



TOGETHER
for a sustainable future

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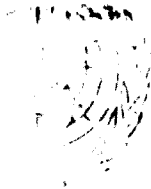
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United Nations Industrial Development Organization

17/1312/7
23 July 1968
GEM/IND/1

United Nations Industrial Development Organization
Department of the Programme on Industrialization
Developing Countries

IND. DIV. 1/1

UNEP, 20 - 31 October 1968

UNEP

DEVELOPMENT OF RUBBER PRODUCTION IN THE DEVELOPING COUNTRIES SINCE 1964
AND OTHER RELATED FACTORS FOR DEVELOPING COUNTRIES 1/

W. W. W. W.

United Nations Industrial Development Organization
17/1312/7

- I. The rubber market since 1964 and 1968
 - 1. The conventional natural and synthetic - how far the two systems have developed
 - 2. The development of synthetic rubber - the appearance on the market of new types of synthetic rubber - the possibility of their use and their properties and characteristics - the cost and availability of the various types
 - 3. The economic development of natural and synthetic rubbers - the appearance of a market equilibrium
- II. Development of production since 1964 and 1968 - world production - industrial production - developing countries - rate of increase - how this is distributed among the two groups of countries
- III. Development of consumption since 1964 and 1968 - fulfilment of requirements of the developing countries - rate of increase of consumption - variation in developing countries - setting up of

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production units of synthetic rubbers and development of plantations of natural rubber

- IV. Development of uses of rubber in developing countries during the period 1954 - 1958 - trend - ratio of tyre uses to total uses - development of automobile user and industrial uses - part played by synthetic rubbers
- V. The possibilities of setting up a synthetic rubber industry in developing countries
1. The need of a petrochemical industry of substantial size (production of butadiene)
 2. Economics of steam-cracking - economics of stereoregular polymerization and the polymerization in emulsion form
 3. Possibilities of exporting synthetic rubber to developing countries taking advantage of geographical position or of production economics (raw materials)
 4. Example of a minimum size of production, hence the market needed and the quantity of petrochemical raw material that must be produced.

