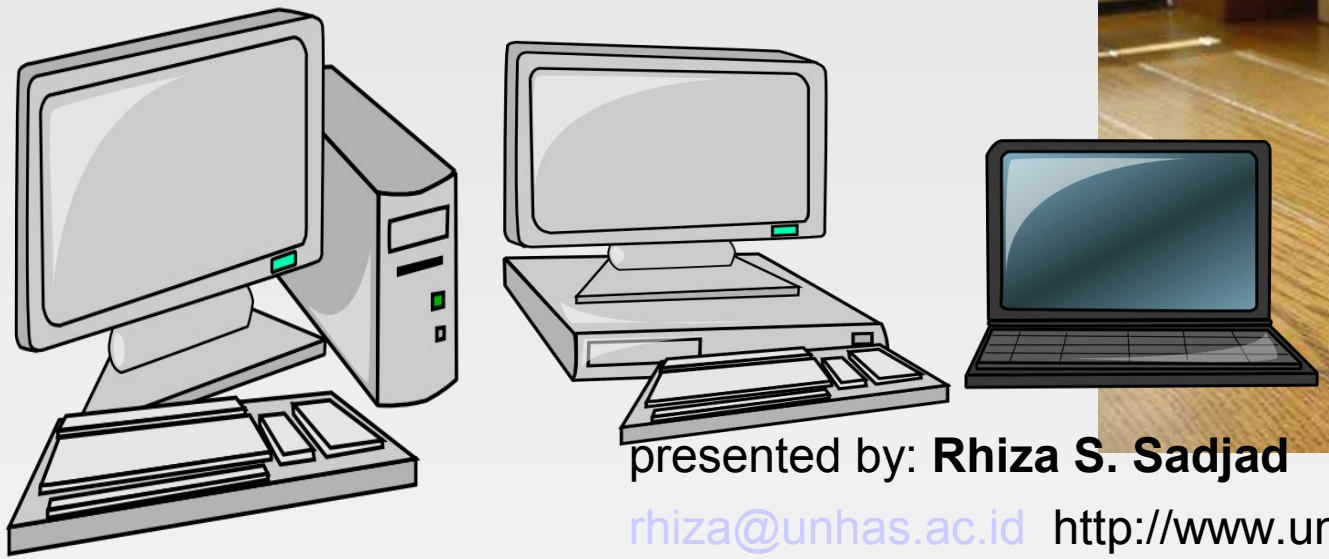
Information and Communication Technology:

A MOTIVATION



presented by: **Rhiza S. Sadjad**

rhiza@unhas.ac.id http://www.unhas.ac.id/rhiza/

Question:

Why should we study ICT?

Today .....

From Hiroshima-Nagasaki

to WTC 911, ...

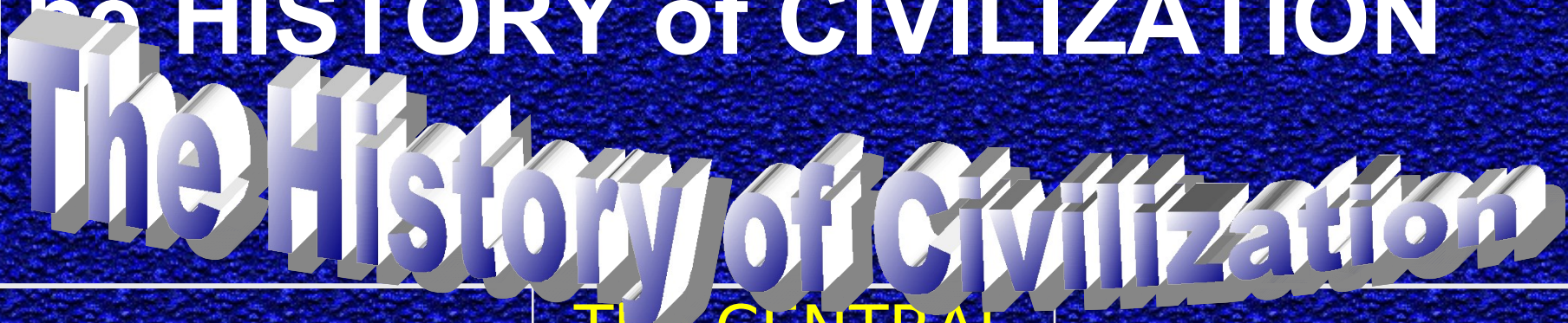
..... natural and social DISASTERS

..... a very very STRESSFUL

world of TODAY !

The FUTURE of our EARTH.....?

