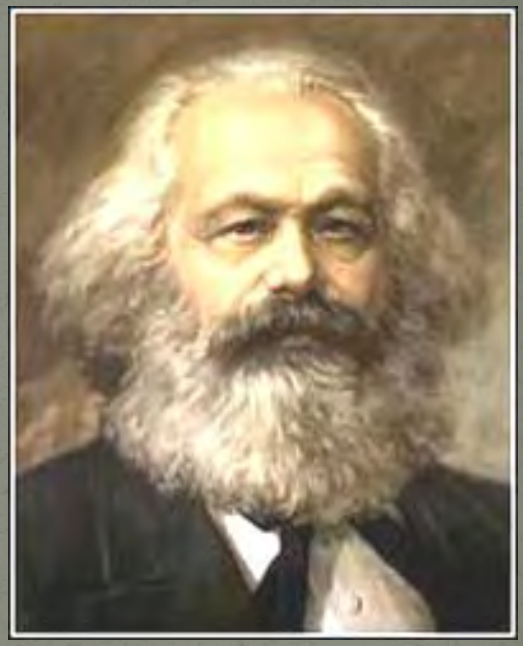
(1905, 1921, 1937) (~ 600 pages)



Capitalisme ~ >>> **utilisation** des résidus de la production.

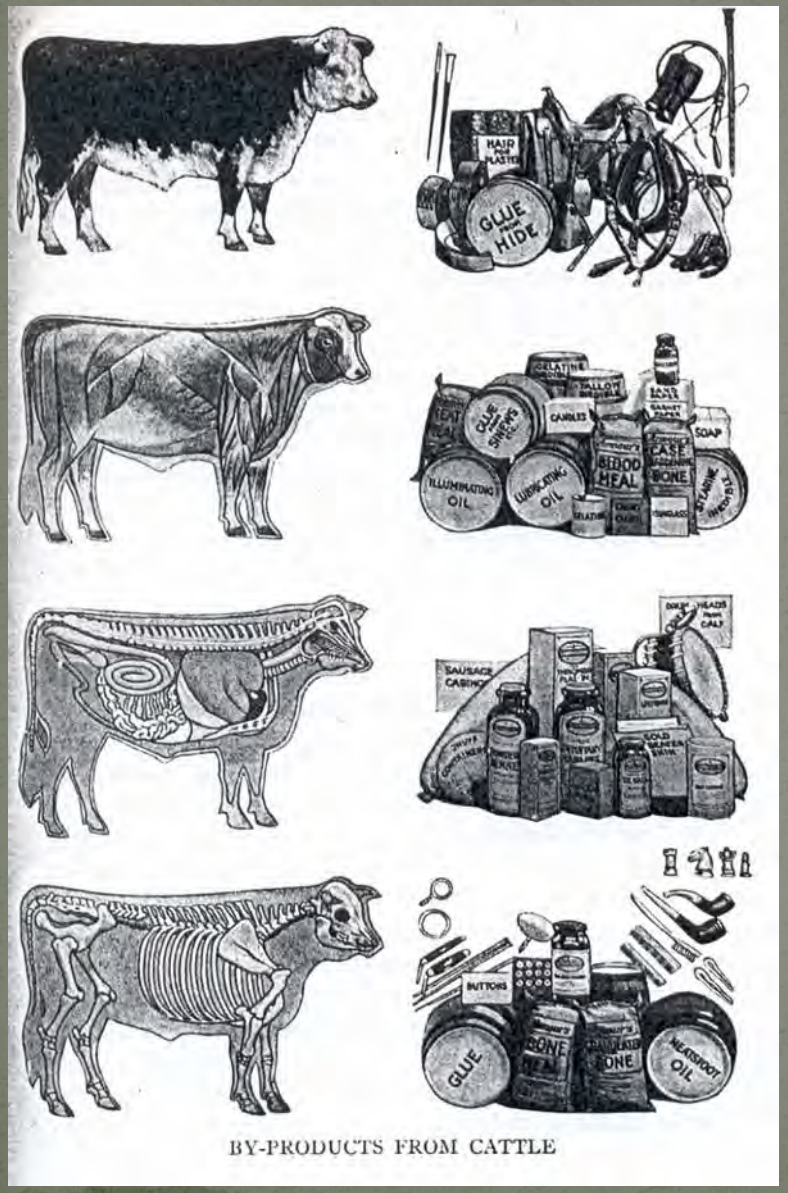
Pourquoi?

