



United Nations Environment Programme
Division of Technology, Industry, and Economics
Economics and Trade Branch

Visuals accompanying presentation to Jan. 1, 2008 Geneva launch of
UNEP Green Economy Initiative

Re-designing Money Systems To Reduce Greenhouse Gas
Emissions And Accelerate The Growing Green Economy

by Hazel Henderson

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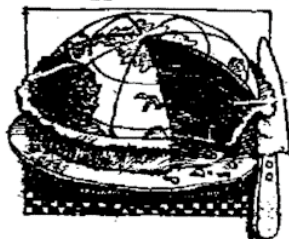
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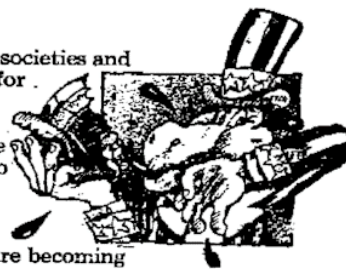
WE CAN'T GROW ON LIKE THIS.

We've always operated on the assumption that bigger is better. But is it?



Like the dinosaurs, societies and economies can grow too big for their own good.

America is fast approaching that point. The natural resources we need to live — clean air, water, land fuels, metals — are getting scarcer. Some are on the verge of extinction. Others are becoming prohibitively expensive.



At the same time we're wasting tremendous amounts of these precious resources. And our wastes pollute our communities, our nation, our world.

We need to learn to use our resources efficiently and economically and to share them better so that everyone gets a piece of the pie.

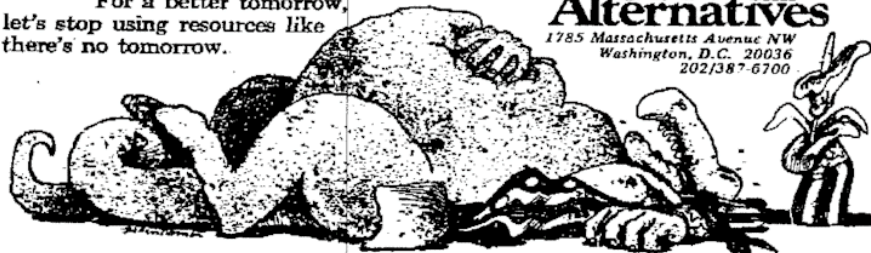
We need to conserve the raw materials that jobs depend on, because if we deplete our resources now, things will be that much tougher later.

We need to put people to work *doing* things instead of just making things. The things we *do* make have to save resources instead of wasting them. We can build mass transit instead of freeways, rebuild our cities instead of spawning new suburban sprawl, put people to work cleaning up our environment instead of despoiling it. Harsh prescriptions? Maybe. But ones that will assure a more prosperous future.

For a better tomorrow, let's stop using resources like there's no tomorrow.

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Restructuring Industrial Economies

OBSOLESCENT SECTORS

Unsustainable, Entropic

- Industries, companies based on heavy use of non-renewable energy and materials
- Planned obsolescence
- Fossil fuels, nuclear power generation

EMERGING SECTORS

Sustainable, Low Entropy

- Industries, companies based on efficient use of energy and materials and human skills
- Recyclable products, re-manufacturing
- Solar, renewable energy systems

The Age of Light

Emerging Lightwave Technologies (Photonics)

Fiber optics, Optical scanners, Lasers, Holography

Solar technologies

Optical computers, Multiprocessor, parallel computers and neural net computers, Imaging technologies