The HISTORY of CIVILIZATION



The ERA of	THE CENTRAL Issue	Historical Events
Agriculture	Land	Social Revolution and Independence
Industry	Energy	HIROSHIMA NAGASAKI
INFORMATION	Information	WTC 911

WTC 911


EXTRA EDITION

Los Angeles Times

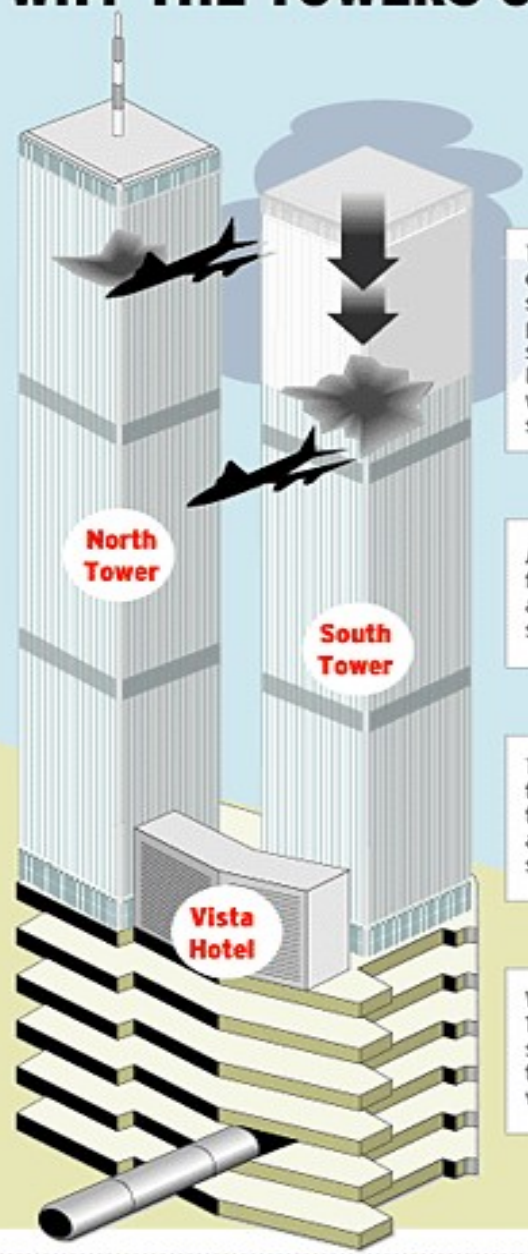
Terror Attack

Hijacked Jets Fly Into Trade Center, Pentagon

A Day of Carnage and Chaos

WTC 911

WHY THE TOWERS COLLAPSED



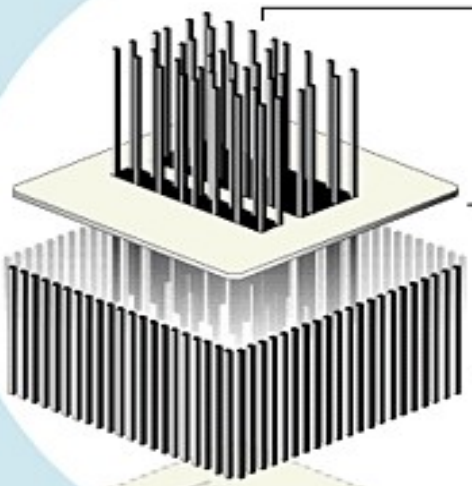
The impact of the plane crash destroyed a significant number of perimeter columns on several floors of the building, severely weakening the entire system.

As fire raged in the upper floors, the heat gradually affected the remaining structure.

The prolonged high temperatures, fuelled by the large volumes of aviation gas, weakened the steel core struts.

When the fire reached 1,500°F, the weakened struts collapsed and the truss system collapsed vertically.

The building's perimeter columns and floor trusses form a steel lattice, which was designed to act as a wind brace, thereby keeping disturbance away from the central core.

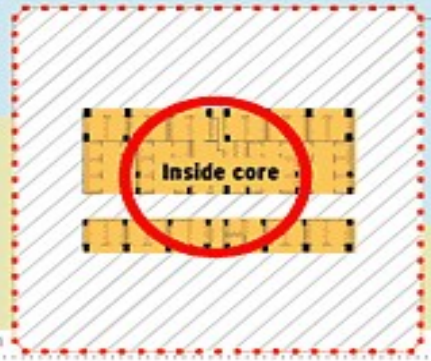


The **central core** is not part of the main structural system of the building due to the enormous load it bears in supporting the elevator system.