- >> profit
- 2ième source d'économie…

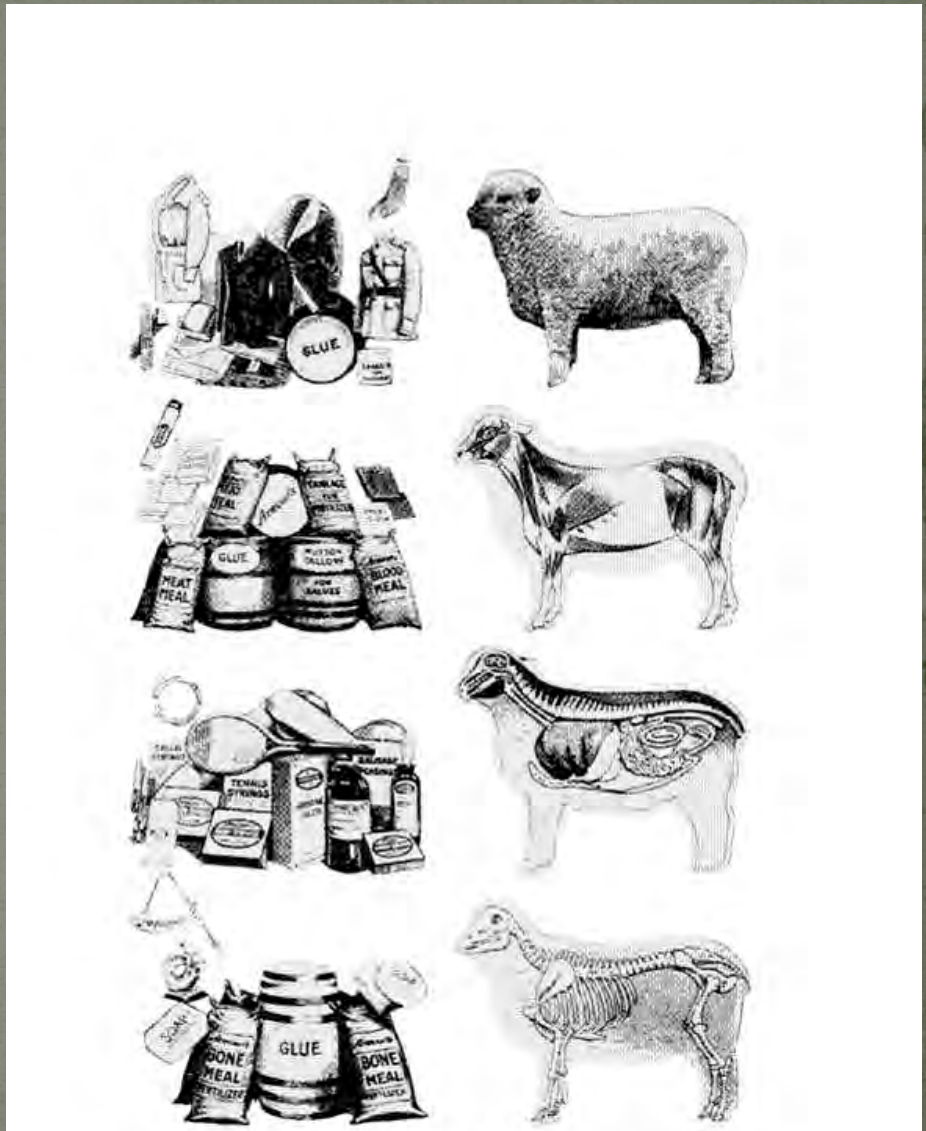


Karl Marx (1894)

Sous-produits de l'abattage (1927)

