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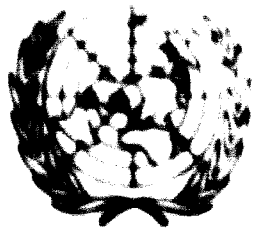
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THE IMPACT OF COMPUTERS ON THE SOCIETY
AND
DEVELOPING COUNTRIES AND E.D.P./AUTOMATION ^{1/}

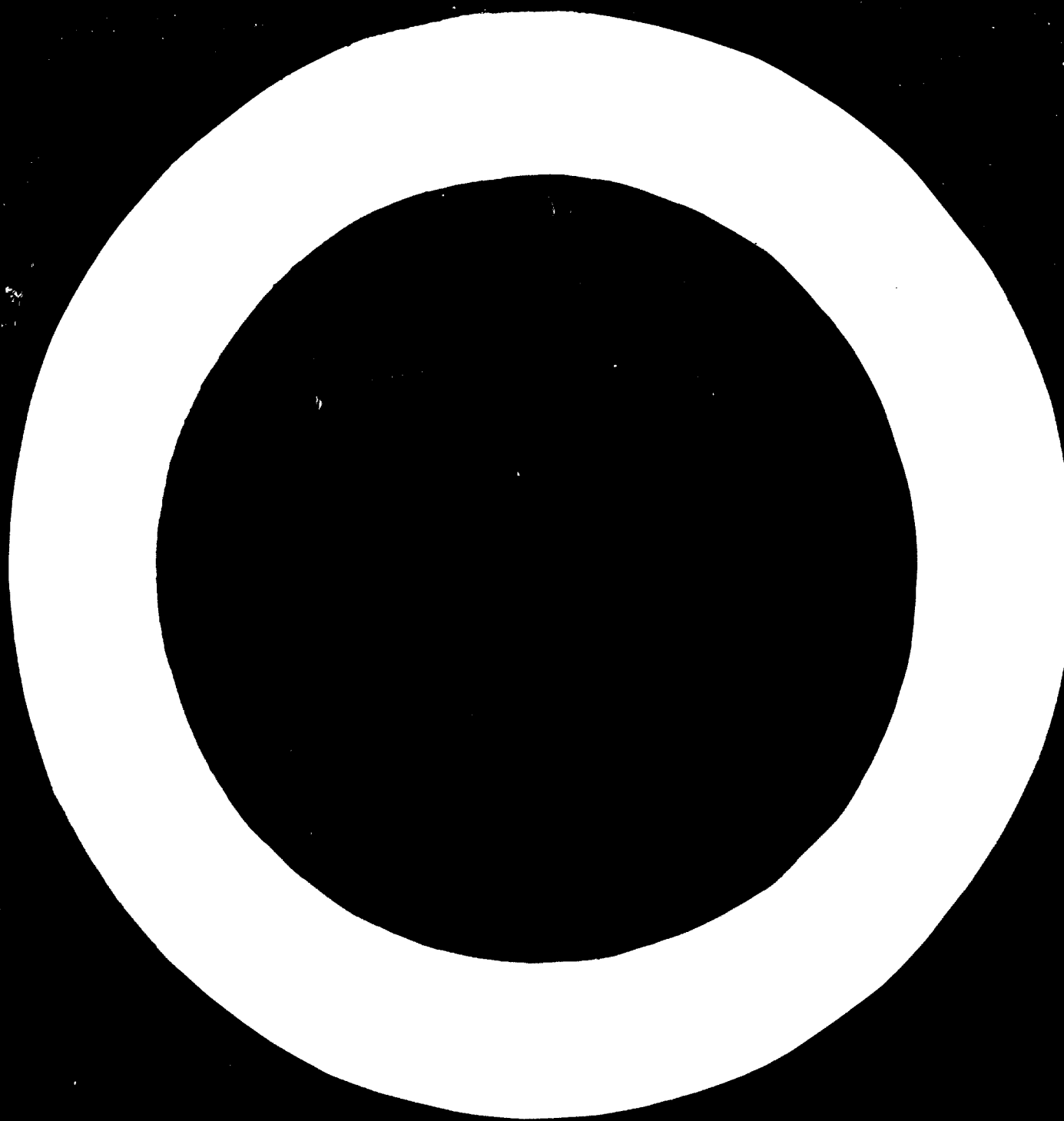
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THE IMPACT OF COMPUTERS ON THE SOCIETY

1. Road to automation and electronic data processing (e.d.p.)

1.1. Evolution

Phase 1: Manual tools (stone axe, plow, etc.)

Phase 2: Industrial machines (steam engine)

Phase 3: "Thinking" machines (computers)

Note: A sharp distinction cannot be made between the various phases; phase 1 for instance runs smoothly into phase 2 via the use of animal power.

1.2. Characteristics of human activities

- Application of physical power and manual capabilities
- Use of the five senses
- Use of the brain: - deciding
- memorizing

1.3. Principle of extension e.g. enlargement of the human body and its organs

- Radar = eye extension
- Telecommunication = hearing and language extension
- Mechanization = increase in energy and muscle power
- Computer usage = accelerating calculations

1.4. Predecessors of the computer

- Adding machine
- Typewriter
- Bookkeeping machine
- Punched card machines

2. Mechanization and Automation

Mechanization = the replacement of the physical and manual activities of man by machines. Applications: first in agriculture and industry, later in the administration

Automation = the replacement of human checking, regulating and controlling activities by machines

E.D.P. = the use of electronic data processing equipment in offices, universities, governmental agencies, etc.

