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AUTOMATION IN HYDROGRAPHY

A LETTER TO THE EDITOR

from Rear Admiral G.S. RITCHIE,
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Sir,

Captain (now Rear Admiral) HASLAM's severely practical letter on "Telesounding" published in the January 1975 *I.H. Review* has encouraged me to attempt a similar letter concerning automation in hydrography. My letter was prompted by two adjacently placed papers in the January 1975 *Review* — "Hydrographic Automation — A Report from Sea" by Commander N.M. SMIT and "Hydrographic Survey Systems for the 1980s — a technological forecast" by Martin L. COLLIER.

The former paper is written by a practical sea surveyor, the latter by an enlightened systems man. Both papers I found, in their very different ways, admirable. SMIT relates his experiences with one type of automated hydrography; he deals not only with the good points of the system, but also those that are unsatisfactory. COLLIER tells us how hydrographers should be using technological forecasting to plan the survey systems we should be using in 10 and 15 years from now.

SMIT, as I see it, like many present day hydrographers, is still struggling on what Admiral Van WEELDE has called the "slippery slopes of automation", whilst COLLIER has reached, without struggling up the slopes, what CHURCHILL called "the broad sunlit uplands".

It is only in the larger and more fortunate hydrographic organisations that technical men can be set aside to plan the distant future, although clearly such planning would be both sensible and, in the long run, economic. Sometimes Research and Development Sections have been established in times of comparative affluence; but such sections are usually the first to be jettisoned as the Hydrographer buffets through those periodic financial blizzards he knows so well.

Such technical men as Hydrographers can afford to employ are usually fully committed to the development of the present day systems, and to making them work.

What does the hydrographer expect from automation ? I suggest that he wants to speed up the surveying techniques and make them applicable

to 24 hours a day operation, whilst at the same time he seeks to improve accuracy by eliminating the human element. However, he also seeks to preserve the personal supervision of input by the surveyor on the bridge or in the sounding boat. Saving of manpower may be another objective, and although mentioned by COLLIER as a benefit of the future, I am unaware of any progress in this direction so far.

I presume that to-day the ideal system logs the electronic fixes and plots them on the bridge in real time; also logs, selectively, digitised echo soundings in association with the appropriate fixes. The system should then be further capable, either onboard or ashore, of printing the soundings, reduced for tidal height, in their correct positions on the fair sheet.

How many different systems capable of performing this work are at sea to-day and working on a fault-free basis with which the sea-surveyors — the Users — are satisfied ?

Article II(c) of the Convention on the IHO reads as follows : "It shall be the object of the Organization to bring about ... the adoption of reliable and efficient methods of carrying out and exploiting hydrographic surveys".

I consider that it would be in accordance with this Article, and of the utmost value to the great majority of the Member States, if those few national hydrographic agencies which have developed truly satisfactory automated survey systems, were to describe them, including both merits and demerits, for the general benefit of our Organization. Although this is not the place to discuss plans for the next Hydrographic Conference, I would suggest that a day might be most usefully spent in presentations, questions and answers concerning the present state of hydrographic automation.

(Signed) G.S. RITCHIE

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