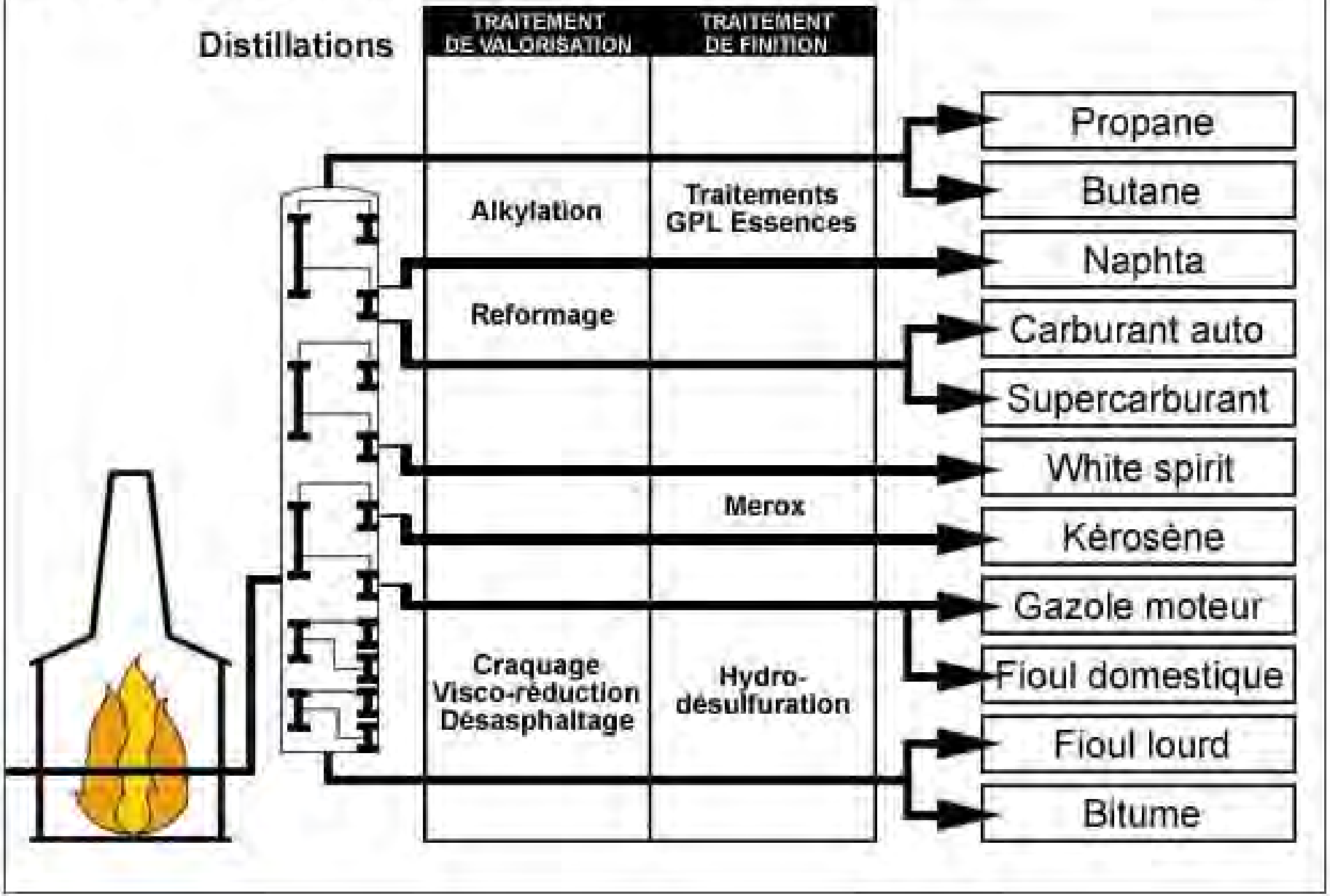


BY-PRODUCTS FROM CATTLE



BY-PRODUCTS FROM SHEEP

SCHEMA DU RAFFINAGE



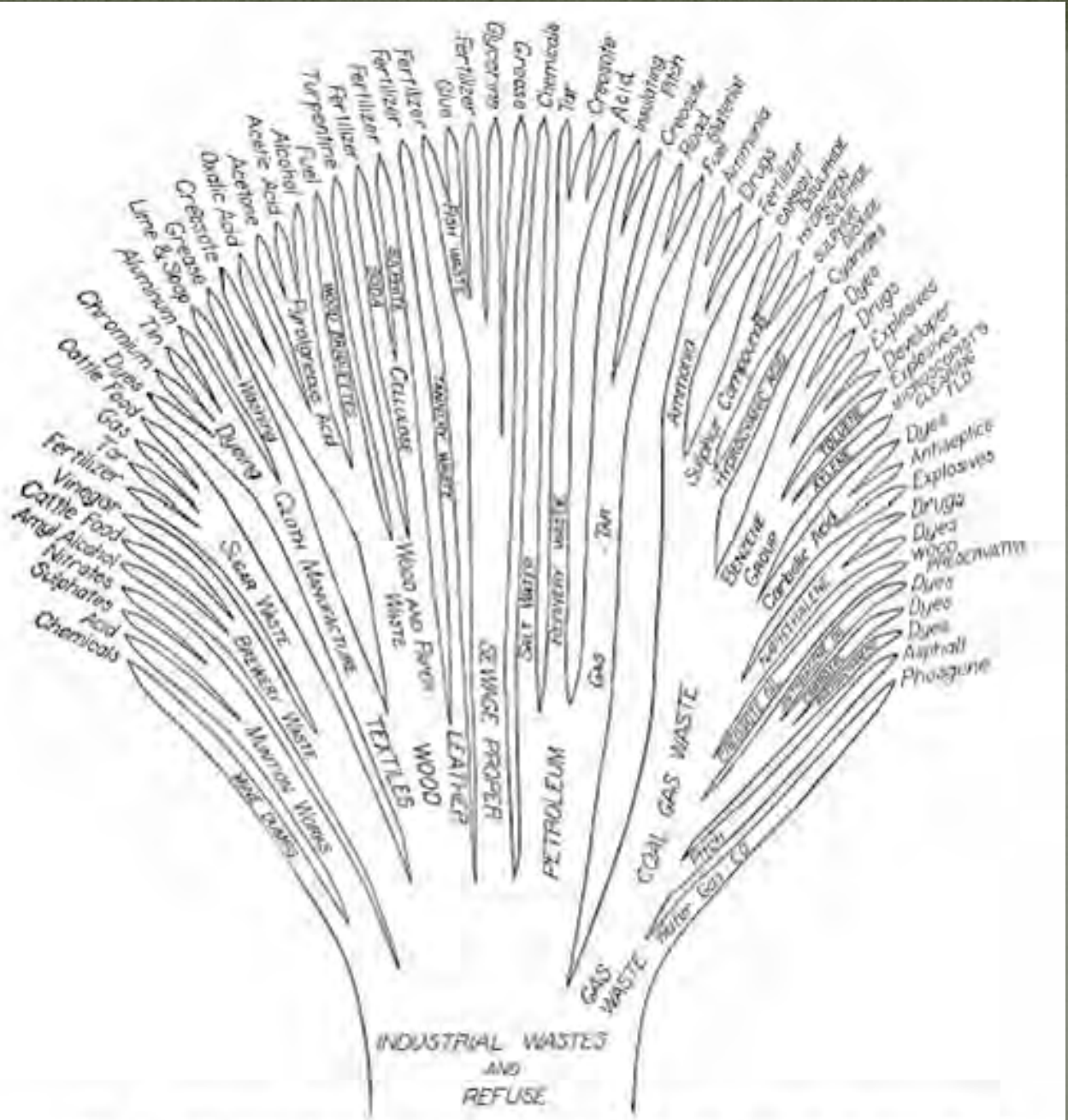
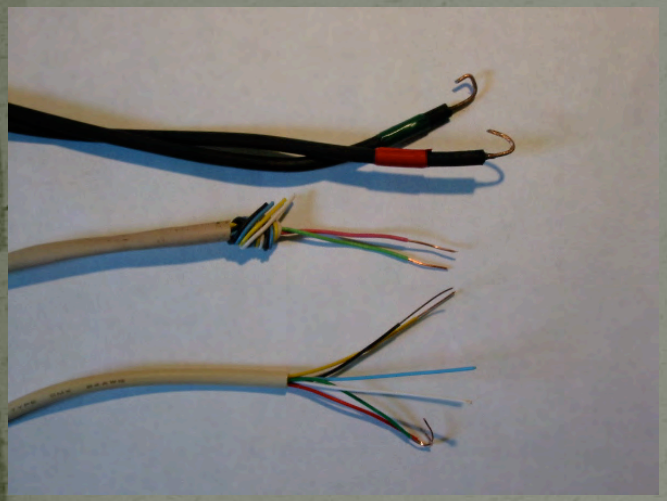


FIG. 1. Diagram showing, in the form of a tree, the various wastes and the useful substances into which they may be manufactured or which may be obtained from them.

1919

Produits substituts
(transmatérialisation)

