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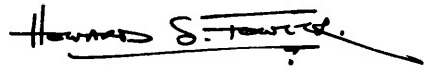
FOREWORD

This volume presents the papers to be delivered at the 17th Canadian Symposium on Air Cushion Technology, to be given at the Skyline Hotel, Ottawa, Ontario, on October 4-6, 1983.

After last year's excursion to the Maritime Provinces, the Symposium has returned this year to Ottawa, where it was first held 17 years ago. In the intervening years, the Air Cushion Technology Society has grown from being a small section of the Canadian Aeronautics and Space Institute to become a constituent society in its own right, and Canadians have advanced from interested bystanders in the ACV field to the status of acknowledged contributors to research, from buyers of other peoples' products to the makers and exporters of a successful large military freighter of their own, and to being the pioneers of A.C. ice-breaking technology.

In keeping with this growing internationalism, our Society has joined forces with the Hovercraft Society, in its British base and also its nearer American Chapter, and has also maintained friendly contact with Australian, Chinese, Finnish, French, and Japanese workers in the same field.

Finally, the Society has marked each of the last sixteen years with a Symposium at which specialists from across the world have come together to discuss the technology which is their common interest. Last year, thanks to the efforts of Dr. Roger Amyot, we were able to publish the bulk of the symposium papers as a book of preprints, available at the meeting. This year we present a similar volume, although increasing security requirements have resulted in some papers being represented by abstracts.



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The world is shrinking. Not only because of almost unlimited travel opportunities and instant television and radio coverage of news from everywhere to everywhere but because national economies are becoming more and more interdependent. No longer can isolated anomalous economies exist as has been well demonstrated in the recent recession and surely international co-operation will have to be the way out.

I like to think that this Symposium with its relaxed and informal atmosphere helps to build a sound structure for co-operation between hovercraft engineers from many countries and from companies both big and small. An invention of the stature of the hovercraft principle no longer becomes theprerogative of the originator or even of the originating country but because of its wide scope automatically is taken into the international arena for development along many avenues. I am sure that the inventor Sir Christopher Cockerell feels heartened that this has taken place and the many delegates here give ample evidence that future development is in good hands.

Although the world is shrinking it is also becoming more complex. Knowledge and technology increase every year, libraries housing the written records of scientific and engineering progress seem to expand at an increasing rate. The education required just to bring young people up to the starting line must become increasingly prolonged and with the rapidly changing pattern of technology, if they get a job it is bound to be specialised. I do not believe humans are any more intelligent than they were thousands of years ago but over this time we have evolved a complicated self made social structure and a continually amassed body of scientific and technical knowledge and expertise. Not only in the so-called developed countries but now almost everywhere in the world, the young are being plugged into this accumulated fund of information by education. Just providing this education is an industry in itself.

No longer will even the largest and most powerful countries be able to maintain the stance of being all things to all men. We have already seen a global shift in manufacturing towards the East (depending of course on where you are standing) and I am sure there are even more drastic changes to come.

The hovercraft industry, almost by virtue of its small size, is a specialised business with the experts in the field spread over many countries with a good number represented here today. We are all engaged in trying to convince the rest of the world that they need hovercraft and with this situation, which is a very uphill struggle, I do not believe that fierce competition between countries or companies is necessarily beneficial or appropriate. Until the hovercraft becomes a common and universally used means of transport, and certainly in a few areas of the world it already is, then an active programme of co-operation within the hovercraft industry on an international as well as national scale could go a long way to help establish hovercraft firmly in the market place.

There are many ways in which we could help each other and a great amount of interchange does go on but there is scope for much more. Sub-contracting work to other hovercraft firms is an obvious way for mutual help. The normal pattern of hovercraft orders is one of large troughs and peaks in a random fashion and it would seem possible to relieve the pressure of one company's peak into another's trough.

There are so many different areas of hovercraft activity that at this point it seems unnecessary for several companies to offer the same type of product in competition with each other when usually, with a minimum of co-operation, conflicts could be avoided. I do not think this could be termed a cartel as competition remains strong from other forms of transport. There seems to be no reason why companies cannot assist by selling one another's products once they have rationalised by having non-conflicting areas. I know from personal experience that large companies often already help smaller ones in this respect but I think this could be extended. I have a vested interest in the small company but I do believe it is in the long term interests of the big company to foster their smaller bretheren where there often lies a fund of inventiveness and energy not always available in the larger organisation.

There are other co-operative possibilities such as an International Hovercraft Federation or closer financial agreements but the basic message is that we should sink our differences

and work together to establish hovercraft on the world scene.

I have not mentioned the non-manufacturing side of the industry such as universities and research establishments as I know they already work closely with many parts of the hovercraft industry without regard to national boundaries.

Let us all try to co-operate more and in the spirit of this Symposium.