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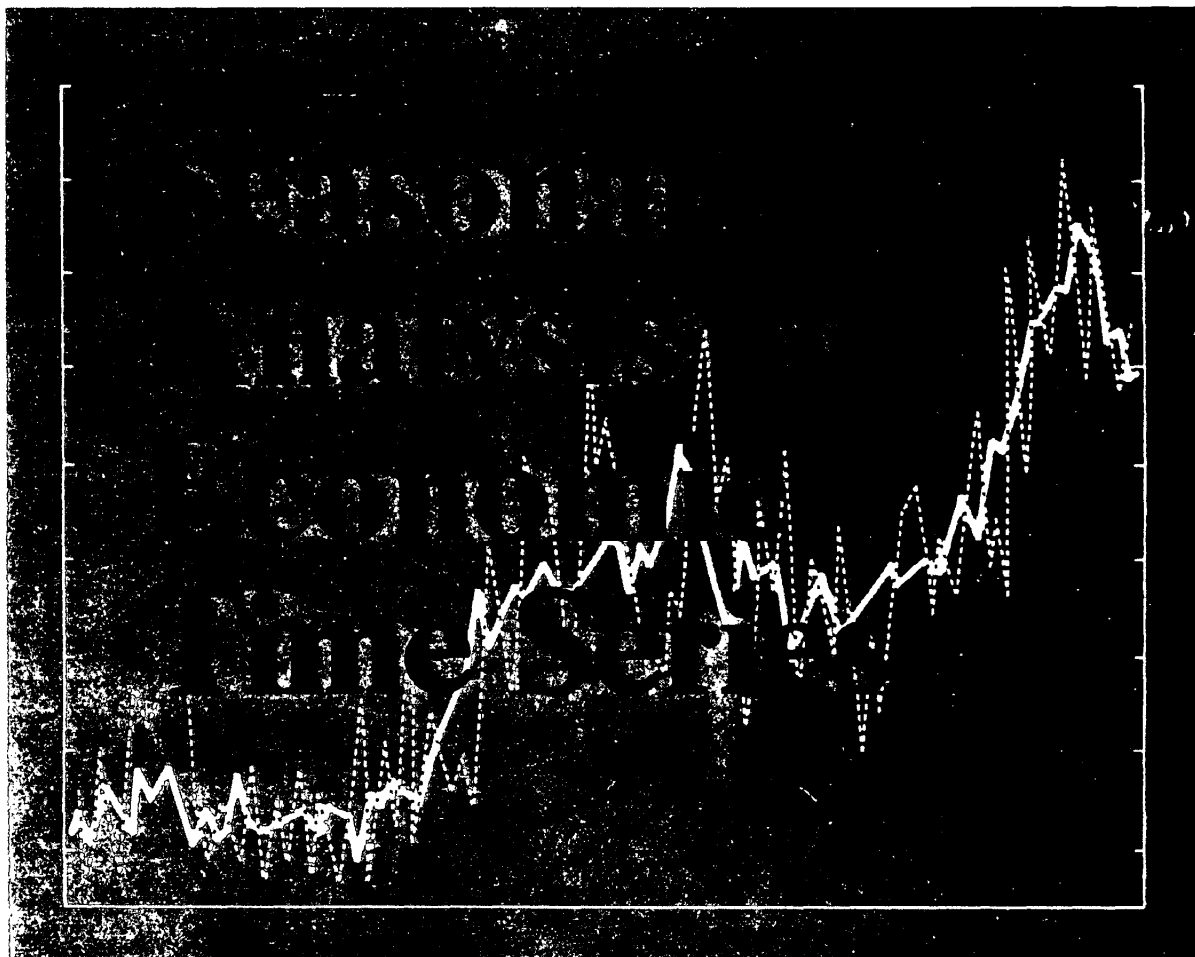
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**PROCEEDINGS OF THE CONFERENCE ON THE
SEASONAL ANALYSIS OF ECONOMIC TIME SERIES
WASHINGTON, D.C., SEPT. 9-10, 1976**