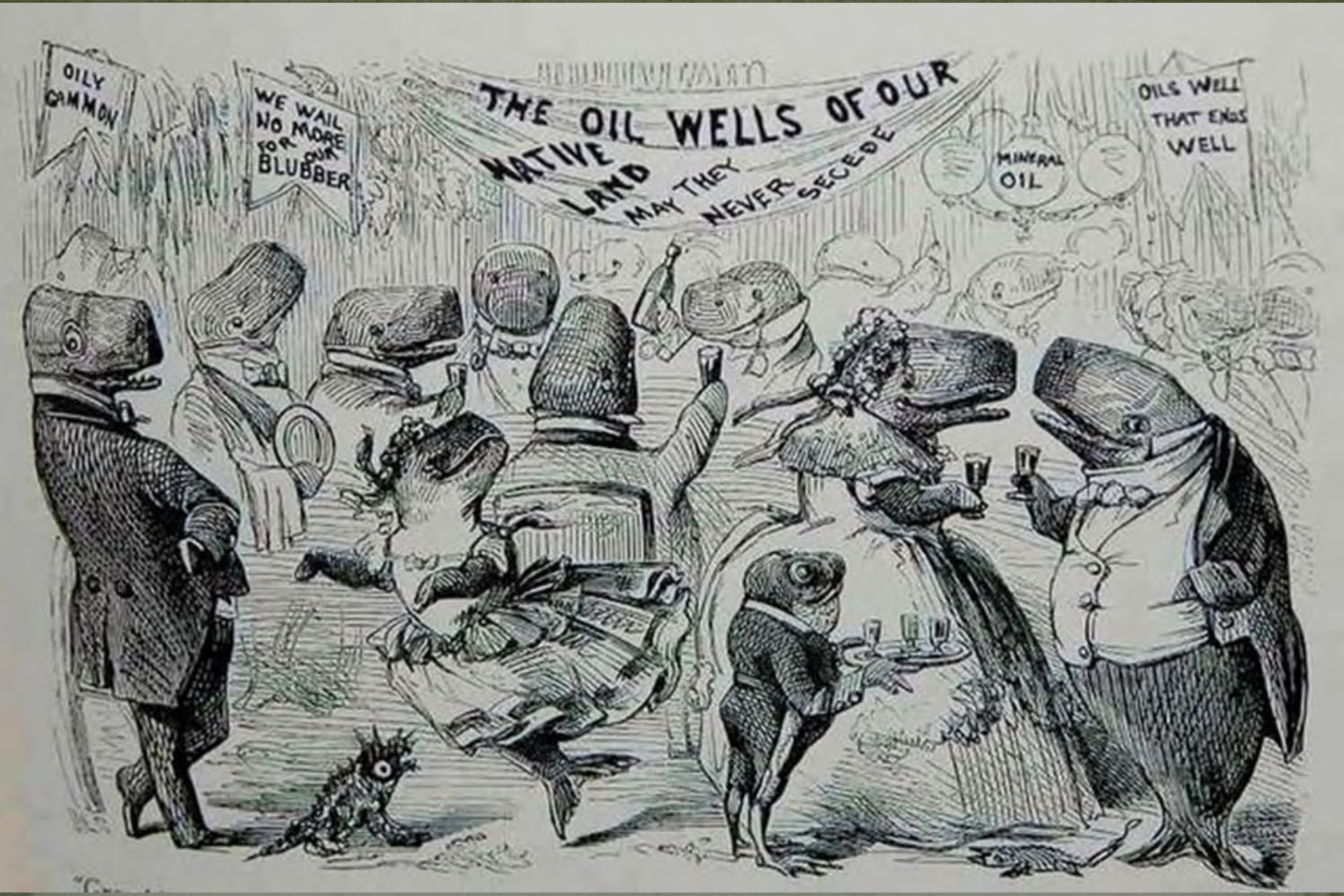


Cuivre…

…fibres optiques…

… satellites

Retombées écologiques positives…

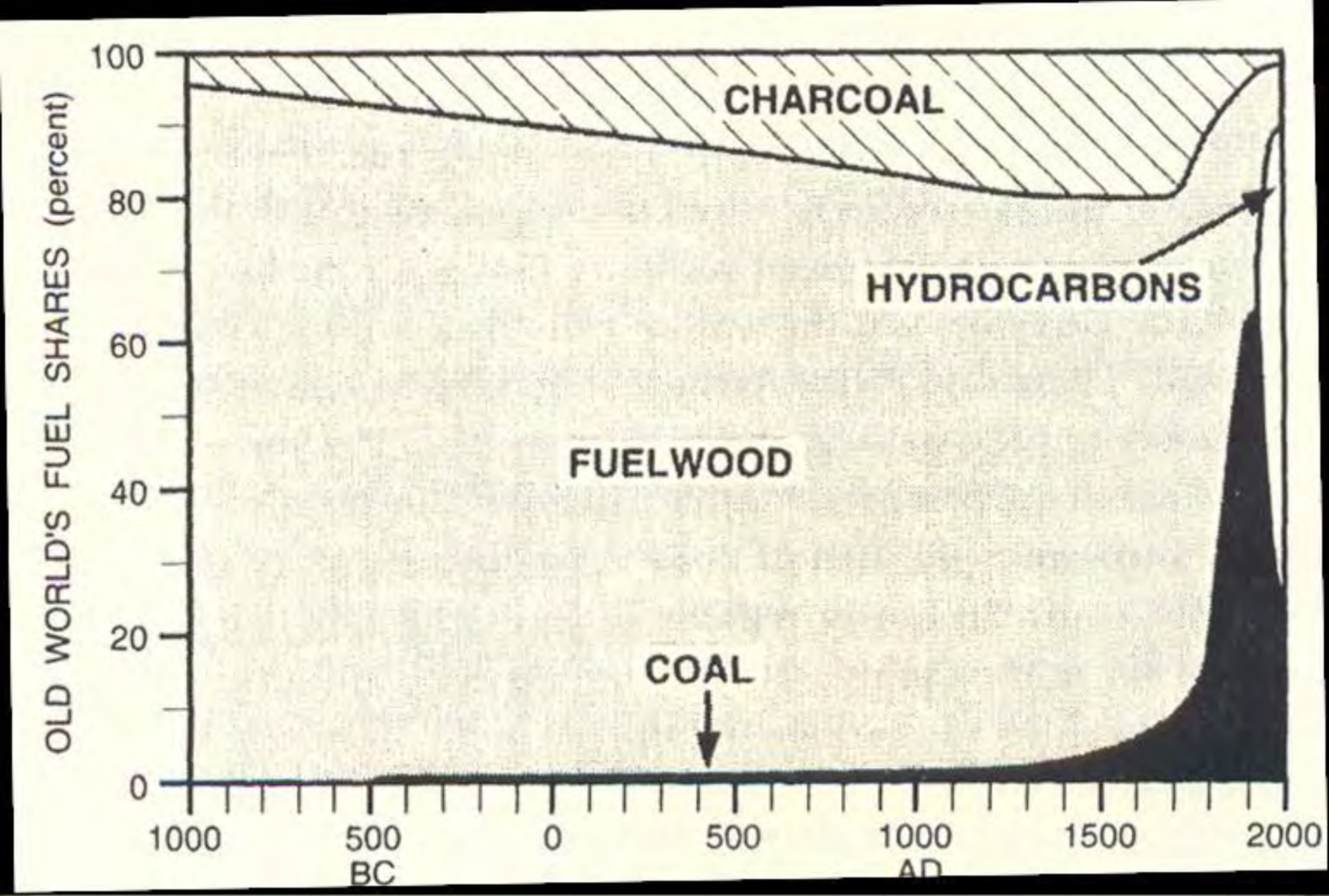


Vanity Fair, 1861

Santé publique

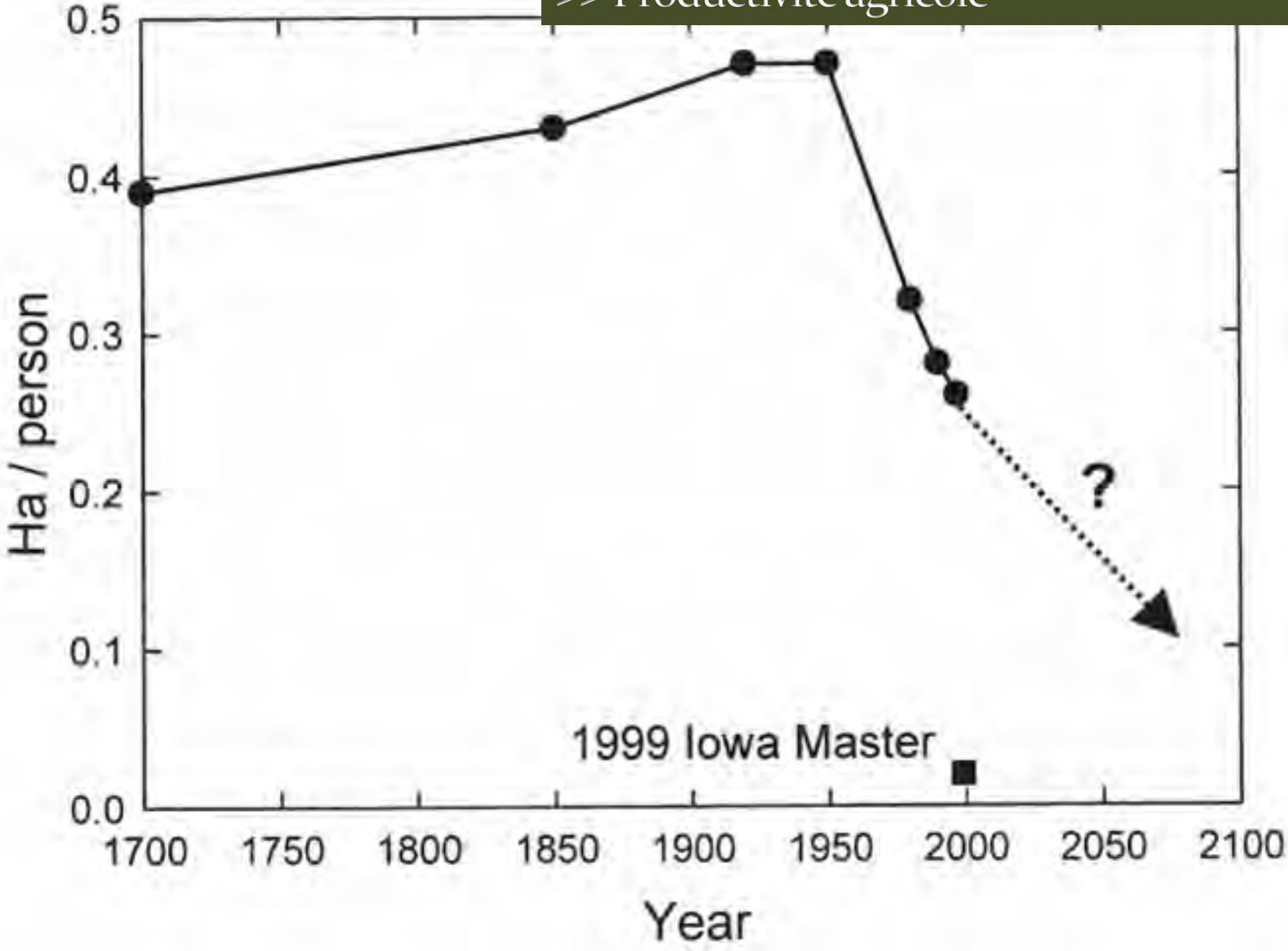
Étude de cas: transition forestière

- reforestation
- produits substituts
- >> productivité