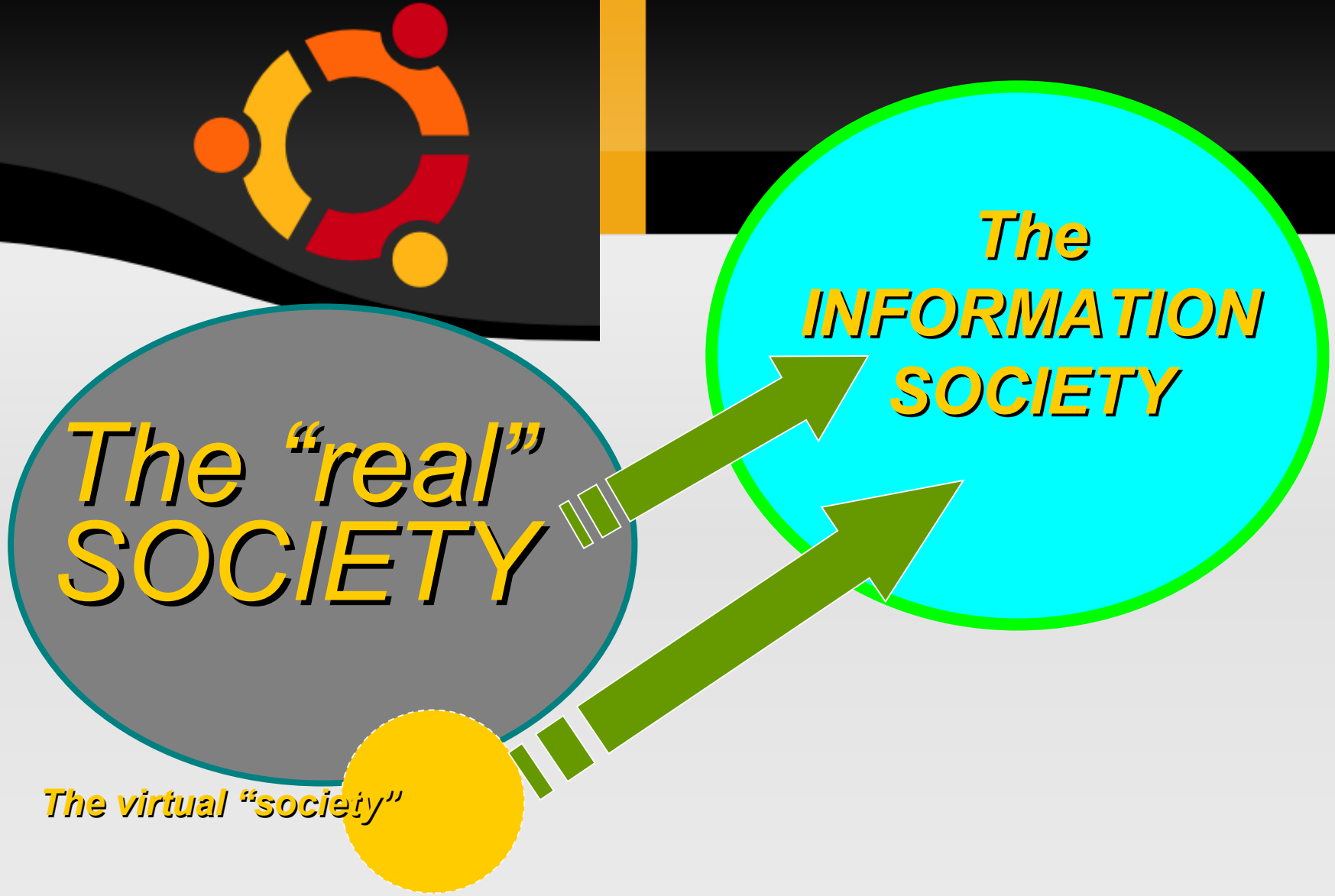
Floor trusses are supported by the perimeter columns.

Main structure constructed of a hollow tube of closely spaced steel **perimeter columns.**

