Centro di Competenza sul Calcolo Scientifico

Big Data e la creazione di valore per la business intelligence e le scienze sociali

Marco Guerzoni

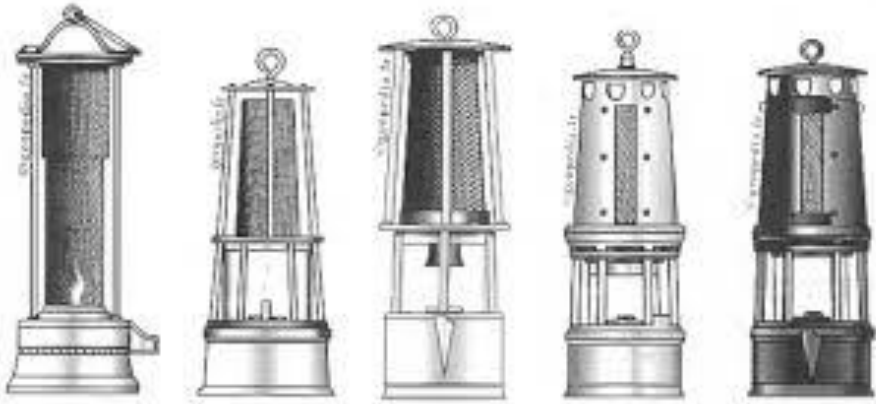Despina Fellow

Focus: Economia, Management e Policy dell'Innovazione

Advanced Data Analysis

The age of wonder:

Humphry Davy and Michael Faraday in their lab.

This wondrous Gas will have Serious Applications, Sir!
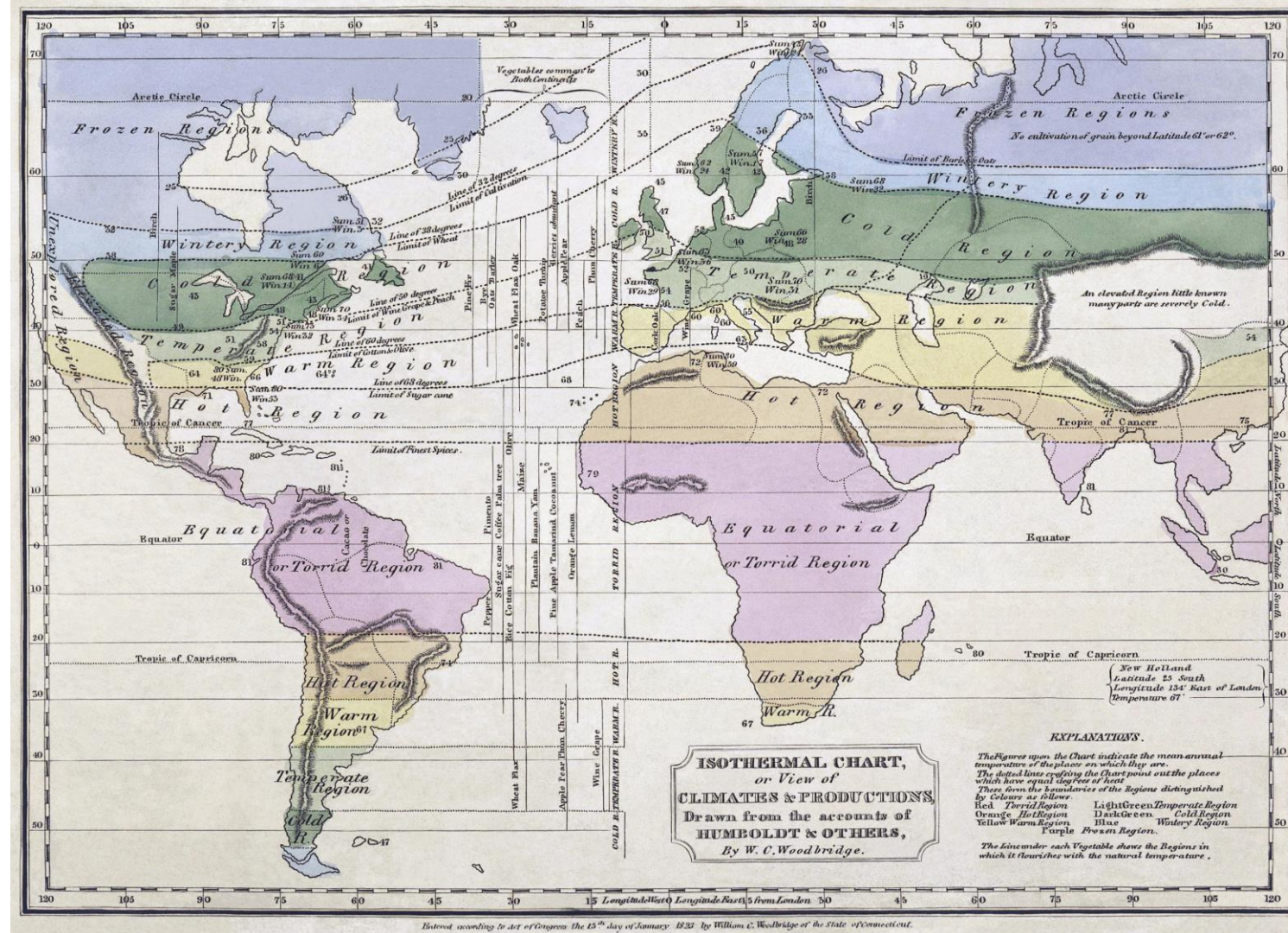
Aye, Sir! Most Serious!

Science as a hype: resurrecting a body with Galvanism and Lunardi's hot air balloon.