  - production (bois)
  - transformation (bois)
  - agriculture


OLD WORLD'S FUEL SHARES (percent)
100
80
60
40
20
0
CHARCOAL
HYDROCARBONS
FUELWOOD
COAL
1000
500
BC
0
500
1000
AD
1500
2000

Produits substituts

>> Productivité agricole



Production de bois

Plantation d’eucalyptus, Brésil

Plantations – Bashang (Hebei), Chine du nord

Transformation du bois

Bahia, Brésil

Transformation du bois (aujourd'hui)

Problèmes PVD

Déforestation, mais pourquoi?

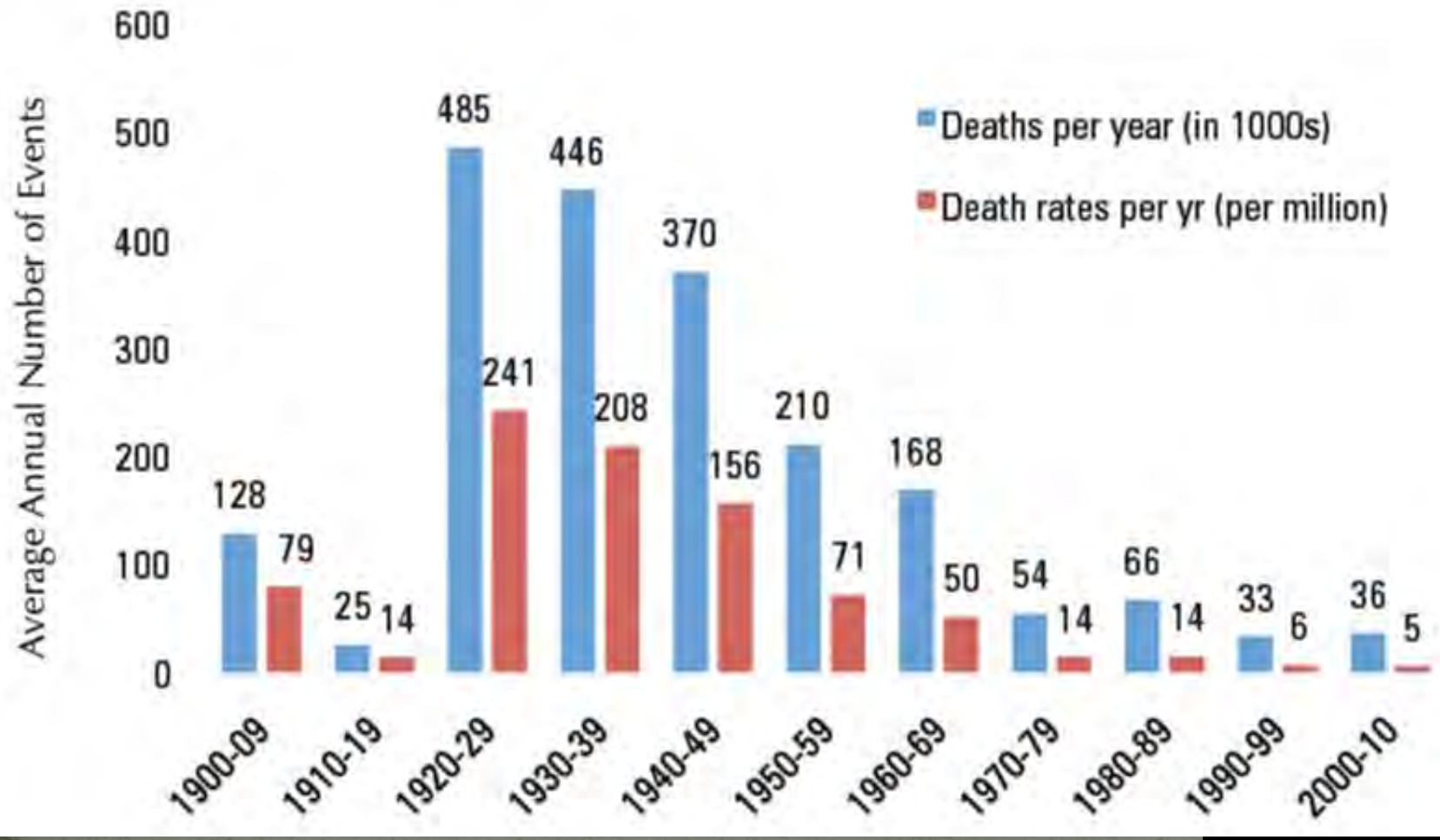
- **% "bois de feu"**
  - Asie: 79%
  - Amérique du sud: 57%
  - Afrique: 90%
- **Cultures vivrières**
- **Droits de propriété problématiques**