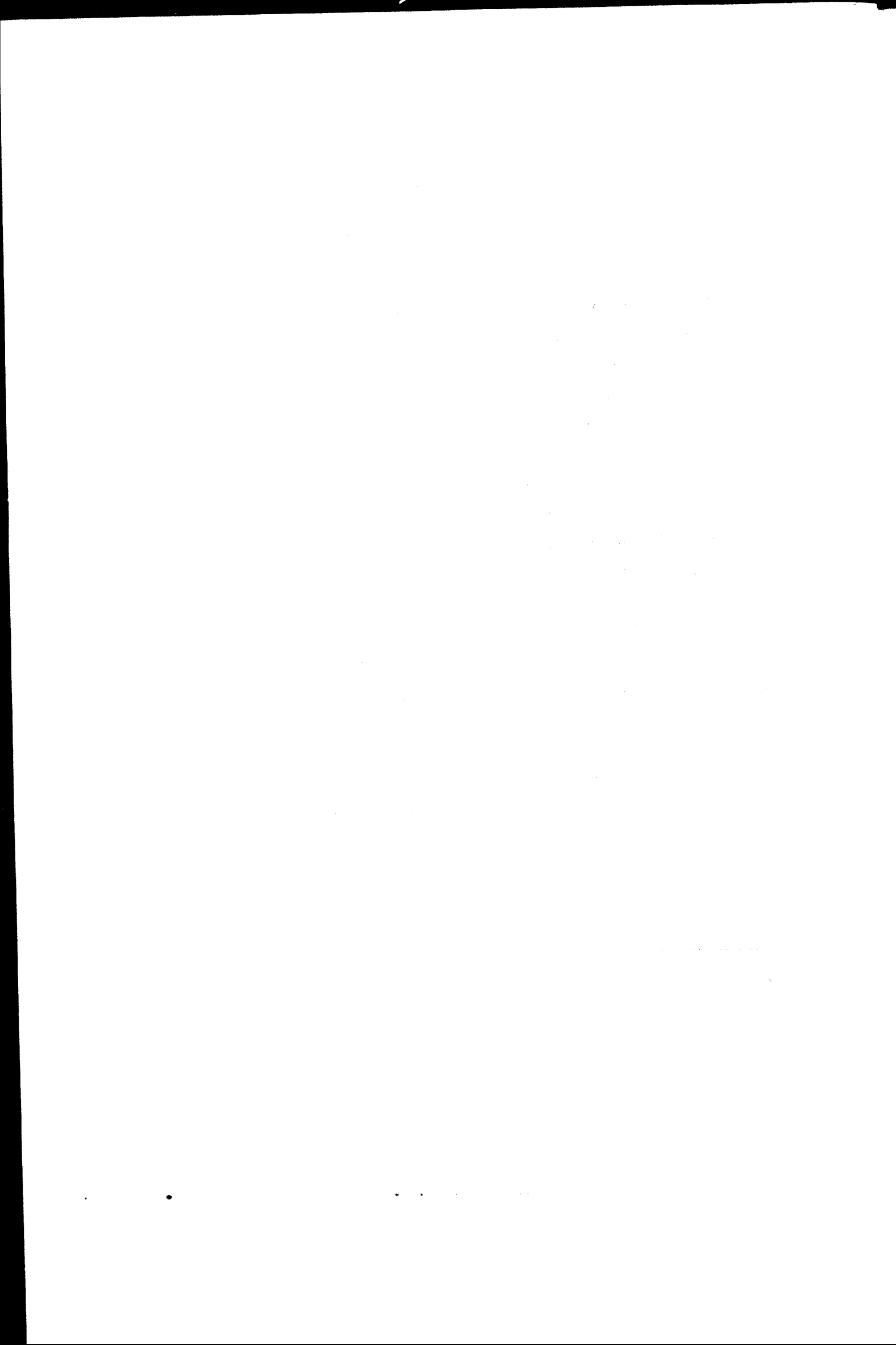
We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.



