



THE USE AND DISTRIBUTION OF ORIGINAL CHARTS.

By Captain L. H. LUYMES, Hydrographer of the Netherlands.

(Translation from the Dutch text).

THANKS to the International Hydrographic Conference, held in London in 1919, and to the International Hydrographic Bureau, which is an outcome of the Conference, uniformity is gradually increasing in the charts published by the various Hydrographic Offices.

The main reason for holding the Conference was the proposal to establish uniformity, the principal proposer of which was the late gifted head of the French Hydrographic Service Monsieur J. RENAUD. He advocated it strongly in his article. "La Carte Marine Internationale", written in 1914 but published in the *Annales Hydrographiques* of 1918.

The subject had been discussed previously at the XIth International Congress of Navigation at Petrograd in 1908 and at the Maritime Conference of 1912 which was held at the same place; it may be said therefore that it has always been considered to be of great importance. Since the object aimed at, i. e. *to standardise the charts of all nations as much as possible*, will probably be feasible at a not very distant date, it appears to be useful to consider, as M. RENAUD did, what advantages may be drawn from uniformity and to add thereto a proposal for an organisation by which this uniformity, in its fullest extent, may be reached.

At present the great majority of seamen use, next to their own charts, British Admiralty charts and if this procedure is likely to continue, greater uniformity than that already reached will not be required as the British method of producing charts is as familiar to the greater number of seamen as is that of their own Hydrographic Office. Neither will greater uniformity be required by those Hydrographic Offices which wish to copy portions of foreign charts for their

own use, as these offices have trained and experienced Cartographers who can study the charts at their leisure and can ask for information when required.

In order to justify the undoubted general agreement as to the necessity for standardisation as well as for the Conferences and, in part, the establishment of the International Hydrographic Bureau, the advantages which it is expected to obtain by uniformity should be considerable, and, in fact, this is the case.

AS M. RENAUD has already pointed out, the principal advantage consists in the fact that *the seaman will be enabled to use those charts which represent in the most accurate and complete manner the areas which are to be navigated*. In order that this desideratum may be realised the original charts published by the Hydrographic Office of the State which made the survey, will have to be put at his disposal, and not copies made by other offices.

M. RENAUD remarked that copies of charts, which represent areas which are liable to continuous change, must necessarily always be obsolete. Every Office which publishes original charts of such areas has experience of the amount of care and work which are required to keep them even approximately up to date and yet, notwithstanding all the precautions taken, any new edition is more or less obsolete at the moment when it is published. This will of course be much more so in the case of a copy of a chart, which may even be printed at the very moment when another new edition of the original one is in the press. Charts of areas where new surveys are being made or where rapid development of navigation causes continuous changes in the entrances to harbours and in the works thereof, are subject to the same evil. The full amount of such arrears, of which remarkable examples could be given, is known only to the Head of the Hydrographic Office which publishes the original chart.

These difficulties are partly met since the establishment of the International Hydrographic Bureau, for surveying work in progress is notified to the Hydrographic Offices and the publication of new charts is brought to their notice more regularly than was the case previously.

However, every Head of a Hydrographic Office knows that it is not always possible to adhere strictly to the proposed schedule of work, particularly with regard to time, thus a foreign Hydrographic Office is obliged frequently to use data which to its certain knowledge will soon be obsolete.

These difficulties may be met to a certain extent by issuing new editions of charts in quick succession; however, those who can appreciate the amount of work and the great expense required to keep a set of charts of the whole world or even of the greater part of the world, up to date, will understand that this expedient has a relative value only.

In 1914 M. RENAUD estimated the number of *original charts* of the world to be 6,500*. He also remarked that even for the best equipped Hydrographic Office it will gradually grow more and more difficult and expensive to publish and to keep up to date a complete set of charts of the world in accordance with modern requirements. Next to these original charts, the number of *copies* published at that period was about 6,000 and for the greater part these would be superfluous for navigation if the former were sufficiently understood by *and available to* every seaman.

These numbers prove that there is great waste of energy and money in connection with this matter, while the object, i. e. *to put at the disposal of the seaman a set of charts which is as accurate and as complete as possible*, is not reached.

Is not the difficulty of keeping a set of copied charts up to date clearly proved by the fact that the British Admiralty has decided not to engrave on its charts the buoyage of the new fairway to Bremen. South of Robbeplaat? (Notice to Mariners N° 569-1923, London).

Why should the foreign seaman be obliged by circumstances to navigate the rivers Gironde, the Scheldt or the Mississippi on copied charts instead of using the original French, Netherlands or U. S. charts respectively?

Why is the chart of the North Sea published by no less than 7 or 8 nations**? Would it not be preferable to leave the publication to the principal coastal State?