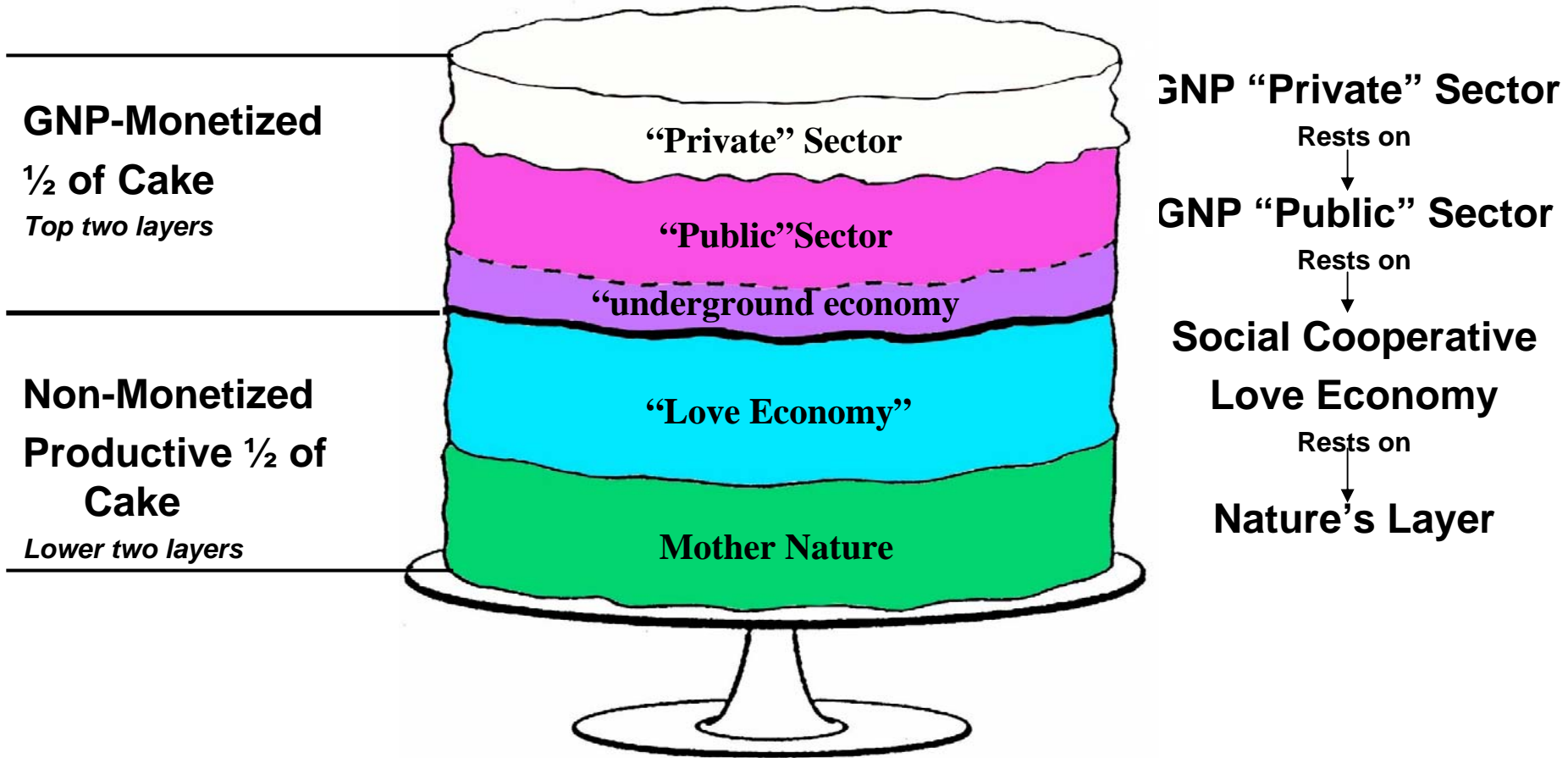
Biotechnologies

Gene machine, DNA sequencers, Tagging and tracking chemicals and genes, Nano technologies

Photons (sunlight) falling on the Earth supply enough energy in 10 minutes to put our entire six billion population in orbit!