FLOOR PLAN OF THE WORLD TRADE CENTRE



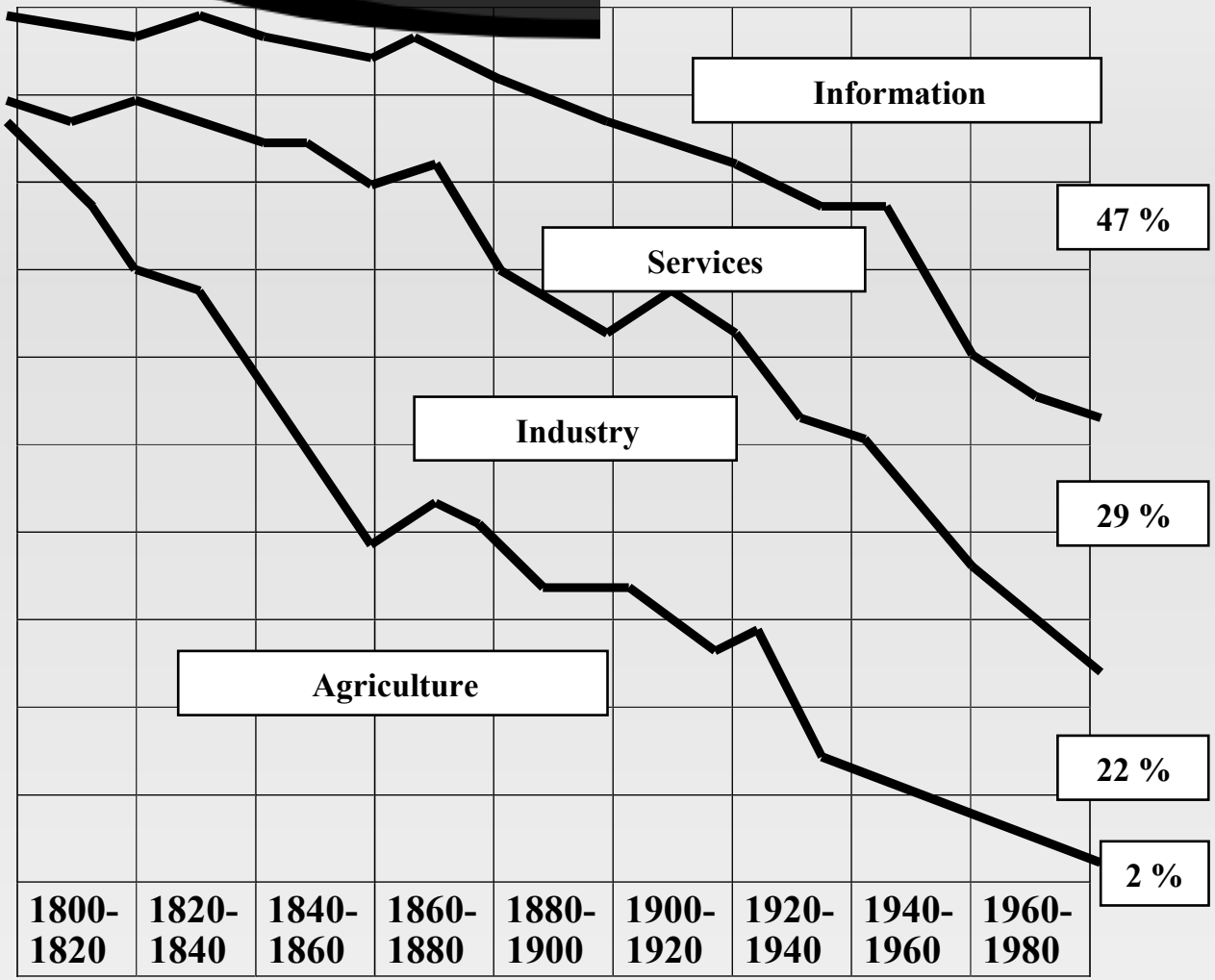
A hollow tube of closely spaced perimeter columns form the main structural component of the tower.



The GLOBAL Information ERA !

The Information Society

The Work Force Composition



Gambar 1
The Change of the Work Force Composition in the USA 1800-1980
(Source:: Everett M. Rogers, [1986], *Communication Technology*, page 11)

Information Workers

Individuals whose main activities are .....

PRODUCING.....

PROCESSING.....

DISTRIBUTING.....

INFORMATION

producing

The INFORMATION TECHNOLOGY

..... teachers, lecturers, academicians, reseachers, writers, reporters, managers, public relation, etc.... .

CIO

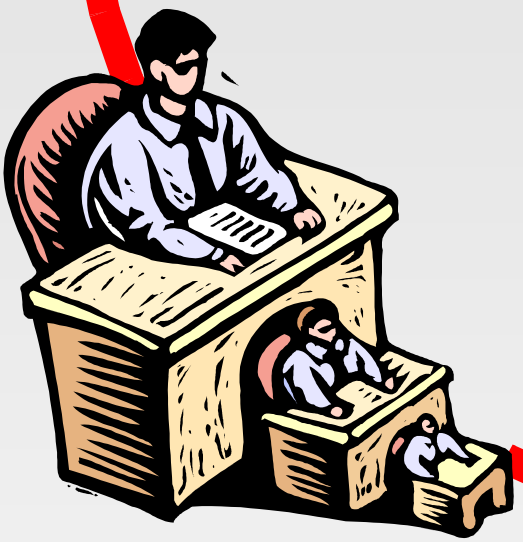
Key Social Institutions

Society	Key Social Institution
Agricultural	FARM
Industrial	FACTORY
Information	UNIVERSITY

(Source: Everett M. Rogers, [**1986**], "*Communication Technology* ", hal. 13)

The INDONESIAN Information Societies:

PESANTREN
SEKOLAH KAMPUS

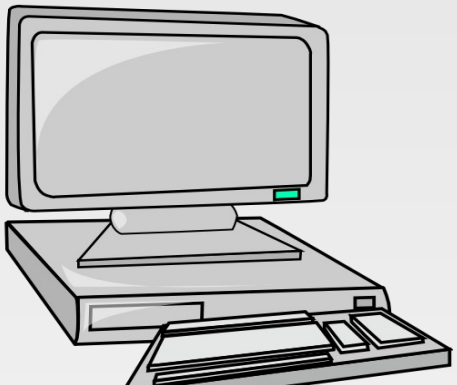


Masyarakat
INFORMASI

te-kan saja)

Information and Communication Technology:

TECHNOLOGY



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Question:

What is the ICT?