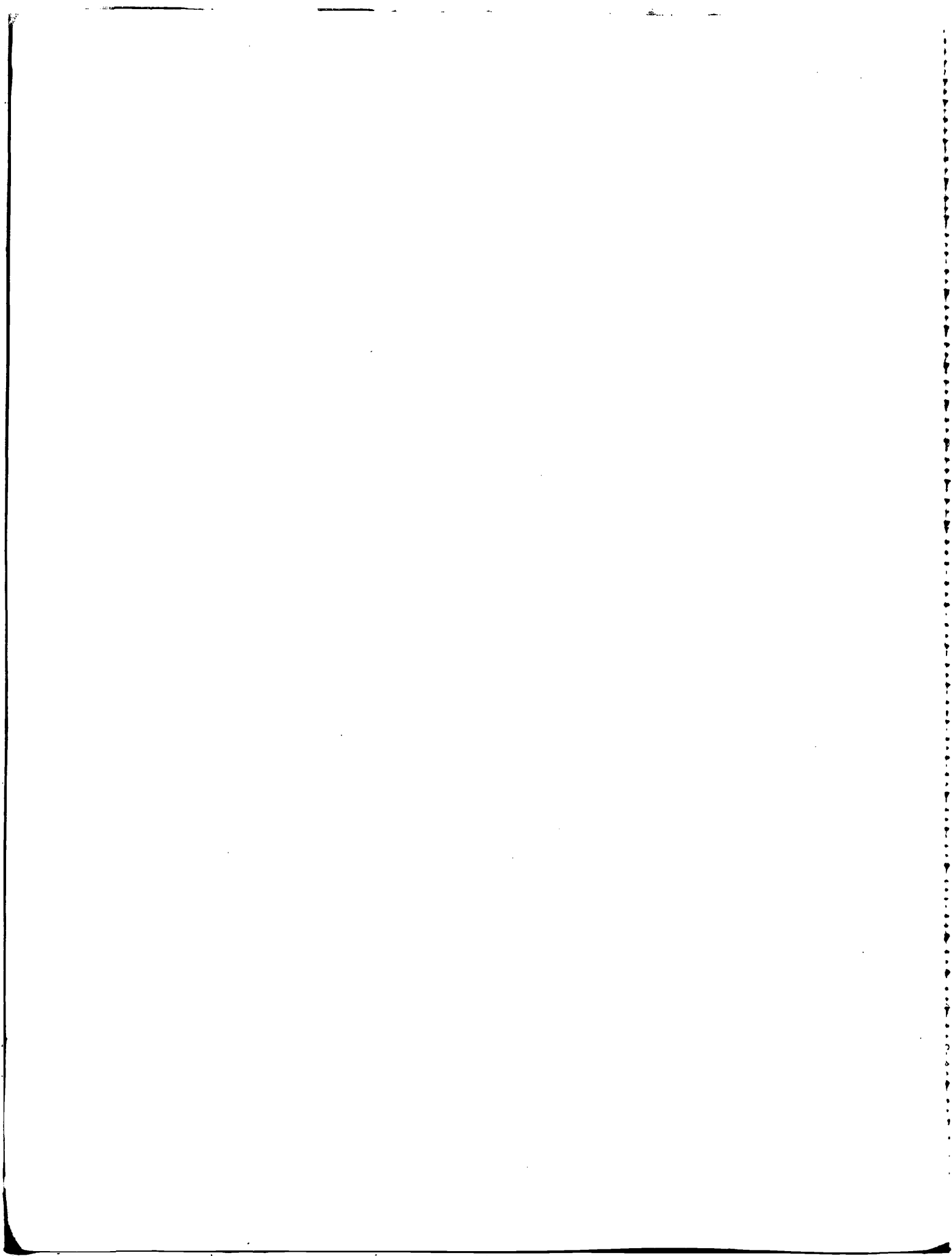


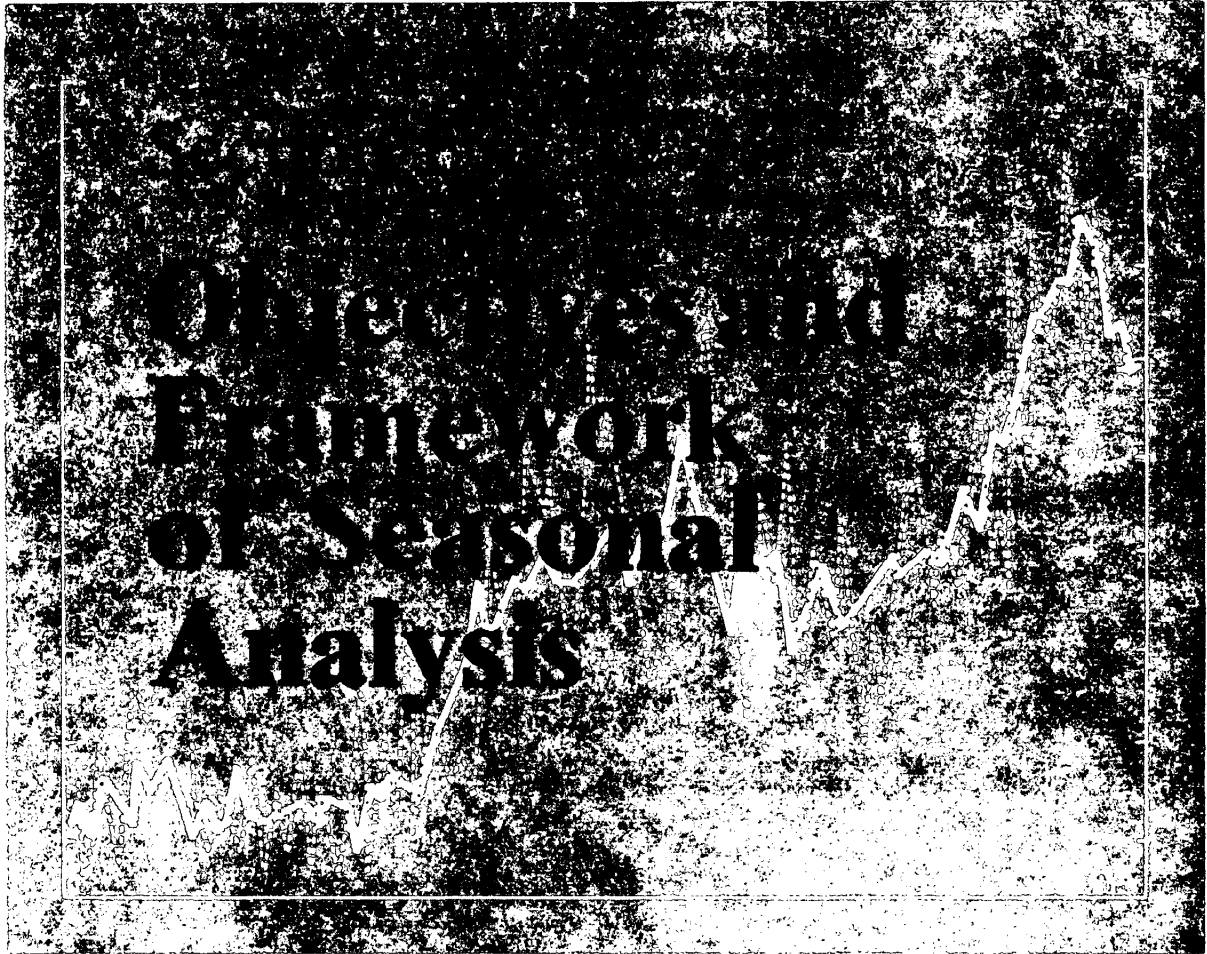