Does the American seaman gain any advantage by entering Portsmouth on a chart published in the U. S.? Cannot he do this just as well, nay, even better, on a British chart? Surely the latter will represent the situation more accurately as a rule.

If stocks of original foreign charts, which have been drawn up on sufficiently uniform principles, were kept in every country, the

* The collection of the International Hydrographic Bureau, which includes all original charts except those of Austria, Germany and Russia, has not yet reached this number. (*Note by the I. H. B.*).

** Sweden, Norway, Denmark, Germany, England, France, Spain and U. S. A. the last already or very shortly. (*Note by International Hydrographic Bureau*).

seaman would not be obliged to have recourse to copies; therefore, the establishment of an organisation to enable seamen to procure original charts everywhere is the next logical step which should follow the attainment of sufficient uniformity in the production of charts.

The manner in which such an organisation might be arranged is set out below; but it is useful to point out first the principal impediments to international collaboration in this matter. M. RENAUD has already indicated as one of these that, in times of suspense, the lack of chart plates of foreign countries might handicap great Maritime Nations. This experienced Surveyor, who was at that time the Director of the Hydrographic Office of a great maritime Nation, indicated the remedy for this evil, viz. the keeping in stock of a sufficient number of the required original foreign charts which, as will be seen later, would not be difficult if the proposed scheme were accepted. Besides M. RENAUD considered that photographic reproduction allows the stock to be increased to an unlimited extent in a very short time.

A second difficulty arises in the wording on a chart published by another nation using a different language.

Although it appears to be impossible to overcome this difficulty in a number of the Sailing Directions published by other Hydrographic Offices, it is by no means an obstacle to the understanding of charts. The spelling of names of places will not be misunderstood provided that they be shown in Roman characters and the only difficulty is that which may arise in the general information given in the legends or elsewhere on the chart, e. g., descriptions of leading lights, abbreviations of the characters of lights, nature of the bottom etc. This difficulty can be met by a detailed and appropriate list of abbreviations in every language dealt with. Both these obstacles may be said to be insignificant in comparison to the great advantage which accrues, i. e. that it will be possible to use the best charts available.

The Seaman who navigates continually on the same track has to overcome these difficulties once only.

A suitable organisation would be based on an international catalogue, which gives a complete set of the best national charts of the various parts of the world; in this catalogue should be listed all the original charts which may be said to comply sufficiently closely for practical purposes with the requirements of uniformity. This set of charts should be completed, for those areas where the original charts do not comply therewith, by the best existing partial or entire copies and by the best charts which represent oceans and seas bordered

by various countries and which are compiled in the best manner. In addition to this catalogue it would be necessary to publish an international list of symbols and abbreviations, in which would appear translations of the most important legends on the charts mentioned in the catalogue.

The compilation of both publications appears to be a task for the International Hydrographic Bureau.

If a catalogue of this type existed, the various Hydrographic Offices could undertake to have a stock of the charts mentioned in it, to keep them up to date and to distribute them in the same way as they do their own charts. A discount on the sale price, to be arranged later by international agreement (say 40%), should be given by the publishing Hydrographic Office to meet the expenses of doing the above mentioned work.

The Office which keeps the stock would regulate its demands for foreign charts in accordance with the distribution expected, and would not apply for charts which are not likely to be required for various reasons e. g. because the seaman is sure to have an opportunity to procure these elsewhere, before he reaches the vicinity dealt with by the chart. This will be the case, for instance, for charts of the West Coasts of South, Central and North America for the Hydrographic Office at the Hague; if it is considered that the distribution will be very small, which will be the case, amongst others, for the charts of the Arctic Seas for Dutch shipping, the stock will be limited to a few copies.

When any new edition of a chart is published, the stock-keeping Office should have the right to destroy the remainder of the cancelled edition and to deduct the amount of the value thereof from the balance due to the publishing Office. Once a year the various Offices should exchange accounts of charts received, sold and remaining. These documents having been checked by the publishing Office, the claims resulting therefrom might be sent to the International Hydrographic Bureau which, by balancing out, would limit the accounts to a few final debts, which would then be paid by the debtor nations.

This appears to be the most satisfactory method of ensuring the possibility of acquiring the best charts throughout the world; the use of these charts would cause foreign Notices to Mariners to be handled more easily and more rapidly. Such notices are adapted to the charts of the country which originally published them and have to be translated only if the other countries use the same charts; at present it is

often necessary to reword the notices because they are not always directly applicable, in their original form, to copied charts.

As will be seen, the proposed organisation enables every nation to keep a stock of the best foreign charts, sufficiently large for the first distribution during times of suspense.

The objection might be made that that part of the stock, which is intended exclusively for distribution in times of suspense would, in fact, be paid for by the publishing Office, against this argument may be adduced the following : — that this Office would make a profit by the sale of an increased number of its own charts and that some of the offices would be saved the expense of making and publishing copies; the Hydrographic Offices would therefore be enabled to perform their duties more economically. Seamen who use these charts would profit by this arrangement, not only because better charts would be supplied to them, but also because the price of the charts might be diminished on account of the increased number of copies sold.