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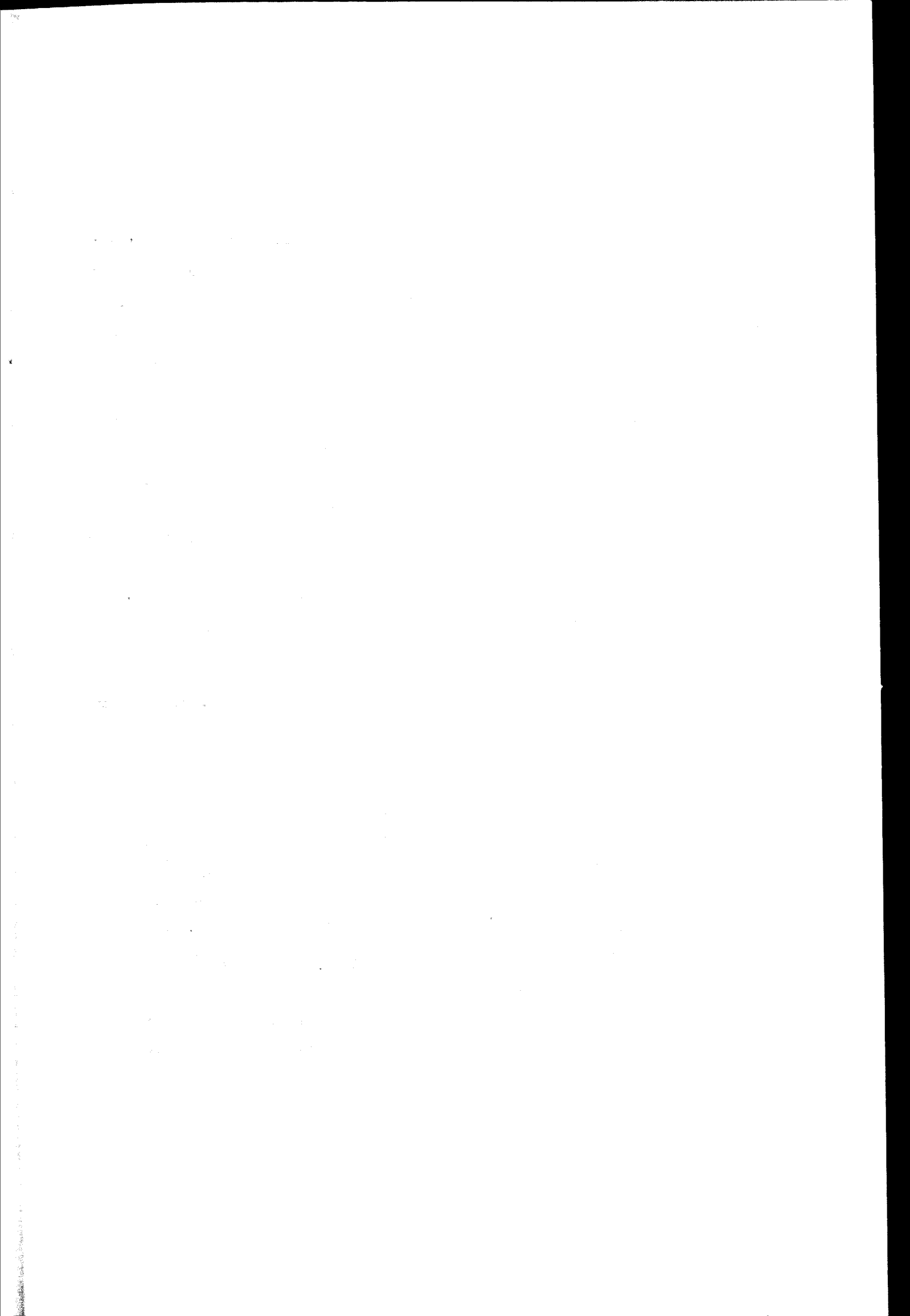
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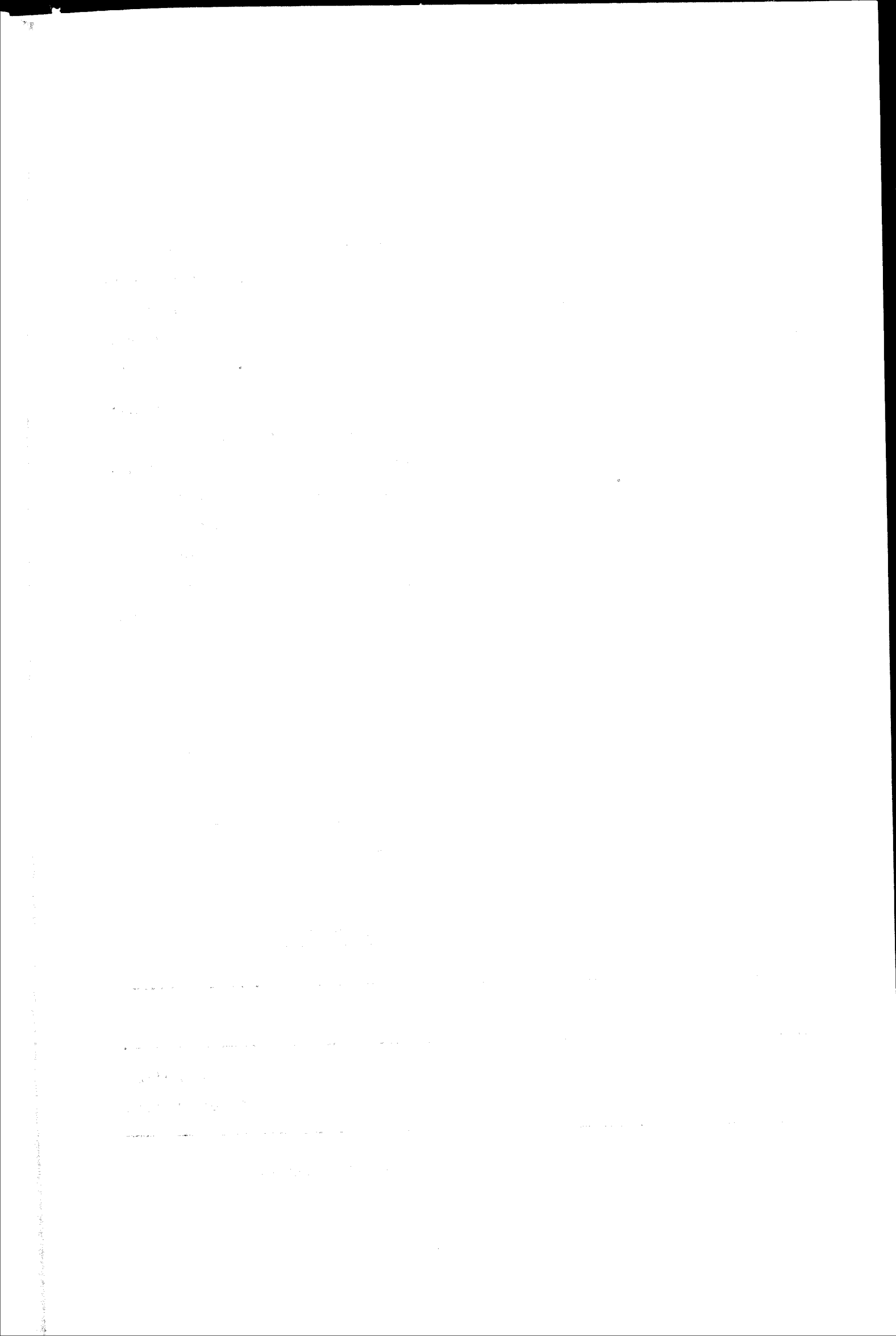
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3. The first part of the document is a letter from the author to the editor, dated 10/10/1954. The letter is addressed to the Editor of the Journal of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois. The author, Dr. J. H. [Name], is a [Title] at [Institution]. The letter discusses the author's interest in the journal and the possibility of publishing a paper. The author mentions that they have been working on a study related to [Topic] and would like to share their findings with the medical community. They express their hope that the journal would be interested in their work and asks for the editor's consideration. The letter is signed by Dr. J. H. [Name] and dated 10/10/1954.