ICT = Information and Communication Technology

A "lexical approach":

3 (three, ... actually 4?)

words:

(1) TECHNOLOGY

(2) INFORMATION

(3) COMMUNICATION

Information and Communication Technology:

The Meaning of TECHNOLOGY

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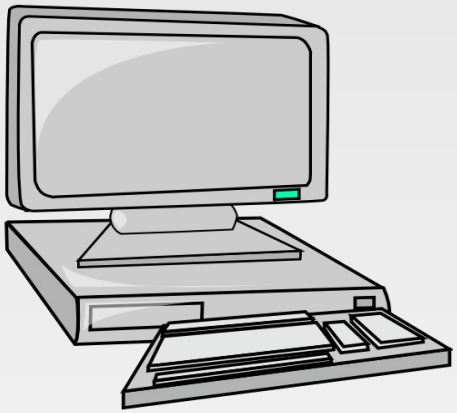
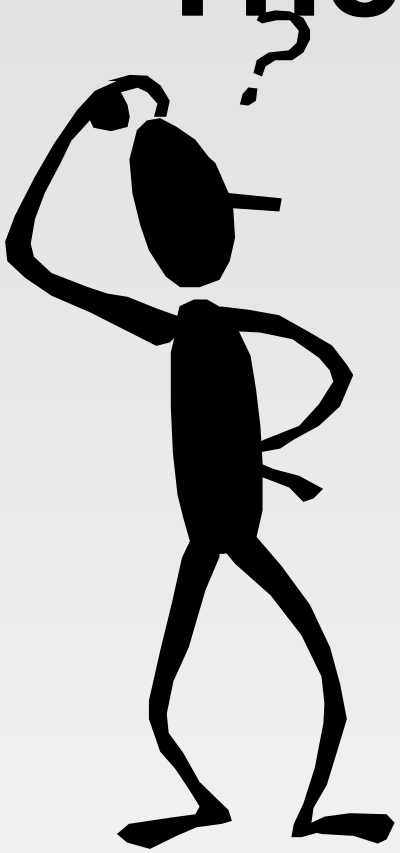
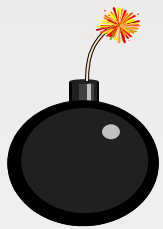


Technology:

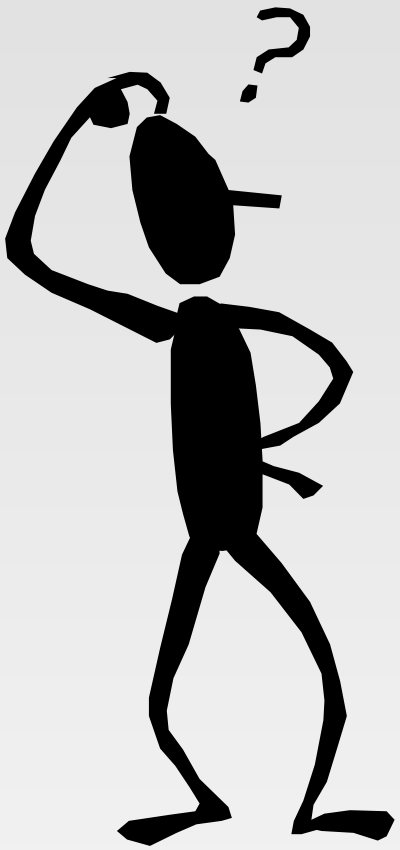
- The ISOLATED meaning
- **The EXTENDED meaning**

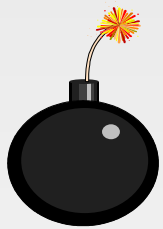




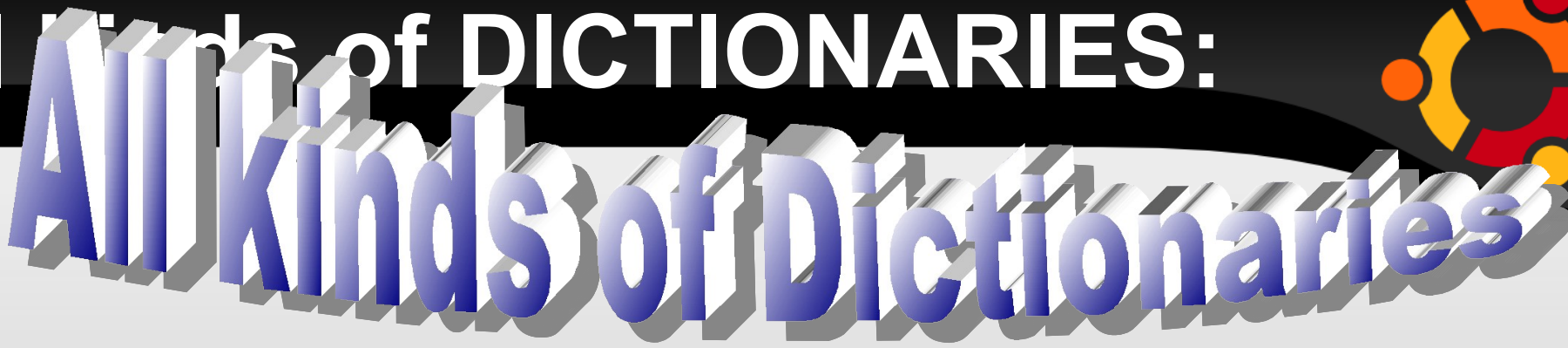
Technology:

- The ISOLATED meaning
  - **Sources:**
    - **Dictionary**
    - **Encyclopaedia**
    - **Thesaurus**
    - **“Wikipedia”**





All kinds of DICTIONARIES:



- W.J.S. Poerwadarminta, ”**Kamus Umum Bahasa Indonesia**”, PT. Balai Pustaka, 1976:

”**teknologi**” = ”ilmu teknik”

”**teknik**”= 1 pengetahuan dan kepandaian membuat sesuatu yang berkenaan dengan hasil industri (bangun-bangunan, mesin, dsb.)

- ”**MacMillan Dictionary for Children**”, MacMillan Public Coy., 1989:

”**technology**”:

1. The use of science for practical purposes, especially in engineering and industry
2. Methods, machines, and devices that are used in doing things in a science or profession

- ”**Webster's II New Riverside Dictionary**”, Berkeley Books, NY, 1984:

”**technology**”:

1. The application of scientific knowledge esp. in industry or business
2. The methods and materials of applied science

- ”**The New Merriam-Webster's Dictionary** ”, 1989:

”**technology**” = applied science

= a technical method of achieving a practical purpose

”**technique**” = ”**technic**” = the manner in which technical details are treated or basic physical movements are used

”**engineering**” (English) = ”*teknik*” (Bah. Indonesia)

= the practical application of scientific and mathematical principles

The shift of meaning

(as quoted from **Langdon Winner***'s "Autonomous Technology",* [**1977**]*, page 8)*

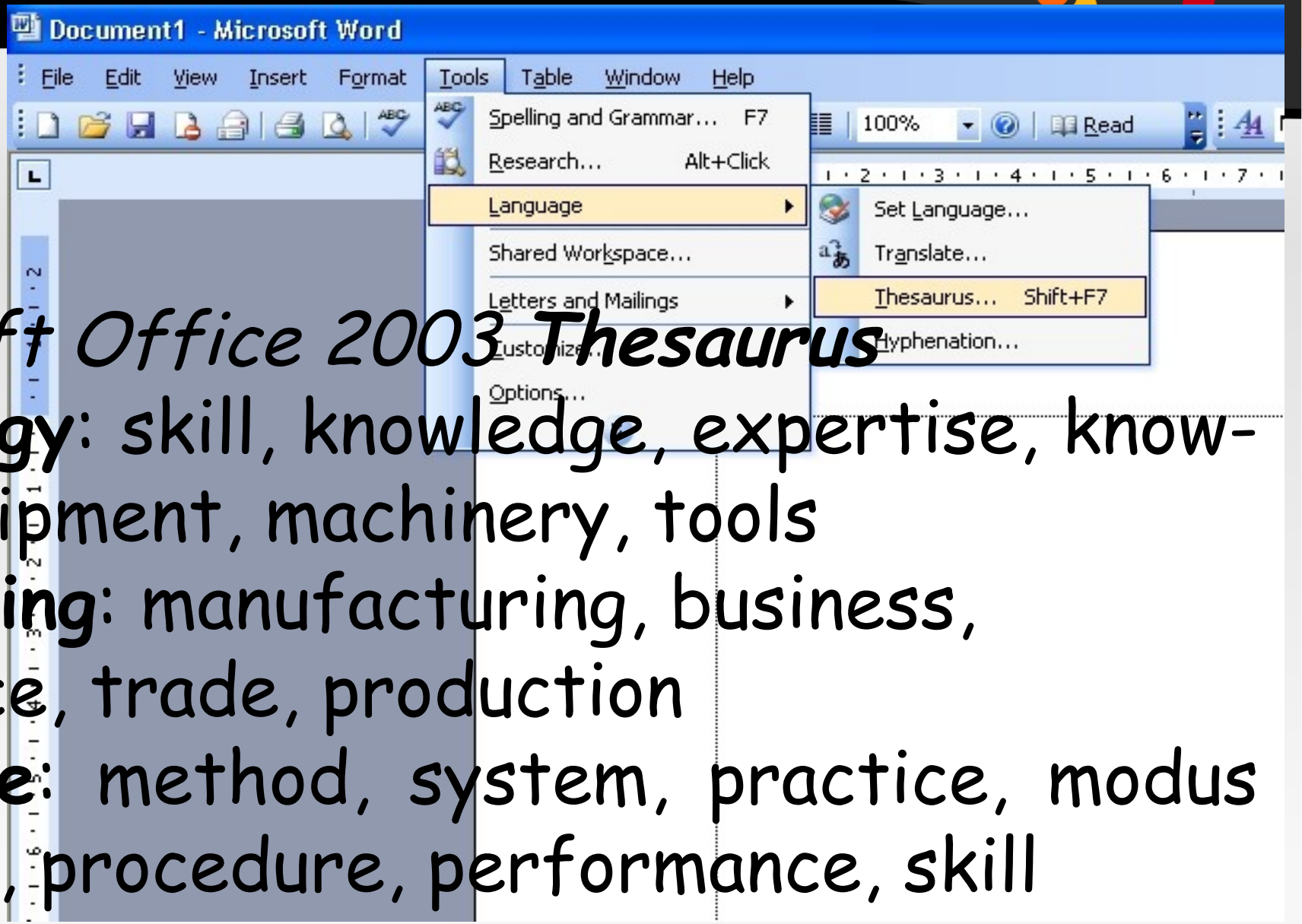
- *Webster's Second International* [**1909**]:

  "*technology*" = "*industrial science, the science or systematic knowledge of the industrial arts, especially of the more important manufactures*"

- *Webster's Third New International* [**1961**]:

  "*technology*" = "*the totality of means employed by people to provide itself with the objects of material culture.*"

Thesaurus



Microsoft Office 2003 ***Thesaurus***

technology: skill, knowledge, expertise, know-how, equipment, machinery, tools

engineering: manufacturing, business, commerce, trade, production

technique: method, system, practice, modus operandi, procedure, performance, skill

ubuntu

Wikipedia

http://en.wikipedia.org/
The Technology Portal
Technology (Gr. technologia (τεχνολογία) < techne (τέχνη) "craft" + logos (λόγος); "reason")
Technology predates both **science** and **engineering**. It may be defined as: "*Solutions for real human problems by the development and application of tools, machines, materials, goods, or information in the form of skills, knowledge, processes, blueprints, plans, diagrams, models, formulae, tables, engineering designs, specifications, manuals, or instructions*."

ubuntu

next .....

next .....

next .....

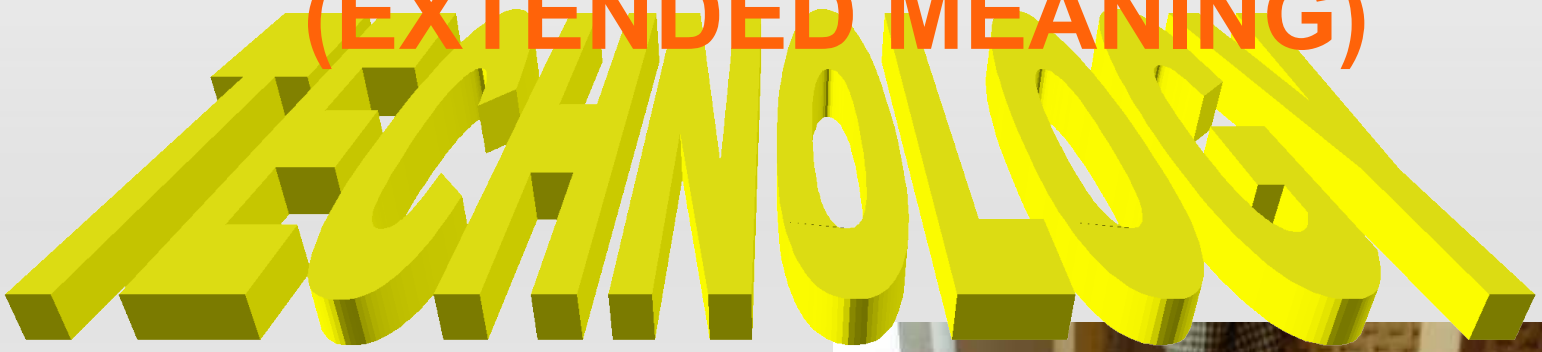
NEXT .....