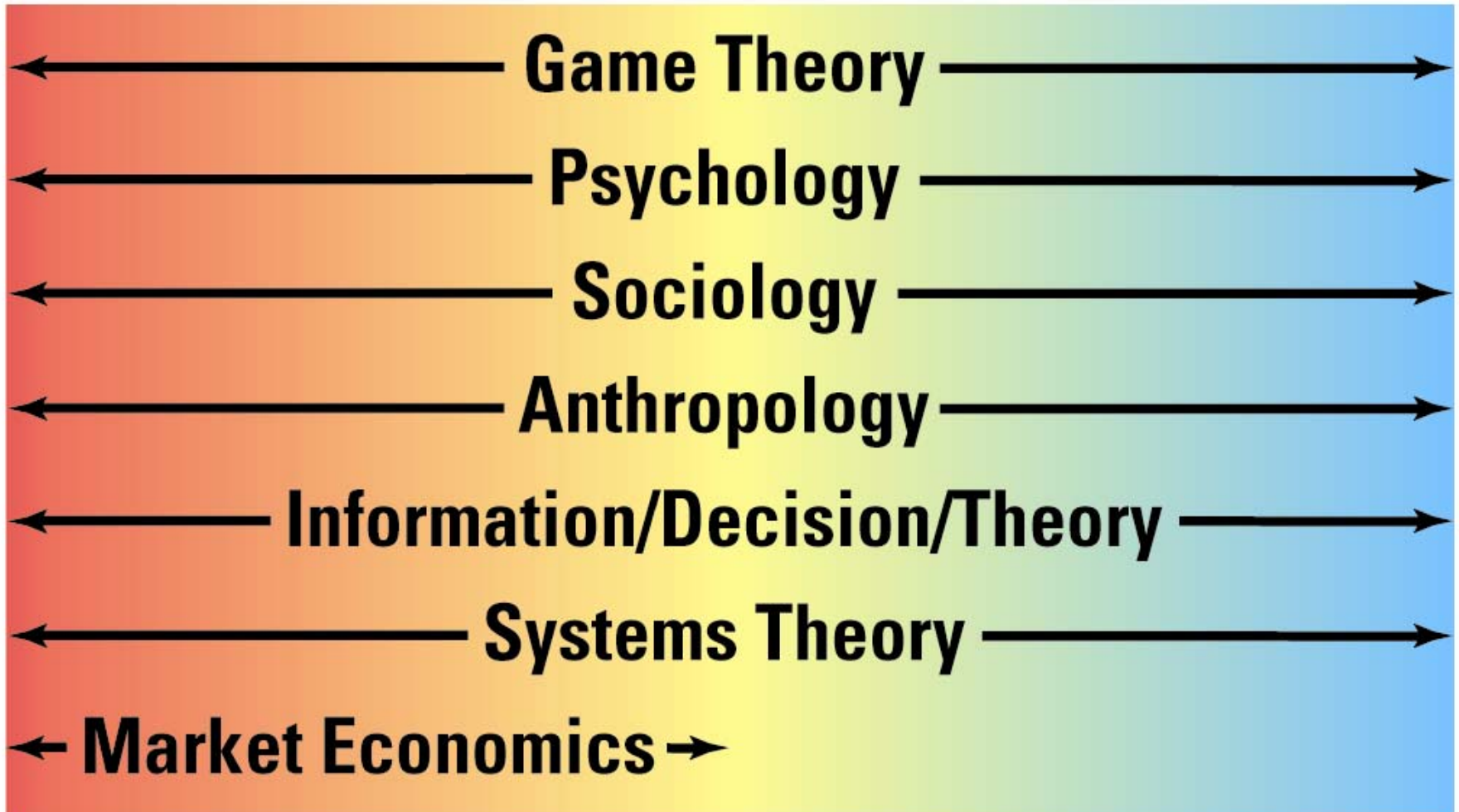
Total Productive System of an Industrial Society

(Layer Cake With Icing)



Repertoire of Human Behavior

Conflict ← *Competition* *Cooperation* → *Sharing*





THE NEW

“ATTENTION ECONOMY”

As information-based economies shift to services, time and attention become as valuable as money

New trade-offs:

- ◆ **People seek new challenges, experiences**
- ◆ **Many opt for less income and urban stress**
- ◆ **Traditional material goods (even cars) become commodities**
- ◆ **Services grow at % of GNP (opera, movie tickets, music)**

TWO MAIN WAYS OF TRANSACTING

Money Based

¥

\$

£

€

Money Economy

Information-Based

Love Economy

- Cooperation
- Barter-Mutual Aid

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EVOLUTION OF HUMAN UNDERSTANDING OF THE ROLE OF MONEY AND OTHER MEDIUMS OF EXCHANGE

(2000 and beyond)

Money-systems augmented by pure information-based trading systems
transition from Industrial Era to "green" info-rich economies of the Solar Age.

