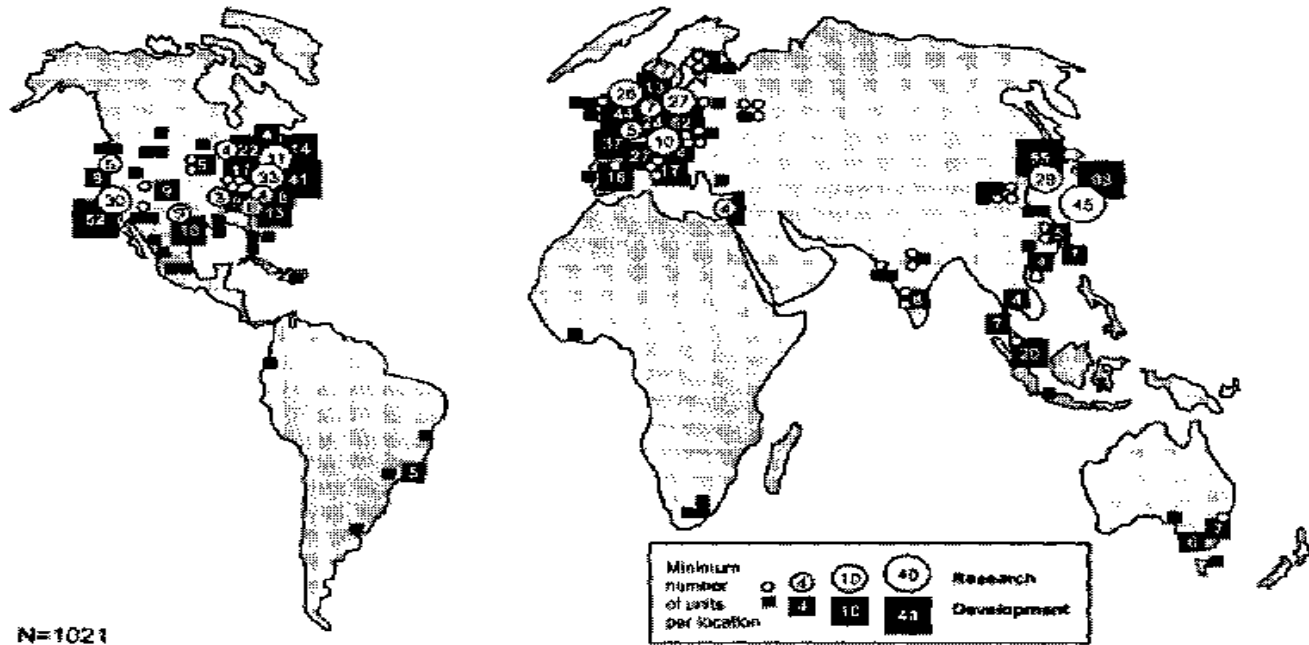


Patterns of Development



Karel Mulder

January 8, 2010

Patterns of Development

Development

Less inequality, $I = P * A * T$

Not a linear model

Not all countries necessarily develop into similar types of society

Why is Europe successful?

Why is North America successful, and isn't South America

Why has Japan become so successful so quickly?

What drives development?

Patterns of Development

History of Development

Humans appeared on earth about 2 million years ago:

Nomadic way of life

Hunter/gatherers

Low population density

Few infectious diseases

Lots of risks: wild animals, accidents, famine, drought

Capacity of ecosystems limited population to 30 million people

Way of living still exists in Irian Jaya (Indonesia) and the Amazon.



<http://abcnews.go.com>, (Gleison Miranda, Funai/AP Photo)

Patterns of Development

History of Development – Agricultural Revolution

Pressure on local 'eco capacities' led to deteriorating standards of living.