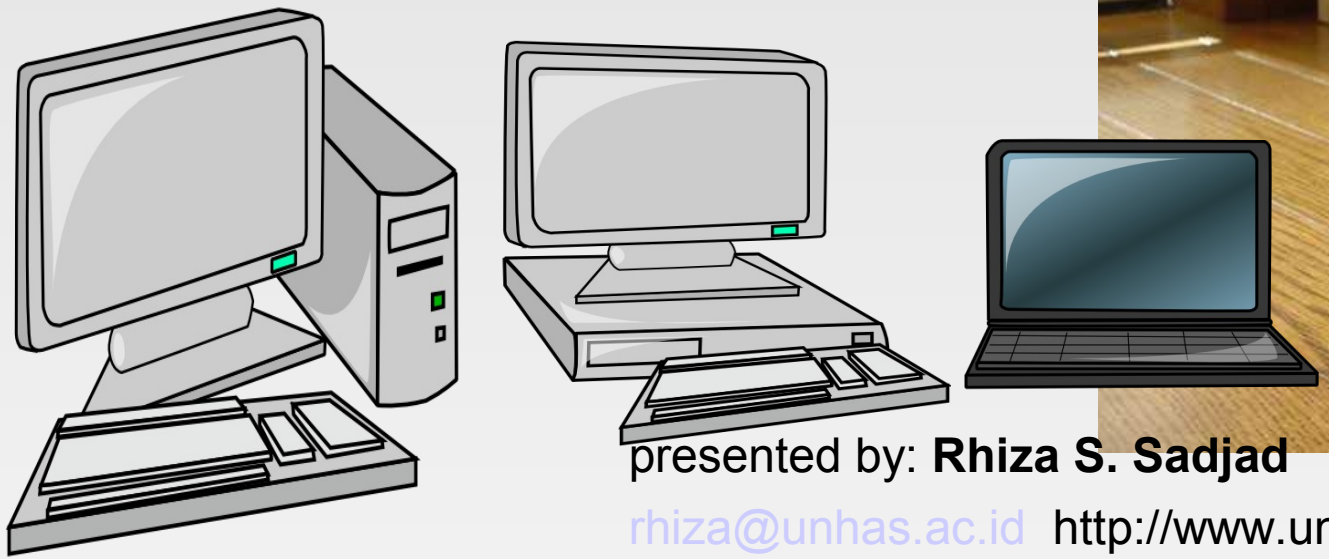
The EXTENDED MEANING of TECHNOLOGY

Information and Communication Technology:

TECHNOLOGY

(EXTENDED MEANING)





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Information and Communication Technology:

The Meaning of TECHNOLOGY

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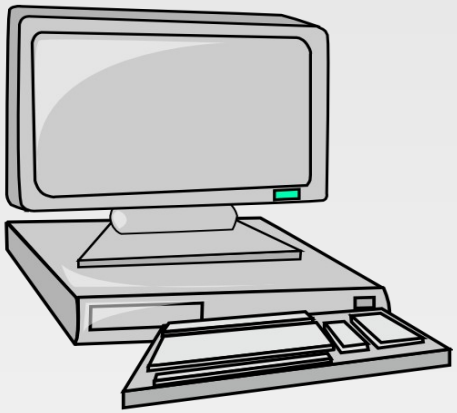
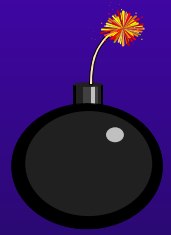


Technology:

- The ISOLATED meaning
- **The EXTENDED meaning**



Technology:

- The EXTENDED meaning

- **Sources/References:**

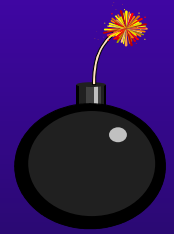
(classical books for examples)

(1) Rogers, Everett M., [1986], "*Communication Technology, The New Media in Society*"

(2) Goulet, Denis, [1989], "*The Uncertain Promise, Value Conflicts in Technology Transfer*"

(3) Feenberg, Andrew, [1991], "*Critical Theory of Technology*"

(4) Winner, Langdon, [1977], "*Autonomous Technology*"



The extended meaning of technology .....

- *Rogers* [**1986**, page 1]

Technology is a **design** for **instrumental action** that **reduces the uncertainty** in the **cause-effect relationship** involved in achieving a **desired outcome** [*Rogers*, **1983**, p. 12]

The extended meaning of technology .....

- *Rogers* [**1986**, page 1]

A technology usually has both:

- a hardware aspect
- a software aspect

and .....humanware !

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The extended meaning of technology .....

- Another example:

(*in Bahasa Indonesia*)

“PENGUASAAN TEKNOLOGI”

What's the meaning of the word ”*menguasai*”? Is “menguasai” = to be able .....

- **to own?**
- **to use?**
- **to make?**
- **to understand how it works?**
- **to repair, to troubleshoot.....?**

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The extended meaning of technology .....

- Other examples:

The ”level” of technology????

- *HIGH TECH* --> SOPHISTICATED
- *LOW TECH* --> SIMPLE
- APPROPRIATE TECHNOLOGY

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Economic issue :

EXPENSIVE (CAPITAL INTENSIVE) vs CHEAP

Labor issue:

AUTOMATIC vs MANUAL (LABOR INTENSIVE)


next .....
next .....
next .....
NEXT .....
INFORMATION


SELESAI
The END
The END
THE END
Selamat mengikuti
KULIAH ini
dengan SEKSAMA