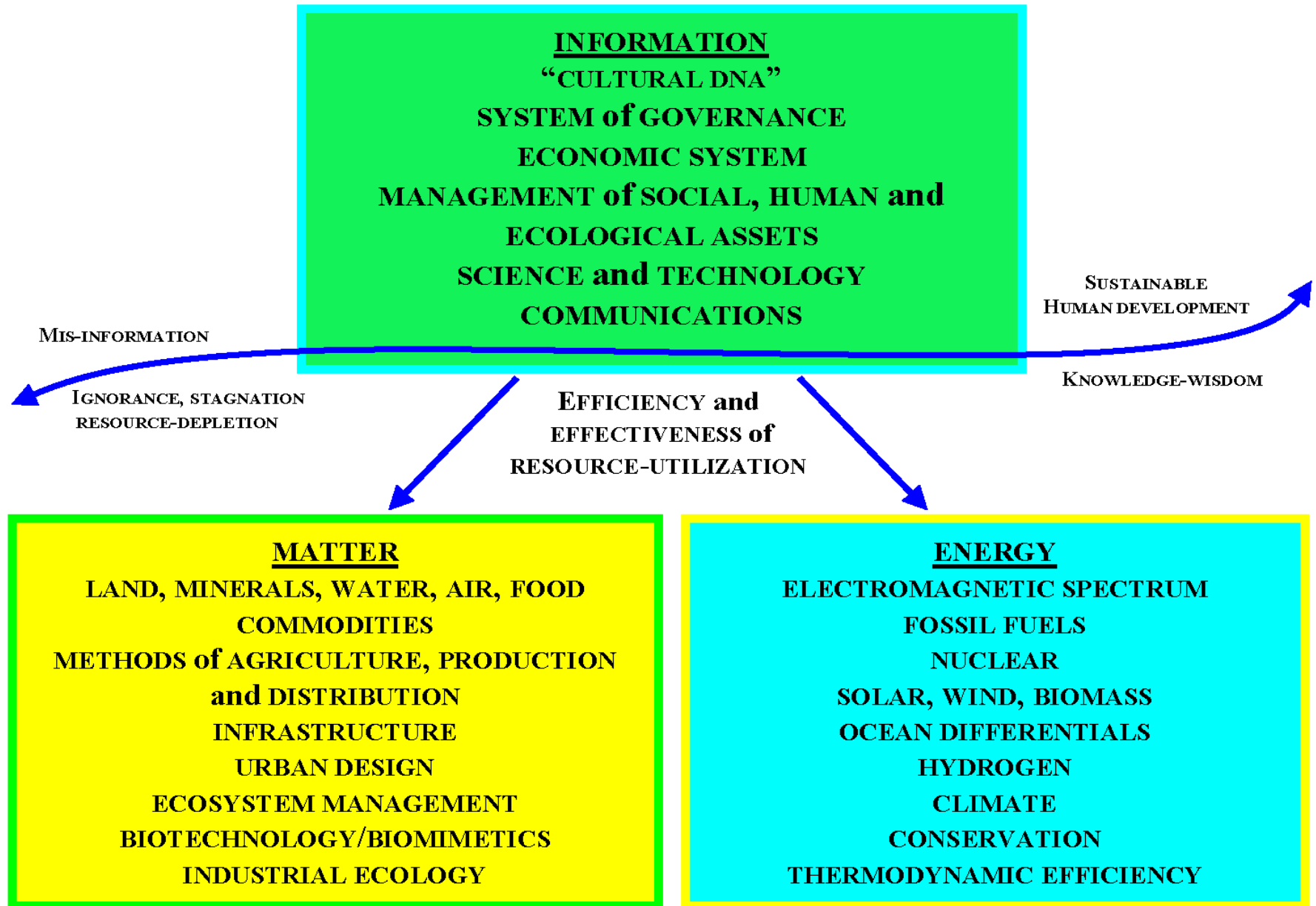
Crisis of fossil-fueled Industrialism (1973-2008)
floating fiat currencies - money as paper banknotes and electronic blips