4. The second part of the document is a letter from the editor to the author, dated 10/15/1954. The letter is addressed to Dr. J. H. [Name] at [Institution]. The editor, Dr. [Name], responds to the author's letter and expresses interest in the author's work. The editor mentions that they have reviewed the author's proposal and find it to be of interest. They suggest that the author submit a full manuscript to the journal for consideration. The editor also mentions that they will be happy to provide any assistance or advice that the author may need. The letter is signed by Dr. [Name] and dated 10/15/1954.

5. The third part of the document is a letter from the author to the editor, dated 10/20/1954. The letter is addressed to the Editor of the Journal of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois. The author, Dr. J. H. [Name], is a [Title] at [Institution]. The letter discusses the author's progress on the manuscript and their readiness to submit it to the journal. The author mentions that they have completed the manuscript and are confident that it will be of interest to the journal's readers. They express their hope that the journal will accept the manuscript for publication. The letter is signed by Dr. J. H. [Name] and dated 10/20/1954.

6. The fourth part of the document is a letter from the editor to the author, dated 10/25/1954. The letter is addressed to Dr. J. H. [Name] at [Institution]. The editor, Dr. [Name], responds to the author's letter and expresses interest in the author's work. The editor mentions that they have reviewed the author's manuscript and find it to be of interest. They suggest that the author submit a full manuscript to the journal for consideration. The editor also mentions that they will be happy to provide any assistance or advice that the author may need. The letter is signed by Dr. [Name] and dated 10/25/1954.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific requirements for record-keeping, including the need for clear, legible entries and the requirement that all records be retained for a minimum of five years. It also discusses the importance of regular audits and the role of internal controls in ensuring the accuracy of the records.