Domestication of nature to increase productivity:

- domestication of plants (plant seeds)

- domestication of cattle

- clearing of forests to create arable land

- water management; drainage, irrigation

Patterns of Development

History of Development – Agricultural Societies

Landscape transformations

Sedentary life

- Specialization of labor

- Trade

- Inequality

- Cities, centers of power

Cities were dependent on surrounding countryside

Development of technology (ceramics, writing, metalworking)

Epidemics, slavery, commercial routes, religion

Patterns of Development

History of Development – Industrial Revolution

Growth of sedentary societies: population growth

Increased trade

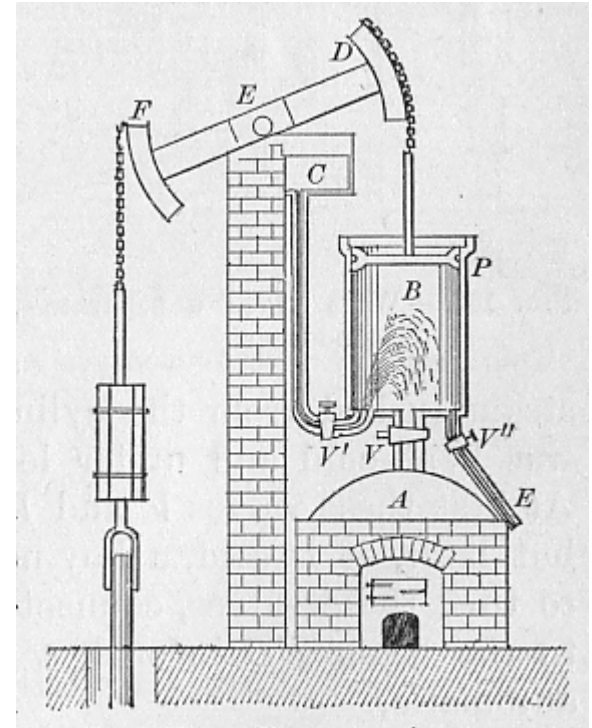
Emigration → contagious diseases introduces in Americas

Mechanization of production by the invention of the steam engine:

- Concentrated production

- Dependent on colonial countries

- Slave trade



<http://upload.wikimedia.org/wikipedia/commons/3/31/Newcomen6325.png>

Patterns of Development

Colonies, 1939

	Great Britain	France	Belgium	Netherlands	Germany (1914)
Area in Square Miles	94,000	212,600	11,800	13,200	210,000
Population	45,500,100	42,000,000	8,300,000	8,500,000	67,500,000
Area of Colonies	13,100,000	4,300,000	940,000	790,000	1,100,000
Population of Colonies	470,000,000	65,000,000	13,000,000	66,000,000	13,000,000

Patterns of Development

History of Development – Industrial Research

1900

Large scale production supported and by research facilities and laboratories



1880

Bayer, GE, Westinghouse, DuPont, Philips
International exchange of innovations



The miracles of science™

Post WW II

Governments took action against monopolies and destroyed trade barriers

Creating multinationals

www.wackypackages.org
Westinghouse.com
Bayer.com

Patterns of Development

Globalization and Anti Globalists



<http://www.sleutelstad.nl/news/upload/60511627.7520313-verdonk-donner.jpg>



<http://groningen.sp.nl/plaatjes/031030kraakgroningen1.jpg>

Patterns of Development

Globalization is NOT:

Increased trade

Increased exchange of capital



<http://psdblog.worldbank.org/photo>



Globalization

Trade in figures

Imports and exports as percentage of GNP (current prices)

	1913	1950	1973	1994
France	30	21.4	29.2	34.2
Germany	36.1	20.1	35.3	39.3
UK	47.2	37.1	37.6	41.8
Netherlands	100	70.9	74.8	89.2
USA	11.2	6.9	10.8	17.8
Japan	30.1	16.4	18.2	14.6



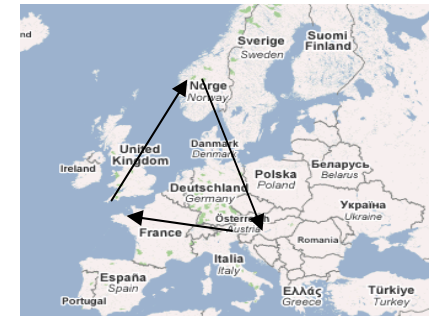
maps.google.com

Globalization

Trade in figures

Export of goods from EU countries to other EU countries (% of GDP)

	1960	1970	1980	1990
France	4.3	7.5	9.7	11.4
Germany	6.4	11.0	14.3	16.9
UK	3.3	6.1	10.6	10.9
Netherlands	20.8	26.5	32.9	34.8



maps.google.com

Globalization

Trade in figures

Export of goods from EU countries to non-EU countries (% of GDP)

	1960	1970	1980	1990
France	6.9	4.9	7.0	6.1
Germany	9.5	7.5	9.3	9.5
UK	11.0	9.5	10.7	8.1
Netherlands	13.2	8.1	9.9	11.4



maps.google.com

Globalization

Trade in figures

The figures for Europe reflect the developments in global trade:

The **growth** of **internal** European capital exchange
(direct foreign investments)

is **greater** than

The growth of investments made **outside** the EU

Globalization

Or not?