Arnold Zellner, Editor

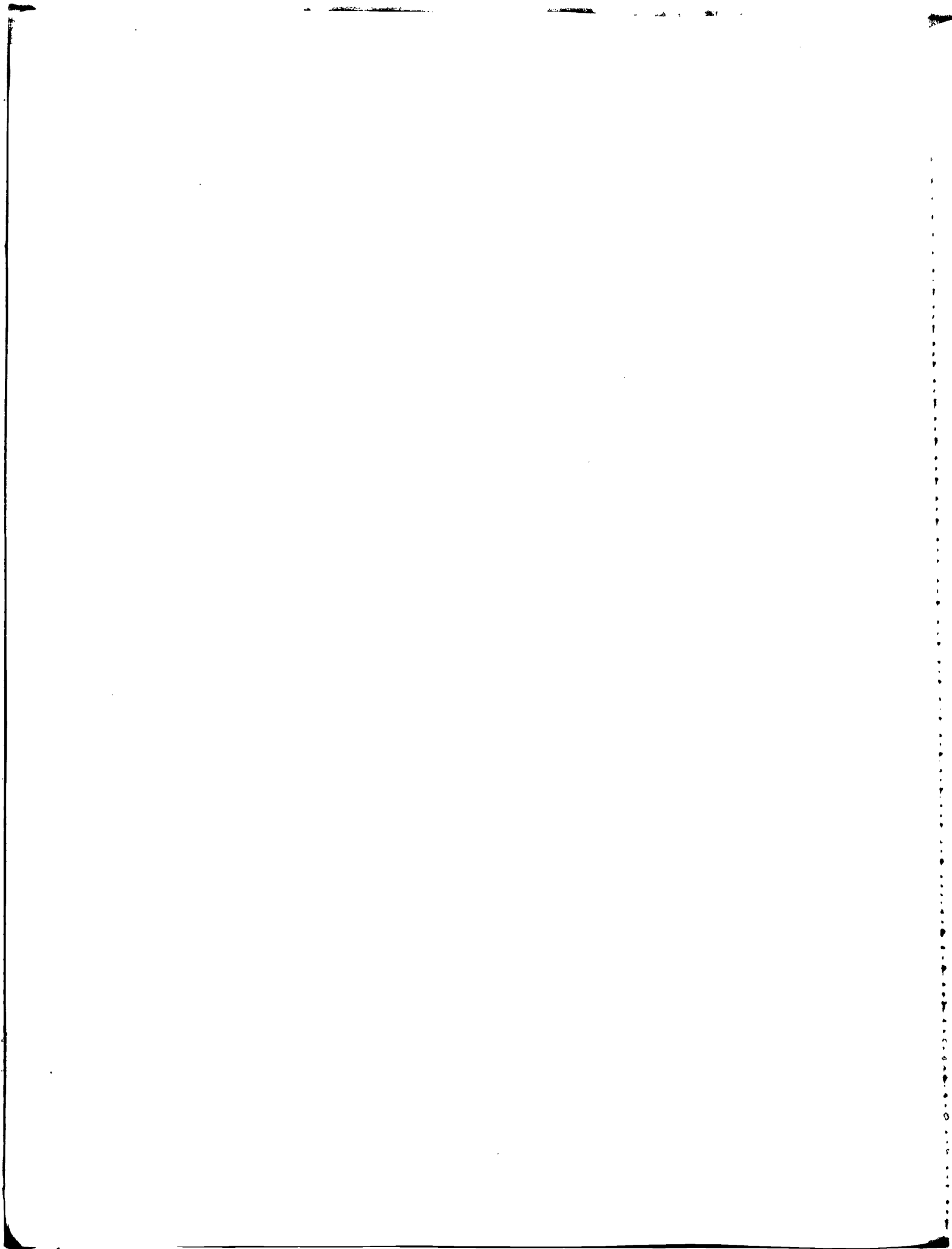
**U.S. Department of Commerce
Juanita M. Kreps, Secretary
Courtenay M. Slater, Chief Economist**