3. The third part of the document provides a detailed description of the record-keeping system to be used, including the types of records to be maintained and the methods for their collection, storage, and retrieval. It also discusses the importance of training staff in the proper use of the system and the need for ongoing monitoring and evaluation.

4. The fourth part of the document discusses the importance of data security and the need to implement appropriate safeguards to protect the records from unauthorized access, loss, or destruction. It also discusses the importance of backup procedures and the need to test the recovery process regularly.

5. The fifth part of the document discusses the importance of transparency and the need to provide clear and accessible information to stakeholders. It also discusses the importance of regular communication and the need to respond promptly to any concerns or requests for information.

6. The sixth part of the document discusses the importance of continuous improvement and the need to regularly review and update the record-keeping system to reflect changes in the business environment and in the requirements of the regulatory framework. It also discusses the importance of seeking external advice and the need to benchmark performance against industry best practices.

7. The seventh part of the document discusses the importance of accountability and the need to assign clear responsibilities for the record-keeping system. It also discusses the importance of regular reporting and the need to provide clear and concise information to senior management and the board of directors.

The following table shows the results of the experiment conducted on the 15th of August 1954. The results are given in terms of the number of plants per unit area and the yield of dry matter per unit area. The results are given in terms of the number of plants per unit area and the yield of dry matter per unit area. The results are given in terms of the number of plants per unit area and the yield of dry matter per unit area.

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Plot	Number of plants per unit area	Yield of dry matter per unit area
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5	100	100
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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for the proper management of the organization's finances and for ensuring compliance with relevant regulations.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes how this information is used to identify trends, assess performance, and make informed decisions about the future of the organization.

3. The third part of the document focuses on the role of technology in modern business operations. It highlights how digital tools and platforms have revolutionized the way companies operate, from streamlining internal processes to enhancing customer engagement.

4. The fourth part of the document addresses the challenges faced by organizations in the current market environment. It discusses the impact of economic fluctuations, technological disruption, and changing consumer preferences, and offers strategies to overcome these challenges.

5. The fifth part of the document provides a detailed overview of the organization's financial performance over the past year. It includes key metrics such as revenue, profit, and expenses, and compares these figures to industry benchmarks.

6. The sixth part of the document discusses the organization's strategic vision and long-term goals. It outlines the key areas of focus for the coming years, including market expansion, product innovation, and talent development.

7. The seventh part of the document provides a summary of the organization's achievements and a look ahead to the future. It expresses confidence in the organization's ability to continue to grow and succeed in the years ahead.

8. The eighth part of the document contains the organization's contact information and a call to action. It encourages stakeholders to get involved and provides details on how to reach the organization.

From the two above paragraphs, can be pointed out the very low per capita consumption levels of the developing countries (1.2 kg. in Brazil and 1.0 kg. in India in 1958). These have to be compared to the rather low levels in the developed countries.

The comparison of per capita consumption versus per capita income, for the two countries, is not very meaningful during a 1953 - 1958 four year period. Such a comparison is of the order of magnitude, especially in countries where consumption is under very strict control of the government. In many of these countries, the amount of rubber supplied to the consumer is fixed a priori and there is no "saturation" of the consumer. The new rubber production does not immediately increase the consumption (e.g. India-Brazil).

Comparison of all kinds of rubber consumption in India and Brazil.

In all the rubber-consuming countries, the different ways followed for the consumption of rubber are as follows:

India and Brazil had, in 1958, three all kinds rubber consumptions: a) natural rubber - i.e. 12,427 t for Brazil and 74,005 t for India; b) shares of the synthetics were respectively 38,286 t (30.55 %) for Brazil and 13,740 t (18.57 %) for India; c) that is, the world average synthetic rubber consumption amounted to 30 % of the total rubber consumption.