Monetization

Raw materials relatively cheap?

Concentration and specialization?

Globalization

Trend

With a limited number of products DSM strives for a top world-ranking after

With these products DSM has a number 1 or 2 position. To maintain this position, presence on the European, Japanese and US market is necessary.

“We want fewer goals and more internationalization”,

(free translation from Selman, RvB DSM, NRC
15-11-1990)



<http://www.dsm.com>

Globalization

Background

Knowledge based, intensive production has a **higher yield** on an **increased scale**

Core competencies are **easier** to manage (better span of control)

It is more **efficient** to deal with **fluctuations** in sales

Possibilities of a **free market**

Globalization

Core Business

High fixed costs and low variable costs in product and system designs

Therefore:

- Core business

- Market leadership

Concentrating on a core business is necessary to be a market leader in that business

Globalization

Background

Knowledge based, intensive products create **larger profits** with increased **market shares**

Core competencies can be managed **better** and **faster** (span of control)

Flexibility to deal with changes

Liberalization of trade

Paradox of Multiformity; locally products and cultures diversify, globally they become more uniform.

Globalization

Television

In 1949 there were:

78 US TV brands

12 UK TV brands

7 Franse TV brands

1948 Sentinel 405 7" (USA)



© 2002 TVhistory.TV (Dunedin)

Globalization

Emerging Television Brands

Akai	Japan	?
Curtis Mathes	USA	1960
Hitachi	Japan	1975
JVC	Japan	1976
Philips Magnavox	Netherlands	1976
Matsushita Panasonic	Japan	1975
Mitsubishi	Japan	1980
Thomson RCA	France	1987 (1946)
SAMPO	Taiwan	1981
SAMSUNG	Korea	1989
Sanyo	Japan	1977
SANSUI	Japan	1987
Sharp	Japan	1983
Sony	Japan	1961
Tatung	Taiwan	1979
Toshiba	Japan	1976
LGE Zenith	Korea	1999 (1948)



early Zenith



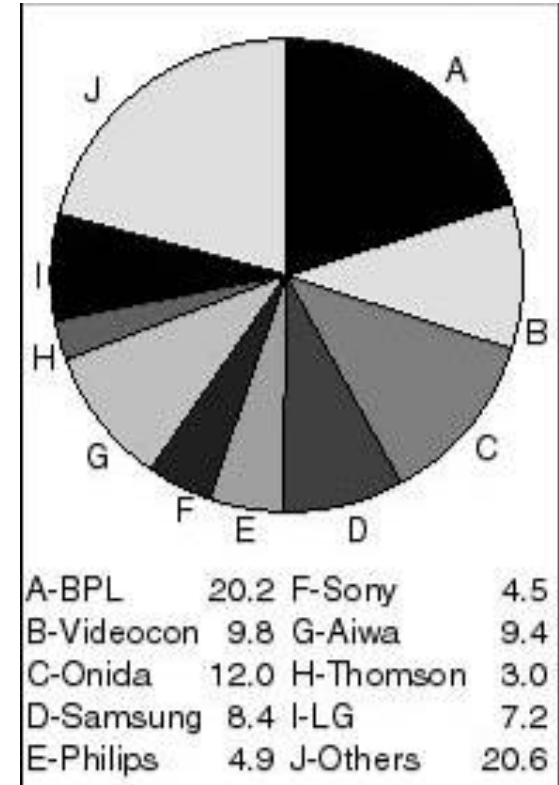
early Sony

Figures from <http://www.tvhistory.tv/>

Globalization

Market Share Television Brands

Market shares 1999-2000



Source: MIRC Electronics annual report 1999-2000

Globalization

Different Markets and their Television Brands

TV-brands in a random Belgian online store:



TV-brands in a random US online store:



Images from
company
websites

Globalization

LG's Strategic Alliances



Globalization

Results

More global oligopolies

Lower product variation

Cultural uniformity

Less room for de Maverick

Less experimentation and innovation?



