

FOREWORD

In March 1960, Captain B. F. Bennett, USN of the Office of Naval Research London Branch Office contacted through the American Embassy in The Hague the Central Organization for Applied Scientific Research in The Netherlands (T.N.O.). As a result of this contact the Netherlands Ship Model Basin (NSMB), one of the institutes administrated by this organization, was invited by Mr. Ralph D. Cooper, Head, Fluid Dynamics Branch, Office of Naval Research, to co-sponsor the third Symposium.

Although time for preparation was rather short the NSMB enthusiastically accepted this invitation.

The Symposium, dedicated by Dr. Th. Von Karman to Sir Thomas Havelock in recognition of his valuable contributions to naval hydrodynamics, was held at The Hague in September 1960. It was devoted to high-performance ships, such as hydrofoil boats, ground effect machines, deep diving submarines, semisubmerged ships and other special or unconventional configurations. This timely subject was of great interest to both hydrodynamicists and shipbuilders. Though the operational value of these high-performance ships appeals primarily to naval interests, it was in addition very refreshing for practical shipbuilders who deal with problems concerning commercial ships.

The size, speed and type of ships that will be used within the near future is difficult to predict. To face the possibilities within our present day technological abilities was the aim of this Symposium. In this respect the Symposium can be qualified as very successful.

It is my privilege to express the sponsors' thanks to those who have contributed to the success of the Symposium: to Professor L. Troost and Dr. Th. J. Killian who presented the addresses of welcome to the meeting, the first on behalf of the Central Organization for Applied Scientific Research in the Netherlands, the second on behalf of the USN Office of Naval Research; to the Chairmen of the Sections; to the authors and those who took part in the discussions; and to those organizations and companies who participated in demonstrations with various types of hydrofoilboats on the river "New Waterway" at Rotterdam and in front of Scheveningen Harbor, namely:

Hydrofoilboat "Sea Wings," designed and demonstrated by Dynamic Developments Inc., for the U.S. Navy;

Hydrofoilboat "Waterman" demonstrated by Aquavion Holland N. V.;

U.S. Navy Hydrofoilboat "High Pockets" developed by Baker Manufacturing Company for the U.S. Navy;

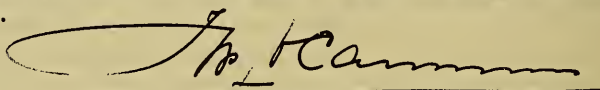
Hydrofoilboat "Shellfoil" designed by Supramar A. G.

Thanks are also due to Lips Ltd. at Drunen for the kind reception during the excursion to their Propeller Works.

The tattoo of the Marine Band of the Royal Netherlands Navy, the cocktail party given by VADM. A. H. J. van der Schatte Olivier, Flag Officer Material, Royal Netherlands Navy and the dinner speech by VADM. L. Brouwer, Chief of Naval Staff, Royal Netherlands Navy were Dutch contributions which added to the success of the social part of the meeting.

I should also like to express our gratitude towards the Board of Directors and the Staff of the Netherlands Ship Model Basin for their active help in organizing this Symposium in such a short time.

Finally I would like to add my personal thanks to those of the Board of Directors of the NSMB to the Office of Naval Research for the confidence put in our organization and the help and close cooperation we enjoyed during the preparation of the Symposium.

A handwritten signature in dark ink, appearing to read 'W.P.A. van Lammeren', written over a horizontal line.

Wageningen, May 1962
Prof. Dr. Ir. W.P.A. van Lammeren
Director NSMB

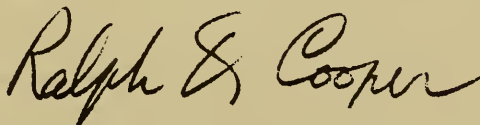
PREFACE

This Symposium is the third in a series, each of which has been concerned with various aspects of Naval Hydrodynamics. The first (held in September 1956) presented critical surveys of those areas of Hydrodynamics that are of significance in naval science. Subsequent meetings were to be devoted to one or more topics selected on the basis of importance and need for research stimulation, or of particular current interest. In keeping with this objective, the second symposium (August 1958) had for its dual theme the areas of hydrodynamic noise and cavity flow.

Still continuing with the original plan, the present symposium selected for its theme the area of high-performance ships, thus emphasizing among other things the interest in the current problems and latest accomplishments associated with hydrofoil craft and ground effect machines.

The international flavor of these meetings has been preserved and, in fact, enhanced in the present case by virtue of the setting, the participation, and most particularly by the joint sponsorship by the Netherlands Ship Model Basin and the U.S. Office of Naval Research.

The background, objectives, and hopes for this meeting are more than adequately described in the speeches of welcome by Professor Troost and Dr. Killian, the dedication address by Dr. von Karman, and the foreword to this volume by Professor van Lammeren. Little remains to be said other than to echo Professor van Lammeren's expressions of gratitude to all those who contributed so much to the success of this symposium. However, taking the liberty of speaking for both the Office of Naval Research as well as the international scientific community of hydrodynamicists, I should again like to express our deepest appreciation to Professor van Lammeren and the Netherlands Ship Model Basin for their efficiency and care in managing the many varied aspects of this symposium.

A handwritten signature in dark ink, reading "Ralph D. Cooper". The signature is fluid and cursive, with the first letters of "Ralph" and "Cooper" being capitalized and prominent.

RALPH D. COOPER, Head
Fluid Dynamics Branch
Office of Naval Research