Late-Industrial Period (1900s-1973)
Gold standard-based money for international transactions

Early Industrial Period (1700s-1900s)
silver and gold (transactions mostly nation-state based)

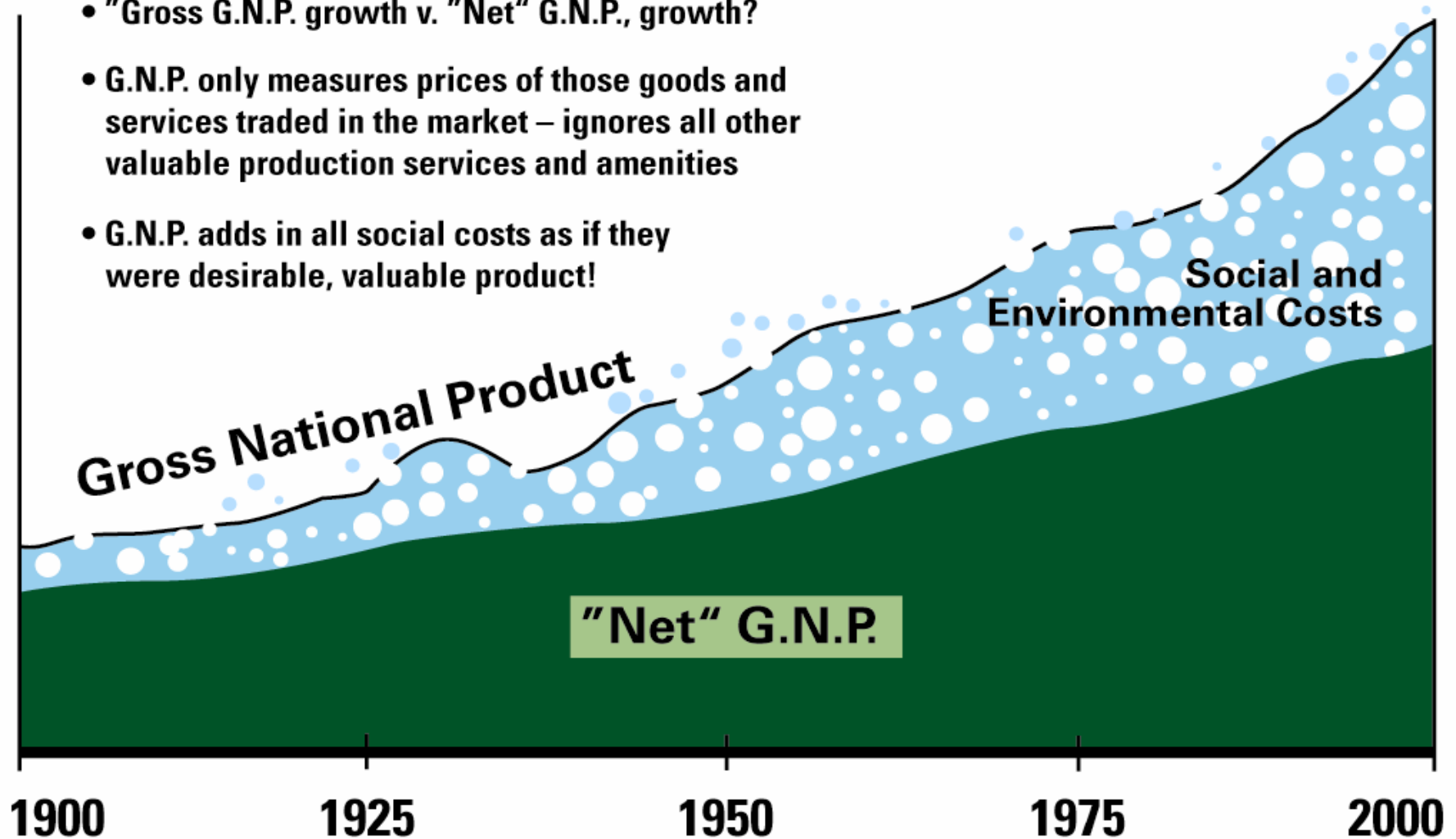
Preindustrial societies (3000 BC –
1700s) clay tablets, shells, cattle,
metal tokens