**BUREAU OF THE CENSUS
Manuel D. Plotkin, Director**

Issued December 1978







Dedicated

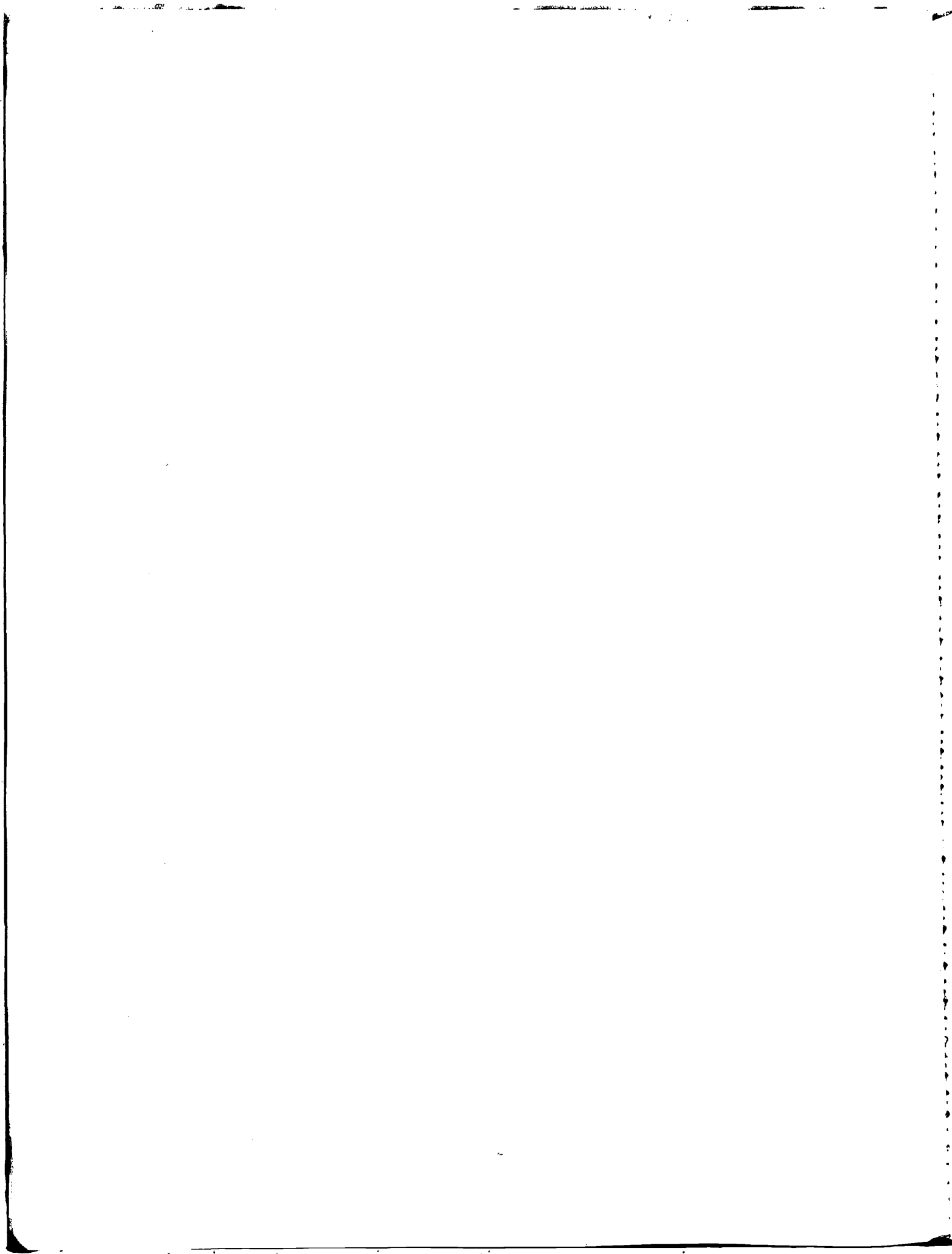
to

Julius Shiskin

1912 - 1978

Commissioner of the Bureau of Labor Statistics; former Chief Statistician, Office of Management and Budget; and former Assistant Director and Chief Economic Statistician, Bureau of the Census.

While at the Census Bureau, he developed the "X-11" program that permitted seasonal adjustment of time series data on a large scale with relative ease and accuracy.



PREFACE

Significant progress has been made in seasonal adjustment techniques over the past 25 years. Earlier efforts at the National Bureau of Economic Research and by others in deseasonalizing data were severely hampered by an inability to easily analyze and process large volumes of data. Pioneering efforts by the Bureau of the Census in utilizing computer technology provided the needed breakthrough to permit development and application of complex seasonal adjustment and analysis models in national statistical programs.

Continuing growth and widespread use of seasonal analysis techniques, and the dominant employment for this purpose for more than 20 years of the Census Bureau's X-11 computer programs, led to the conclusion that it was time to consider new approaches that might enhance the accuracy and usefulness of seasonally adjusted data. As a result of their experience in this field, it was appropriate in light of this objective that the National Bureau of Economic Research and the Bureau of the Census cosponsor a conference on Seasonal Analysis of Economic Time Series. The conference was held September 9-10, 1976, in Arlington, Va. In addition to discussions of methodology and practical applications, the conference permitted an exchange of ideas among those with extensive experience in the field.