<http://www.micheloud.com>

Globalization

From Autarky to 'Global Village'

Ibieca is a village community in Aragon, Spain

1910- High degree of autarky (meat, bread, vegetables, fruit, smith, carpenter, clothing)
Surplus goes to the national market
Stable social structure: CASA as social unity

1980- Production is for the market
No local produce
Commuting
Individualization



www.altoaragon.org

Globalization

Knowledge-based Society

Higher degree of knowledge in the economy

Costs need to be recovered over a larger turnover

Research and Design (R&D) requires co-operation and many external contacts

Creates a concentration of knowledge

Globalization

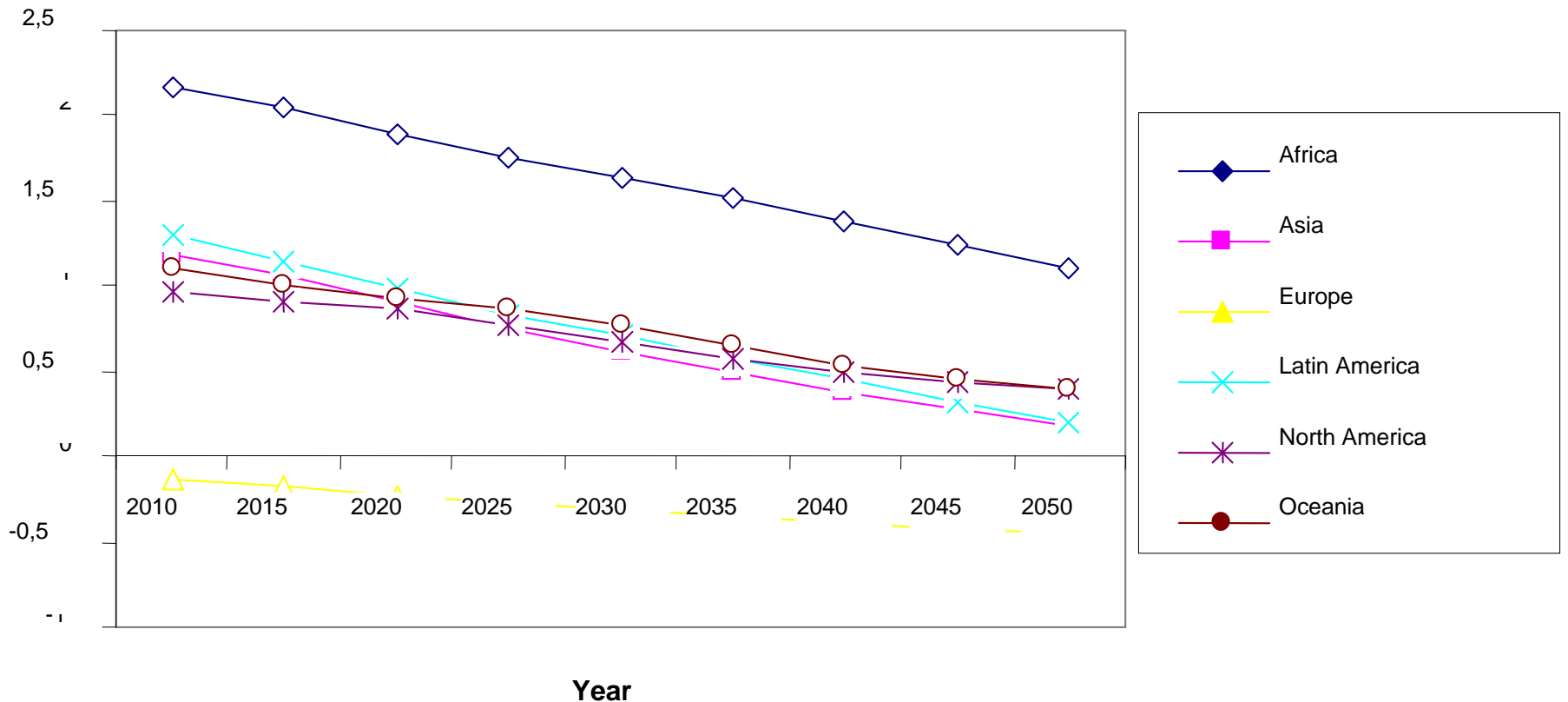
Expected World Population

	Africa	Asia	Europe	Latin America	North America	Oceania	WORLD
2005	887964	3917508	724722	558281	332156	32998	6453629
2010	984225	4148948	719714	594436	348139	34821	6830283
2015	1084540	4370522	713402	628260	363953	36569	7197246
2020	1187584	4570131	705410	659248	379589	38275	7540237
2025	1292085	4742232	696036	686857	394312	39933	7851455
2030	1398004	4886647	685440	711058	407532	41468	8130149
2035	1504179	5006700	673638	731591	419273	42803	8378184
2040	1608329	5103021	660645	747953	429706	43938	8593592
2045	1708407	5175311	646630	759955	439163	44929	8774395
2050	1803298	5222058	631938	767685	447931	45815	8918725

Source: United Nations Secretariat, Division of the department of Economic and Social Affairs, esa.un.org/unpp, 8 February 2005

Globalization

Population Growth Rates (annual percentage)



Patterns of Development

Problems in the Process of Development

Population growth – poverty cycle

Urbanization → Forming of ghettos → suburbanization

Production of raw materials → dumping → increasing dependence

'Tragedy of the commons' vs. 'Need for infrastructure'

Industrialization → alienation → social conflicts

Internal conflicts in developing countries