3 MODES OF RESOURCE-USE IN NATIONAL DEVELOPMENT



Gross National Product Problems

- "Gross G.N.P. growth v. "Net" G.N.P., growth?"
- G.N.P. only measures prices of those goods and services traded in the market – ignores all other valuable production services and amenities
- G.N.P. adds in all social costs as if they were desirable, valuable product!





Today, Scientific research from many fields is now

- Invalidating economic theory of human rationality: “maximizing self-interest in competition with all others”
- Re-thinking the “Washington Consensus”

- Little implementation of these corporate integrated triple bottom line accounting methods at national levels, e.g., gross national product (GNP and GDP)
- Macroeconomics – theories and methods now lagging behind microeconomics and accounting
- Fundamental Error of macroeconomics : equating money with wealth
- UN System of National Accounts (UNSNA) still bogged down by political inertia, debates among macroeconomists, statisticians and NGOs about how to incorporate ESG criteria and statistics which are just as material to accurate national accounts as to corporate accounting
- Plenty of ESG-type statistics available, as well as proliferating alternative indicators to GNP/GDP
- Treated as “satellite accounts,” i.e., discounted and ignored by media and politicians, except for Canada’s Index of Wellbeing!



Why has the discipline & profession of economics – particularly macroeconomics – been so resistant to incorporating knowledge from other relevant disciplines: **ecology, physics, biology, thermodynamics, anthropology, neurosciences, sociology?**

- Key apologist for powerful institutions and special interests: **central banking, finance, fossil-fuel industrialism and its dominance over key sectors** – energy, agriculture, chemicals, automobiles, pharmaceuticals, construction, infrastructure and the commercial mass media they support with their advertising.
- Dominance of departments of Economics, Business and Finance in academia.
- Colonization of public policy across most agencies of government from budgeting, tax policy, bank and securities oversight to agencies regulating environment, food, agriculture, commerce, etc. (**e.g., economic impact statements trump social, environment, health, safety, education expenditures**).
- Powerful trade associations and professional guilds.



Much Progress in reforming capitalism has been achieved at the financial and corporate levels:

- Growth of socially-responsible investing in the USA, Europe, Canada, Brazil, Australia and New Zealand
($\$15$ trillion, UN Principles of Responsible Investing)
- Increased sophistication of screening – methods, criteria – expansion to Asia (ASRIA)
- Growth of the Green Economy worldwide
- Evolution of corporate accounting methods – ESG, GRI, Intangible Assets, Environmental Social Reputational Risk Assessment, e.g., INNOVEST, BOVESPA, Caux Round Table, TrueCost, NRTEE's Capital Markets and Sustainability
- Drivers of CSR: SRI, NGOs, Media, the new "Age of Truth"



Recent conferences on New Indicators

- **Taking Nature into Account**, European Parliament, Brussels, with Club of Rome and WWF, 1995
- **NRTEE**, Ottawa 2001
- **Quality of Life**, Frankfurt, Germany, 2002
- **ICONS**, Curitiba, Brasil, 2003, attended by 700 statisticians and business leaders (see “Statisticians of the World Unite” at www.HazelHenderson.com)
- **Gross National Happiness**, Thimpu, Bhutan, 2004
- **2nd Conference on Gross National Happiness**, Halifax, Nova Scotia, 2005
- **Measuring National Progress**, Istanbul, 2007, attended by 1300 statisticians from 120 countries; Roy Romanow keynoted with Canada’s “Index of Wellbeing.”
- **Beyond GDP Conference**, European Parliament, Nov. 19-21, 2007, www.beyond-gdp.eu
- **U.S. Senate “Rethinking GDP”**, March 12, 2008