In 1958, as far as all kinds rubber is concerned, Brazil and India are at the same level (146,980 t for Brazil and 147,005 t for India) and Brazil tends to reach self-sufficiency by increasing its synthetic rubber capacity. Its Brazilian rubber consumption is split between 12,427 t of synthetic rubber and 38,286 t of natural rubber (i.e. 30.55 % of synthetic), to be compared to the world average 30 (30.55 %).

On the other hand, India tends to reach the same goal by increasing its natural rubber production. The share of the synthetic rubber consumption in India was 20.57 % out of 147,005 t (i.e. 29.57 %). These tendencies are illustrated by the stagnant production of natural rubber in Brazil (see II. 1) - which represented 11.5 % of the domestic supply in 1953 in 1958 and is expected to be 30 % in 1960 - and the rapidly growing Indian production which satisfies, in 1958, 63 % of the requirements versus 42 % in 1953.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support effective decision-making.

3. The third part of the document focuses on the role of technology in modern data management. It discusses how advanced software solutions can streamline data collection, storage, and analysis, leading to more efficient and accurate results.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure the integrity and confidentiality of the organization's data.

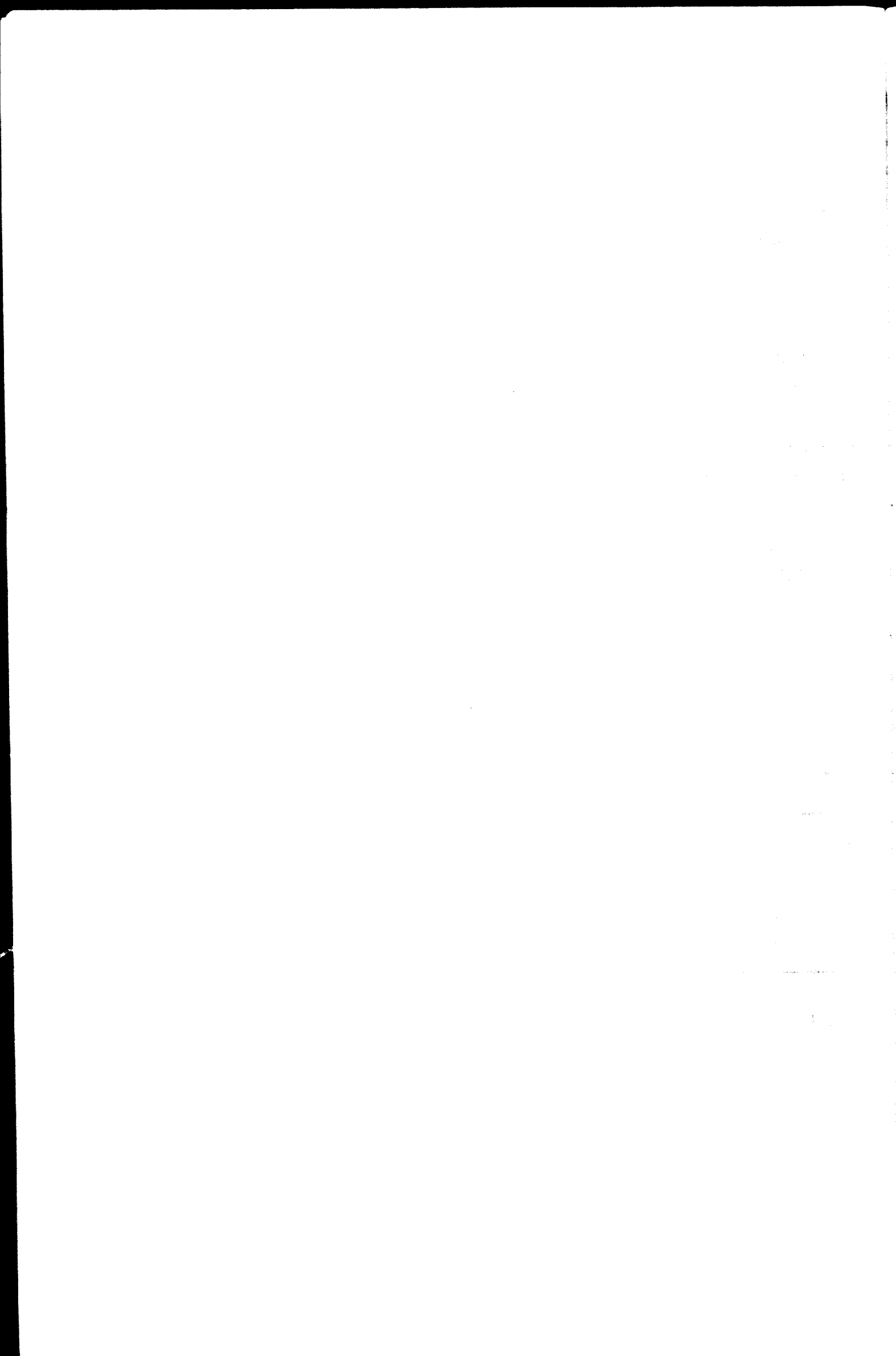
5. The fifth part of the document discusses the importance of data governance and the role of leadership in establishing a strong data management culture. It emphasizes the need for clear policies and procedures to guide data handling practices.