Science and applied technology:

Davy's safety lamp and Alexander von Humboldt's isothermic map.

Science and capital intensive research facilities

Table 1.2 Total factor productivity, computed from product accounts

	Per capita growth	Contrib. of capital/ labour ratio	Contrib. of resources per capita ratio	Total contrib. of non-labour inputs	Total factor productivity growth	Productivity as % of total per capita growth
1760–1800	0.2	0.2*0.35 = 0.07	−0.065*0.15 = −0.01	0.06	0.14	70
1800–30	0.5	0.3*0.35 = 0.105	−0.1*0.15 = −0.015	0.09	0.41	82

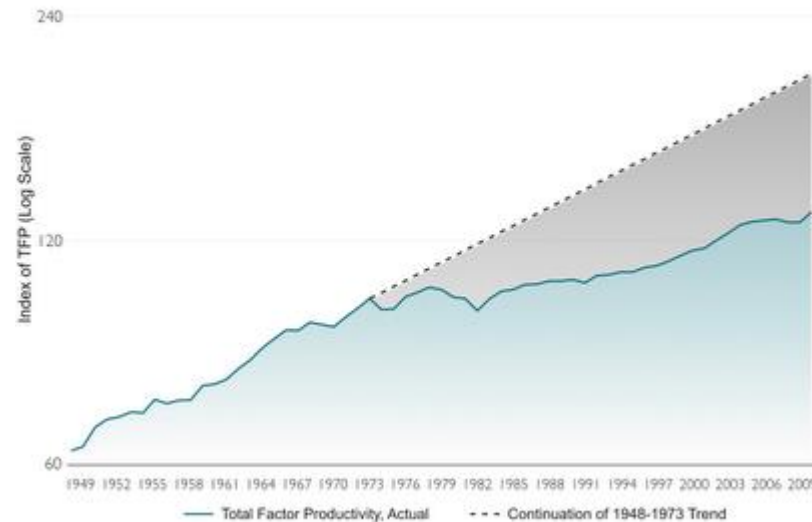Source: Computed from Crafts 1985a: 81 and Crafts and Harley 1992: table 5.

Do New Technology always create value?

The age of wonder:

No productivity growth after a century of science and inventions

FIGURE 7.
Total Factor Productivity

Index of TFP (Log Scale)

1949 1952 1955 1958 1961 1964 1967 1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009

— Total Factor Productivity, Actual   - - - Continuation of 1948-1973 Trend

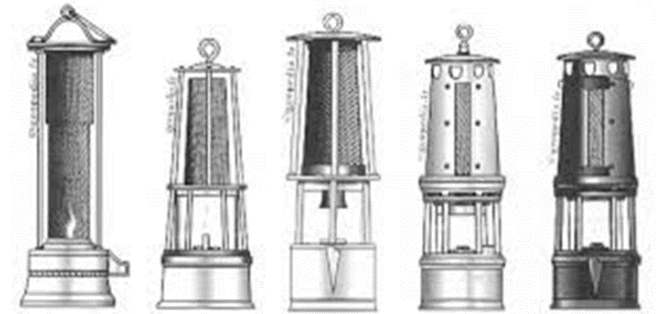BLS and Hamilton Project Calculations

The ICT revolution and the productivity paradox:

Computers are everywhere except in the productivity statistics

Despina core research goal and why C3S is good:
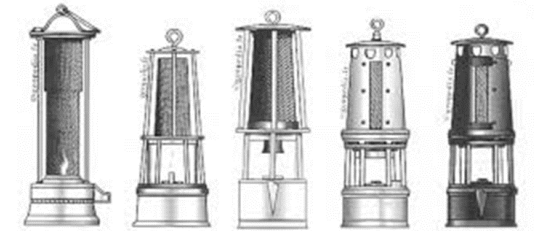How Big Data create value?

Value for Social Science

Value for Business Intelligence

- The challenge of a complex world

- The dusk of regression to the mean and p-value

- The never-ending rise of network

- The dawn of hypotheses mining

- The Graal of individual behaviour

- …

Despina core research goal and why C3S is good:
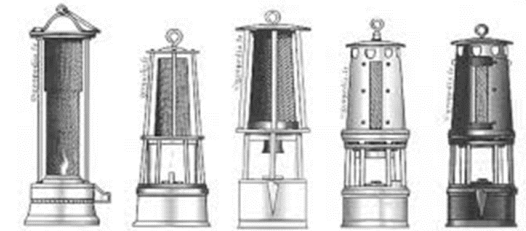## How Big Data create value?

- The challenge of a complex world
- The dusk of regression to the mean and p-value
- The never-ending rise of network
- The dawn of hypotheses mining
- The Graal of individual behaviour
- …

- Data harvesting and storing
- Anomalies, black swan, tails behavior
- Pictures or data for dummy manager
- Understanding scenarios: the Artificial Manager
- Predicting consumer behavior and risk
- …

ESt Dipartimento di Economia e Statistica *Cognetti de Martiis*

C3S

DESPINA BIG DATA LAB

Industries

BANKING   INSURANCE   LAW ENFORCEMENT   SPORT   HEALTH   TELCO

Applications

MARKETING   RISK MANAGEMENT   SECURITY   PROCESS AUTOMATION   PROCESS OPTIMIZATION
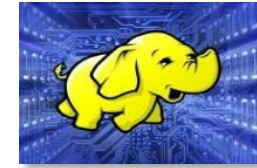
Tools

SOCIAL NETWORKS ANALYSIS   GEOGRAPHICAL INFORMATION SYSTEM   WEB & TEXT MINING   ADVANCED ANALYTICS   BIG DATA

Research & Development

marco.guerzoni@unito.it

www.despina.unito.it