NEW BUSINESS SCHOOL CURRICULA

**Amana-Key Desenvolvimento & Educacao
Sao Paulo, Brasil**

**Case Western University, Center for Business As
Agent of World Benefit**

**Presidio World College, MBA in Sustainable Business
“Ethical Markets” Financial TV series on PBS stations**

**Sustainable Global Enterprise Program
Cornell University**

**Base of the Pyramid Learning Laboratory
University of North Carolina**

**The Corporate Environmental Management Program,
University of Michigan**

The Bainbridge Island Institute, WA

**Boston College Center for Corporate Citizenship
Bentley College Center for Business Ethics**

PRINCIPLES OF SUSTAINABLE WORLD TRADE

- Adherence to all United Nations principles, treaties
- A well-regulated transparent, democratic global financial architecture
- Ending corruption
- Ending relocation practices based on tax holidays
- Calculating all traded goods and negotiations in full-cost prices.
- Truly level playing fields on subsidies
- Correcting GDP per capita based economic growth measures as agreed in Rio de Janeiro in Agenda 21 (1992)
- Correcting stock and bond markets evaluations

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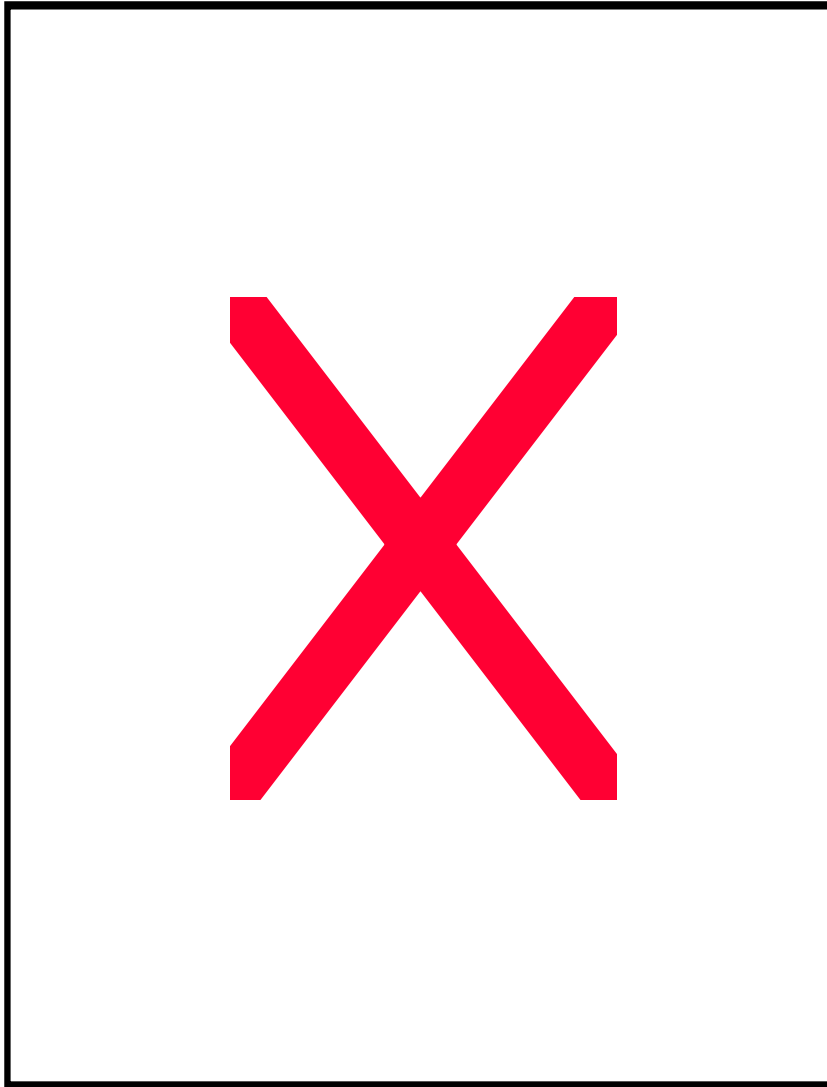
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