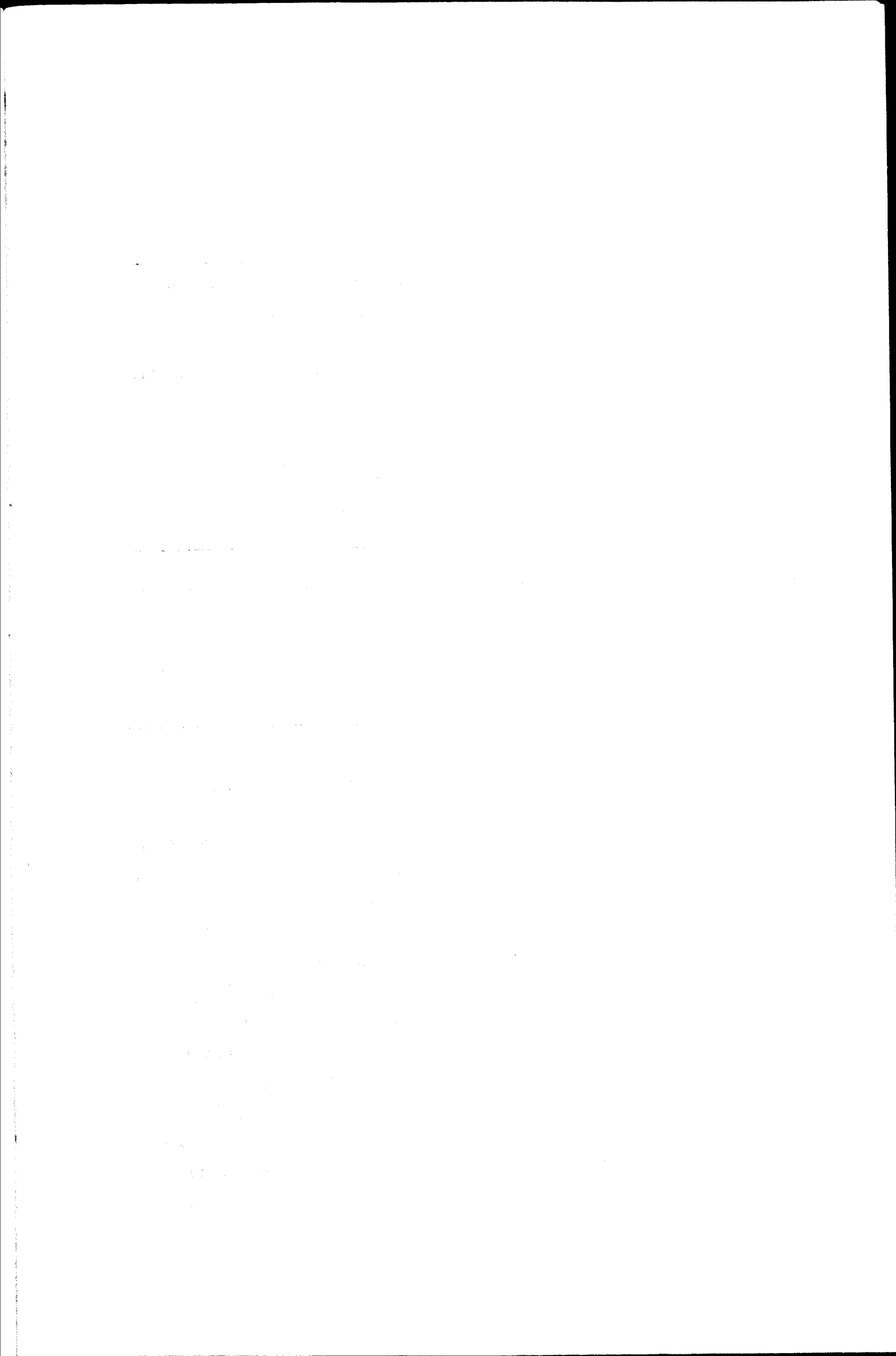
6. The sixth part of the document explores the benefits of data-driven decision-making and how it can lead to improved performance and competitive advantage. It provides examples of successful organizations that have leveraged data effectively.