Patterns of Development

Structural Inequality

1820

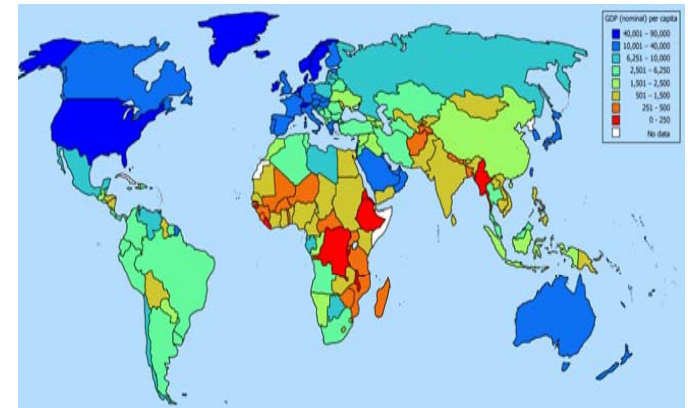
GDP/capita of Western Europe 2.9 x
GDP/capita of Africa

1992

GDP/capita of Western Europe 13.2 x
GDP/capita of Africa

1999, UNDP:

- 20% of the world's population receives 86% of the world's income
- 60% receives 13%
- Poorest 20% receives 1%



http://upload.wikimedia.org/wikipedia/commons/0/09/GDP_nominal_per_capita_world_map_IMF_figures_for_year_2006.png

Patterns of Development

Rich

Forbes richest 400 Americans:

Needed to have more than \$600 million.

These 400 people had \$ 1.000.000.000.000 in total

Bill Gates:

Only had \$46.000.000.000 in 2003 due to drop in price of Microsoft.

This amount is equal to the BNP of the 50 poorest countries in the world (calculated according to the purchasing power parity)



http://www.geographyiq.com/ranking/ranking_GDP_purchasing_power_parity_dall.htm

Patterns of Development

Poor

34.6 million poor Americans. Their total yearly income is less than a 1/3 of the 400-club

Poverty in the US: income < \$9,573.

(Cf. US Bureau of the Census, <http://www.census.gov/hhes/www/poverty.html>)

Patterns of Development

Debt

1975

Poor countries contracted debts because:

- a lot of money was available from countries producing oil
- there were few ways to invest money
- prices of raw materials were dropping

1996

Heavily Indebted Poor Countries Program

Aim is to halve the \$90.000.000.000 debt of the poorest 33 countries

Patterns of Development

Why doesn't Technology pass on to Developing Countries?

Technology isn't the main problem: good governance, no corruption and an entrepreneurial spirit are much more important.

Developing countries can not develop in the same way developed countries have, since their starting position isn't the same.

Technologies can not be just be transmitted from one culture to another.