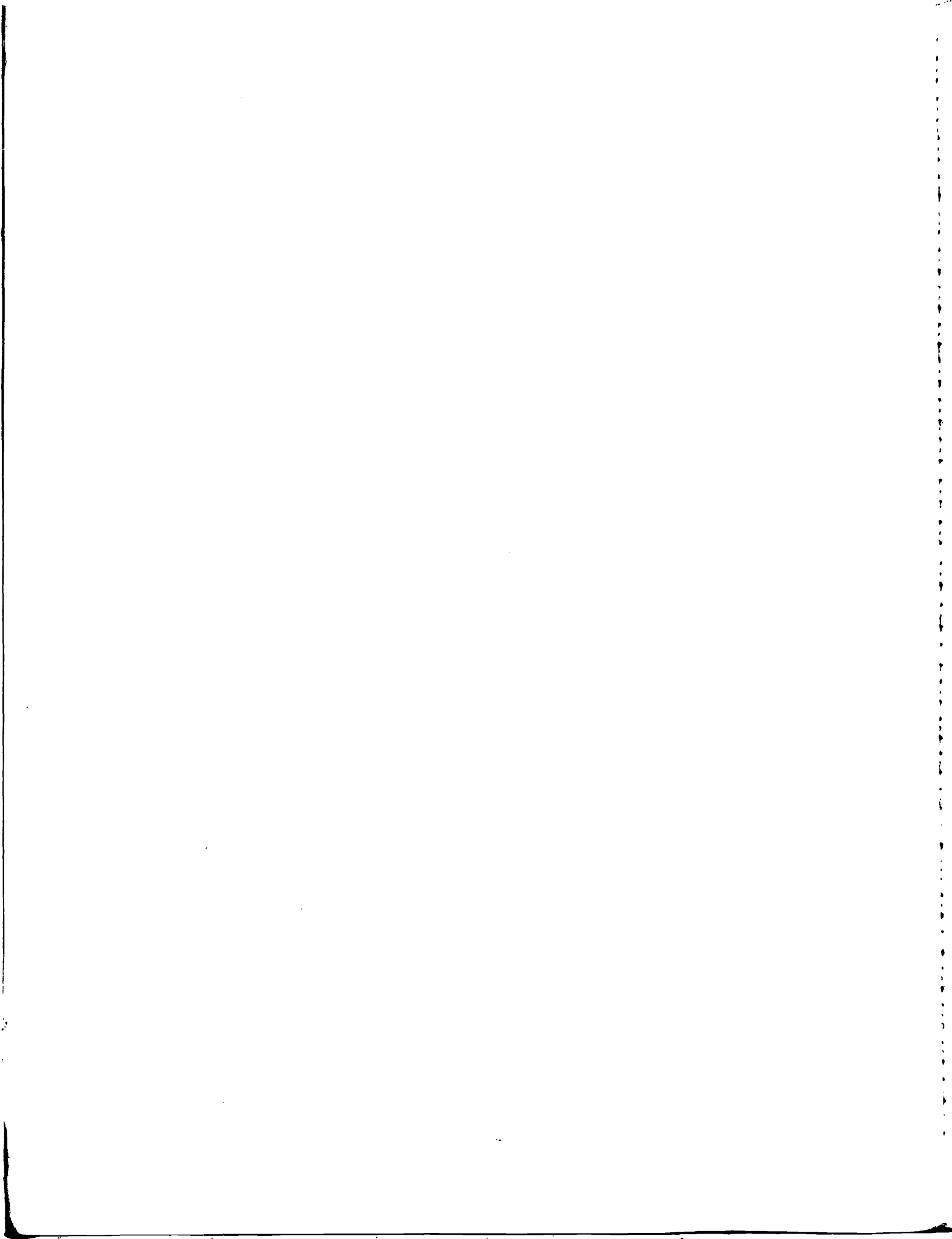
This volume contains the conference papers and discussions of the papers by recognized experts. We are indebted to the authors and discussants for the high quality of papers presented and to the contribution they made to time series analysis.

The conference benefited from a Steering Committee composed of—

Arnold Zellner , Chairman	University of Chicago
Elmer Biles	Bureau of the Census
William S. Cleveland	Bell Laboratories
Robert F. Engle	University of California
A. L. Finkner	Bureau of the Census
Gary Fromm	National Bureau of Economic Research
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Shirley Kallek	Bureau of the Census
Michael C. Lovell	Wesleyan University
Charles R. Nelson	University of Washington
Julius Shiskin	Bureau of Labor Statistics
George C. Tiao	University of Wisconsin
Donald G. Watts	Queens University

Particular thanks to **Gary Fromm**, who worked with the Bureau in shaping the format of the conference, and to **Arnold Zellner**, who served as chairman of the Conference Steering Committee and was the technical editor for this volume. To all who participated in the conference and others who assisted the project, the Bureau of the Census is extremely grateful.

Shirley Kallek
Associate Director for Economic Fields
Bureau of the Census



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