3. Social consequences of e.d.p.

The social consequences of e.d.p. can be divided into two categories:

- the impact on the macro level (society and organisations)
- the impact on the micro level (individuals)

3.1. Macro level

- a. Positive and negative impact on employment
- b. Change in the general and professional training
- c. Change (qualitative and quantitative) in the offer and demand of manpower
- d. Cultural lag

3.2. Micro level

For the individual the following changes can be noticed or are to be expected:

- a. Changes in the status, role and position of workers
- b. Changes in the nature of work and working conditions
- c. Changes in remuneration
- d. Regularly re-training and up-dating of knowledge
- e. Changes of occupations

DEVELOPING COUNTRIES AND E.D.P./AUTOMATION

1. Obstacles

- Cultural resistance. New techniques and equipment change the nature of work and the working conditions; this might be considered to be a threat to society's culture.
- New techniques are expected to create unemployment, since the new machines are labour saving.
- New machines (computers) are expensive; lack of capital.
- Lack of persons to operate sophisticated and complex systems.
- Dual economy: primitive (producer - consumer) and advanced sectors.

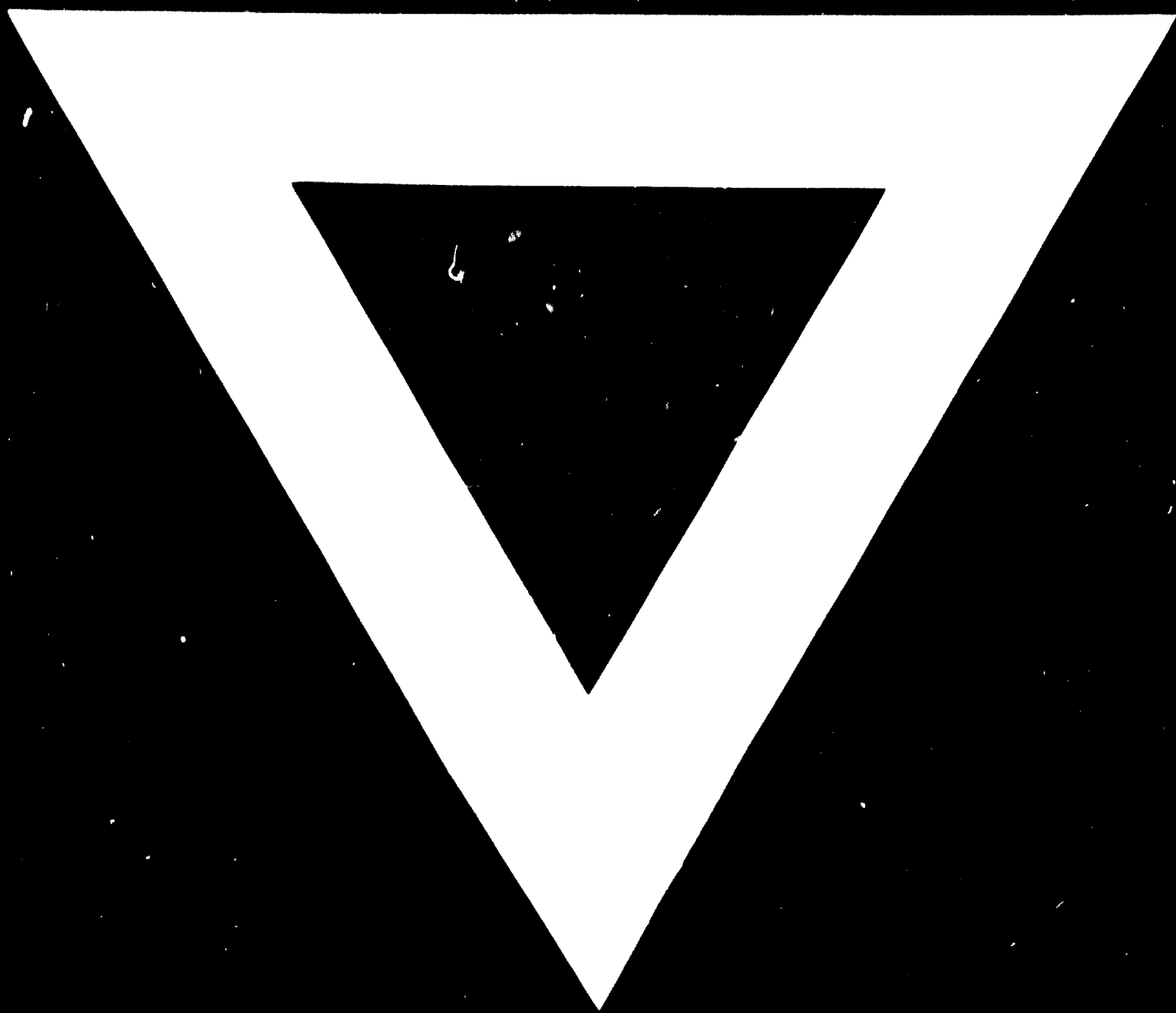
2. Advantages

- Availability of (all) necessary data concerning the population (growth, subdivision, etc.), natural resources, migration, taxes, manpower statistics, etc.
- Administration can be based upon the reality.

- Planning can be more accurate and realistic. Forecast can be made with the help of c.i.p. The suitability of computers for national planning lies in the possibility for testing models rapidly.
- The international market position is positively influenced by the use of modern equipment leading to products according to international standards.
- Computers as well as modern equipment in industries may be of great importance in narrowing the gap between the industrialised and pre-industrialised countries.

3. Computer usage in developing countries





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