Conclusion

- **Développement durable**
- **Pauvreté et stagnation sont insoutenables…**

Protection contre le climat…

Figure 2: Global Death and Death Rates Due to Extreme Weather Events, 1900–2010



Goklany (2011)

Ignorance…


KILL CAPITALISM
BEFORE IT KILLS THE PLANET
Earth Liberation Front

Fumisterie (empreinte écologique)

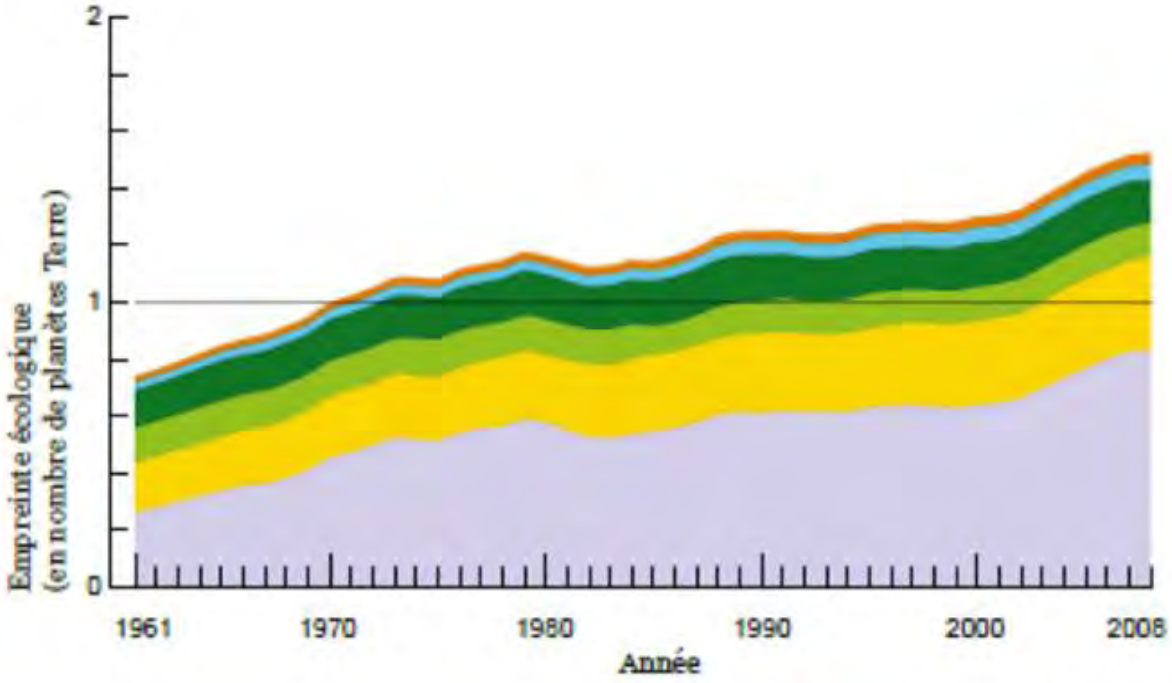


Figure 3: Empreinte écologique globale par composante entre 1961 et 2008
La principale composante de l'Empreinte écologique est l'empreinte carbone (55%).

- Terrains bâtis
- Surfaces de pêche
- Forêts
- Pâturages
- Terres cultivées
- Empreinte carbone

Quelques suggestions…