Patterns of Development

The knowledge based society

Larger share of 'knowledge' in the economy

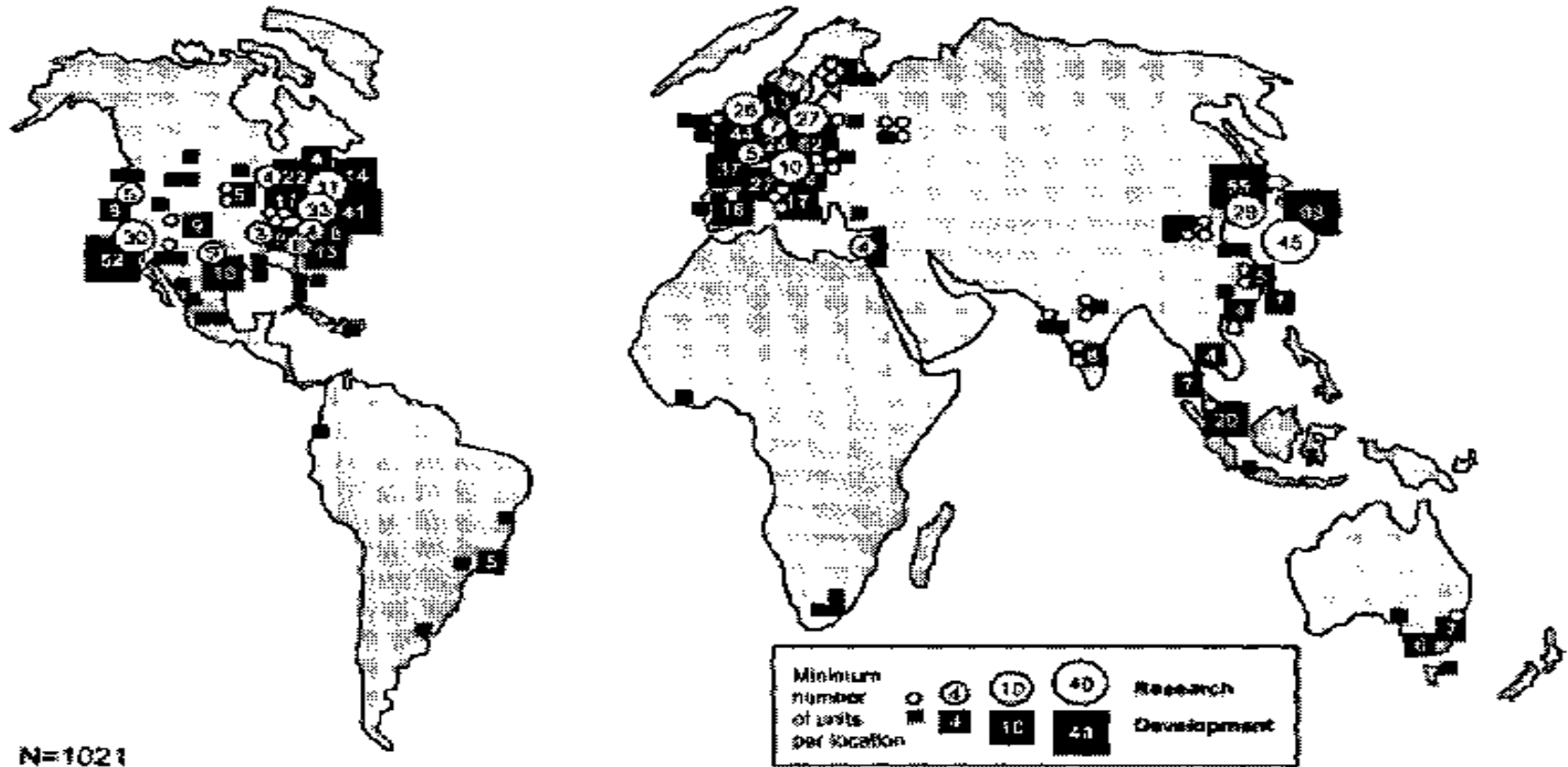
Investments have to pay through larger turn over

R&D requires cooperation with external contacts

Production of knowledge concentrates

Patterns of Development

Global Spread of R&D



Patterns of Development

Clusters of Knowledge and their consequences

Poor countries lag behind in development even more

(national companies are taken over by multinationals and R&D dissipates, unless there is a strong focus on a knowledge-based infrastructure)

Also happens in 'rich' areas that lag behind in development

e.g. the South of Italy, parts of Eastern Europe

Government interference is usually impossible due to international obligations

Patterns of Development

Globalisation - Other Trends

Technological complexity

Emancipation of stakeholders

Patterns of Development

Threat? E.g. Nike



Nike.com

Production in Indonesia, Vietnam, Pakistan

Good working conditions

Quality control and inventory in the US

Key: Where are decisions made? Who develops the products?