To conclude, in order to make the proposed measure a success it would be necessary that the seaman should conquer his greater or less aversion to using charts other than those published by his own nation or by a foreign nation for which he has a predilection. In order to obtain this result the greatest possible uniformity should be aimed at while the eyes of the seaman should be opened to the advantages which he will undoubtedly acquire. This might be done by pointing out to him the difference between an original chart and a copy thereof by articles in marine periodicals and journals and by suitable instruction in the Navigation Schools and Colleges. Up to date this difference is appreciated almost exclusively by those who draw up charts. As has been said above, the first step towards the object would be the publication by the International Hydrographic Bureau of an international catalogue, giving as far as possible a complete list of the original charts of the world. When this catalogue has been published, approval of *all* the States concerned would not be required to make the organisation effective; in order to start in the association of a limited number only of the States would be sufficient.

The Netherlands Hydrographic Office is fully prepared to collaborate in this matter.

In making an experiment of this sort, practical difficulties are sure to arise but, on the other hand, an opportunity would be given to investigate means of overcoming them.

REMARKS BY THE PRESIDENT OF THE DIRECTING COMMITTEE.

This article contains proposals which are of great interest whatever be the eventual result ; in their support Captain LUYMES advances reasons of great weight. Whether any practical solution of the question raised can be evolved by correspondence at the present stage must be decided by the Members themselves ; however, in view of the undoubted importance of the subject, it should not be allowed to sink into oblivion and, if no solution is found by correspondence, it should be taken up for discussion at the next Hydrographic Conference.

The article resolves itself into the four following proposals : —

- (1) the elimination, by all nations, of reproduction from charts which have been produced direct from the surveys made by another nation ;
- (2) the publication, by the Bureau, of an International Catalogue giving a complete list of the best charts of the world, as produced by the various Hydrographic Offices ;
- (3) the publication, by the Bureau, of an International List of Conventional Signs and Abbreviations ;
- (4) after the production of the publications mentioned in (2) and (3) it is proposed that the various Hydrographic Offices should stock the requisite charts given in the Catalogue, correcting them as necessary, and distribute them for sale in a similar manner to their own charts.

With reference to (1), it is certainly most important that every endeavour should be made to eliminate, as far as possible, the reproduction of charts of other nations, provided, of course, that the original charts are produced in a form satisfactory to their probable users ; for instance, it appears unnecessary that the United States should produce copies of any British charts, or vice-versa, as in general form and language used they are practically identical. The reasons given by Captain LUYMES in his article are so well-defined that it is unnecessary to say more on the subject, but I would emphasize his statement as to the enormous waste of both energy and money which undoubtedly is now taking place in this direction in several countries.

(2) With reference to the suggested preparation of a Catalogue on the lines proposed, this would appear to be a matter of considerable, although doubtless not insuperable, difficulty ; it would require very careful collaboration on the part of all concerned.

(3) The publication of this List is already in course of preparation by the Bureau, but, obviously it will take a considerable time to obtain all the requisite details from the Maritime countries of the world, and to collate them in a suitable form for convenient and prompt reference.

(4) Satisfactory arrangements for the stocking of these charts will probably be a difficult matter. The Hydrographic Offices might commence with the stocking of a small number of the more necessary charts, it being left to experience to decide

which charts would eventually be most required ; the question of quantities of all charts would also have to be treated in a similar manner, as such an important matter will be best solved by practice ; it appears that whatever system is adopted, it must be arranged on a paying basis.

It is true that, if some satisfactory system could be arranged, certain nations would economise financially owing to the cessation of the work of reproduction of the charts of other countries, but this would only affect these special nations, and the success of the scheme will obviously be measured primarily by its general financial results to all concerned.

One of the vital questions involved in this last proposal is that of the necessary periodic destruction of obsolete charts, and experience alone would show if this would be counter-balanced by the increased sale of charts as suggested by Captain LUYMES.

It is believed that, during the recent War, France stocked a considerable number of British charts for issue for the ships of its own fleet, but although this procedure during the time of War, when expense is not considered, was doubtless justified, it remains to be proved whether it could be put into practical operation with satisfactory results at ordinary times.

Generally speaking, it would appear that these proposals, if carried out, might be to the advantage of the smaller nations ; as regards the larger nations ; it is undoubtedly true that their ships would benefit from such an arrangement being put into practice, i.e. through the use of the latest and best charts, but against this must be considered the practical disabilities which would appear likely to attend the costs of establishment, and especially that of the periodic destruction of charts, which is obviously essential for the successful working of the scheme.