7. The seventh part of the document discusses the future of data management and the emerging trends in the field. It highlights the potential of artificial intelligence and machine learning to revolutionize data analysis and insights.

8. The eighth part of the document provides a summary of the key points discussed throughout the document. It reiterates the importance of a comprehensive and proactive data management strategy for long-term success.

9. The final part of the document offers concluding thoughts and recommendations for organizations looking to optimize their data management practices. It encourages a continuous learning and improvement mindset in the ever-evolving data landscape.





The foreseeable evolution:

- For the first group of countries, the structure of the car population will change, with a higher ratio of light vehicles.
- For the second group, with a lower ratio of light vehicles, the ratio will increase.

These forecasts are based on the percentage of light vehicles in the total car population.

LIGHT VEHICLE POPULATION

U.S.A.
Western Europe
Developing Countries

* up to 70% of the population

The rates of growth of the car population

North America

Western Europe

Developing countries

1st group

2nd group

V. - POSSIBILITIES OF CRYSTALLIZATION

IN THE DEVELOPING COUNTRIES

1. Economy of the production

The production of light vehicles is a complex process. For example, the so-called "chassis" of a car is produced in a plant which is currently closed in many countries. This is generally restricted to the production of chassis for export.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for the proper management of the organization's finances and for ensuring compliance with applicable laws and regulations.

2. The second part of the document outlines the specific procedures that must be followed when recording transactions. This includes the requirement to use the correct accounting entries and to ensure that all supporting documentation is properly filed and maintained.

3. The third part of the document discusses the importance of regular audits and reviews of the financial records. It states that these audits are necessary to identify any errors or discrepancies and to ensure that the records are accurate and complete.

4. The fourth part of the document provides a detailed description of the accounting system that will be used by the organization. This includes information about the software that will be used and the specific procedures that will be followed for recording and processing transactions.

5. The fifth part of the document discusses the importance of maintaining the confidentiality of financial information. It states that all financial records must be kept secure and that access to them should be restricted to authorized personnel only.

6. The sixth part of the document provides a summary of the key points discussed in the document. It emphasizes that the proper management of financial records is essential for the success of the organization and that all personnel must be held accountable for their actions in this regard.

7. The seventh part of the document discusses the importance of ongoing training and education for all personnel involved in the financial reporting process. It states that this is necessary to ensure that all personnel are up-to-date on the latest accounting practices and regulations.

8. The eighth part of the document provides a final summary of the document and reiterates the importance of the financial reporting process. It states that the organization is committed to maintaining the highest standards of financial integrity and that all personnel must adhere to these standards at all times.

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