Patterns of Development

Cultural Deprivation, e.g software

Due to small markets, software is hardly ever offered in local languages.

e.g Ethiopia:

67 million inhabitants, 80 languages, own script

80.000 computers (2001) and 35.000 telephones

No software in local languages

Community information centres

Education

Prevention of 'cyber crime paradises'

AMHARIC SYLLOGRAPHS (ጌደጎ)

Basic character	Order							Labialized					
	1st z	2nd u	3rd i	4th a	5th c	6th t	7th o	-we	-wi	-wa	-we	-wi	-ya
h	ሀ	ሁ	ሂ	ሃ	ሄ	ህ	ሆ						
l	ለ	ሉ	ሊ	ላ	ሌ	ሎ	ሎ						
h	ሐ	ሑ	ሒ	ሓ	ሔ	ሕ	ሖ						
m	መ	ሙ	ሚ	ማ	ሜ	ሞ	ሟ						
s	ሠ	ሡ	ሢ	ሣ	ሤ	ሥ	ሦ						
r	ረ	ሩ	ሪ	ራ	ራ	ራ	ራ						
s	ሰ	ሱ	ሲ	ሳ	ሴ	ስ	ሶ						
š	ሸ	ሹ	ሺ	ሻ	ሼ	ሽ	ሾ						
k'	ቀ	ቁ	ቂ	ቃ	ቄ	ቅ	ቆ						
b	በ	ቡ	ቢ	ባ	ቤ	ብ	ቦ						
t	ተ	ቲ	ቲ	ታ	ቲ	ቲ	ቲ						
c	ቸ	ቹ	ቺ	ቻ	ቼ	ች	ቾ						
h	ከ	ከ	ከ	ከ	ከ	ከ	ከ						
n	ነ	ነ	ነ	ነ	ነ	ነ	ነ						
š	ሸ	ሸ	ሸ	ሸ	ሸ	ሸ	ሸ						
(a)	አ	አ	አ	አ	አ	አ	አ						
k	ከ	ከ	ከ	ከ	ከ	ከ	ከ						
h	ከ	ከ	ከ	ከ	ከ	ከ	ከ						
w	ወ	ወ	ወ	ወ	ወ	ወ	ወ						
(a)	ዐ	ዐ	ዐ	ዐ	ዐ	ዐ	ዐ						
z	ዘ	ዘ	ዘ	ዘ	ዘ	ዘ	ዘ						
š	ሸ	ሸ	ሸ	ሸ	ሸ	ሸ	ሸ						
y	የ	የ	የ	የ	የ	የ	የ						
d	ደ	ደ	ደ	ደ	ደ	ደ	ደ						
j	ገ	ገ	ገ	ገ	ገ	ገ	ገ						
g	ገ	ገ	ገ	ገ	ገ	ገ	ገ						
t'	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ						
c'	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ						
p'	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ						
s'	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ						
s'	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ	ጠ						
f	ፈ	ፈ	ፈ	ፈ	ፈ	ፈ	ፈ						
p	ፕ	ፕ	ፕ	ፕ	ፕ	ፕ	ፕ						

	<i>Punctuation marks</i>			<i>Numerals</i>	
:	word/divider	?	question mark (?)	1	፩
,	comma (,)	!	exclamation point (!)	2	፪
;	semi-colon (;)	" "	quotes (" ")	3	፫
.	end of a sentence	()	parentheses ()	4	፬
!	old form of question mark, rare (?)			5	፭
				6	፮
				7	፯
				8	፰
				9	፱
				10	፲
				20	፳
				30	፴
				40	፵
				50	፶
				100	፷
				1,000	፻

Development

The Challenge

Not only work and waste transmitted to developing countries, but development of power as well

Stimulate local for local

Education

ICT influences hierarchy of power in developing countries

Cherish local cultures